RECLAMATION

Managing Water in the West

Record of Decision
New Melones Lake Area
Resource Management Plan

U.S. Department of the Interior
Bureau of Reclamation
Central California Area Office

June 2010

Record of Decision

New Melones Lake Area Resource Management Plan
Central California Area Office

Recommended:

Michael R. Finnegan
Area Manager
Central California Area Office

Date: June 3, 2010

Concur:

Michael A. Chotkowski
Regional Environmental Officer
Mid-Pacific Region

Date: June 7, 2010

Approved:

Donald R. Glaser
Regional Director
Mid-Pacific Region

Date: June 18, 2010

TABLE OF CONTENTS

Section Page

1. Introduction

This document is the Record of Decision of the Department of the Interior, Bureau of Reclamation, Central California Area Office, regarding the alternative selected to provide management guidance for the New Melones Lake Area. The 30,000-acre New Melones Lake Area Resource Management Plan (RMP) planning area defines the Reclamation lands and waters that are the subject of the Draft Environmental Impact Statement (DEIS), dated October 2009, and the Final EIS (FEIS), dated February 2010. The RMP provides a range of alternatives for managing Reclamation-administered lands within the New Melones Lake Area in Tuolumne and Calaveras Counties, California, and the EIS is an analysis of the environmental effects that could result from implementing the actions defined in the RMP. The FEIS was prepared pursuant to the Council on Environmental Quality Regulations for implementing the procedural requirements of the National Environmental Policy Act (NEPA), Department of Interior policies, and Reclamation's NEPA handbook. The FEIS addresses the interrelationships among the various resources at the New Melones Lake Area and analyzes management options to balance resource management in accordance with Reclamation's mission and authority and the needs of the public to use these lands.

Located in the foothills of the Sierra Nevada, New Melones Lake is the fifth largest reservoir in California and the most recent major project incorporated into the Central Valley Project. Completed in 1979, New Melones dam holds water from the Stanislaus River and other tributaries within a 980-square-mile watershed. The plan area encompasses approximately 30,000 acres, including New Melones Lake (12,500 acres) and surrounding project lands. The project provides flood control for the lower Stanislaus River and San Joaquin River Delta, irrigation and municipal water supplies, peak use period hydroelectric production, recreation, water quality, and fish and wildlife enhancement.

Current and past decisions directing the management of Reclamation-administered lands in the planning area are based on the New Melones Lake Area Master Plan (Master Plan), approved in 1976 (US Army Corps of Engineers and Reclamation 1976). These decisions are also based on subsequent amendments to that plan and on applicable federal, state, and local regulations. The Master Plan provides a set of land use allocations, development recommendations and objectives, and constraints to guide the management of each resource.

The new RMP, which will replace the Master Plan, will provide consistent and integrated decisions for managing Reclamation-administered lands in the planning area. The guidance provided in the RMP will help New Melones managers fulfill Reclamation's mission, which is "to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public."

2. Reclamation's Decision

Reclamation's decision is to implement Alternative D. Implementing this alternative will balance the need to protect the natural and cultural environment and support the overall recreational needs and interests of visitors. Alternative D includes implementation of a Fire Management Plan and a Moored Vessel Plan, which were included as appendices to the RMP/EIS. Through this decision, these plans would be adopted and considered final.

3. Alternatives Considered

Four management alternatives were developed to address the major planning issues. Each alternative provided direction for resource programs based on the development of specific goals and management actions. Each alternative described specific issues influencing land management and emphasized a different combination of resource uses, allocations, and restoration measures to address issues and resolve conflicts among users.

3.1 Management Actions Common to All Alternatives

Under all alternatives, Reclamation would comply with all applicable laws and regulations, including those relating to air and water quality, hazardous materials, fish and wildlife, special status species, trespass, health and safety, transportation, recreation, cultural resources, social and economic resources, and environmental justice. Reclamation will continue to work with appropriate agencies and entities to adequately manage the New Melones Lake Area. Further, the New Melones Lake Project would continue to be designated and managed as a Special Use Area, pursuant to 43 CFR, Part 423.

3.2 Alternative A (No Action—Continue Current Management)

Alternative A is the continuation of current management practices, based on the existing land use plan and plan amendments. Valid and feasible decisions contained in the 1976 Master Plan would be implemented, if they are not already completed. Direction contained in existing laws, regulations, policies, and standards would also continue to be implemented, sometimes superseding provisions of the 1976 Master Plan. The current levels, methods, and mix of multiple use management of public lands in the New Melones Lake Area would continue, and resource values would generally receive attention at present levels. Existing facilities, roads, and trails would not be expanded or updated unless it was done under the direction of specific health and safety or Americans with Disabilities Act (ADA) guidelines. Best management practices (BMPs) would continue to be used to address fire response at New Melones Lake. Land management would also comply with land allocation identified in the 1976 Master Plan.

3.3 Alternative B (Increased Use)

Alternative B emphasizes new and expanded access and recreation opportunities. Protecting other resources would be secondary to accommodating recreational interests, although all resources would be managed, at minimum, to the levels required by law. This alternative also emphasizes opportunities for developed and motorized recreation. Alternative B would focus on increasing access (roads and trails) and expanding facilities (such as concessions and fish cleaning stations). The key components of this alternative are evaluating the addition of recreation facilities at Glory Hole, Tuttletown, Bowie Flat, Westside, French Flat, Bear Creek, Parrotts Ferry, Mark Twain, and Greenhorn Creek management areas; allowing increased levels of houseboat, water vessel, and equestrian use; and relocating the equestrian staging area. Prescriptive grazing, where appropriate, would be permitted to assist in invasive weed removal and fire protection. Water Recreation Opportunity Spectrum (WROS) categories would change certain management areas from Rural Natural to Rural Developed or from Semi-primitive to Rural Natural.

3.4 Alternative C (Conservation)

Alternative C deemphasizes recreational goals and facilities in favor of natural resource values. There would be less active management of recreational resources and facilities than under the other alternatives. Alternative C emphasizes tighter controls on motorized recreation. The key components of this alternative are potentially decreasing the level of houseboat use, minimizing the development of recreation areas in Rural Natural and Rural Developed management areas, and relocating the equestrian staging area. New trails would not be developed unless needed to protect sensitive species and habitats. Access to caves and rock climbing routes would also be restricted to protect unique and special status species habitats. This alternative would allow the use of chemical, biological, and mechanical controls to help eradicate invasive species. WROS categories would change slightly to less developed uses.

Alternative C is the environmentally preferred alternative. Alternative C assures less environmental impact but is more restrictive in the use of the land and waters of the New Melones Lake Area.

3.5 Alternative D (Multiple Use)

Alternative D is intended to balance management of recreational uses and resources and management of natural and cultural resources. This alternative was developed by combining those aspects of Alternatives A, B, and C that provide the most balanced outcome for managing public lands within the New Melones Lake Area. Alternative D incorporates many management objectives and actions from the first three alternatives and may include new management direction as necessary. This alternative also generally allows for more uses and active resource management than under Alternative C but less than under Alternative B. The key components of

this alternative include potential future increases in watercraft use, if feasible, new lake use zones, a Moored Vessel Plan for the management of houseboats and other vessels, minimizing development of recreation areas in Rural Natural Areas, and relocating the equestrian staging area. Reclamation would fully implement a project-wide Fire Management Plan. In addition, the Peoria Wildlife Management Area (PWMA) Interim Management Plan would be fully implemented by being adopted into the New Melones RMP. Alternative D would call for a moderate amount of updating and modernizing of roads, access areas, and facilities. Alternative D, like Alternatives B and C, would update land use allocations based on input from the public and results of the visitor use survey, WROS, and the commercial services plan. Under Alternative D, Reclamation would develop and implement a long-term strategy for managing hunting, as visitation and urban development increase. Reclamation would also increase limitations to recreation based on environmental resource concerns. Trail improvements would focus on allowing a diversity of uses. WROS categories would change slightly, to more developed uses. Certain areas would be developed through partnership agreements with organizations and local agencies, which would involve minimum use of federal appropriations.

3.6 Alternatives Considered but Eliminated

Several alternatives were eliminated from detailed study because they did not meet the purpose and need for the proposal or were outside the technical, legal, or policy constraints of developing a land use plan for public land resources and uses. These included exclusive use of the New Melones Lake Area, management for only one authorized purpose, full elimination of multiple traditional uses from the project without clear cause, and full build-out of the 1976 Master Plan. Further, the RMP/EIS does not address management of long-term water operation decisions associated with the Central Valley Project.

4. Basis of Decision and Issues Evaluated

The purpose and need for the federal action takes into consideration Reclamation's statutory mission and authority for the operation, maintenance, and security of the New Melones Lake Area facilities. In the FEIS, the four alternatives were evaluated on how well they met the project's purpose and need and their environmental consequences.

The alternatives were analyzed to determine their impacts on recreational, environmental, economic, public health and safety, and social issues. Studies included consideration of potential impacts on:

- Physical resources, including air quality, noise, geology, caves, hydrology, water quality, and visual resources;

- Natural resources, including vegetation, fish and wildlife, invasive species, and special status species;
- Lands, transportation, and access;
- Cultural and social resources, including socioeconomic and environmental justice impacts; and
- Recreation, including land- and water-based recreation, and interpretive services.

There are no Indian Trust Assets identified within the New Melones Lake Area and therefore no effects under any alternative are anticipated. ITAs are legal interests in property held in trust by the United States for Indian tribes or individuals, or property that is otherwise charged by the United Sates by law to protect. Examples of resources that could be ITAs are lands, minerals, hunting and fishing rights, water rights, and instream flows.

Reclamation has selected Alternative D, based on interdisciplinary team recommendations, environmental consequences analysis of the alternatives, and public input. Alternative D received the most public support; comments received indicated the public's desire to continue conservation, while providing for some increased recreation opportunities, where feasible.

Alternative A, the No Action Alternative, minimally addressed current and relevant issues identified through public scoping and required components of the land use planning document. Alternative A was not the preferred alternative because it did not adequately address issues and concerns identified by the public or required planning components and concerns of the planning team.

Alternatives B and C both addressed the identified relevant issues and required components necessary in a land use planning document focused on conservation and uses of the public land. Alternatives B and C also addressed the public's issues and concerns through identified management direction, as well as the purpose and need, but they lacked a balance between resource conservation and resource use allocations.

Reclamation determined that Alternative D provides the most reasonable and practical approach to managing the project land resources and uses, while addressing the relevant issues relating to the purpose and need. This alternative incorporates many management objectives and actions from the other alternatives and may include new management direction as necessary. Alternative D balances project lands management and an appropriate level of flexibility to meet the overall needs of the resources and use allocations. This alternative represents management that is proactive and provides flexibility to adjust to changing conditions over the life of the plan, while emphasizing a level of protection, enhancement, and use of the resources into the future.

The plan elements that balance the social and environmental elements of the New Melones Lake Area in this alternative are detailed below.

Physical Resources

- Protect water quality by implementing erosion control measures, preventing contaminant release into New Melones Lake, updating minimum basic facilities, and ensuring sanitary waste management facilities
- Seek voluntary compliance with boat and visitor noise regulations
- Manage cave access to comply with federal law and meet health and safety requirements
- Manage recreation facilities to protect visual and aesthetic resources

Natural Resources

- Protect native and unique plant communities and fish and wildlife habitat and eradicate weeds for long-term sustainability and viability
- Fully implement the Fire Management Plan, PWMA Interim Management Plan, and Vegetation Management Plan
- Continue to operate the Baseline Conservation Camp and upgrade or replace facilities, including water supply and water treatment facilities
- Provide access to public lands for grazing and hunting, in accordance with applicable regulations
- Manage introduced or feral species to protect fish and wildlife

Lands, Transportation, and Access

- Continue the Special Use Area designation of the New Melones Lake Project
- Continue to assess how lands contained within the New Melones Lake Area are being effectively used for project purposes
- Manage the Westside Management Area with an emphasis on conservation
- In appropriate areas, and with an approved permit and grazing plan, allow grazing and stock watering as a means to control invasive plant species and to reduce fire danger on Reclamation lands
- Prepare and implement a strategy to address adverse over flight activities over New Melones Lake Area to protect public safety and critical infrastructure
- Update and modernize roads, access areas, and facilities
- Reopen Old Parrotts Ferry Road or Melones Recreation Area, or both, with updated facilities, if feasible
- Address illegal activities through continued law enforcement presence, management controls, signs, and education

Cultural and Social Resources

- Continue to educate the public about sensitive cultural resources in the New Melones Lake Area and consult with the State Historic Preservation Officer and appropriate Indian tribes about activities subject to compliance with Section 106 of the National Historic Preservation Act (NHPA)
- Address any disproportionately high and adverse human health and environmental effects on low-income and minority populations
- Move the New Melones Archaeological Storage Facility to a site outside the PWMA that meets modern standards for an archaeological collections storage facility

Recreation

- Develop a long-term strategy that maintains and, wherever appropriate, optimizes the diversity of recreation and level of service found at New Melones Lake
- Explore and support, where appropriate, concessionaire agreements with private enterprises and managing partner agreements with public agencies
- Continue to operate, manage, update, and modernize campgrounds and day-use facilities
- Designate additional lake zones to provide for more balanced use, increase public safety, reduce shoreline erosion, and protect environmentally sensitive areas
- Minimize future development in Rural Natural Management Areas and expand development in Rural Developed Management Areas
- All new facilities and programs would be designed to incorporate the universal design approach to accessibility. As required, facilities and programs would meet legally mandated accessibility standards (Per the ADA of 1990 and the 1991 ADA accessibility guidelines, Section 504 of the Rehabilitation Act of 1973, as amended in 1978, and the International Building Code [National Fire Protection Association 5000 Building and Safety Code])
- Focus trail improvements on allowing a diversity of uses
- Prepare and implement an Interpretive Master Plan
- Continue to implement current policy for non-commercial seaplane use under the authority of 43 CFR 423.41
- Continue to implement current houseboat size limits. Size limits are subject to revision as studies are updated and/or conditions change

5. Public Response to the FEIS

Reclamation's Notice of Availability of the FEIS was published on February 5, 2010, and the Environmental Protection Agency's Notice of Availability was published on February 19, 2010. Copies of the FEIS were distributed to those who requested a copy. A press release was released on February 5, 2010, and sent to the recipients on the New Melones Lake Area RMP/EIS mailing list. The FEIS was made available on the New Melones Lake Area RMP/EIS website at http://www.usbr.gov/mp/ccao/newmelones/rmp.html.

In a comment letter on the Final RMP/EIS, the Calaveras County Board of Supervisors stated its support of Alternative B and disappointment in Reclamation's selection of Alternative D as the preferred alternative. On March 16, 2010, Reclamation met with the Calaveras County Board of Supervisors to explain the RMP process and Reclamation's selection of Alternative D as the preferred alternative.

6. Environmental Commitments

The RMP was intended to avoid or minimize adverse effects on the environment from implementing any of the alternatives. No significant impacts are expected to occur with implementation of the decision. BMPs will be applied to minimize adverse environmental effects. All practicable means to avoid, minimize, or mitigate any potential impacts related to the decision will be implemented. Project-specific NEPA and NHPA analysis will be conducted on the implementation level, which will include the development of mitigation measures, as necessary. Key management actions described in Alternative D that are considered to be environmental commitments made by Reclamation are detailed below.

Physical Resources

Reclamation will implement a protection plan for caves with significant resource value or potential hazards, as needed and as feasible.

To the extent possible, Reclamation will design, operate, and maintain recreation facilities to maximize water conservation and minimize water contamination and the loss of soils due to surface runoff. Reclamation will apply industry standard BMPs, in addition to minimum basic facilities, to improve sanitation facilities and infrastructure and pollution prevention structures, such as lift stations, floating restrooms, and improved waste management facilities.

Reclamation will work to minimize the number, extent, and adverse effect of stream crossings when new roads, trails, or easements are designed. Reclamation will design new stream crossings and maintain existing crossings to minimize riparian vegetation disruption, to prevent stream flow regime alteration, and to prevent initial and chronic erosion and sedimentation. Where feasible, roads, trails, and access easements will be located and designed to follow the natural topography, minimizing steep slopes and the number of stream crossings.

To the extent possible, Reclamation will avoid disturbing the soil or areas that are particularly vulnerable to erosion and sediment loss, and will implement BMPs, such as water bars, trail nicks, drains, and culverts, to control erosion on roads and trails. Reclamation will work to promote stream bank and reservoir shoreline stability to encourage riparian vegetation.

Reclamation will continue to require emergency spill plans for the marina and all other facilities that store fuels and continue to require that these facilities have spill containment equipment. Reclamation will control surface runoff of pesticides and fertilizers from Reclamation lands by using the Integrated Pest Management Plan for the New Melones Management Area.

Reclamation will attempt to design all facilities to blend in with the natural landscape through careful siting (for example, behind terrain, away from ridgelines, within vegetated areas), screening with appropriate native plant species, using architectural design compatible with the applicable surroundings (including style, scale, texture, and colors) and avoiding the use of unpainted metallic surfaces, such as roof materials.

Natural Resources

Reclamation will work to minimize clearing or converting native plant communities caused by human activities. Reclamation will implement the Fire Management Plan for the New Melones Management Area, and will continue to implement the Vegetation Management Plan.

Where appropriate and feasible, Reclamation will reseed degraded or impacted grassland and woodland habitats with native seed. When practical, Reclamation will avoid wetland communities, such as riparian communities along streams, rivers, or shorelines, wet meadow communities, seeps, vernal pools, or other water-dependent communities, especially when an activity or visitor use may cause erosion or compaction that would degrade habitat values. Reclamation will work to minimize disturbance of habitat in perennial streams that support native fish.

Reclamation will fulfill the mitigation requirements in the PWMA and fully implement the Interim Peoria Wildlife Management Plan.

Lands, Transportation, and Access

Where necessary, Reclamation will ensure adequate closure of unsafe or potentially hazardous areas (e.g., caves, old mine shafts, exposed steep areas, and high fire hazard areas), in compliance with closure procedures in 43 CFR, Part 423.

Reclamation will continue to implement an Integrated Pest Management Plan that describes appropriate techniques for invasive species control (i.e., quagga/zebra mussels, yellow star thistle, and New Zealand mud snail).

Where appropriate, Reclamation will allow grazing in areas permissible for this type of use, under approved grazing plans. Industry standard BMPs to protect water quality will be implemented for such permits.

Reclamation will implement the project-wide Fire Management Plan, including the following measures: use natural or manufactured barriers, such as roads, streams, ponds, and wetlands, to minimize the need for fire line construction; design fuel breaks and firebreaks to minimize impacts on aesthetic, scenic, and ecological resources, and consider resource objectives for vegetation management, wildlife habitat management, soil stabilization, public safety, ignition sources, and safety of firefighters; and conduct fire management activities in a manner that retains mature oaks for their wildlife benefits and scenic qualities.

Cultural and Social Resources

Whenever possible, Reclamation will protect historic properties by avoidance through Reclamation's planning process. If appropriate, Reclamation will protect cultural resources through the use of fencing, coverings, and exclusion. In areas of known archaeological resources, Reclamation will protect sensitive cultural resources by using Minimum Impact Suppression Tactics and by coordinating with a cultural resource advisor during fire suppression activities.

Reclamation will comply with Section 106 of the NHPA through the process detailed at 36 CFR, Part 800 for the implementation of all project-specific undertakings.

Reclamation will minimize publicity and access to sensitive cave locations, avoid constructing trails to caves, and install gates where necessary for conservation.

Recreation

Reclamation will continue to manage vehicular access under 43 CFR, Part 423.40, and prohibit off-highway vehicle access as required under 43 CFR, Part 420, except as authorized. Reclamation will provide access to project lands for hunting as identified in the long-term hunting strategy yet to be developed and in accordance with rules and regulations set forth by the California Department of Fish and Game; 43 CFR, Part 423; and other federal laws and regulations.

Consistent with the RMP, Reclamation is committed to working with State and local governments, and others, to further review, study and evaluate existing and future recreation access and development and management agreement proposals at New Melones Lake. This process may result in providing additional recreation opportunities at New Melones Lake should it be determined appropriate.

As feasible, Reclamation will minimize construction of roads and access easements on steep slopes and minimize the number of stream crossings. Reclamation will limit land use activities within wetland or riparian buffer zones to prevent significant deterioration of wetland habitats. Reclamation will design recreation area facilities to minimize water contamination and loss of soils from surface runoff.

Reclamation will attempt to prevent the introduction of aquatic invasive pest species through prohibiting boat launching from known source locations, screening for invasive pest species, and educating the public. Reclamation will attempt to minimize soil disturbance and visitor facilities

along perennial stream corridors and reservoir coves that maintain prime spawning, rearing, and adult residence area fisheries.

Reclamation will construct pathways and trails to follow current Reclamation design standards and BMPs.

In the PWMA, Reclamation will manage rock climbing use in accordance with federal regulations on natural and cultural resources.

As described in the Peoria Wildlife Management Plan, if further studies identify impacts on sensitive species, Reclamation will make a management-level decision to develop and implement a climbing management plan to specify the non-impact areas suitable for rock climbing.

The following measures are representative of those that Reclamation may apply on a project-specific basis to minimize adverse environmental effects:

- Require air quality control measures in construction specifications for any proposed development actions
- Decrease erosion during construction by planting grasses, forbs, trees, and shrubs or by placing riprap, sand bags, jute, sod, erosion mats, bale dikes, mulch, or excelsior blankets
- Arrange clearing schedules to minimize the practical exposure of soils
- Begin final erosion control and site restoration as soon as an area is no longer needed for construction, stockpiling, or access
- Include in construction specifications a requirement for contractors to preserve the natural landscape and to prevent any unnecessary destruction, scarring, or defacing of the natural surroundings in the work vicinity
- Do not use critical environmental areas—stream corridors, wetlands, riparian areas, and steep slopes—for construction equipment or material storage or stockpiling, construction staging or maintenance, or temporary access roads
- After construction, grade any land disturbed but not permanently occupied by new facilities to provide proper drainage and blend with the natural contours of the land; cover the land with topsoil stripped from construction areas and revegetate it with plants native to the area and beneficial to wildlife
- Revegetate uplands with species of the native vegetative community appropriate for the site's soil type, topographic position, and elevation

RECLAMATION

Managing Water in the West

New Melones Lake Area
Final Resource Management Plan and Environmental Impact Statement

U.S. Department of the Interior
Bureau of Reclamation
Central California Area Office

February 2010

Executive Summary

Introduction

The US Department of the Interior, Bureau of Reclamation (Reclamation) has prepared this resource management plan (RMP) and environmental impact statement (EIS) for the New Melones Lake Area. The RMP provides a range of alternatives for managing Reclamation-administered lands within the New Melones Lake Area in Tuolumne and Calaveras Counties, California, and the EIS is an analysis of the environmental effects that could result from implementing the actions defined in the RMP.

Located in the foothills of the Sierra Nevada, New Melones Lake is the fifth largest reservoir in California and the most recent major project incorporated into the Central Valley Project. Completed in 1979, New Melones dam holds water from the Stanislaus River and other tributaries within a 980-square-mile watershed. The plan area encompasses approximately 30,000 acres, including New Melones Lake (12,500 acres) and surrounding project lands. The project provides flood control for the lower Stanislaus River and San Joaquin River Delta, irrigation and municipal water supplies, peak use period hydroelectric production, recreation, water quality, and fish and wildlife enhancement.

Current and past decisions directing the management of Reclamation-administered lands in the planning area are based on the New Melones Lake Area Master Plan (Master Plan) approved in 1976 (USACE and Reclamation 1976), on subsequent amendments to that plan, and on applicable federal, state, and local regulations. The Master Plan provides a set of land use allocations, development recommendations and objectives, and constraints to guide the management of each resource.

A new RMP, which will replace the Master Plan, will disclose to the public the decisions being made and their impact on the environment. It will help the public understand the constraints and legal requirements that provide the framework within which Reclamation must manage these lands. It also will provide consistent and integrated decisions for managing Reclamation-administered lands in the planning area.

This RMP/EIS is the result of a collaboration involving Reclamation, interested members of the public, stakeholders in the outcome of the plan, and relevant resource agencies. Input provided by these sources has been combined with guidance provided in Reclamation's *Resource Management Plan Guidebook* (Reclamation 2003) in order to determine, and continue, the most appropriate uses of Reclamation lands within the study area. Other purposes are to explore methods to enhance and protect the resources found on those lands, to identify or propose long-term resource protection programs, and to identify financially feasible opportunities or partnerships to help decision makers manage lands and resources within the study area.

The guidance provided in this RMP will help New Melones managers fulfill Reclamation's mission, which is "to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public." An EIS is incorporated into this document to meet the requirements of the National Environmental Policy Act of 1969 (NEPA) and Council on Environmental Quality regulations for implementing NEPA (40 Code of Federal Regulations 1500-1508).

This RMP/EIS addresses the interrelationships among the various resources at the New Melones Lake Area and provides management options to balance resource management in accordance with Reclamation's mission and authority with the needs of the public to use these lands.

Purpose and Need

The purpose of this RMP/EIS is to establish a conceptual plan detailing the management framework for the conservation, protection, enhancement, development, and use of the physical and biological resources in the New Melones Lake Area. Resource management and recreation interest and the types and level of use have changed over the last several decades. The Reclamation Recreation Management Act (RRMA) of 1992 (Public Law [PL] 102-575, Title 28 [2805(c)(1)(A)]) directs Reclamation to "provide for the development, use, conservation, enhancement, and management of resources on Reclamation lands." These changes, combined with requirements under the RRMA, have created a need for Reclamation to evaluate the contemporary resource and recreation management for the New Melones Lake Area.

The purposes of the New Melones RMP/EIS are as follows:

- Provide a framework to ensure that Reclamation plans and activities comply with all appropriate federal, state, and local laws, rules, regulations, and policies;
- Provide for the protection and management of natural and cultural resources and for public health and safety;
- Provide for recreation management and development and other uses, consistent with contemporary and professional resource management and protection theories, concepts, and practices;
- Ensure that management of quality recreational facilities and opportunities is compatible with other environmental resources and that management planning is based on expressed public need and the ability of the land and water resources to accommodate improved facilities and increased visitor use;
- Be consistent with Reclamation fiscal goals and objectives; and
- Support Reclamation's core mission of delivering water and generating power.

Planning Issues

The following issues were identified by the public during the scoping process and by Reclamation during project planning. Reclamation addressed these issues when creating the goals and management actions identified in Chapter 3:

- Improving access to the management area while protecting resources and addressing logistical and financial challenges;
- Protecting sensitive resources while accommodating increasing numbers of visitors with an expanding range of interests;
- Enhancing fish and wildlife habitats and other natural resources;
- Determining the types of recreational activities Reclamation will manage in the New Melones Lake Area;
- Providing recreation opportunities and services without diminishing the quality of the resources;
- Optimizing a fee program in order to enhance visitor services and protect the resources;
- Providing adequate law enforcement to increase visitor safety and reduce illegal activities;
- Identifying and implementing necessary changes in facilities or infrastructure;
- Protecting public health and safety; and
- Fostering positive relationships with neighboring landowners and communities while meeting Reclamation's management commitments.

Public Involvement

Reclamation held several public scoping meetings and alternatives development workshops to solicit issues and concerns and to develop alternatives to be analyzed in the RMP. In addition, Reclamation developed a mailing list (and accompanying database), produced and distributed newsletters, and developed a New Melones Lake Area Web site to help disseminate both New Melones Lake Area-related and RMP-related information.

In order to educate the public about the RMP process for the New Melones Lake Area and to solicit its input, Reclamation held public scoping meetings in three locations within the project planning area during the last week of January 2007. Most comments focused on access, biological resources, facilities, and recreation. In late September 2007, Reclamation held two alternatives development workshops to obtain further input on possible management actions and opportunities for the New Melones Lake Area. Open house meetings were held in September 2008 to solicit public input on Draft RMP/EIS Chapters 1-3 (currently Chapters 1-5). Reclamation used the information collected from

these gatherings, along with additional comments submitted during the planning process, to develop the draft planning proposals.

Open house meetings were also held in December 2009 to obtain public input on the Draft RMP/EIS. The public comment period for this document was from October 30, 2009 through January 4, 2010. All comments received during this period were considered when revising the Draft RMP/EIS.

Management Alternatives

The basic goal of developing alternatives is to prepare different combinations of resource uses to address issues and to resolve conflicts among uses. Alternatives must meet the purpose and need, must be reasonable, must provide a mix of resource protection, management use, and development, must be responsive to the issues (each issue must be addressed in at least one alternative), must meet the established planning criteria, and must meet federal laws, regulations, policies, and standards.

Four management alternatives were developed to address the major planning issues. Each alternative provides direction for resource programs based on the development of specific goals and management actions. Each alternative describes specific issues influencing land management and emphasizes a different combination of resource uses, allocations, and restoration measures to address issues and resolve conflicts among users. Resource program goals are met in varying degrees across alternatives. Management scenarios for programs not tied to major planning issues or mandated by laws and regulations often contain few or no differences in management between alternatives.

Alternative A, the No Action Alternative, is a continuation of the current management and is based on existing planning decisions and amendments. Alternative B, the Increased Use Alternative, emphasizes development of recreational resources and infrastructure, with a goal of encouraging and accommodating increasing numbers of visitors while protecting natural and cultural resources, as required by law. Alternative C, the Conservation Alternative, emphasizes active management of natural and cultural resources and places less emphasis on resource use than under Alternative A. Alternative D, the Multiple Use Alternative, seeks to balance the projected increases in visitors and demand for an array of user opportunities with the need to protect, enhance, and conserve the natural and cultural resources that are found in the planning area.

Management Actions Common to All Alternatives

Each of the alternatives has different components and management actions that would attain the direction of that alternative. However, several components and management actions are common to the No Action and action alternatives.

Under all alternatives, Reclamation would comply with all applicable laws and regulations, including those relating to air and water quality, hazardous materials, fish and wildlife, special status species, trespass, health and safety, transportation, recreation, cultural resources, social and economic resources, and environmental justice.

Reclamation would continue to work with appropriate agencies and entities to adequately manage the New Melones Lake Area. Further, the New Melones Lake Project would continue to be designated and managed as a Special Use Area, pursuant to 43 CFR, Part 423.

Alternative A (No Action—Continue Current Management)

Alternative A is the continuation of current management and would continue present management practices based on the existing land use plan and plan amendments. Valid and feasible decisions contained in the 1976 Master Plan would be implemented, if they are not already completed. Direction contained in existing laws, regulations, policies, and standards would also continue to be implemented, sometimes superseding provisions of the 1976 Master Plan. The current levels, methods, and mix of multiple use management of public lands in the New Melones Lake Area would continue, and resource values would generally receive attention at present levels. Existing facilities, roads, and trails would not be expanded or updated unless it were done under the direction of specific health and safety or Americans with Disabilities Act guidelines. Best management practices would continue to be used to address fire response at New Melones Lake. Land management would also comply with land allocation identified in the 1976 Master Plan.

Alternative B (Increased Use)

Alternative B emphasizes active management for access and recreation. Protecting other resources would be secondary to accommodating recreational interests, although all resources would be managed, at minimum, to the levels required by law. This alternative also emphasizes opportunities for developed and motorized recreation. Alternative B would focus on increasing access (roads and trails) and expanding facilities (such as concessions and fish cleaning stations). The key components of this alternative are evaluating the addition of recreation facilities at Glory Hole, Tuttletown, Bowie Flat, Westside, French Flat, Bear Creek, Parrotts Ferry, Mark Twain, and Greenhorn Green Management Areas; allowing increased levels of houseboat, water vessel, and equestrian use; and relocating the equestrian staging area. Prescriptive grazing may be allowed to assist in invasive weed removal and fire protection. WROS categories would change certain management areas from Rural Natural to Rural Developed, or from Semi Primitive to Rural Natural.

Alternative C (Conservation)

Alternative C deemphasizes recreational goals and facilities in favor of natural resource values. There would be less active management of recreational resources and facilities than under the other alternatives. Alternative C emphasizes tighter controls on motorized recreation. The key components of this alternative include potentially decreasing the level of houseboat use and minimizing development of recreation areas in Rural Natural and Rural Developed Management Areas, in addition to relocating the equestrian staging area. New trails would not be developed unless needed to protect sensitive species and habitats. Access to caves and rock climbing routes would also be restricted to protect unique and special status species habitats. This alternative would allow the use of chemical, biological, and mechanical controls to help eradicate invasive species. WROS categories would change slightly to less developed uses.

Alternative D (Multiple Use)

Alternative D is intended to balance management of recreational uses and resources with management of natural and cultural resources. This alternative was developed by combining those aspects of Alternatives A, B, and C that provide the most balanced outcome for managing public lands within the New Melones Lake Area. Alternative D incorporates many management objectives and actions from the first three alternatives and may include new management direction as necessary. This alternative also generally allows for more uses and active resource management than under Alternative C but less than under Alternative B. The key components of this alternative include allowing increased watercraft use with new lake use zones and term limits for houseboats, minimizing development of recreation areas in Rural Natural Areas, and relocating the equestrian staging area. Reclamation would fully implement a project-wide Fire Management Plan. In addition, the PWMA Interim Management Plan would be fully implemented by being adopted into the New Melones RMP. Alternative D would call for a moderate amount of updating and modernizing of roads, access areas, and facilities. Alternative D, like Alternatives B and C, would update land use allocations based on input from the public and results of the visitor use survey, Water Recreation Opportunity Spectrum, and the commercial services plan. Under Alternative D, Reclamation would develop and implement a long-term strategy for managing hunting as visitation and urban development increase. Reclamation would also expand environmental constraints on recreation activities. Trail improvements would focus on allowing a diversity of uses. WROS categories would change slightly, to more developed uses.

Environmental Consequences

Alternative A (No Action Alternative) would be a continuation of current management. Alternative B offers the greatest potential for recreational use and development but the greatest potential impact on the physical and biological environment. Conversely, Alternative C would have a lesser impact on physical and biological resources but a greater impact on the potential for development and recreation in the New Melones Lake Area. Alternative D would allow for many uses to continue but could constrain certain activities in order to maintain or improve natural and cultural resources. Impacts under Alternative D tend to be within the range of Alternatives B and C. Taking no action would prohibit Reclamation from implementing management measures needed to both protect resources and to address concerns related to recreation pressure. Detailed descriptions of impacts of the four alternatives are provided in Chapter 6, along with a discussion of the cumulative impacts, irretrievable and irreversible commitments of resources, and unavoidable adverse impacts of the alternatives.

Rationale for Identifying the Preferred Alternative

Alternative D is Reclamation's preferred alternative and the proposed action alternative. Reclamation selected the preferred alternative based on interdisciplinary team recommendations, environmental consequences analysis of the alternatives, and public input during scoping. Alternative D has received the most public support; comments

received have indicated the public's desire to continue conservation, while providing for increased recreation opportunities.

Alternative A, the No Action Alternative, minimally addresses current and relevant issues identified through public scoping and required components of the land use planning document. Alternative A was not the preferred alternative because it does not adequately address issues and concerns identified by the public or required planning components and concerns of the planning team.

Alternatives B and C both address the identified relevant issues and required components necessary in a land use planning document focusing on conservation and uses of the public land. Alternatives B and C also address the public's issues and concerns through identified management direction, as well as the purpose and need, but they lack a balance between resource conservation and resource use allocations.

At this time, Alternative D, the preferred alternative, provides the most reasonable and practical approach to managing the project land resources and uses, while addressing the relevant issues and purpose and need. This alternative incorporates many management objectives and actions from the other alternatives and may include new management direction as necessary. Alternative D balances project lands management with an appropriate level of flexibility to meet the overall needs of the resources and use allocations. This alternative represents management that is proactive and provides flexibility to adjust to changing conditions over the life of the plan, while emphasizing a level of protection, enhancement, and use of the resources into the future.

Comparison and Summary of Alternatives and Environmental Consequences

This section is a summary of key differences in environmental effects among the alternatives. (Not all effects from proposed management actions are discussed.)

Air Quality

The major sources of air pollutant emissions at or near the New Melones Lake Area are boating and personal watercraft use, wildland fires, agricultural burns on private lands, vehicle traffic on paved and unpaved roads, campfires and camp stoves used in campgrounds, internal combustion engine equipment (such as portable generators) used in campgrounds, and mining and mineral development activities.

Alternative A includes programs and actions to maintain facilities but does not include actions for constructing large facilities. Consequently, Alternative A would have limited air quality effects from construction. Recreational use levels and resulting air pollutant emissions would increase in proportion to regional population growth. Under Alternative A, there would be lower recreation-related emissions of air pollutants than under Alternatives B, C, or D.

Alternative B includes actions to construct various new recreation facilities, including an off-highway vehicle park, campgrounds, marina facilities, wave attenuators, and floating campsites. Construction activities for these facilities would result in temporary air pollutant and greenhouse gas emissions. Increased visitor levels related to the availability of these new facilities would be an ongoing source of additional air pollutant and greenhouse gas emissions. Similar impacts would occur under Alternatives C and D, but the effects would be less because less development and use would occur. Overall, recreation use and new recreation facilities, and therefore the potential for recreation management to affect air quality, would be greatest under Alternative B, followed by D, C, and A.

Noise

The highest overall noise levels are expected to be in the vicinity of the campgrounds, the marina, the boat launch facilities, and occupied day use areas. In general, noise conditions in the New Melones Lake Area would not interfere with recreational activities and experiences. Overall, recreation use and new recreation facilities, and therefore the potential for recreation management to affect noise levels, would be greatest under Alternative B, followed by D, C, and A. Alternative C calls for enforceable noise management regulations for boating activities and other recreation activities. Due to mandatory compliance with noise regulations, Alternative C would have greater potential to minimize noise impacts than would Alternatives A, B, and D, under which compliance with noise management regulations would be voluntary.

Geological Resources

Impacts on geologic resources occur from large-scale surface disturbance, erosion, excavation, and vandalism. Alternatives B, C, and D include requirements that fuel breaks and firebreaks would be designed to take soil stabilization into consideration, indirectly decreasing the potential for subsequent erosion, as compared to Alternative A.

Recreational users affect soils directly by disturbing unstable soils and compacting soil. These affects lead indirectly to increased erosion and reduced quality of biological crusts. Groups of horses may also disturb soil in areas where they are tethered. Overall, recreation use and new recreation facilities, and therefore the potential for recreation management to affect geologic resources, would be greatest under Alternative B, followed by D, C, and A.

Under Alternative C, access to caves would be controlled to reduce disturbance and vandalism. The restrictions would be greater than those under Alternatives A, B, and D.

Water Resources

Reclamation would construct additional recreation facilities, would provide additional services, and would allow additional recreation activities under Alternatives B, C, and D. Some of the facilities, services, and activities would be in undeveloped areas, and would increase the amount of impervious surface. This would change erosion and drainage patterns, resulting in changes in water turbidity and groundwater infiltration. As the incidental use of developing areas increases, the potential degradation of water quality would increase. Conversely, providing facilities and receptacles for proper disposal of

waste would preserve water quality. Alternative B would have more new facilities, services, and activities than under Alternatives C and D, and therefore the greatest effects are under this alternative.

Effects on water resources from integrated pest management would be less under Alternative C, as compared to Alternatives A, B, and D. Under Alternative C, Reclamation would use target-specific herbicides. Therefore, the use of chemicals capable of contaminating water would decrease.

Visual Resources

Effects on visual resources result from actions that would change the visual resources by either introducing intrusions into the landscape or, conversely, protecting the landscape from such visual intrusions. Reclamation may construct additional recreation facilities, provide additional services, and allow additional recreation activities under Alternatives B, C, and D. Some of the facilities, services, and activities would be in undeveloped areas, resulting in loss of the natural landscape and open space and the creation of nighttime light and glare. Alternative B would have more new facilities, services, and activities than Alternatives C and D, so the greatest effects would be under this alternative.

Vegetation, Fish and Wildlife, and Special Status Species

Alternative C would best protect native vegetation communities and habitat to maintain biological diversity of wildlife, while Alternatives A and B allow for some compromise to plant and wildlife species and their habitat conditions. Alternative D combines aspects of the other alternatives to provide a flexible approach to achieving other management objectives while protecting these resources.

Implementing the Fire Management Plan under Alternatives B, C, and D would provide a clear direction for fire management at New Melones and would be the most effective way to manage fire while improving vegetative communities and protecting fish and wildlife and their habitats. Alternative C would be the most effective in protecting fish and wildlife and restoring habitats by requiring rehabilitation of all burn areas, protecting sensitive sites from damage by heavy equipment, retaining vegetation within fuel breaks, and using buffer zones to protect riparian and wetland areas.

Invasive species prevention and treatment would be most effective under Alternative C by using herbicides during appropriate times, by requiring reseeding with native seed, and by restricting activities in certain areas. This would reduce weeds and increase native plant cover, which would lead to improved wildlife habitats.

Recreation could disrupt the normal behavior pattern of wildlife as well and could degrade the habitat by altering the vegetation or soil. Reclamation would construct additional recreation facilities, would allow additional access, would provide additional services, and would allow additional recreation activities under Alternatives B, C, and D. Alternative B would allow more new facilities, services, and activities than under Alternatives C and D, so the most effects would be under this alternative.

General Land Management

Under Alternatives B, C, and D, Reclamation would update land use allocation at New Melones Lake to reflect updated information, currently used management areas, and potential management from such sources as the Water Recreation Opportunity Spectrum, carrying capacity study, and commercial services plan. This would convert land from its current use to more appropriate uses based on recreation studies and planning. It would also increase and decrease land use activities in certain areas. Land management would be improved, compared to Alternative A.

Reclamation would construct additional recreation facilities, would provide additional services, and would allow additional recreation activities under Alternatives B, C, and D. Some of the facilities, services, and activities would be in undeveloped areas. Alternative B would allow more new facilities, services, and activities than under Alternatives C and D, so the most effects would be under this alternative. Because the specific locations and feasibility of some of the proposed facilities, services, and activities have not been identified, the potential impacts on land use changes could vary in intensity. For example, land use designation may change, facilities and utilities infrastructure may increase, flora and fauna management plans may need revising, and recreation management areas may increase or decrease.

Access and Transportation

Alternative B would provide the most access within the New Melones Lake Area and calls for the most improvements to roads and trails, followed by Alternatives D, C, and A. Therefore, the greatest expansion and improvement of the access network would occur under Alternative B.

Recreation use and new recreation facilities would be the greatest under Alternative B. Increased visitation due to new recreation facilities would increase the use of roads and trails and would increase the demand for new routes.

Under Alternative C, seaplane access to New Melones Lake would be restricted. In addition, designated no-fly zones near critical infrastructure would be increased and enforced, except for firefighting, emergency, and military operations. New Melones Lake would remain accessible to seaplanes under Alternatives A, B, and D.

Public Health and Safety

Under Alternatives B, C, and D, Reclamation would implement additional lake zones to protect public safety. For example, Reclamation would designate additional swimming areas and areas appropriate for nonmotorized or no-wake boating and houseboats. This would increase public protection over Alternative A by assessing growing, incompatible aquatic activities and then establishing boundaries to keep the activities apart.

Under Alternatives C and D, Reclamation would develop and implement a long-term strategy for managing hunting as visitation and urban development increase. This policy may include restrictions to meet management goals, such as complying with California Fish and Game code, as well as other applicable regulations, such as Executive Order

13443. Because this action is expected to address conflicts between hunters and nonhunters, public protection would increase, as compared to Alternatives A and B.

Fire Management

Under Alternative A, no fire management plan would be implemented. Instead, Reclamation would continue to implement best management practices and standard operating procedures to reduce fire danger and respond to wildland fire. Using the Fire Management Plan under Alternatives B, C, and D would promote fire safety and management and public awareness and would improve fire planning and fire conditions, as compared to Alternative A. Activities under fire management would be more regulated and less flexible under Alternatives C and D than under Alternatives A and B. This could limit some activities, but not to the extent that it would increase fire danger or limit fire suppression success.

Recreation has the greatest potential to affect fire management because most fires are human caused (either accidental or intentional). Overall, recreation use and new recreation facilities, and therefore the potential for recreation management to affect fire management, would be greatest under Alternative B, followed by Alternatives D, C, and A.

Cultural Resources

The types of effects on cultural resources resulting from many of the proposed resource management actions are the same or similar for each alternative. Because planned actions would be subject to review under the Section 106 of the National Historic Preservation Act, there would be further site-specific consideration of cultural resource impacts. Overall, the emphasis on actions that emphasize resource conservation and protection, minimize development, and restrict incompatible actions under Alternative C would best protect significant cultural resources, followed by Alternatives A, D, and B.

Under Alternatives B, C, and D, a new archaeological storage facility would be constructed that meets federal curation standards.

Indian Trust Assets

There are no Indian Trust Assets identified within the New Melones Lake Area, so no effects under any alternative are anticipated.

Socioeconomic and Environmental Justice

Continuing to provide both land-based and aquatic recreation opportunities would ensure the continued economic contribution of recreation at the New Melones Lake Area in Calaveras and Tuolumne Counties, the levels of which could vary by the amount and types of recreation promoted and allowed under each alternative. Concessionaire agreements with private enterprises would continue to provide business opportunities, the level and type of which could vary by alternative.

Alternative B would provide the most recreation opportunities to accommodate increased visitor use, to draw new types of recreational visitors, and to raise visitor satisfaction by providing recreational amenities. The additional developed recreation areas would be

likely to draw in the most new types of visitor groups and concessionaires, which would generate expenditures in the local economy to support increased incomes and jobs. Additional concessionaire contracts could increase business activity in the local economy, which could indirectly stimulate the local economy. Therefore, the greatest socioeconomic effects from recreation management would occur under Alternative B, followed by Alternatives D, C, and A.

None of the alternatives would result in direct changes in population or changes in the demand for housing, schools, and public facilities and services. No low-income or minority populations would be displaced or separated from community facilities, nor would minority businesses be disrupted; therefore, low-income and minority groups (environmental justice populations) would not be disproportionately affected by these actions.

Recreation

Recreation experiences and the potential attainment of a variety of beneficial outcomes are vulnerable to any management action that would alter the settings and opportunities in a particular area. Recreation settings are based on a variety of attributes, such as remoteness, the amount of human modification in the natural environment, evidence of other users, restrictions, and controls, and the level of motorized vehicle use. Management actions that greatly alter such features within a particular portion of the planning area could affect the capacity of that landscape to produce appropriate recreation opportunities and beneficial outcomes.

Alternative A would continue to provide the commercial services and concessions that are currently available, which would serve the existing level of visitor use. The level of services available under Alternative A could become less adequate in meeting visitor needs and could result in reduced visitor satisfaction as recreation demand increases.

Alternative B would provide the most recreation opportunities to accommodate increased visitor use, draw new types of recreation visitors, and raise visitor satisfaction by providing recreation amenities because Alternative B would provide a range of opportunities, such as new marina facilities, additional marina amenities, protected floating swim docks, additional radio-controlled flying facilities, retail stores for camping supplies, floating or other overnight lodging facilities, seasonal scenic cruises, restaurants or cafes, a new recreational vehicle park, new special event facilities, equestrian trail riding, a mountain biking course, camping facilities in a rural natural management area, an off-highway vehicle park, additional water courses, skeet or target shooting, and seaplane training. Permits would be offered for businesses to provide adventure guide services and rental equipment. These types of recreational opportunities would be likely to draw in and satisfy visitors who desire more developed types of recreation but could decrease the satisfaction of visitors who desire a more primitive setting, such as wildlife watching, hiking, and fishing. Providing additional developed facilities and services, with an associated increase in recreational visitors, also could increase the level of user conflicts on project lands.

Alternative C would be oriented more toward more passive uses and would tend to draw more day use visitors and satisfy those visitors desiring a more primitive setting and quieter experience. Because fewer developed facilities would be constructed under Alternative C than under Alternative B, user conflicts generated by increased visitation and competing developed uses would be less likely under Alternative C. Alternative C also would be the more limiting to recreational opportunities than under Alternatives B and D because it places the most protections on sensitive resources that could be affected by recreation.

Alternative D would provide increased recreational opportunities beyond what is proposed under Alternatives A and C but would limit development more than under Alternative B, satisfying users that prefer developed areas more than under Alternatives A and C but potentially limiting the level of competing uses than under Alternative B. Table ES-1 summarizes key differences in effects on visitor use opportunities among the alternatives.

Table ES-1: Alternatives Comparison of Effects on Visitor Use Opportunities

Resource [Management Action(s)]	Alternative A	Alternative B	Alternative C	Alternative D
Noise (N1, N2)	- Voluntary compliance with boat and visitor noise regulations	- Same as Alternative A	- Mandatory compliance with boat and visitor noise regulations	- Same as Alternative A
Caves (C4, C5)	- Manage cave access to comply with laws and regulations; maintains current management of caves	- Expand cave access and provide interpretive opportunities	- Control cave access and close caves to interpretive activities	- Should funding become available, Reclamation may develop an updated cave management plan by coordinating with other agencies to strengthen and protect cave resources. - Provide interpretive opportunities as in Alternative B.
Water Resources (WR 28)	- Close former roadways in Rural Developed Management Areas when necessary for public health and safety (would limit visitor access)	- Update/improve former roadways for lake access in Rural Developed Management Areas, if funded (would improve visitor access)	- Close former roadways as in Alternative A. - Restrict vehicle use in Semi Primitive Management Areas.	- Update/improve select roads in Rural Developed Management Areas, if funded. - Restrict vehicle use in Semi Primitive Management Areas.
Fish and Wildlife - Peoria Wildlife Management Area (FW 13)	- Restrict vehicles year-round - Build trails - Allow group camping	- Restrict vehicles from December to May - Build trails - Allow group camping	- No public vehicle access - Close trails - No camping allowed	- Same as Alternative A
Fisheries and Fishing (FW 22, FW 23, AR 16, AR 17)	- Restrict/minimize disturbance of trout and warm water fish spawning areas (may limit fishing opportunities)	- Same as Alternative A	- Increased restrictions of trout and warm water fish spawning areas compared with Alternative A	- Increased use restrictions of trout spawning areas compared with Alternative A - Same use restrictions of warm water fish spawning areas compared with Alternative A

Resource [Management Action(s)]	Alternative A	Alternative B	Alternative C	Alternative D
Special Status Species (SSS 1, SSS 3, SSS 5)	- Implement a climbing management plan if effects on sensitive species are identified (may limit climbing opportunities)	- Same as Alternative A	- Consider visitor use restrictions to protect special status species, including raptors and bats (may limit recreation opportunities)	- Same as Alternative A
Land Management (LM 13, LM 19)	- Do not allow OHV use - Continue closure of overlook facilities at Peoria Flat	- Allow OHV use in a designated OHV park - Reopen overlook facilities at Peoria Flat	- Same as Alternative A	- Same as Alternative A, but allow public access to the dam overlook at Peoria Flat through guided tours
Access and Transportation (General) (TA 4, TA 5)	- Close identified roads to public vehicles - Operate/maintain substandard lake access routes/facilities	- Close the fewest roads compared with Alternative A - Update/modernize lake access routes/facilities	- Same as Alternative A	- Close roads: fewer than Alternative A, more than Alternative B - Update/modernize lake access routes/facilities
Aircraft Use (TA 12, TA 13, AR 26, AR 27)	- Continue to implement the New Melones seaplane policy	- Same as Alternative A	- Restrict access to New Melones for seaplanes - Enforce additional zoning for all aircraft	- Same as Alternative A
Access to Westside and Bowie Flat (TA 14, TA 16, TA 17)	- Operate/maintain the existing trail system - Manage Bowie Flat, while emphasizing conservation	- Consider allowing development of an access road to Westside - Optimize trail connectivity in the Westside - Increase use of Bowie Flat (multiuse trails)	- Allow access to the Westside by trails or boat - Optimize trail connectivity in the Westside - Increase use of Bowie Flat (hiking/equestrian)	- Allow access to the Westside by trails or boat; should vehicle access be needed for recreation use or other project purposes, transportation routes may be considered. - Optimize trail connectivity in the Westside - Increase use of Bowie Flat (multiuse)
Public Health and Safety (PHS 10)	- Hunting would be allowed, except in restricted areas	- Shotgun-only hunting would be allowed, except in restricted areas	- Develop/implement a strategy to manage hunting, which may include restrictions	- Same as Alternative C, but shotgun-only hunting would be allowed

Resource [Management Action(s)]	Alternative A	Alternative B	Alternative C	Alternative D
Recreation - Commercial services/concessions (R 15, 16, 17, 18, 20, 23, 24, 25, 28, 29, 31, 32, 36, 38, 39, 40)	- Continue to operate a marina and marina-based store at Glory Hole - Continue to issue Special Event permits - Reclamation would operate/maintain New Melones facilities and provide services with a combination of Reclamation staff, service contracts, concession agreements, and MOU or MOA with other entities for maximum flexibility and resource protection - Do not permit a seaplane school - Continue to operate/maintain the existing water-ski course - Do not allow skeet/target shooting - Continue to operate/maintain a radio-controlled flying facility in Peoria Flat	- Construct additional marina(s) and provide additional marina amenities - Construct floating and land-based overnight lodging facilities - Issue permits for rental operations - Construct a new RV park - Construct/operate a mountain bike course through a managing partner/concession agreement - If feasible, assign operation/management of developed recreation areas to another entity - Issue permits to allow seaplane training - Allow another entity to construct/operate an equestrian trail riding business and/or skeet/target shooting range - Develop an additional water sports course - Develop additional radio-controlled flying facilities	- Provide additional marina services - Construct eco-friendly land-based lodging - Reclamation would operate/maintain New Melones facilities and provide services with a combination of Reclamation staff, service contracts, concession agreements, and MOU or MOA with other entities for maximum flexibility and resource protection; resource conservation would be emphasized in decisions regarding commercial services - Do not permit a seaplane school - Allow another entity to construct/operate an equestrian trail riding business, though with less development than Alternative B - Continue to operate/maintain the existing water-ski course - Do not allow skeet/target shooting - Continue to operate/maintain a radio-controlled flying facility in	- Provide more additional marina services compared with Alternative C - Construct floating campsites and land-based overnight lodging facilities - Issue permits for rental operations - Construct a new RV park - Construct/operate a mountain bike course through a managing partner/concession agreement - Reclamation would operate/maintain New Melones facilities and provide services with a combination of Reclamation staff, service contracts, concession agreements, and MOU or MOA with other entities for maximum flexibility and resource protection - Do not permit a seaplane school - Allow another entity to construct/operate an equestrian trail riding business - Continue to operate/maintain the existing water-ski course

Resource [Management Action(s)]	Alternative A	Alternative B	Alternative C	Alternative D
			Peoria Flat	- Do not allow skeet/target shooting - Continue to operate/maintain a radio-controlled flying facility in Peoria Flat
Aquatic Recreation (General) (AR 5, AR 15, AR 24)	- Continue to implement lake zones to address ongoing safety concerns	- Implement additional lake zones to promote safety and protect the public by reducing user conflicts (would restrict some aquatic recreation activities in designated areas)	- Same as Alternative B, but including more restrictive zones	- Implement more restrictive lake zones compared with Alternative B, but less than Alternative C
Boating, water-skiing, wake boarding, and rafting (AR 21, AR 22, AR 23, AR 25)	- Continue operation of a water-ski course in the current location - Allow the current level of watercraft use - Continue status quo management of houseboats - Continue to issue Special Event permits	- Relocate the water-ski course to Carson Creek Cove - Allow an increased level of watercraft use - Prepare/implement a moored vessel plan - Issue permits for white-water rafting services in Camp Nine	- Continue operation of a water-ski course in the current location; do not relocate the water-ski course until a more suitable location is identified - Decrease the level of watercraft use - Prepare/implement a moored vessel plan - Do not issue permits for white-water rafting services	- Continue operation of a water-ski course in the current location; do not relocate the water-ski course until a more suitable location is identified - Allow an increased level of watercraft use - Prepare/implement a moored vessel plan - Issue permits for white-water rafting services in Camp Nine
Land-Based Recreation (General) (LR 17, LR 18, LR 21, LR 22)	- Operate/maintain the existing trail system	- Optimize connectivity between trail systems - Develop new trails - Provide for multiuse trail activities	- Optimize connectivity between trail systems - Do not develop new trails - Encourage hiking and low-impact recreation	- Same as Alternative B

Resource [Management Action(s)]	Alternative A	Alternative B	Alternative C	Alternative D
Hunting (LR 33, LR 34)	-Maintain existing hunting closure areas	-Maintain existing hunting closure areas -Shotgun-only hunting would be allowed - Develop agreements to allow special hunting events	-Maintain existing hunting closure areas - Develop and implement long-term strategy for managing hunting (may increase restrictions)	-Maintain existing hunting closure areas - Develop and implement long-term strategy for managing hunting (may increase restrictions) -Shotgun-only hunting would be allowed -Hunting would be restricted within 150 yards of the Reclamation boundary at French Flat and Bear Creek - Develop agreements to allow special hunting events

TABLE OF CONTENTS

Section Page

TABLE OF CONTENTS *(continued)*

Section Page

TABLE OF CONTENTS *(continued)*

Section Page

TABLE OF CONTENTS *(continued)*

Section Page

TABLE OF CONTENTS *(continued)*

Section Page

TABLE OF CONTENTS *(continued)*

Section Page

LIST OF FIGURES

Figure Page

LIST OF CHARTS

Page

LIST OF TABLES

Table Page

LIST OF APPENDICES

Appendix

LIST OF ACRONYMS

Acronym or Abbreviation	Full Phrase
AADT	annual average daily traffic
ACEC	area of critical environmental concern
ACHP	Advisory Council on Historic Preservation
ADA	Americans with Disabilities Act
APCD	air pollution control district
ARPA	Archaeological Resources Protection Act
BIA	Bureau of Indian Affairs
BLM	US Bureau of Land Management
BMP	best management practice
CAA	Clear Air Act
CAL FIRE	California Department of Forestry and Fire Protection
CARB	California Air Resources Board
CCAO	US Bureau of Reclamation, Central California Area Office
CDFG	California Department of Fish and Game
CEQ	Council on Environmental Quality
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRLF	California red-legged frog
CSP	commercial services plan
CVP	Central Valley Project
CWA	Clean Water Act
dBA	A-weighted decibels
draft FMP	draft fire management plan
EA	environmental assessment
EIS	environmental impact statement
EO	executive order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FERC	Federal Energy Regulatory Commission
FLREA	Federal Lands Recreation Enhancement Act
FMB	Foothills Metamorphic Belt
FMU	fire management unit
FR	Federal Register
FRCC	fire regime condition class
HazMat	hazardous waste/materials
ITA	Indian Trust Asset
LEPN	Lands Excess to Project Needs
Master Plan	New Melones Lake Area Master Plan of 1976
MBTA	Migratory Bird Treaty Act
MOA	memorandum of agreement
MOU	memorandum of understanding
msl	mean sea level

LIST OF ACRONYMS *(continued)*

Acronym or Abbreviation	Full Phrase
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NCPA	Northern California Power Authority
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act of 1966
NOAA	National Ocean and Atmospheric Administration
NOAA Fisheries Service	NOAA's National Marine Fisheries Service
NRHP	National Register of Historic Places
O&M	operations and maintenance
OHV	off-highway vehicle
ORIU	Operations Recreation - Intensive Use
ORLU	Operations Recreation – Low-Density Use
PG&E	Pacific Gas and Electric Company
PILT	payment in lieu of taxes
PL	Public Law
PM2.5	particulate matter less than 2.5 microns in equivalent aerodynamic diameter
PM10	particulate matter less than 10 microns in equivalent aerodynamic diameter
PO	Project Operations
PWMA	Peoria Wildlife Management Area
RCRA	Resource Conservation and Recovery Act
Reclamation	US Bureau of Reclamation
RIR	Resource Inventory Report
RLIU	Recreation Lands Intensive Use
RLLU	Recreation Lands Low-Density Use
RMP	resource management plan
RRMA	Reclamation Recreation Management Act
RV	recreational vehicle
SHPO	State Historic Preservation Office
SIP	state implementation plan
SOP	standard operating procedure
SR	state route
SWRCB	State Water Resources Control Board
TCID	Tuolumne County Irrigation District
TMDL	total maximum daily load
USACE	US Army Corps of Engineers
USC	US Code
USFS	US Forest Service
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
WRCC	Western Regional Climate Center
WROS	Water Recreation Opportunity Spectrum
WUI	wildland-urban interface

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1. Introduction

1.1 Introduction

The US Department of the Interior, Bureau of Reclamation (Reclamation) has prepared this resource management plan (RMP) and environmental impact statement (EIS) for the New Melones Lake Area (Figure 1-1). The RMP provides a range of alternatives for managing Reclamation-administered lands within the New Melones Lake Area in Tuolumne and Calaveras Counties, California, and the EIS is an analysis of the environmental effects that could result from implementing the actions defined in the RMP.

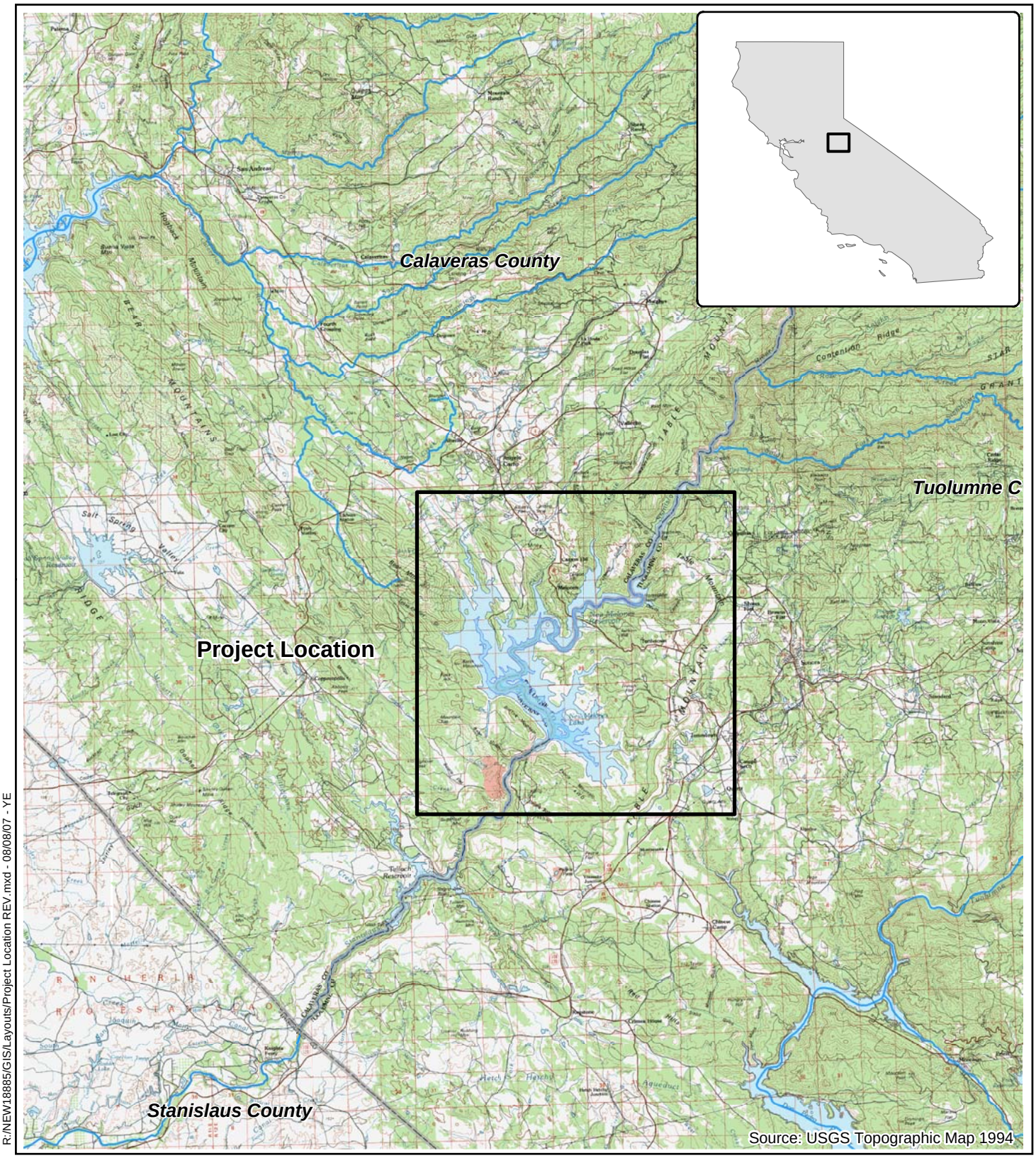
Current and past decisions directing the management of Reclamation-administered lands in the planning area are based on the New Melones Lake Area Master Plan (Master Plan) approved in 1976 (USACE and Reclamation 1976), subsequent amendments to that plan, and by applicable federal, state, and local regulations. The Master Plan is a land use plan that provides a set of land use allocations, development recommendations and objectives, and constraints to guide the management of each resource.

A new RMP/EIS, which will replace the Master Plan, will disclose to the public the decisions being made and their impact on the environment. It also will help the public understand the constraints and legal requirements that provide the framework within which Reclamation must manage these lands and will provide consistent and integrated decisions for managing Reclamation-administered lands in the planning area.

The guidance provided in this RMP/EIS will help New Melones managers fulfill Reclamation's mission, which is "to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public."

This RMP/EIS addresses the interrelationships among the various resources at the New Melones Lake Area and provides management options to balance resource management with Reclamation's mission and authority with the needs of the public to use these lands.

An EIS is incorporated into this document to meet the requirements of the National Environmental Policy Act of 1969 (NEPA), Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508) (CEQ 1978), and requirements of Reclamation's Draft NEPA Handbook (Reclamation 2000).



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Project Location

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Miles

New Melones Lake Area, California
Central California Area Office

Figure 1-1

1.2 Background Information

1.2.1 Location of the New Melones Lake Area

The New Melones Lake Area is in the foothills of the Sierra Nevada, at approximately 1,100 feet (340 m) above sea level and is bisected by the Tuolumne and Calaveras county line (Figure 1-2).

1.2.2 Access to the New Melones Lake Area

Primary access to the New Melones Lake Area is from Highway 49, which crosses the lake on the Stevenot Stanislaus River Bridge. Connector roads to specific locations at the lake are accessible from Highway 49 and from county roads that intersect the area. The communities of Angel's Camp, Sonora, Columbia, and Copperopolis are connected to the lake either by Highway 49 or by local roads.

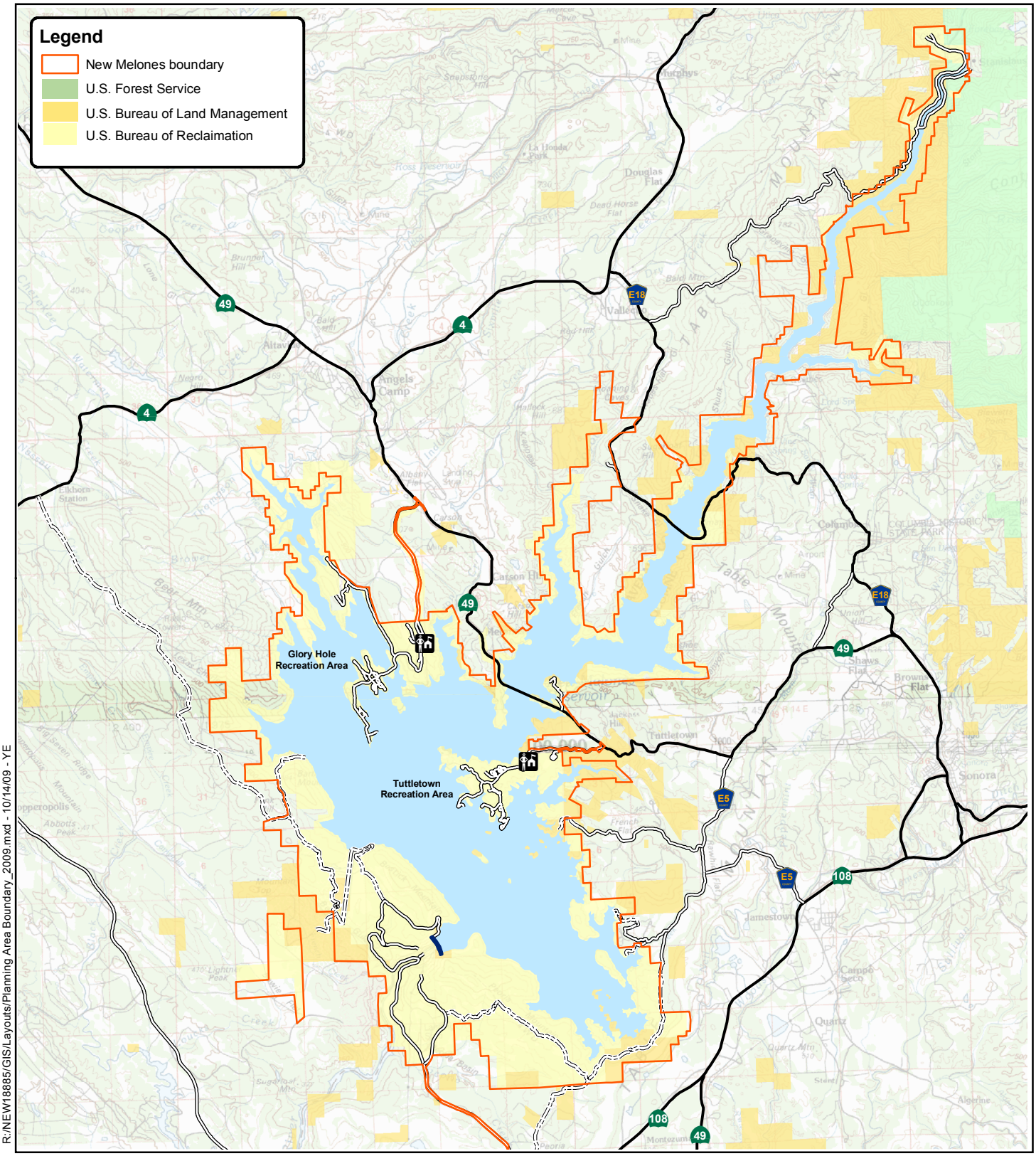
1.2.3 New Melones Lake Area Description, Capacity, and Operation

New Melones Lake is the fifth largest reservoir in California and the most recent major project incorporated into the Central Valley Project. Completed in 1979, New Melones dam holds water from the Stanislaus River and other tributaries within a 980-square-mile (250,000 hectare) watershed. When full, the storage capacity is 2.4 million acre-feet (2.9 million megaliters), with 100 miles (160 kilometers) of surrounding shoreline. The surface area of New Melones Lake is 12,500 acres (5,000 hectares), and surrounding project lands are approximately 17,500 acres (7,000 hectares), for a total of 30,000 acres (12,000 hectares). For the purposes of this document, the New Melones Lake Area is defined as New Melones Lake and the surrounding project lands.

The project provides flood control for the lower Stanislaus River and San Joaquin River Delta, irrigation and municipal water supplies, peak use period hydroelectric production, recreation, water quality, and fish and wildlife enhancement.

1.3 Purpose of and Need for the RMP/EIS

The purpose of this RMP/EIS is to establish a conceptual plan detailing the management framework for the conservation, protection, enhancement, development, and use of the physical and biological resources in the New Melones Lake Area. Changes in resource management and recreation interest, changes in the types of use, and changes in the level of use have occurred over the last several decades. The Reclamation Recreation Management Act (RRMA) of 1992 (Public Law [PL] 102-575, Title 28 [2805(c)(1)(A)]) directs Reclamation to "provide for the development, use, conservation, enhancement, and management of resources on Reclamation lands." These changes, combined with requirements under the RRMA, have created a need for Reclamation to evaluate the contemporary resource and recreation management for the New Melones Lake Area.



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New Melones Planning Area Boundary

New Melones Lake Area, California
Central California Area Office

Figure 1-2

The purposes of the New Melones RMP/EIS are as follows:

- Provide a framework to ensure that Reclamation plans and activities comply with all appropriate federal, state, and local laws, rules, regulations, and policies;
- Provide for the protection and management of natural and cultural resources and for public health and safety;
- Provide for recreation management and development and other uses, consistent with contemporary and professional resource management and protection theories, concepts, and practices;
- Ensure that management of quality recreational facilities and opportunities is compatible with other environmental resources and that management planning is based on expressed public need and the ability of the land and water resources to accommodate improved facilities and increased visitor use;
- Be consistent with Reclamation fiscal goals and objectives; and
- Support Reclamation's core mission of delivering water and generating power.

The land use planning-level decisions that Reclamation will make regarding this RMP are programmatic decisions based on analysis that can only be conducted on a broad scale. Because of the broad scope, impact analysis of planning-level decisions is speculative with respect to projecting specific activities. Subsequent documents tiered to this RMP would generally contain a greater level of detail and would be subject to NEPA analysis and compliance.

1.4 Project Authority

Reclamation's authority to prepare RMPs is derived from the broad authority of the Reclamation Act of 1902 (Chapter 1093, 32 stat. 388), the Reclamation Project Act of 1939 (Chapter 418, 53 Stat. 1187), the Federal Water Project Recreation Act (PL 89-72, 79 Stat. 213), and, more specifically, from the RRMA of 1992 (PL 102-575, Title 28 [2805(c)(1)(A)]). The RRMA authorized the preparation of RMPs to "provide for the development, use, conservation, protection, enhancement, and management of resources of Reclamation lands in a manner that is compatible with the authorized purpose of the Reclamation Project associated with the Reclamation lands."

Below is a brief description of important legislation governing the management of the New Melones Lake Area.

1.4.1 Federal Legislation and Guidance

This section lists some of the federal regulations and guidelines that Reclamation complies with during preparation and subsequent implementation of the RMP. Other regulations that may apply to management of lands in the New Melones Lake Area are listed in Appendix A.

Reclamation Act of 1902 (Chapter 1093, 32 Stat. 388)

This act set aside money for the construction and maintenance of irrigation projects. The newly irrigated land would be sold and money would be put into a revolving fund that supported more such projects. This act also established the Bureau of Reclamation to administer the program.

Reclamation Project Act of 1939 (43 US Code [USC], Section 485)

This act provided a feasible and comprehensive plan for the variable payment of construction charges on United States reclamation projects, to protect the investment of the United States in such projects, and for other purposes.

Flood Control Acts of 1944 and 1962 (PL 78–534 and PL 87-874)

These acts authorized construction of New Melones for the purposes of flood control, irrigation, power generation, general recreation, water quality, and fish and wildlife enhancement. In addition, the Flood Control Act of 1962 describes the responsibilities of the Secretary of the Army and the Secretary of the Interior at the New Melones project.

Federal Water Project Recreation Act of 1965 (PL 89-72)

This act requires that recreation and fish and wildlife enhancement be given full consideration in federal water development projects. The act authorizes the use of federal water project funds for land acquisition in order to establish refuges for migratory waterfowl and authorizes the Secretary of the Interior to provide facilities for outdoor recreation and fish and wildlife at all reservoirs under the Secretary's control, except those within National Wildlife Refuges.

Reclamation Recreation Management Act of 1992 (PL 102-575, Title 28 [2805(c)(1)(A)])

This act amends the Federal Water Project Recreation Act of 1965 (PL 89-72) and authorizes the preparation of RMPs to "provide for the development, use, conservation, protection, enhancement, and management of resources of Reclamation lands in a manner that is compatible with the authorized purposes of the Reclamation project associated with the Reclamation lands." This act adds a non-federal partner cost share requirement to enhance accomplishment of Reclamation projects. A non-federal partner is any governmental organization chartered by a state, county, or local government agent. Conversely, all nonprofit organizations or businesses are excluded from a federal cost share under PL 89-72. It is required that the cost share entity have the capability to provide at least 50 percent of the cost of the project and provide up-front funding for

planning activities. In addition, the cost share entity provides services and facilities that are open to the general public; cost sharing will not support private exclusive use on federal lands. The cost share entity also must show the capability to provide at least 50 percent of the costs incurred in long-term operation and maintenance (O&M) of the facilities.

National Environmental Policy Act of 1969 (NEPA) (42 USC, Sections 4321 et seq.)

Under NEPA, federal agencies must consider the environmental consequences of proposed major actions. The spirit and intent of NEPA is to protect and enhance the environment through well-informed federal decisions, based on sound science. NEPA is premised on the assumption that providing timely information to the decision maker and the public concerning the potential environmental consequences of proposed actions would improve the quality of federal decisions. Thus, the NEPA process includes the systematic, interdisciplinary evaluation of potential environmental consequences expected to result from implementing a proposed action. This document is a joint RMP/EIS to fulfill NEPA's requirements.

Clean Water Act (CWA) (33 USC, Sections 1251 et seq.) and Implementing Regulations (33 CFR, Parts 320-330, 335-338, 40 CFR, Parts 104-140, 230-233, 401-471)

The CWA of 1972, PL 92-500, is the law under which most US Army Corps of Engineers (USACE) permits are issued for discharging fill into wetlands. Most of the CWA deals with water pollution, which is the purview of the US Environmental Protection Agency (EPA). Responsibility for disposing of dredged material was delegated to the USACE because of its historic role in that arena, but the EPA still maintains ultimate responsibility for overseeing the program. USACE regulations are published at 33 CFR, Parts 320-384; those of the EPA are published at 40 CFR, Parts 230-233 and are often referred to as Section 404 guidelines.

Section 404 defines dredge and fill responsibilities under the CWA. Exemptions for Section 404 permits are granted for normal agricultural, ranching, and silvicultural activities, as well as for maintaining existing drains, culverts, farm ponds, and roads. The USACE manages the wetland permitting program, but the EPA has veto power over USACE permit decisions, and the US Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NOAA Fisheries Service) have consultation rights. The USACE and the EPA share enforcement authority, although states may adopt administration of parts of the program from the USACE, with EPA oversight. The point of contact for Section 404 permit issues is the USACE.

Clean Air Act (42 USC, Sections 7401 et seq.)

The principal federal law protecting air quality is the Clean Air Act (CAA), which is enforced by the EPA. The CAA regulates air emissions from area, stationary, and mobile sources. Under this law, National Ambient Air Quality Standards (NAAQS) are

established for each state by the EPA in order to protect public health and the environment (EPA 2008). The CAA requires areas with unhealthy levels of ozone, carbon monoxide, nitrogen oxide, sulfur oxide, and inhalable particulate matter to develop State Implementation Plans, describing how they will attain NAAQS in accordance with 40 CFR 52.220. State Implementation Plans are not single documents, but a compilation of new and previously submitted plans, programs, district rules, state regulations, and federal controls (CARB 2003).

Executive Order (EO) 11990: Protection of Wetlands (42 Federal Register [FR] 26961, 5/25/77)

This order requires agencies to minimize destruction of wetlands when managing lands, administering federal programs, or undertaking construction. Agencies are also required to consider the effects of federal actions on the health and quality of wetlands.

EO 11593: Protection and Enhancement of the Cultural Environment (36 FR 8921, 1/15/71)

This order requires federal agencies to inventory historic properties on federal lands and to document historic properties altered or demolished through federal action.

EO 13112: Invasive Species (64 FR 6183, 2/3/99)

This order directs federal agencies to prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause. To do this, the order established the National Invasive Species Council.

EO 13443: Facilitation of Hunting Heritage and Wildlife Conservation (72 FR 46537, 8/20/07)

The purpose of this order is to direct federal agencies with programs and activities that have a measurable effect on public land management, outdoor recreation, and wildlife management, including the Department of the Interior and the Department of Agriculture, to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat.

Federal Bald Eagle Protection Act (16 USC, Sections 668-668d)

This act prohibits persons within the United States (or places subject to US jurisdiction) from "possessing, selling, purchasing, offering to sell, transporting, exporting or importing any bald eagle or any golden eagle, alive or dead, or any part, nest, or egg thereof."

Fish and Wildlife Coordination Act of 1934

This act requires consultation with USFWS and state agencies whenever the waters or channels of a body of water are modified by a department or agency of the U.S., with a

view to the conservation of wildlife resources. It provides that land, water and interests may be acquired by Federal construction agencies for wildlife conservation and development.

Federal Endangered Species Act (ESA) (16 USC, Sections 1531–1544) and Implementing Regulations (50 CFR, Parts 17, 401-424, 450-453)

Under the ESA of 1973, all federal agencies, in consultation with the Secretary of the Interior, must take all necessary precautions to ensure that their actions do not jeopardize federally listed endangered or threatened species or destroy or degrade their habitats. The ESA provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. It is designed to protect critically imperiled species from extinction due to "the consequences of economic growth and development untempered by adequate concern and conservation."

Federal Migratory Bird Treaty Act (MBTA) of 1918 and Amendments (16 USC, Sections 703–712)

The MBTA prohibits the take, harm, or trade of any migratory bird species and requires that all agencies must have a policy in place to prevent harm to such species as a result of that agency's actions. The USFWS is the agency charged with administering and enforcing the MBTA. An amendment to the act was passed in 1972 to include owls, hawks, and other birds of prey.

Rehabilitation Act of 1973 and Americans with Disabilities Act of 1990 and 1995 (ADA) (29 USC, Section 794)

These laws require that access to federal facilities be provided for persons with disabilities.

Law Enforcement Authority: PL 107-69 (2001)

PL 107-69 allows Reclamation to enforce laws on its lands and facilities using law enforcement services with other Department of the Interior agencies or contracting with other federal, state, or local law enforcement organizations.

National Historic Preservation Act of 1966 (NHPA) (16 USC, Sections 470-470x-6)

The NHPA requires federal agencies to consider historic preservation values when planning their activities. Each federal agency must establish a preservation program for identifying, evaluating, and protecting properties under its ownership or control that are eligible for listing on the National Register of Historic Places (NRHP). In the Section 106 process, a federal agency must identify historic properties that may be affected by its actions, must evaluate the proposed action's effects, and then must explore ways to avoid or mitigate those effects.

The Federal Cave Resources Protection Act of 1988 (16 USC, Sections 4301 – 4309)

This act requires inventory of significant caves on federal lands, implementation of management measures, and provides certain protections of cave resources. It requires that significant caves are considered in the preparation of resource management plans and that the public be invited to participate in planning. It provides for the issuance of permits for collection or removal of cave resources and identifies criminal and civil penalties for prohibited acts.

1.4.2 State and Local Regulation and Guidance

California Endangered Species Act (CESA) (Fish and Game Code, Sections 2050, et seq.)

CESA operates in a similar fashion to the federal ESA but is administered by the California Department of Fish and Game (CDFG). Certain species that are federally listed may not be listed on the CESA or may have different listing status.

State Fish and Game Code

Birds of prey are protected in California under the State Fish and Game Code (Section 3503.5, 1992), which states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment or loss of reproductive effort is considered "taking" by the CDFG.

California Fish and Game Code 878

The CDFG enforces fishing regulations on all water surfaces.

1.4.3 Operation and Maintenance of New Melones Lake

The US Army Corp of Engineers (USACE) was directed to build New Melones dam by congressional authority. During construction of the dam, a Memorandum of Understanding (MOU) for transfer of the dam and reservoir to Reclamation from the USACE was executed. Though the USACE retained construction responsibility, the MOU granted Reclamation management responsibility for the New Melones project, including operations of the reservoir as part of the Central Valley Project, management of recreation, and enhancement and protection of fish and wildlife resources. Dam construction was completed in 1979.

Reclamation has a staff of both permanent and seasonal employees who are responsible for operations and maintenance of Reclamation lands and facilities, natural resource planning, administration and volunteer management, traffic and crowd control, concession oversight, campground and day use operations, special use permits issuance,

education and outreach, interpretation, fee collection, and patrol. Reclamation rangers perform safety inspections and patrols of project lands, waters, and facilities and encourage lake visitors to comply with state and federal safety laws and regulations and Reclamation policies. Reclamation also has maintenance staff to operate, maintain, and repair the recreation and resource management facilities, as well as provide support to the power plant and dam operations. Separate staff are in charge of the dam and power plant operations.

Reclamation is able to contract with other federal, state, local, or tribal agencies, such as the Bureau of Land Management (BLM) or the National Park Service, for law enforcement. Management of resources on Reclamation land emphasizes interagency coordination with federal, state, and local agencies, including the US Forest Service, Tuolumne County, Calaveras County, USFWS, California Department of Forestry and Fire Protection (CAL FIRE), and CDFG.

State and local laws are enforced by the Sheriff's Offices of Tuolumne and Calaveras Counties in their respective areas of jurisdiction. Tuolumne and Calaveras County Sheriff boat patrols share responsibility for enforcing boating laws at New Melones Lake. The California Highway Patrol is responsible for enforcing the vehicle code.

1.5 Organization of the RMP/EIS

The RMP/EIS provides a conceptual framework for conserving, protecting, enhancing, and managing resources within the New Melones Lake Area. The EIS portion of the RMP/EIS fulfills NEPA requirements by assessing broad impacts that could result from implementing the various alternatives.

Chapter 1 Introduction

Chapter 1 provides an introduction to and overview of the study area and sets forth the purpose of and need for an RMP/EIS, authorities, regulations affecting management of the lake area, and overall objectives. Chapters 1 and 5 of this document and the associated Resource Inventory Report (RIR) provide background information on the New Melones Lake Area, the purpose and need for the RMP and EIS, project authority, history of New Melones Lake, existing management programs, partnerships, and issues to be addressed in the RMP.

Chapter 2 Development of Alternatives

Chapter 2 describes the proposed alternatives that were formulated in response to the issues identified by the public and Reclamation. Included are goals, actions, and specific implementation strategy recommendations. Chapter 2 also contains an explanation of the alternatives development process.

Chapter 3 Comparison of Alternatives

Chapter 3 presents an alternatives matrix that details management goals and actions for each alternative. This alternatives matrix is a comparison of the alternatives and shows details of the management guidance for each alternative.

Chapter 4 Description of the Proposed Action Alternative

Chapter 4 describes the proposed action alternative in detail, organized by resource. Chapter 4 states goals for each resource, as well as actions that Reclamation would undertake to achieve those goals.

Chapter 5 Affected Environment

Chapter 5 contains detailed descriptions of the environmental conditions and resources in the New Melones Lake Area and is organized by resource areas.

Chapter 6 Environmental Consequences

Chapter 6 describes the expected environmental consequences of implementing each of the proposed alternatives on specific resources and resource uses.

Chapter 7 Consultation and Coordination

Chapter 7 describes the process by which Reclamation involved the public, resource agencies, and stakeholders in the RMP/EIS preparation and selection process. It also lists all comments that were received during report preparation, comment responses, and report preparers.

1.6 History of New Melones Lake

Construction of New Melones was authorized by the Flood Control Act of December 22, 1944. The original authorization was subsequently modified by the Flood Control Act of 1962 (PL 87-874). The authorized purposes of the project included flood control, irrigation, power generation, general recreation, water quality, and fish and wildlife enhancement.

In 1972 the USACE wrote an EIS, and in 1976, it developed the Master Plan for the reservoir. This plan proposed thirteen separate management areas, from a walk-in campground at Clarks Flat in the Camp Nine vicinity to large recreation areas at Tuttletown and Glory Hole. These management areas were assigned a land capability status to describe the land use in the project area. The management areas proposed in the Master Plan are presented in Table 1-1.

Table 1-1: Management Areas in the 1976 Master Plan

Management Area	Master Plan Land Capability
Glory Hole	ORIU, ORLU, RLIU, and RLLU
Tuttletown	ORIU, ORLU, RLIU, and RLLU
Coyote Creek	ORIU and ORLU
Skunk Gulch	RLIU, RLLU and ORLU
Grapevine Gulch	RLIU, RLLU and ORLU
Rawhide	ORIU, ORLU, RLIU, and RLLU
Camp Nine	ORLU
Parrotts Ferry	ORLU
Mark Twain	ORIU and ORLU
Bear Creek	ORIU and ORLU
Chaparral	ORIU, ORLU, RLIU, and RLLU
Melones	ORIU, ORLU, and RLIU
Coyote Creek	ORLU, RLIU, and RLLU
Bowie Flat	LEPN
New Melones Dam	PO and FWL
Wildlife Management Area	FWL

Note: The land use allocations used in this table came from the Master Plan Land Use Allocation (p. 45): Fish and Wildlife Lands (FWL), Lands Excess to Project Needs (LEPN), Operations: Recreation - Intensive Use (ORIU), Operations Recreation - Low-Density Use (ORLU), Project Operations (PO), Recreation Lands: Intensive Use (RLIU), and Recreation Lands: Low-Density Use (RLLU).

The building and filling of New Melones Reservoir became controversial and ultimately litigious. During the period between when the Master Plan was completed in 1978 until the reservoir was first filled in the winter of 1982-83, the construction of the recreation facilities was postponed due to the ongoing litigation. At that time, the USACE applied a cost-sharing requirement for recreation and fish and wildlife, as outlined in PL 89-72.

Efforts to find a cost share for recreational facilities ultimately were unsuccessful, and only "minimal facilities," as defined by USACE, were built. In two recreation areas, Glory Hole and Tuttletown, the USACE constructed facilities beyond the "minimum basic facilities" described in PL 89-72, but these were not as extensive as originally described in the Master Plan (these facilities were termed "minimal facilities" by USACE). The remaining planned recreation areas were never developed. These areas are currently used as undeveloped areas for such purposes as wildlife management, resource protection, and dispersed recreation, and have either minimum basic facilities or no facilities, and limited access.

Some of the facilities were to be constructed immediately, with the remainder at some future date. Planned facilities in the 1976 Master Plan included the following:

1.6.1 Tuttletown Recreation Area

- Construct all of Campground E consisting of 60 campground units.

- Construct all of Campground D consisting of 30 campground units, Campground A-30 units, and the Fishing Access Area with a 20-vehicle parking area. The project includes an amphitheater and all support facilities.

- Construct all of Campgrounds B and C consisting of 30 units each, including all support facilities.

1.6.2 Mark Twain Recreation Area

- Construct all of Mark Twain Area consisting of 90 picnic units, including all support facilities.

1.6.3 Glory Hole Recreation Area

- Construct a sewage line from the Angels Creek eight-unit restroom to the main sewage trunk line. Construct all of Campground E consisting of 17 units and the Fishing Access Area No. 1 with a 20-vehicle parking area, including all support facilities.

- Construct all of the Day Use Area consisting of 110 units, an amphitheater, and Fishing Access Area No. 2 with a 30-vehicle parking area.

- Construct all of the Angels Creek Campgrounds consisting of 80 units, the boat ramp restroom, and all support facilities.

- Construct the facilities in the boat launching area, including a parking area for 80 car/trailers, waterlines, sewage line, fish cleaning station, and all support facilities.

In 1979 an MOU transferred management responsibility for New Melones Lake from the USACE to Reclamation. From 1979 to the present, Reclamation has managed the recreation facility at New Melones Lake. Replacement and upkeep of the recreation facilities has been completed on an as-need basis to protect public health and safety and, at times, to realize savings in operations and maintenance through updating the minimal structures. Additionally Reclamation, through the efforts of county legislators and federal representatives, has been successful in obtaining moneys to fund additional piecemeal facilities, including campgrounds, a visitor center, and improvements to potable water and wastewater systems.

1.7 Existing Management Documents

Decision documents that provide management guidance for the New Melones Lake Area are described below.

1.7.1 Reclamation Manual

The Reclamation Manual (RCD TRMR-15) consists of a series of policies, directives, and standards and delegations of authority. Collectively, these assign program responsibility and authority and document Reclamation-wide methods of doing business. All requirements in the Reclamation Manual are mandatory and constitute official Reclamation policy. The Reclamation Manual also serves as a link to Reclamation's supplements to the US Department of the Interior and government-wide regulations, such as the Federal Acquisition Regulations.

1.7.2 New Melones Lake EIS (1972) (USACE 1972)

This document is an analysis of environmental impacts resulting from filling New Melones Lake and associated facilities. The EIS also documents baseline conditions at the time of dam construction.

1.7.3 New Melones Lake Area Master Plan (1976) (USACE and Reclamation 1976)

This document contains decisions concerning land use allocations and basic resource management guidelines for public lands and resources at New Melones Lake. Although no life span was indicated for this document, much of the guidance is outdated and does not reflect current federal policy. For many resource categories, this document does not provide specific management guidance. Instead, it provides a very broad framework from which Reclamation resource managers determine specific management guidance.

1.7.4 Peoria Wildlife Management Area Environmental Assessment (EA) (Reclamation 2007a)

The Peoria Wildlife Management Area lies at the southern end of New Melones Lake and is managed by Reclamation as mitigation for habitat lost when New Melones Dam and Lake were built. The EA discloses environmental impacts from implementing an interim resource management plan for this area as well as a road closure in this area.

Documents that provide management recommendations but that have not been formally adopted are described below.

1.7.5 New Melones Lake Fire Management Plan (Reclamation 2007b)

This document identifies resource values and conditions pertaining to fire management at New Melones Lake. It is included for analysis in the EIS section of this RMP/EIS and will be finalized through the RMP process.

1.7.6 New Melones Lake Draft RMP (Reclamation 1995)

This document proposes sound management practices and principles at the New Melones Lake Area to provide a balanced stewardship of the natural, cultural, and recreational

resources and the economic vitality of the surrounding communities. This document was never completed due to funding constraints.

1.7.7 Draft Vegetation Management Plan (Reclamation 1997)

This document expands on the vegetation element within the RMP (Reclamation 1995) in order to document the plant communities within the plan area. It also recommends specific management of vegetative communities to help Reclamation achieve its vegetation goals at the New Melones Lake Area.

1.7.8 Revised Draft Cave Management Plan (Reclamation 1996)

This document identifies ways to manage and protect caves within the New Melones Lake Area and updates information presented in the Draft Cave Management Plan of 1978 (BLM 1978).

1.8 RMP/EIS Development

This RMP/EIS is the result of a collaborative effort involving Reclamation, interested members of the public, stakeholders in the outcome of the plan, and relevant resource agencies. Input provided by these sources has been combined with guidance provided in Reclamation's *Resource Management Plan Guidebook* (Reclamation 2003) in order to determine, and continue, the most appropriate uses of Reclamation lands within the study area, to explore methods to enhance and protect the resources found on those lands, to identify or propose long-term resource protection programs, and to identify financially feasible opportunities or partnerships to help decision makers manage lands and resources within the study area.

1.9 Management Constraints

Constraints on the management of the New Melones Lake Area come in the form of legislative control/authorization, economic resources, geography, and environmental limitations. Economic and legal constraints for appropriate facility enhancements may be mitigated by establishing agreements, concessions, or cost-share partnerships, if desired. Geographical constraints are identified by the topography of the land and the location of sensitive resources, which increase a need to establish a maximum carrying capacity.

1.9.1 Legislative Authority

Planning upgrades to facilities in the New Melones Lake Area triggers compliance with the Rehabilitation Act of 1973 and the ADA of 1990 and 1995, which state that persons with disabilities will be provided with access to federal government lands and facilities.

Other federal legislation that may be triggered as a result of actions proposed within this RMP includes the CWA, the ESA, the NHPA, and NEPA.

1.9.2 Economic Issues and Partnership Opportunities

Reclamation works to ensure that any public management actions do not conflict with authorized project purposes. Much of Reclamation's budget is dedicated to fulfilling its mission of water storage and delivery; therefore, economic constraints are common in restraining development of public use resources and habitat protection and enhancement on most, if not all, Reclamation lands. The Reclamation Recreation Management Act of 1992, Title 28, which was passed in 1992 as an amendment to PL 89-72, requires a non-federal partner to fund at least 50 percent of the development of recreational facilities or at least 25 percent of fish and wildlife enhancements on Reclamation lands. A non-federal partner must:

- Be a non-federal public entity;
- Be willing and capable of entering into a long-term agreement to develop, operate, and maintain the recreation facilities and uses at the project area;
- Be capable of providing at least 50 percent of the cost of the project;
- Be able to provide up-front funding of 50 percent of the planning cost;
- Be able to provide services and facilities open to general public use; and
- Provide at least 50 percent of operation and maintenance costs.

This would allow Reclamation to partner with a state agency, such as California Boating and Waterways, to develop boat ramps or the CDFG to enhance wetlands, for example.

Reclamation also has the option of considering whether entering into a contractual agreement with one or more private commercial entities would assist it in managing the resource. Such a partnership or concession would usually result in providing desired services that Reclamation could not provide within its authority. A percentage of any funds generated could be returned to Reclamation.

1.9.3 Geographic Challenges

Developing resources in the New Melones Lake Area may be limited by such factors as soils, slope, wetlands, presence of sensitive plant or animal species or populations, or inundation zones. Development should not occur on or near wetlands or sensitive species habitat, in places prone to erosion, where soils cannot accommodate septic systems, or where such development would encourage unauthorized use of sensitive areas.

1.9.4 Environmental Stewardship

Because of regional and geographical variations, each Reclamation study area offers a unique set of opportunities and challenges for resource enhancement and protection and may limit facility expansions or development. In certain areas, a particular resource found on Reclamation land may invite the participation of a particular agency or group as a managing partner or a partner in research or stewardship. In other areas, proximity to a certain user group or institution may provide the impetus for the involvement of that group.

1.10 Public Involvement

Public involvement is a critical element in developing the RMP. Reclamation's goal is to gain input from a cross section of the user public. Reclamation held several public scoping meetings and alternatives development workshops throughout 2007 to solicit issues and concerns and to develop alternatives to be analyzed in the RMP. In addition, Reclamation developed a mailing list (and accompanying database), produced and distributed newsletters, and developed a New Melones Lake Area Web site to help disseminate both New Melones Lake Area- and RMP-related information.

In order to both educate the public about the RMP process for the New Melones Lake Area and to solicit its input, Reclamation held public scoping meetings in three locations within the project planning area during the last week of January 2007. Most comments focused on access, biological resources, facilities, and recreation. In late September 2007, Reclamation held two alternatives development workshops to obtain further input on possible management actions and opportunities for the New Melones Lake Area. Open house meetings were held in September 2008 to solicit public input on Draft RMP/EIS Chapters 1-3 (currently Chapters 1-5). Reclamation used the information collected from these gatherings, along with additional comments submitted during the planning process, to develop the draft planning proposals.

Open house meetings were also held in December 2009 to obtain public input on the Draft RMP/EIS. The public comment period for this document was from October 30, 2009 through January 4, 2010. All comments received during this period were considered when revising the Draft RMP/EIS. Public input and participation helps ensure that the plan will meet the needs of the stakeholders, while providing for development and management of the New Melones Lake Area. Public involvement is discussed in greater detail in Chapter 7 of the EIS.

1.10.1 Planning Issues

Issue identification is the first step of the planning process. A planning issue is a significant concern, need, resource use, or development and protection opportunity relating to resource management or uses on public lands that can be addressed in a variety of ways. The criteria used to identify issues include determining whether the effects would result in the following:

- Approach or exceed standards or a threshold;
- Substantially change a resource;
- Be controversial;
- Offer a wide range of opportunities; or
- Cause disagreement regarding their environmental impact.

These issues drove the formulation of the RMP alternatives, and addressing them has resulted in a range of management options presented in four alternatives (Chapter 2). Each fully developed alternative (Chapter 3) represents a different land use plan that addresses or resolves the identified planning issues in different ways. While other concerns are addressed in the RMP, management related to them may or may not change by alternative.

The following issue statements were developed to summarize the concerns raised by the public during the scoping process and by Reclamation during project planning. The issue statements are designed to state concisely those issues that appear to be of most concern to the public and to Reclamation staff and to encompass the range of scoping comments. The issue statements below reflect planning topics that Reclamation will address when creating the goals and management actions identified in Chapters 2 and 3. (The issues statements are listed in the order in which they were developed, and their position within the list does not reflect priority.)

1. *How will Reclamation improve access to the management area while protecting resources and addressing logistical and financial challenges?*

2. *How will Reclamation protect sensitive resources while accommodating increasing numbers of visitors with an expanding range of interests?*

3. *How will Reclamation enhance fish and wildlife habitats and other natural resources?*

4. *What types of recreational activities will Reclamation manage for in the New Melones Lake Area?*

5. *How can Reclamation provide recreation opportunities and services without diminishing the quality of the resources?*

6. *How can Reclamation optimize a fee program in order to enhance visitor services and protect the resources?*

7. *How can Reclamation provide adequate law enforcement to increase visitor safety and reduce illegal activities?*

8. *What Reclamation management strategies will be used to identify and implement necessary changes in facilities or infrastructure?*

9. *What Reclamation management strategies will be used to protect public health and safety?*

10. *How can Reclamation foster positive relationships with neighboring landowners and communities while meeting Reclamation's management commitments?*

2. Development of Alternatives

2.1 Introduction

This chapter is a discussion of the alternatives that describe different approaches to managing public land resources and uses in the New Melones Lake Area. This chapter also contains an explanation of the alternative development process. Each alternative is composed of a complete and reasonable set of desired outcomes and a description of allowable uses and management actions to achieve these outcomes.

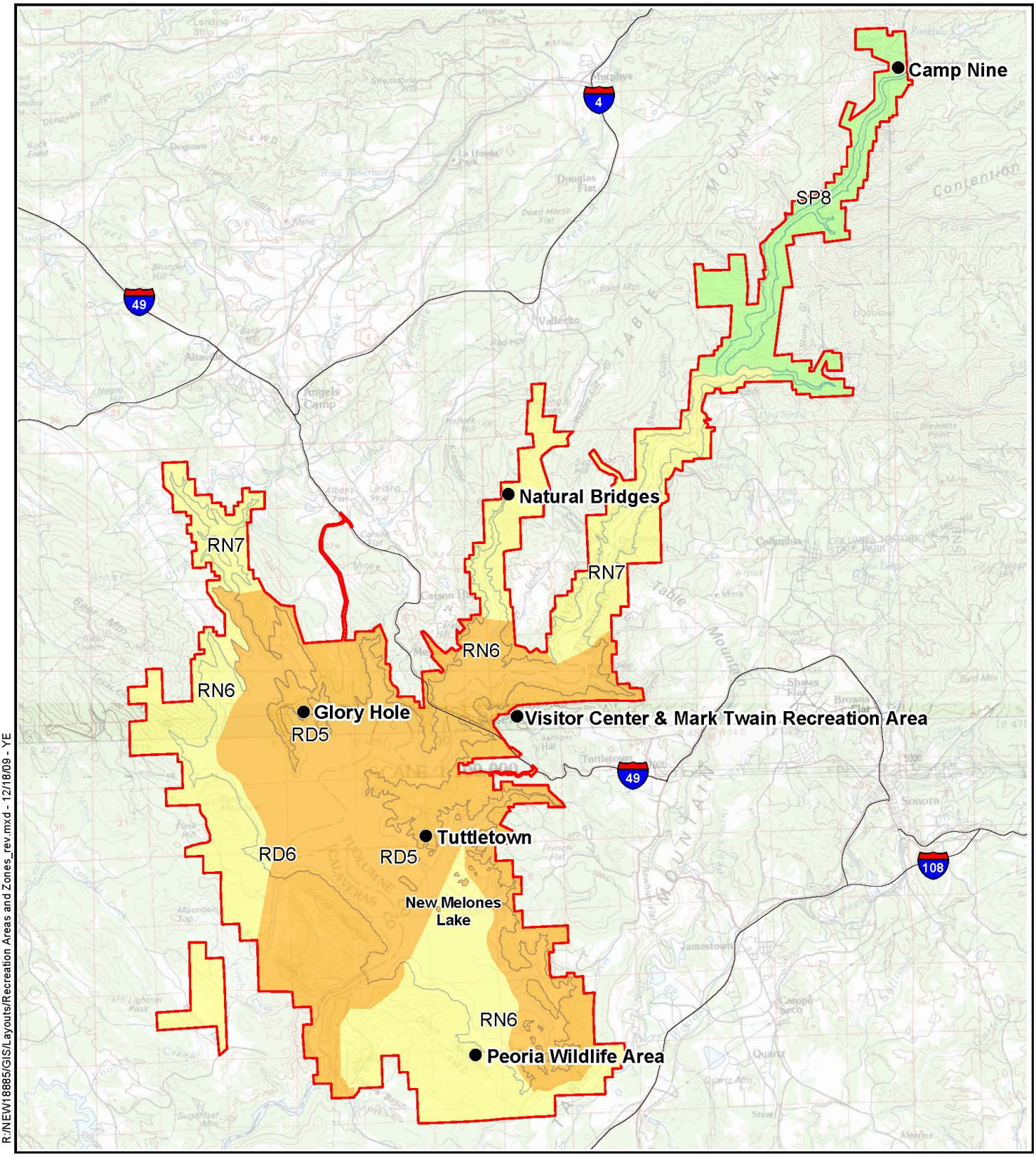
In the alternatives, desired outcomes are expressed as goals, which are broad statements of desired outcomes that are not quantifiable. Goals are common to all alternatives.

In the alternatives, allowable uses and management actions are expressed as actions, which identify uses or allocations that are allowable, restricted, or prohibited on public lands. Actions also identify proactive measures to achieve goals and objectives, as well as measures or criteria to guide activities on public lands. Actions may or may not vary among alternatives.

Reclamation has developed four management alternatives (the No Action Alternative and three action alternatives), which are presented in detail in this chapter. These alternatives provide a range of choices for resolving the planning issues identified during the scoping process for the RMP/EIS and listed in Chapter 1.

2.2 New Melones Lake Management Areas

The management areas proposed in the Master Plan will be changed in this RMP/EIS to reflect updated information, current use of management areas, and potential future management from such sources as the Water Recreation Opportunity Spectrum (WROS), carrying capacity study, and commercial services plan. The preparers of the 2008 WROS analysis identified, classified, mapped, and described the current recreation situation for New Melones Lake (Figure 2-1). The WROS is meant to help identify and preserve a diversity of recreation opportunities and experiences at New Melones Lake. Details on the WROS and terms used are in Appendix B. The new proposed management areas, with their associated WROS designation, facilities, and attributes, are presented in Table 2-1. Table 2-1 also shows the WROS designation for each management area under each alternative, because WROS designations may change for a management area depending on the alternative. Management actions that would affect the WROS designation are also listed. Figure 2-2 shows the new proposed management areas.



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WROS INVENTORY SCALE

1	2	3	4	5	6	7	8	9	10	11
U		S		RD		RN		SP		P

U - Urban Recreation
S - Suburban Recreation
RN - Rural Natural Recreation
RD - Rural Developed Recreation
SP - Semi Primitive Recreation
P - Primitive Recreation

WROS Categories

U
S
RD
RN
SP
P

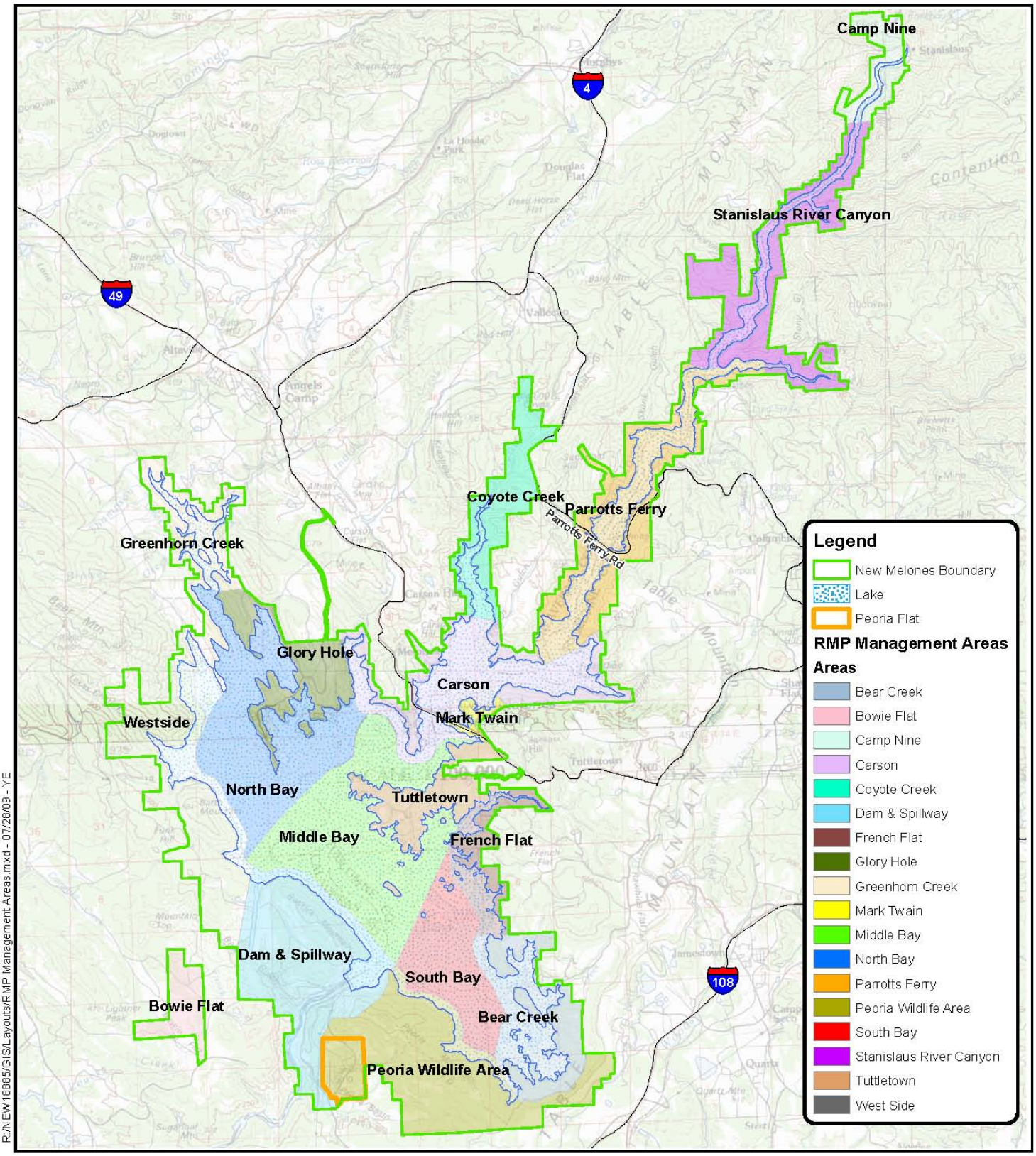
Recreation Areas and Zones

N

0 2
Miles

New Melones Lake, California
Central California Area Office

Figure 2-1



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Proposed New Melones Management Areas

New Melones Lake Area, California
Central California Area Office

0 2
Miles

Figure 2-2

Table 2-1: Proposed Management Areas and WROS Designations

Proposed Management Area	1976 Master Plan Management Area Name	WROS Designation	Major Facilities	Major Attributes	Other Names for All or Part of the Management Area
Bear Creek	Bear Creek, Chaparral	**Alternative A** Rural Natural (RN6) **Alternative B** Rural Developed (RD4/5) **Alternative C** Rural Natural (RN6) **Alternative D** Rural Developed (RD5) *Applicable actions:* *Action WR 1* *Action WR 28* *Action VR 2* *Action SSS 2* *Action LM 13* *Action LM 17* *Action TA 4* *Action CR 2* *Action R 17* *Action R 29* *Action R 30* *Action R 32* *Action R 33* *Action R 34* *Action R 35* *Action R 36* *Action R 37* *Action R 38* *Action R 40* *Action R 46* *Action R 47* *Action AR 21*	No major Reclamation facilities, though next to housing	Borders the lake shore and Peoria Wildlife Management Area. No public vehicle access.	None

Table 2-1: Proposed Management Areas and WROS Designations

Proposed Management Area	1976 Master Plan Management Area Name	WROS Designation	Major Facilities	Major Attributes	Other Names for All or Part of the Management Area
		Action LR 15 *Action LR 22* *Action LR 28*			
Bowie Flat	Bowie Flat	**Alternative A** Rural Natural (RN7) **Alternative B** Rural Developed (RD5/6) **Alternative C** Rural Natural (RN7) **Alternative D** Rural Natural (RN7) *Applicable actions:* *Action WR 1* *Action WR 28* *Action VR 2* *Action SSS 2* *Action LM 13* *Action LM 17* *Action TA 4* *Action TA 11* *Action TA 14* *Action TA 17* *Action CR 2* *Action R 17* *Action R 29* *Action R 30* *Action R 32* *Action R 33* *Action R 34* *Action R 35* *Action R 36*	No major Reclamation facilities	Remote, no direct access via public road	None

Table 2-1: Proposed Management Areas and WROS Designations

Proposed Management Area	1976 Master Plan Management Area Name	WROS Designation	Major Facilities	Major Attributes	Other Names for All or Part of the Management Area
		Action R 37 *Action R 40* *Action R 46* *Action R 47* *Action LR 15* *Action LR 28*			
Camp Nine	Camp Nine	**Alternative A** Semi Primitive (SP9) **Alternative B** Semi Primitive (SP8) **Alternative C** Semi Primitive (SP9) **Alternative D** Semi Primitive (SP8) *Applicable actions:* *Action WR 28* *Action TA 3* *Action TA 5* *Action TA 9* *Action PHS 8* *Action PHS 10* *Action R 17* *Action R 33* *Action R 34* *Action R 35* *Action R 37* *Action R 46* *Action AR 5* *Action AR 15* *Action AR 24* *Action AR 25*	Camp Nine Road, New Camp Nine Bridge, pedestrian bridge, trailhead, trail, restroom, and two nonfederal hydroelectric facilities	Steep canyons, river-like, and remote	Clarks Flat

Table 2-1: Proposed Management Areas and WROS Designations

Proposed Management Area	1976 Master Plan Management Area Name	WROS Designation	Major Facilities	Major Attributes	Other Names for All or Part of the Management Area
		Action LR 33			
Carson	Melones	**Alternative A** Rural Developed (RD5) **Alternative B** Rural Developed (RD5) **Alternative C** Rural Developed (RD5) **Alternative D** Rural Developed (RD5) *Applicable actions:* *Action WR 1* *Action WR 28* *Action FW 22* *Action LM 17* *Action TA 4* *Action R 47* *Action AR 17* *Action AR 21* *Action LR 15* *Action LR 28*	No major Reclamation facilities	Borders the lake shore, former lake access point at Old Melones. No public vehicle access.	None
Coyote Creek	Coyote Creek	**Alternative A** Rural Natural (RN6) **Alternative B** Rural Natural (RN6) **Alternative C** Rural Natural (RN7) **Alternative D** Rural Natural (RN6)	Natural Bridges trail and parking lot, restroom, picnic area	Two Natural Bridges, Coyote Creek, fishing cove	Natural Bridges

Table 2-1: Proposed Management Areas and WROS Designations

Proposed Management Area	1976 Master Plan Management Area Name	WROS Designation	Major Facilities	Major Attributes	Other Names for All or Part of the Management Area
		Applicable actions: *Action WR 1* *Action WR 19* *Action WR 28* *Action VR 2* *Action FW 22* *Action SSS 2* *Action LM 17* *Action TA 3* *Action TA 10* *Action CR 2* *Action R 17* *Action R 29* *Action R 30* *Action R 32* *Action R 34* *Action R 35* *Action R 36* *Action R 37* *Action R 46* *Action R 47* *Action AR 5* *Action AR 15* *Action AR 17* *Action LR 20*			
Dam and Spillway	Dam and Spillway	**Alternative A** Rural Developed (RD4) **Alternative B** Rural Developed (RD4) **Alternative C** Rural Developed (RD4)	New Melones dam, spillway, and power plant, federal and nonfederal power agency switchyards and transmission lines	New Melones Dam and Spillway	None

Table 2-1: Proposed Management Areas and WROS Designations

Proposed Management Area	1976 Master Plan Management Area Name	WROS Designation	Major Facilities	Major Attributes	Other Names for All or Part of the Management Area
		Alternative D Rural Developed (RD4) *Applicable actions:* *Action WR 1* *Action WR 28* *Action LM 17* *Action TA 2* *Action TA 4* *Action R 47* *Action LR 15* *Action LR 28*			
French Flat	Rawhide	**Alternative A** Rural Developed (RD4) **Alternative B** Rural Developed (RD4) **Alternative C** Rural Developed (RD6) **Alternative D** Rural Developed (RD4) *Applicable actions:* *Action WR 1* *Action WR 28* *Action LM 13* *Action LM 17* *Action TA 4* *Action R 8* *Action R 17* *Action R 32* *Action R 33* *Action R 34*	No major Reclamation facilities, though next to housing	Fishing cove, next to a BLM management area	None

Table 2-1: Proposed Management Areas and WROS Designations

Proposed Management Area	1976 Master Plan Management Area Name	WROS Designation	Major Facilities	Major Attributes	Other Names for All or Part of the Management Area
		Action R 35 *Action R 36* *Action R 37* *Action R 40* *Action R 46* *Action R 47* *Action AR 5* *Action AR 15* *Action LR 15* *Action LR 22* *Action LR 28*			
Glory Hole	Glory Hole	**Alternative A** Rural Developed (RD5) **Alternative B** Rural Developed (RD5) **Alternative C** Rural Developed (RD5) **Alternative D** Rural Developed (RD5) *Applicable actions:* *Action WR 1* *Action WR 17* *Action WR 28* *Action LM 17* *Action TA 5* *Action TA 16* *Action R 15* *Action R 16* *Action R 22* *Action R 23* *Action R 24* *Action R 25*	Glory Hole Recreation Area, Glory Hole and Angels Creek launch ramps, and New Melones Lake Marina	Intensive recreation development (campgrounds, day-use areas, hiking, and biking trails, and flat water recreation opportunities), access to Greenhorn Creek and Westside Management Area	Angels Creek Recreation Area

Table 2-1: Proposed Management Areas and WROS Designations

Proposed Management Area	1976 Master Plan Management Area Name	WROS Designation	Major Facilities	Major Attributes	Other Names for All or Part of the Management Area
		Action R 26 *Action R 27* *Action R 28* *Action R 47* *Action AR 5* *Action AR 15* *Action LR 15* *Action LR 21* *Action LR 28* *Action IS 7*			
Greenhorn Creek	Glory Hole	**Alternative A** Rural Natural (RN6) **Alternative B** Rural Developed (RD4/5) **Alternative C** Rural Natural (RN8) **Alternative D** Rural Natural (RN7) *Applicable actions:* *Action WR 1* *Action WR 28* *Action VR 2* *Action SSS 2* *Action LM 13* *Action LM 17* *Action TA 4* *Action TA 14* *Action TA 16* *Action CR 2* *Action R 17* *Action R 29*	No major Reclamation facilities	Fishing cove, access to Westside Management Area	Vonich Gulch

Table 2-1: Proposed Management Areas and WROS Designations

Proposed Management Area	1976 Master Plan Management Area Name	WROS Designation	Major Facilities	Major Attributes	Other Names for All or Part of the Management Area
		Action R 30 *Action R 32* *Action R 33* *Action R 34* *Action R 35* *Action R 36* *Action R 37* *Action R 40* *Action R 46* *Action R 47* *Action AR 5* *Action AR 15* *Action LR 15* *Action LR 21* *Action LR 28*			
Mark Twain	Mark Twain	**Alternative A** Rural Developed (RD5) **Alternative B** Rural Developed (RD5) **Alternative C** Rural Developed (RD5) **Alternative D** Rural Developed (RD5) *Applicable actions:* *Action WR 1* *Action WR 28* *Action FW 23* *Action LM 17* *Action TA 4* *Action TA 5* *Action R 46*	Administration complex, Visitor Center, non-motorized boat launch, hiking trail, picnic sites	Borders the lake shore, fishing access	None

Table 2-1: Proposed Management Areas and WROS Designations

Proposed Management Area	1976 Master Plan Management Area Name	WROS Designation	Major Facilities	Major Attributes	Other Names for All or Part of the Management Area
		Action R 47 *Action AR 5* *Action AR 15* *Action LR 15* *Action LR 28* *Action IS 11*			
Parrotts Ferry	Parrotts Ferry	**Alternative A** Rural Natural (RN7) **Alternative B** Rural Developed (RD5) **Alternative C** Rural Natural (RN7) **Alternative D** Rural Natural (RN6) *Applicable actions:* *Action WR 1* *Action WR 28* *Action VR 2* *Action SSS 2* *Action LM 17* *Action TA 5* *Action CR 2* *Action R 17* *Action R 29* *Action R 30* *Action R 32* *Action R 34* *Action R 35* *Action R 36*	No major Reclamation facilities	New Parrotts Ferry Bridge, former road crossing via Parrotts Ferry Bridge, former raft takeout for Camp Nine rafting stretch	None

Table 2-1: Proposed Management Areas and WROS Designations

Proposed Management Area	1976 Master Plan Management Area Name	WROS Designation	Major Facilities	Major Attributes	Other Names for All or Part of the Management Area
		Action R 37 *Action R 46* *Action R 47* *Action AR 5* *Action AR 15* *Action LR 15* *Action LR 28*			
Peoria Wildlife Management Area (PWMA)	Wildlife Management Area	**Alternative A** Rural Natural (RN7) **Alternative B** Rural Natural (RN7) **Alternative C** Rural Natural (RN7) **Alternative D** Rural Natural (RN7) *Applicable actions:* *Action WR 1* *Action WR 28* *Action VR 2* *Action FW 2* *Action FW 12* *Action FW 13* *Action FW 14* *Action SSS 1* *Action SSS 2* *Action SSS 4* *Action SSS 6* *Action LM 6* *Action LM 13* *Action LM 17* *Action TA 4*	Table Mountain trail, trailheads, restrooms, and parking area, designated wildlife mitigation area	Table Mountain, Peoria Ridge, fishing and hunting access, equestrian trails	Table Mountain, Peoria Ridge, Peoria Flat

Table 2-1: Proposed Management Areas and WROS Designations

Proposed Management Area	1976 Master Plan Management Area Name	WROS Designation	Major Facilities	Major Attributes	Other Names for All or Part of the Management Area
		Action CR 2 *Action CR 18* *Action CR 21* *Action R 17* *Action R 29* *Action R 30* *Action R 32* *Action R 33* *Action R 34* *Action R 35* *Action R 36* *Action R 37* *Action R 40* *Action R 46* *Action R 47* *Action LR 3* *Action LR 16* *Action LR 22* *Action LR 29* *Action LR 37* *Action LR 39*			
Peoria Flat*	Wildlife Management Area	**Alternative A** Rural Developed (RD5) **Alternative B** Rural Developed (RD4) **Alternative C** Rural Developed (RD5) **Alternative D** Rural Developed (RD4) *Applicable actions:* *Action WR 1* *Action WR 28*	Radio-controlled flying facility, Baseline Conservation Camp, power plant, warehouse, archaeological storage facility, equestrian staging area, equestrian and hiking trails, closed overlook facilities	Peoria Flat is within the PWMA, access to Peoria Ridge and Table Mountain.	PWMA

Table 2-1: Proposed Management Areas and WROS Designations

Proposed Management Area	1976 Master Plan Management Area Name	WROS Designation	Major Facilities	Major Attributes	Other Names for All or Part of the Management Area
		Action LM 17 *Action LM 19* *Action R 40* *Action R 47* *Action LR 15* *Action LR 28* *Action LR 35*			
Stanislaus River Canyon	Skunk Gulch, Grapevine Gulch	**Alternative A** Semi Primitive (SP9) **Alternative B** Rural Natural (RN7) **Alternative C** Semi Primitive (SP9) **Alternative D** Semi Primitive (SP8) *Applicable actions:* *Action WR 1* *Action WR 28* *Action VR 2* *Action SSS 2* *Action LM 17* *Action TA 3* *Action TA 4* *Action TA 5* *Action CR 2* *Action R 29* *Action R 30* *Action R 32* *Action R 33* *Action R 34* *Action R 35*	No major Reclamation facilities	Remote, no direct public access via public road; Limestone Canyon, caves	Skunk Gulch, Grapevine Gulch

Table 2-1: Proposed Management Areas and WROS Designations

Proposed Management Area	1976 Master Plan Management Area Name	WROS Designation	Major Facilities	Major Attributes	Other Names for All or Part of the Management Area
		Action R 36 *Action R 37* *Action R 46* *Action R 47* *Action AR 5* *Action AR 15* *Action AR 24*			
Tuttletown	Tuttletown	**Alternative A** Rural Developed (RD5) **Alternative B** Rural Developed (RD5) **Alternative C** Rural Developed (RD5) **Alternative D** Rural Developed (RD5) *Applicable actions:* *Action WR 1* *Action WR 17* *Action WR 28* *Action LM 17* *Action TA 5* *Action R 15* *Action R 16* *Action R 22* *Action R 23* *Action R 24* *Action R 25* *Action R 26* *Action R 27* *Action R 28* *Action R 47*	Tuttletown Recreation Area and Tuttletown Launch Area	Intensive recreation development (campgrounds, day-use areas, hiking and biking trails, and flat water recreation opportunities)	None

Table 2-1: Proposed Management Areas and WROS Designations

Proposed Management Area	1976 Master Plan Management Area Name	WROS Designation	Major Facilities	Major Attributes	Other Names for All or Part of the Management Area
		Action AR 5 *Action AR 15* *Action LR 15* *Action LR 22* *Action LR 28* *Action IS 7*			
Westside	None	**Alternative A** Rural Natural (RN6) **Alternative B** Rural Developed (RD5) **Alternative C** Rural Natural (RN7) **Alternative D** Rural Natural (RN6) *Applicable actions:* *Action WR 1* *Action WR 28* *Action VR 2* *Action SSS 2* *Action LM 13* *Action LM 17* *Action TA 4* *Action TA 14* *Action TA 16* *Action FM 1* *Action CR 2* *Action R 17* *Action R 29* *Action R 30* *Action R 32* *Action R 33*	No major Reclamation facilities	Remote, no direct public access via public road	None

Table 2-1: Proposed Management Areas and WROS Designations

Proposed Management Area	1976 Master Plan Management Area Name	WROS Designation	Major Facilities	Major Attributes	Other Names for All or Part of the Management Area
		Action R 34			
		Action R 35			
		Action R 36			
		Action R 37			
		Action R 40			
		Action R 46			
		Action R 47			
		Action AR 5			
		Action LR 15			
		Action LR 21			
		Action LR 28			

* Peoria Flat is a sub-management area within the Peoria Wildlife Area.

Three WROS designations are presently managed at New Melones Lake: Semi Primitive, Rural Natural, and Rural Developed. Camp Nine and Stanislaus River Canyon are the two management areas designated as Semi Primitive. In these areas, the landscape is dominated by natural resources with little development. Visitation at Stanislaus River Canyon is low most of the year, with boat fishing the predominant use. During the peak recreation season, visitation increases and includes use by pleasure craft boaters, jet skiers, and occasional visits and/or overnight use by houseboaters. The area is peaceful and quiet, except for the occasional noise from boats, with frequent wildlife sightings. At Camp Nine, the Stanislaus River enters the reservoir in a remote canyon, creating opportunities for more primitive recreation different from the main reservoir. Peak season use includes bank fishing/fly fishing, swimming, nonmotorized boating, hiking, picnicking, and wildlife viewing. Rural Natural Management Areas include Bear Creek, Bowie Flat, Coyote Creek, Greenhorn Creek, Parrotts Ferry, Peoria Wildlife Area, and Westside. Natural features are predominant on the landscape in these areas, and the presence of development is occasional or infrequent. The opportunities for visitors to see, hear, and smell nature is prevalent and common, as are occasions to enjoy periods of solitude. Common recreation activities include waterskiing, wakeboarding, jet skiing, houseboating, and fishing. Management areas designated as Rural Developed include Carson, Dam and Spillway, French Flat, Glory Hole, Mark Twain, Middle Bay, North Bay, Peoria Flat, South Bay, and Tuttletown. In these areas, development is prevalent and common, yet the setting has a pastoral sense because of the presence of natural resources in the landscape. Recreation includes waterskiing, jet skiing, houseboating, fishing, and swimming.

2.3 Formulating Alternatives

One goal in formulating alternatives for an RMP/EIS is to identify combinations of management practices to resolve planning issues. Another goal is to provide guidance where direction for a resource or use is currently lacking or is insufficient in the existing planning documents. The intent of each alternative is to represent a complete and reasonable interdisciplinary land use plan. Reclamation used a collaborative approach in developing the alternatives and relied extensively on public input to identify planning issues and develop management actions.

2.3.1 The Anatomy of an Alternative

This resource management plan contains two critical elements: goals and management actions. As discussed above, issue statements help to focus the management plan on relevant concerns. Goals provide overarching direction for Reclamation actions in meeting the agency's legal, regulatory, policy, and strategic requirements. Goals are broad statements that provide the vision for the management plan but generally are not measurable.

Desired Future Condition and Goals

Management goals were defined for each resource management category and land use program that Reclamation must address in the planning process. The goals are common

to all alternatives and represent the desired outcomes for the landscape, resources, and resource uses. The management goals for each resource management category and land use program are presented below in Table 2-2.

Table 2-2: RMP Management Goals

Air Quality
Comply with applicable air quality regulations to meet public health and safety requirements.
Noise
1) Comply with applicable noise regulations to meet public health and safety requirements.
2) Manage noise at levels appropriate to the use of particular areas. (Zoning lake and campground policies).
Geologic Resources (Excluding Caves)
Allow appropriate uses of geologic resources while protecting resource values (e.g., rock climbing, education, scientific research, soils, minerals, mining).
Caves
1) Comply with applicable cave management regulation, such as the 1988 Federal Cave Resources Protection Act.
2) Protect cave formations and the sensitive resources within them.
Hydrology/Water Quality
1) Comply with applicable water quality regulations such as the Clean Water Act.
2) Conserve water resources and protect the water quality of those resources at New Melones Lake (management action, visitor use).
3) Maintain the ecological health of aquatic habitats on New Melones Lake lands (e.g., riparian and wetlands).
Visual Resources
Manage Reclamation lands and activities to provide protection of the visual values and scenic quality of existing landscapes.
Vegetation
Maintain and enhance native and unique plant communities.
Fish and Wildlife
1) Manage for habitat quality to maintain or enhance biological diversity.
2) Manage vegetation in areas outside of fuel treatment project perimeters to retain sufficient wildlife cover.
3) Conserve sensitive wildlife habitats by minimizing disruption and loss.
4) Enhance wildlife habitat values, features, and diversity.
5) Restore wildlife habitat values of damaged areas through revegetation and restoration.
Special Status Species (Federally Endangered, Threatened, Proposed, Candidate Species, and Other Special Status Fauna and Flora)
1) Manage habitat to contribute to the conservation of special status fish, wildlife, and plant species.
2) Manage public use and operations and maintenance to contribute to the conservation of special status fish, wildlife, and plant species.
General Land Management
1) Manage Reclamation-owned and managed lands in accordance with authorized project purposes and applicable laws and regulations.
2) Manage rights-of-way and right-of-use permits in accordance with authorized project purposes and applicable laws and regulations.
3) Minimize and consolidate right-of-way and easement grants on Reclamation lands; if granted, monitor and enforce for compliance with permit measures.
4) Reduce and eliminate encroachment onto or from New Melones Lake lands.
5) Provide, operate, and maintain facilities appropriate to the needs of Reclamation and the general public.

Table 2-2: RMP Management Goals

Access and Transportation
Manage travel, roads, and trails to provide safe access, minimize resource impacts, and provide for multiple use recreation opportunities within the planning area.
Public Health and Safety
1) Comply with applicable regulations to protect public health and safety.
2) Comply with applicable health and safety requirements for Reclamation staff and representatives.
3) Maintain a safe and healthy environment for employees and the public.
Invasive Species Control
Prevent and control invasive species infestations using integrated pest management techniques.
Fire Management
1) Comply with applicable fire protection regulations (state and local) and fulfill the requirements of the National Fire Plan for Reclamation.
2) Suppress fires that threaten life, property, and public safety to achieve 100 percent protection of adjacent communities and resource/social values at risk from unwanted wildfire.
Cultural Resources
1) Comply with all applicable cultural resources laws including the National Historic Preservation Act (NHPA) and implementing regulations at 36 CFR, Part 800, the Archaeological Resources Protection Act (ARPA), and the Native American Graves Protection and Repatriation Act (NAGPRA).
2) Manage activities for the long-term preservation of cultural resources and, whenever feasible, design activities to avoid impacts to cultural resources eligible for inclusion in the National Register of Historic Places (NRHP).
3) Complete the process of nominating the New Melones Archaeological District to the NRHP.
Socioeconomic and Environmental Justice
While meeting Reclamation obligations and goals, provide opportunities that will result in economic benefits to the community.
Indian Trust Assets (ITAs)
Continue to ensure that management actions will not negatively affect any tribal trust resources or assets by consulting with recognized tribal governments.
General Recreation
1) Provide for diverse recreation within Reclamation's authorities, to afford a safe and quality recreation experience consistent with natural and cultural resource management objectives.
2) Achieve fair value for recreation.
3) Ensure that concessions are planned, developed, and managed to meet public needs, are compatible with the natural and cultural resources, and provide a variety of services that are consistent with authorized project purposes.
Aquatic Recreation
1) Provide a diverse range of water-based recreation opportunities suited to user needs and compatible with the existing character of the lake and surrounding lands.
2) Protect cultural resources, natural resources, and water quality for the future, while providing safe and enjoyable recreational experiences.
Land-Based Recreation
1) Provide a diverse range of land-based recreation opportunities suited to user needs and compatible with the existing character of the project lands.
2) Protect cultural and natural resources for the future, while providing safe and enjoyable recreational experiences.
3) Provide specific recreation opportunities and adequate flexible and efficient support facilities under varying lake-level conditions, without compromising ecological resources and by demonstrating compatibility with the site-specific suitability of land and water environmental conditions.
4) Provide a variety of nonmotorized recreational experiences using trails and pathways.
5) Provide safe recreational hunting opportunities compatible with the Wildlife Management Plan,

Table 2-2: RMP Management Goals

while respecting private property rights and management authority over wildlife resources.
Interpretive Services and Visitor Information
1) Enhance the public's understanding of the history, purpose, and operation of the project and its archaeological, historical, human-made, natural, and cultural features.
2) Enhance recreation experiences through the Visitor's Center, interpretive services, and volunteer programs.
3) Enhance the quality of recreation for all visitors, including those with physical, sensory, and cognitive impairments.
4) Educate the public about Reclamation, water resources, water conservation, and water safety.
5) Promote stewardship, achieve management objectives, optimize resources, provide enhanced services, and provide educational opportunities.

Management Actions

Management actions comprise the second category of land use planning decisions and are anticipated to achieve the desired outcomes (goals). Management actions are proactive measures or limitations intended to guide Reclamation activities in the planning area and could include monitoring. Actions can be common to all alternatives or unique to a specific alternative. Alternatives may include specific land use restrictions to meet goals and may exclude certain land uses to protect resource values. Because the alternatives identify whether particular land uses are allowed, restricted, or prohibited, allowable uses often include a spatial (i.e., map) component.

Public Input

Reclamation follows the public involvement requirements according to the CEQ regulations set forth in 40 CFR, Part 1501.7. Reclamation requested comments from agencies and the public, organized and analyzed all of the comments received, and then reviewed the comments to identify issues that were addressed during the planning process. These issues and those identified by Reclamation staff were the scope of analysis for the RMP/EIS and were used to develop a reasonable range of project alternatives and management actions. Reclamation has used the following means to communicate with the public about preparation of the RMP/EIS:

- Published a Notice of Intent;
- Maintained the project Web site;
- Provided project updates;
- Disseminated news releases and newspaper announcements;
- Held scoping meetings;
- Held alternatives development workshops;
- Held Chapters 1 to 3 (presently Chapters 1 to 5) open houses; and

- Maintained a mailing list.

Details regarding the public involvement process are described in Chapter 7, Consultation and Coordination.

2.4 Alternatives Developed

Four management alternatives were developed to address the major planning issues. Each alternative provides direction for resource programs based on the development of specific goals and management actions. Each alternative describes specific issues influencing land management and emphasizes a different combination of resource uses, allocations, and restoration measures to address issues and resolve conflicts among users. Resource program goals are met in varying degrees across alternatives. Management scenarios for programs not tied to major planning issues or mandated by laws and regulations often contain few or no differences in management between alternatives.

Alternative A, the No Action Alternative, is a continuation of the current management and is based on existing planning decisions and amendments. Alternative B, the Increased Use Alternative, emphasizes development of recreational resources and infrastructure with a goal of encouraging and accommodating increasing numbers of visitors, while protecting natural and cultural resources, as required by law. Alternative C, the Conservation Alternative, emphasizes active management of natural and cultural resources and places less emphasis on resource use than Alternative A. Alternative D, the Multiple Use Alternative, seeks to balance the projected increases in visitors and demand for an array of user opportunities with the need to protect, enhance, and conserve the natural and cultural resources that are found in the planning area.

Within the alternatives, Reclamation has designated varying degrees of zoning for New Melones Lake: no ski zones, no wake zones, environmentally sensitive areas, no overnight mooring zones, and no boat zones. (The zones are defined under Section 3.2.1, Alternative Terms and Definitions.) These zones are necessary to achieve Reclamation's management goals. More specifically, in narrow areas or other areas of low visibility, no ski zones are needed to maintain a safe environment for aquatic recreation. No wake zones are needed because a rolling wave action may interfere with other aquatic recreation activities and may also create a hazardous situation in confined or populated areas. In addition, excessive wave actions may contribute to shoreline erosion. Designation of environmentally sensitive areas is beneficial because intensive recreation activities may harm natural or cultural resources in some environmentally sensitive areas. Environmentally sensitive areas may include caves, aquatic spawning habitat, riparian habitat, raptor nesting areas, cultural sites, and other vulnerable habitats. No overnight mooring zones have been designated because overnight uses in these areas may cause inappropriate noise levels, user conflicts, sanitation concerns, increased light disturbances, increased risk of shoreline fires, safety concerns, or water quality concerns (Please view Appendix C for more information on the New Melones Lake Moored

Vessel Plan). Lastly, areas marked as swimming areas are incompatible with boat use. A no boat zone is needed to maintain a safe environment for swimming.

As stated in Section 1.9.2, Economic Issues and Partnership Opportunities, Reclamation is seeking to provide the public with a diverse range of feasible recreation opportunities in keeping with authorized project purposes, management objectives and regulatory requirements.

Recreation opportunities provided by private commercial businesses under contract with Reclamation, called Commercial Concessions, may be authorized under Reclamation Manual Policy LND-04-01. This policy requires that any decisions to contract for Commercial Concessions shall be based upon the results of a commercial services planning process. The process includes public involvement, financial feasibility and environmental analysis. The outcome of this planning process is known as a Commercial Services Plan (CSP). The CSP will determine the number, type, and duration of concessions necessary to meet the public demand for services and quality recreation opportunities, in accordance with Reclamation management objectives, the financial feasibility of the concessions considered, and identification of locations for which such commercial services may be appropriate. Commercial services may include:

- Marina services with adequate storm protection;
- Additional marina services;
- Public swimming areas and beach facilities;
- Public floating campsites and restrooms;
- Guided interpretive lake tours;
- Sales and/or rentals of recreation-related equipment;
- Land-based lodging, facilities, and food services;
- A venue for large events (over 50 people);
- Mountain bike course;
- Seaplane school;
- Equestrian services and facilities;
- Primitive and recreational vehicle (RV) camping;
- Off-highway vehicle park;
- Paintball, skeet, and target shooting areas; and
- Radio controlled flying facility.

In developing the alternatives for the RMP/EIS, commercial services are addressed at a programmatic rather than site specific level. A CSP and appropriate environmental compliance document will be developed that will supplement the New Melones Lake RMP/EIS, with site-specific impact analysis prior to implementation of a development plan by a potential contractor. The following is a partial list of criteria required by Reclamation policy whenever commercial services planning is conducted:

- Facilities and services shall be compatible with Reclamation project purposes and the RMP/EIS Goals and Objectives, and Purpose and Need;

- Facilities and Services shall be necessary and appropriate to meet both current and future demand for broad spectrum public use and enjoyment;
- Commercial facilities shall not be developed or expanded on the federal estate if existing facilities, both on and off the federal estate, adequately meet current and projected needs;
- Facilities and services shall reflect the general public needs rather than the desires of a particular group or individual;
- Facilities and services considered to be private, exclusive use shall not be allowed and should not be considered;
- Existing exclusive use of facilities, services or sites shall be removed when a contract expires;
- Potential impacts to natural and cultural resources shall be considered in the development of facilities and services;
- The commercial services plan shall consider whether other sites or locations exist that shall enhance the broad spectrum of public use and enjoyment conducive to both land and water recreation activities;
- The plan shall determine whether the existing facilities sit in an area that is topographically limited or otherwise physically constrained, and cannot meet required standards or provide for the desired levels of public services and facilities;
- The plan shall determine whether the existing site can or cannot accommodate the anticipated demand for concession services; and
- If existing facilities are proposed to be retained as a part of any new concession operation, facilities shall be formally evaluated within the Commercial Services Plan to determine if the existing condition and useful life of the facilities are sufficient to last through the duration of a new contract period.

A financial feasibility evaluation must be performed to determine the financial viability of any proposed concession operations, proposed length of term of the concession agreement, and the underlying assumptions regarding concessioner capital investment in the concession. Financial planning criteria to be considered include:

- Concession's gross revenue by operating department;
- Direct expenses;
- Franchise fees;
- Capital investment costs;
- Cash flow analysis;
- Cost estimates for new facility development, and for removal or replacement should the existing facilities be deemed to require significant maintenance; and
- Factors that may influence a concession business including length of season, seasonal rates, visitation, inflation, cost of capital and the appropriate return rate to the concessioner.

2.5 Alternatives Considered but Eliminated from Detailed Analysis

Most of the elements suggested by the public were included in one or more of the alternatives. The following alternatives were eliminated from detailed study because they did not meet the purpose and need for the proposal or were outside of the technical, legal, or policy constraints of developing a land use plan for public land resources and uses.

Exclusive Use

Alternatives and general management options proposing exclusive use for profit or benefit of a private entity were not considered. This includes operation of part or all of New Melones Lake Area as a private lake or private recreation area.

Management for Only One Authorized Purpose

Alternatives and general management options proposing maximum development, production, or protection of one resource at the expense of other resources and uses were not considered. Several specific alternatives that were eliminated were full closure of the New Melones Lake Area to recreation and operation of New Melones Lake to maximize recreation.

Full Elimination of Multiple Traditional Uses from the Project without Clear Cause

Alternatives eliminating multiple traditional uses where resource conditions do not justify such measures were not considered reasonable. Each alternative considered allows for some level of support, protection, or use of all resources present in the planning area. In some instances, the alternatives analyzed in detail do include various considerations for eliminating or maximizing individual resource values or uses in specific areas where conflicts exist. Currently, resource conditions do not warrant planning-area-wide prohibition of any particular use. This includes the full prohibition of land use activities that might be considered resource depleting such as mineral development, hunting, fishing, or grazing.

Management of the New Melones Lake Water Project Operations and Maintenance

The RMP/EIS will not address water or power operations or water service contracts. Operation of the New Melones Lake Project is managed through Reclamation's Central Valley Project (CVP). Management of the land surrounding New Melones Lake is secondary to operation of the CVP and is required to support Reclamation's core mission of delivering water and generating power.

Full Buildout of the Master Plan

Due to the constraints identified in Chapter 1, scoping comments and the Water Recreation Opportunity Spectrum (WROS) assessment, the proposed buildout identified in the 1976 Master Plan is no longer viable. In particular, the requirement for a non-federal cost share partner for infrastructure development and the increase in the cost of operation and maintenance that building such infrastructure would entail do not meet Reclamation's fiscal goals and objectives. In addition, current natural resource and cultural resource best management practices identified several Rural Natural Management Areas (such as Bear Creek, Stanislaus River Canyon Management Area)

and wildlife mitigation areas (such as Peoria Wildlife Mitigation Area) that would no longer be considered appropriate locales for intensive recreation development.

2.6 Description of Alternatives

2.6.1 Management Actions Common to All Alternatives

Each of the alternatives has different components and management actions that would attain the direction of that alternative. However, several components and management actions are common to the No Action and action alternatives. These common actions are discussed in this section. Other unique management elements specific to Alternatives A, B, C, and D are discussed in the subsequent sections.

Under all alternatives, Reclamation would comply with all applicable laws and regulations, including those relating to air and water quality, hazardous materials, fish and wildlife, special status species, trespass, health and safety, transportation, recreation, cultural resources, social and economic resources, and environmental justice. Reclamation would continue to work with appropriate agencies and entities to adequately manage the New Melones Lake Area. Further, the New Melones Lake Project would continue to be designated and managed as a Special Use Area, pursuant to 43 CFR, Part 423.

Physical Resources

Under all alternatives, mining would be restricted to protect geologic resources, and caves within the New Melones Lake Area would be protected. Water quality would be protected by implementing such management actions as erosion control measures, preventing contaminant release into New Melones Lake, updating minimum basic facilities, and ensuring sanitary waste management facilities.

Natural Resources

Native and unique plant communities would be protected under all alternatives for long-term sustainability and viability. In addition, the Vegetation and PWMA Management Plans would continue to be implemented, and wetlands would be protected and restored. Reclamation would fulfill the mitigation requirements in the Peoria Wildlife Mitigation Area and the wildlife management requirements in the Baseline Conservation Camp lease. Reclamation would also continue to operate within the management guidelines for fish and wildlife resources from the 1976 Master Plan, and would work to conserve and improve fish, wildlife, sensitive, and special status species' habitats. Grazing, hunting, and introduced and feral species would be managed to protect fish and wildlife. Fisheries management would continue with CDFG, and Reclamation would use integrated pest management techniques to prevent and control invasive species infestations.

Lands, Transportation, and Access

Under all alternatives, Reclamation would continue to assess how lands contained within the New Melones Lake Area are being effectively used for project purposes. Future easements and rights-of-way over Reclamation lands would be avoided or minimized. Reclamation would continue to restrict public access to, and enforce a no trespassing

zone in, the New Melones Dam and Spillway Management Area. The lands in the Westside and Bowie Flat Management Areas would continue to be managed for project purposes. Reclamation would also continue to implement the sign management plan and the New Melones seaplane policy. Further, Reclamation would address illegal activities in all management areas through continued law enforcement presence, management controls, signs, and education.

Cultural and Social Resources

Under all alternatives, Reclamation would continue to educate the public regarding sensitive cultural resources in the New Melones Lake Area, and would consult with the State Historic Preservation Officer (SHPO) and appropriate Indian Tribes regarding activities subject to compliance with Section 106 of the NHPA.

Recreation

Reclamation would develop a long-term strategy that maintains and, wherever appropriate, optimizes the diversity of recreation and level of service found at New Melones Lake. Recreation management would continue to be updated to accommodate visitor trends, and concessioner agreements with private enterprises, and/or managing partner agreements with public agencies would be explored and supported, where appropriate. Reclamation would continue to implement a user fee program and would try to minimize impacts to natural resources from recreation. In addition, campgrounds and day-use facilities would continue to be operated, managed, updated, and modernized. Reclamation would maintain trails and pathways according to Reclamation design standards and best management practices (BMPs). Reclamation would also continue to prohibit equestrian use of trails within developed portions of existing Rural Developed Management Areas (e.g. Tuttletown).

2.6.2 Alternative A (No Action—Continue Current Management)

Alternative A is the continuation of current management and would continue present management practices based on the existing land use plan and plan amendments. Valid and feasible decisions contained in the 1976 Master Plan would be implemented, if they are not already completed. Direction contained in existing laws, regulations, policies, and standards would also continue to be implemented, sometimes superseding provisions of the 1976 Master Plan. The current levels, methods, and mix of multiple use management of public lands in the New Melones Lake Area would continue, and resource values would generally receive attention at present levels. Existing facilities, roads, and trails would not be expanded or updated unless it were done under the direction of specific health and safety or ADA guidelines. BMPs would continue to be used to address fire response at New Melones Lake. Land management would also comply with land allocation identified in the 1976 Master Plan.

Physical Resources

Under Alternative A, Reclamation would seek voluntary compliance with boat and visitor noise regulations. Cave access would be managed to comply with federal law and meet health and safety requirements. To protect water resources, the use of pesticides and fertilizers would be allowed in accordance with the Integrated Pest Management Plan for the New Melones Lake Area.

Natural Resources

Alternative A would call for reseeding of degraded or impacted grassland and woodland habitats with native seed. Existing population data for serpentine plant communities would be used for long-term planning. Further, Reclamation would continue to implement BMPs and standard operating procedures (SOPs) to reduce fire danger and respond to fire. Portions of the PWMA Interim Management Plan would continue to be implemented, and the Baseline Conservation Camp would continue to operate as it is currently operating. In addition, Reclamation would continue monthly monitoring of special status bat populations and nearby rock climbing routes.

Lands, Transportation, and Access

Under Alternative A, the Westside Management Area would be managed with an emphasis on conservation, and Reclamation would continue to try to eliminate unpermitted grazing and illegal off-highway vehicle (OHV) use on Reclamation lands. Alternative A would call for the least updating and modernizing of roads, access areas, and facilities.

Cultural and Social Resources

Alternative A would continue operation of the New Melones Archaeological Storage Facility in the PWMA near the Baseline Conservation Camp.

Recreation

Alternative A would permit hunting on Reclamation lands except within 150 yards of a designated recreation area. The existing amount of watercraft use and public boat mooring and storage would be maintained, and enforcement of lake zoning would continue. Interpretive services would continue to be provided in accordance with the 1976 Master Plan and other current guidance.

2.6.3 Alternative B (Increased Use)

Alternative B emphasizes active management for access and recreation. Protecting other resources would be secondary to accommodating recreational interests, although all resources would be managed, at minimum, to the levels required by law. This alternative also emphasizes opportunities for developed and motorized recreation. This alternative would focus on increasing access (roads and trails) and expanding facilities (such as concessions and fish cleaning stations). The key components of this alternative are to evaluate adding recreation facilities at Glory Hole, Tuttletown, Bowie Flat, Westside, French Flat, Bear Creek, Parrotts Ferry, Mark Twain, and Greenhorn Green Management Areas and to allow increased levels of houseboat, water vessel, and equestrian use, in addition to relocating the equestrian staging area. Prescriptive grazing may be allowed to assist in invasive weed removal and fire protection. WROS categories would change certain management areas from Rural Natural to Rural Developed, or from Semi Primitive to Rural Natural (Table 2-1).

Physical Resources

Like Alternative A, Alternative B would have Reclamation seek voluntary compliance with boat and visitor noise regulations. Cave access would be expanded while complying with federal law and health and safety requirements. To protect water resources, the use

of pesticides and fertilizers would be allowed in accordance with the Integrated Pest Management Plan for the New Melones Lake Area.

Natural Resources

As in Alternative A, existing population data for serpentine plant communities would be used for long-term planning in Alternative B. In addition, Reclamation would fully implement a project-wide Fire Management Plan. Portions of the PWMA Interim Management Plan would continue to be implemented in Alternative B. The Baseline Conservation Camp would be allowed to expand its operations and its existing water supply and waste treatment facilities would be upgraded and expanded. Like Alternative A, Reclamation would continue monthly monitoring of special status bat populations and nearby rock climbing routes.

Lands, Transportation, and Access

Under Alternative B, Reclamation would assess the feasibility of future additional recreation at the Westside and Bowie Flat Management Areas. In appropriate areas, and with an approved permit and grazing plan, Reclamation may allow grazing and stock watering as a means to control invasive plant species and to reduce fire danger on Reclamation lands. Alternative B would call for the most updating and modernizing of roads, access areas, and facilities. In addition, Reclamation would reopen Old Parrotts Ferry Road and Melones Recreation Area with updated facilities, if feasible.

Cultural and Social Resources

Alternative B would move the New Melones Archaeological Storage Facility to a site outside the PWMA and to a site that meets modern standards for an archaeological collections storage facility.

Recreation

Alternative B would permit shotgun-only hunting on Reclamation lands except within 150 yards of a designated recreation area. Reclamation would assess the need for additional boat storage on the lake, and would assess the feasibility of future development in both Rural Natural and Rural Developed Management Areas. Additional lake zones would be added to facilitate increased use of the lake. Further, Reclamation may allow an increased level of houseboat use, in accordance with an updated carrying capacity. Trail improvements would focus on encouraging a diversity of recreational uses. Under Alternative B, an Interpretive Master Plan would be prepared and implemented.

2.6.4 Alternative C (Conservation)

Alternative C deemphasizes recreational goals and facilities in favor of natural resource values. There would be less active management of recreational resources and facilities than under the other alternatives. Alternative C emphasizes tighter controls on motorized recreation. The key components of this alternative include potentially decreasing the level of houseboat use and minimizing development of recreation areas in Rural Natural and Rural Developed Management Areas, in addition to relocating the equestrian staging area. New trails would not be developed unless needed to protect sensitive species and habitats. Access to caves and rock climbing routes would also be restricted to protect

unique and special species habitats. This alternative would allow the use of chemical, biological, and mechanical controls to help eradicate invasive species. WROS categories would change slightly, to less developed uses (Table 2-1).

Physical Resources

Under Alternative C, Reclamation would require mandatory compliance with boat and visitor noise regulations. Measures would be implemented to control access to caves. To protect water resources, the Integrated Pest Management Plan for the New Melones Management Area would be implemented to allow the safe use of chemical invasive species control.

Natural Resources

Alternative C calls for a full baseline survey for serpentine special status plants for long-term planning. Like Alternative B, Reclamation would fully implement a project-wide Fire Management Plan. In addition, the PWMA Interim Management Plan would be fully implemented by adopting it in the New Melones RMP. The footprint of the Baseline Conservation Camp operations would be reduced and its water supply and waste treatment facilities would need to meet appropriate standards. Alternative C would require extra protection for spawning fish in the New Melones Lake Area, and restrictions would be placed on rock climbing to protect special status bat populations.

Lands, Transportation, and Access

Similar to Alternative A, Reclamation would manage the Westside Management Area with an emphasis on conservation. In appropriate areas, and with an approved permit and grazing plan, Reclamation may allow grazing and stock watering as a means to control invasive plant species and to reduce fire danger on Reclamation lands. Alternative C would call for a moderate amount of updating and modernizing of roads, access areas, and facilities.

Cultural and Social Resources

Alternative C would move the New Melones Archaeological Storage Facility to a site outside the PWMA and to a site that meets modern standards for an archaeological collections storage facility.

Recreation

Under Alternative C, Reclamation would develop and implement a long-term strategy for managing hunting as visitation and urban development increase. Reclamation would also expand environmental constraints on recreation activities. The existing amount of public boat mooring and storage would be maintained, and future development in both Rural Natural and Rural Developed Management Areas would be minimized. Additional lake zones would be added to encourage environmental protection and facilitate some increased use of the lake. Further, Reclamation would decrease the level of houseboat use on New Melones Lake, in accordance with an updated carrying capacity. Development of additional trails would be limited, with a focus on maintaining trails for hiking use. As in Alternative B, an Interpretive Master Plan would be prepared and implemented.

2.6.5 Alternative D (Multiple Use)

Alternative D is intended to balance management of recreational uses and resources with management of natural and cultural resources. This alternative was developed by combining those aspects of Alternatives A, B, and C that provide the most balanced outcome for managing public lands within the New Melones Lake Area. This alternative incorporates many management objectives and actions from the first three alternatives and may include new management direction as necessary. This alternative also generally allows for more uses and active resource management than Alternative C but less than Alternative B. The key components of this alternative include allowing increased watercraft use, minimizing development of recreation areas in Rural Natural Areas and relocating the equestrian staging area. This alternative, like Alternatives B and C, would update land use allocations based on input from the public and results of the visitor use survey, WROS, and the commercial services plan. WROS categories would change slightly, to more developed uses (Table 2-1).

Physical Resources

Like Alternative A, Reclamation would seek voluntary compliance with boat and visitor noise regulations. Cave access would be managed to comply with federal law and meet health and safety requirements. To protect water resources, the use of pesticides and fertilizers would be allowed in accordance with the Integrated Pest Management Plan for the New Melones Lake Area.

Natural Resources

Alternative D calls for a full baseline survey for serpentine special status plants for long-term planning. Like Alternative B, Reclamation would fully implement a project-wide Fire Management Plan. In addition, the PWMA Interim Management Plan would be fully implemented by adopting it in the New Melones RMP. The Baseline Conservation Camp would continue to operate as it is currently operating, and existing facilities would be upgraded and/or replaced. Its water supply and waste treatment facilities would need to meet appropriate standards. Reclamation would continue monthly monitoring of special status bat populations and nearby rock climbing routes.

Lands, Transportation, and Access

Similar to Alternative A, Reclamation would manage the Westside Management Area with an emphasis on conservation. In appropriate areas, and with an approved permit and grazing plan, Reclamation may allow grazing and stock watering as a means to control invasive plant species and to reduce fire danger on Reclamation lands. Alternative D would call for a moderate amount of updating and modernizing of roads, access areas, and facilities. In addition, Reclamation would reopen Old Parrotts Ferry Road and/or Melones Recreation Area with updated facilities, if feasible.

Cultural and Social Resources

Alternative D would move the New Melones Archaeological Storage Facility to a site outside the PWMA and to a site that meets modern standards for an archaeological collections storage facility.

Recreation

Under Alternative D, Reclamation would develop and implement a long-term strategy for managing hunting as visitation and urban development increase. Reclamation would also expand environmental constraints on recreation activities. The need for additional boat storage would be assessed, and additional lake zones would be added to encourage environmental protection and facilitate increased use of the lake. Future development in Rural Natural Management Areas would be minimized, but development in Rural Developed Management Areas would be expanded. Reclamation would allow for an increased level of watercraft use. Trail improvements would focus on allowing a diversity of uses. As in Alternative B, an Interpretive Master Plan would be prepared and implemented.

3. Comparison of Alternatives

3.1 How to Read This Chapter

This chapter presents Table 3-1, which details management goals and actions for each alternative. Table 3-1 is a comparison of the alternatives and shows details of the management guidance for each alternative. The table is organized into resource and use categories.

If acreages and other numbers were used in the alternatives, they are approximate and serve for comparison and analytic purposes only. Acreages are only estimates, based on the most current available data. Readers should not infer that acreages reflect exact measurements or precise calculations.

3.1.1 Alternative Terms and Definitions

The following terms are used throughout the alternatives and are defined here to provide content in Table 3-1:

No Ski Zone. Pulling or towing persons on an aquaplane are prohibited in this zone. This restriction applies to water skiing, wake boarding, towable rafts, or other line-towed devices. Wake and "teak surfing" are also prohibited. "Teak surfing" is performed by hanging on the swim platform (often made of teak wood) at the back of a boat while the boat is moving forward in slow motion. Often the swimmers will let go of the teak and body surf on the boat's wake.

No Wake Zone. Not allowed in this zone is high speed boating, which may produce a white water wake, and excessive wave action. Boat operation is restricted to five miles per hour or less in order to prevent excessive wave action.

Environmentally Sensitive Area. This area is zoned for no overnight use, no wake, no skiing, no excessive noise, and no mining.

No Overnight Mooring Zone. This zone prohibits shoreline tie-up, anchoring, or any other form of securing a vessel for the purpose of overnight occupancy, within ¼ mile of campgrounds, day use areas, launch ramps, and other designated areas.

No Boat Zone. Boats are not allowed within this designated zone.

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Table 3-1: New Melones Lake Resource Management Plan Alternatives

All Actions Organized by Resource

This table includes all the actions organized by resource category. When an action influenced multiple resources the action has been listed under the resource most affected by the action.

Alternative A (No Action)	Alternative B (Increased Use)	Alternative C (Conservation)	Alternative D (Multiple Use)
AIR QUALITY **Goal: Comply with applicable air quality regulations to meet public health and safety requirements.**			
Action AQ 1. Comply with applicable asbestos regulations regarding friable asbestos. **Action AQ 2.** Comply with smoke production limitations during period of poor air quality, for example, restrict sanctioned visitor fires and Reclamation use of fire during designated burn days.			
NOISE **Goal 1: Comply with applicable noise regulations to meet public health and safety requirements.** **Goal 2: Manage noise at levels appropriate to the use of particular areas. (Zoning lake and campground policies).**			
Action N 1A. Monitor and seek voluntary compliance with boat noise regulations.	**Action N 1B.** Same as Alternative A.	**Action N 1C.** Monitor and seek mandatory compliance with boat noise regulations.	**Action N 1D.** Same as Alternative A.
Action N 2A. Monitor and seek voluntary compliance with visitor noise regulations.	**Action N 2B.** Same as Alternative A.	**Action N 2C.** Monitor and seek mandatory compliance with visitor noise regulations.	**Action N 2D.** Same as Alternative A.
GEOLOGIC RESOURCES (Excluding Caves) **Goal: Allow appropriate uses of geologic resources while protecting resource values (i.e., rock climbing, education, scientific research, soils, minerals, mining).**			
Action GR 1. Restrict mining and material excavation within the study area and coordinate with adjacent landowners/managers to prevent degradation of Reclamation lands. **Action GR 2.** Continue closing old mine workings after conducting appropriate studies. **Action GR 3.** Review and comment on all proposed mining plans and reclamation plans that may affect the New Melones watershed.			
CAVES **Goal 1: Comply with applicable cave management regulation, such as the 1988 Federal Cave Resources Protection Act.** **Goal 2: Protect cave formations and the sensitive resources within them.**			
Action C 1. The cave inventory will be updated to identify and classify caves. **Action C 2.** A protection plan for caves with significant resource value or potential hazards will be implemented, as needed. Should funding become available, Reclamation may develop an updated cave management plan by coordinating with other agencies to strengthen and protect cave resources. **Action C 3.** As needed, manage recreation use to preserve cave resources, such as scenic qualities, fragile formations, cultural resources, and sensitive species.			
Action C 4A. Manage access to caves to comply with federal law and meet health and safety requirements.	**Action C 4B.** Expand access to caves while complying with federal law and meet health and safety requirements.	**Action C 4C.** Implement measures to control access to caves.	**Action C 4D.** Same as Alternative A.
Action C 5A. No similar action.	**Action C 5B.** Identify caves appropriate for interpretive opportunities. Provide cave tours led by Reclamation or a concessionaire for suitable caves.	**Action C 5C.** Close caves to interpretive activities. Protect caves for conservation.	**Action C 5D.** Same as Alternative B.
HYDROLOGY/WATER QUALITY **Goal 1: Comply with applicable water quality regulations, such as the Clean Water Act.** **Goal 2: Conserve water resources and protect the water quality of those resources at New Melones Lake (management action, visitor use).** **Goal 3: Maintain the ecological health of aquatic habitats on New Melones Lake lands, for example riparian and wetlands.**			

Action WR 1. In all Rural Developed and Rural Natural Management Areas, update minimum basic facilities, such as parking and restrooms which, among other standards, need to provide for public health and safety, water quality, and ecosystem protection.

Action WR 2. Coordinate management of shared watersheds with neighboring landowners and agencies to protect ecological health and water quality.

Action WR 3. Coordinate with and assist local and state agencies for possible water quality monitoring.

Action WR 4. Review environmental documents for projects within the watershed and provide comments to the lead agency on limiting increases in impervious surfaces, minimizing soil disturbances, and other water quality impacts.

Action WR 5. Design, operate, and maintain recreation area facilities to minimize water contamination and the loss of soils due to surface runoff.

Action WR 6. Where appropriate, design, operate, and maintain recreation area facilities to maximize water conservation.

Action WR 7. The number, extent, and adverse effect of stream crossings would be minimized when new roads, trails, or easements are designed. New stream crossings would be designed and existing crossings would be maintained to minimize disruption to riparian vegetation, to prevent alteration of stream flow regime, and to prevent initial and chronic sources of erosion and sedimentation.

Topic: Sanitation

Action WR 8. Waste treatment systems will continue to comply with applicable waste discharge requirements.

Action WR 9. Promote sound fish waste management through a combination of fish-cleaning facilities and public education.

Action WR 10. Implement industry standard BMPs, in addition to minimum basic facilities, to improve sanitation facilities and infrastructure and pollution prevention structures, such as lift stations, floating restrooms, and improved waste management facilities.

Action WR 11. Locate the restrooms in high-visibility areas to maximize use and minimize vandalism.

Action WR 12. Continue to operate and maintain floating restrooms at various locations on the lake.

Action WR 13. Locate permanent facilities above gross pool. Use concrete vault toilets or portables where facilities are needed below the gross pool.

Action WR 14. Ensure facilities below gross pool are pumped dry or removed before inundation.

Action WR 15. Continue to require houseboat operators to meet industry standards in regard to holding tanks. Require marina to provide sewage pump-out service to the public.

Action WR 16. Prohibit dumping of any kind on Reclamation lands and water.

Action WR 17A. Operate and maintain existing fish-cleaning stations.	**Action WR 17B.** Continue to operate and maintain the fish-cleaning stations and provide additional fish-cleaning stations closer to the boat launch area in the Tuttletown and Glory Hole Management Areas.	**Action WR 17C.** Modify the existing fish-cleaning stations to improve sanitation, and provide an adequate fish-cleaning station closer to the boat launch area in the Tuttletown and Glory Hole Management Areas.	**Action WR 17D.** Same as Alternative C.
Action WR 18A. Provide and maintain appropriate restroom facilities at existing high-use areas and as a part of all new development.	**Action WR 18B.** Provide and maintain appropriate restroom facilities, showers, recreation vehicle (RV) dump stations, and RV hookups at existing high-use areas and as a part of all new development. When water levels decrease, also provide temporary restroom facilities at lower elevations when appropriate.	**Action WR 18C.** Provide and maintain appropriate restroom facilities at existing high-use areas and as a part of all new development. When water levels decrease also provide temporary restroom facilities at lower elevations when appropriate.	**Action WR 18D.** Same as Alternative C.
Action WR 19A. Operate and maintain the sanitation facilities at Natural Bridges in the Coyote Creek Management Area with the current configuration where the sanitation facilities are distant from the location of most visitor use.	**Action WR 19B.** Install a sign that indicates that there are no toilets near Coyote Creek. Additional signs or a restroom facility closer to Natural Bridges would be installed, if feasible.	**Action WR 19C.** Install a sign that indicates that there are no toilets near Coyote Creek. Should funding become available, a composting toilet facility could be installed at Natural Bridges in the Coyote Creek Management Area, to accompany an existing facility.	**Action WR 19D.** Same as Alternative C.

Topic: Erosion

Action WR 20. Locate and design roads, trails, and access easements to follow the natural topography, minimizing steep slopes and the number of stream crossings.

Action WR 21. Avoid soil disturbance, to the extent possible, of areas that are particularly vulnerable to erosion and sediment loss.

Action WR 22. Confine all public vehicles to existing roadways and continue to enforce ban on Off Highway Vehicle (OHV) operation.

Action WR 23. Stabilize and construct water bars on all unpaved roads and trails to control erosion.

Action WR 24. Prohibit discharge of sediment to any water body.

Action WR 25. Identify areas where stormwater runoff from paved surfaces is concentrated and drains directly to water bodies; develop retention basins or other water quality control features for these areas.

Action WR 26. Harden surfaces prone to erosion and subject to extensive visitor use through use of compacted aggregate, paving with asphalt or concrete, soil cement, or other hardening agent.

Action WR 27. Promote stream bank and reservoir shoreline stability to encourage establishment of riparian vegetation.

Action WR 28A. In Rural Developed Management Areas, continue closing former roadways to trailered boat launching, vehicle, and certain other uses when the facilities do not meet Reclamation standards for public health and safety, and to prevent erosion and protect water quality and natural and cultural resources.	**Action WR 28B.** If funding becomes available, in Rural Developed Management Areas, update and improve former roadways to be used as lake access points. Construct modern boat launch and support facilities that meet Reclamation standards, while minimizing erosion and water quality impacts.	**Action WR 28C.** In Rural Developed Management Areas, continue closing former roadways to trailered boat launching, vehicle, and certain other uses when the facilities do not meet Reclamation standards for public health and safety, and to prevent erosion and protect water quality and natural and cultural resources. Restrict or reduce vehicle use on roadways in Semi Primitive Management Areas and reduce vehicle operation on unimproved roadways in Rural Natural Management Areas.	**Action WR 28D.** If funding becomes available, in Rural Developed Management Areas, update and improve roads to Mark Twain, Parrott's Ferry, and Melones Recreation Areas, while minimizing erosion and water quality impacts. Restrict or reduce vehicle use on roadways in Semi Primitive Management Areas and reduce vehicle operation on unimproved roadways in Rural Natural Management Areas. Where appropriate, provide for dry camp (e.g., no fire rings, no piped water) opportunities at walk-in portions of Semi Primitive Management Areas and provide floating camp sites in Rural Natural Management Areas.

Topic: Contaminants

Action WR 29. Comply with applicable hazard waste/materials (HazMat) regulations, including the Resource Conservation and Recovery Act (RCRA), such as storage, transfer, containment, and disposal of hazardous materials, such as oil, solvents, antifreeze, and paints. When appropriate, Reclamation staff, Reclamation contractors, and lessees of facilities at New Melones are encouraged to recycle these materials.

Action WR 30. Respond to any hazardous waste problems discovered on Reclamation lands immediately to minimize water quality degradation, per RCRA and other applicable regulations.

Action WR 31. Continue to require emergency spill plans for the marina and all other facilities that store fuels. Continue to require that these facilities have spill containment equipment.

Action WR 32. Continue to require the marina to use automatic shutoff nozzles and promote the use of fuel/air separators on air vents or tank stems of inboard fuel tanks to reduce the amount of fuel spilled into surface waters during fueling of boats.

Action WR 33. Restrict vehicle and vessel maintenance, repairs, and construction on Reclamation lands to designated areas.

Action WR 34. Minimize development and disturbance on serpentine outcrops to control movement of asbestos fibers into water bodies.

Action WR 35A. Surface runoff of pesticides and fertilizers from Reclamation lands shall be controlled through the use of the Integrated Pest Management Plan for the New Melones Lake Area.	**Action WR 35B.** Same as Alternative A.	**Action WR 35C.** Same as Alternative A, including: • Use only mechanical or biological controls and target-specific herbicides to control invasive species, in accordance with the Integrated Pest Management Plan for the New Melones Lake Area.	**Action WR 35D.** Same as Alternative A, including: • Use chemical, mechanical and biological methods of pest control, in accordance with the Integrated Pest Management Plan for New Melones Lake Area.

VISUAL RESOURCES

Goal: Manage Reclamation lands and activities to provide protection of the visual values and scenic quality of existing landscapes.

Action VR 1. Continue to educate agencies and landowners on the negative impacts from certain land use activities on the visual quality of the study area.

Action VR 2. Manage recreation impacts in Rural Natural Management Areas to preserve sensitive resources in their natural state and to maintain scenic qualities associated with these areas.

Action VR 3. All facilities would be designed to blend in to the natural landscape through careful siting (for example, behind terrain, away from ridgelines, within vegetated areas), screening with appropriate native plant species, use of architectural design compatible with the applicable surroundings (including style, scale, texture, and colors) and avoiding the use of unpainted metallic surfaces, such as roof materials.

Action VR 4. All Reclamation and concession signs will comply with the Reclamation sign manual.

Action VR 5. Comment on plans and environmental documents for new major projects within the watershed to prevent potential adverse visual effects on Reclamation lands.

Action VR 6. Continue to implement and update the project-wide sign management plan. **Action VR 7.** Design fuel breaks and firebreaks in a manner that minimizes impacts on aesthetic, visual, and scenic resources.			
VEGETATION **Goal: Maintain and enhance native and unique plant communities.**			
Action V 1. Protect and promote native and unique plant communities for long-term sustainability and viability. These communities include oak woodlands, native perennial grasslands, wetlands, vernal pools, and plants associated with serpentine soils. **Action V 2.** Minimize clearing or converting native plant communities caused by human activities.			
Action V 3A. Continue to implement best management practices and standard operating procedures to reduce fire danger and respond to wildland fire.	**Action V 3B.** Implement the Fire Management Plan for the New Melones Lake Area (Appendix D), which includes using prescribed burning to achieve the following vegetation management goals, objectives, and benefits: • Protect native habitats from conversion to nonnative habitats by returning fire to the landscape; • Rejuvenate chaparral by reducing brush density and creating variable structure and age composition in chaparral communities; • Remove build up of chaparral fuels to provide for propagation and rejuvenation of native plants in heavy brush areas; • Rejuvenate oak woodland by curtailing brush encroachment; • Prevent severe infestation of some invasive plant species; and • Design fuel breaks and firebreaks in a manner that considers resource objectives for vegetation management and soil stabilization.	**Action V 3C.** Same as Alternative B.	**Action V 3D.** Same as Alternative B.
Action V 4. Continue to implement the Vegetation Management Plan.			
Topic: Invasive Species (For more information, see Invasive Species Control, page 3-16).			
Action V 5A. When appropriate**,** reseed degraded or impacted grassland and woodland habitats with native seed.	**Action V 5B.** When appropriate, reseed degraded or impacted grassland and woodland habitats with seed.	**Action V 5C.** Same as Alternative A.	**Action V 5D.** Same as Alternative A.
Action V 6A. Use of herbicides as a vegetation treatment option will be carefully examined, for potential impacts on water sources, wildlife habitat, and cultural/traditional uses.	**Action V 6B.** Same as Alterative A.	**Action V 6C.** Use target-specific herbicides, when used seasonally (late winter or early spring) and in conjunction with mechanical removal operations, to reduce infestations of invasive species.	**Action V 6D.** Use target-specific herbicides, when used seasonally (late winter or early spring) and in conjunction with mechanical removal operations and biological controls, to reduce infestations of invasive species.
Action V 7A. Continue to prevent severe invasions of exotics (such as yellow star thistle).	**Action V 7B.** Continue to prevent severe invasions of exotics (such as yellow star thistle) where inexpensive opportunities for control exist.	**Action V 7C.** Continue to prevent severe invasions of exotics (such as yellow star thistle) by restricting activities in areas prone to weed invasion and using mechanical and biological means of control.	**Action V 7D.** Same as Alternative A.
Topic: Native Plant Communities			
Action V 8. Restore or enhance lost or degraded native communities, where appropriate and when opportunities exist, subject to limitation of increased cost of operation or maintenance.			

Action V 9. Provide for public education on the ecology and cultural importance of native plant communities, such as oak woodland, native perennial grasslands, vernal pools, riparian areas and wetlands, and plants associated with serpentine soils.

Action V 10. Minimize disturbance detrimental to native plant communities, such as infrastructure development, extensive visitor use, clearing, or other human activity that might cause conversion of plant communities.

Action V 11. Preserve serpentine-based communities by performing a plant survey during project planning and, where possible, modify the proposed project to avoid occurrences of special status plants, such as *Chlorogalum grandiflora* and *Allium tuolumnense*.

Action V 12. When practical, avoid serpentine soils especially when an activity or visitor use may cause erosion or compaction that would degrade habitat values.

Action V 13. Survey and inventory New Melones Lake Area lands to establish baseline plant communities.

Action V 14A. No similar action.	**Action V 14B.** If feasible and in conjunction with Caltrans, manage a 66-acre parcel of land near the Peoria Wildlife Management Area for a possible oak tree mitigation area.	**Action V 14C.** Same as Alternative B.	**Action V 14D.** Same as Alternative B.
Action V 15A. Use existing population data on plant communities associated with serpentine soils for long-term planning.	**Action V 15B**. Same as Alternative A.	**Action V 15C.** Develop a full baseline survey of the populations of serpentine special status plants at New Melones Lake, such as *Chlorogalum grandiflora* and *Allium tuolumnense*. This survey could then be used for monitoring key plant populations and project planning.	**Action V 15D.** Same as Alternative C.

Topic: Wetlands

Action V 16. When practical, avoid wetland communities, such as riparian communities along streams, rivers, or shoreline, wet meadow communities, seeps, vernal pools, or other water-dependent community, especially when an activity or visitor use may cause erosion or compaction that would degrade habitat values.

Action V 17. Educate about the ecology and cultural importance of wetland vegetation communities, such as riparian areas, seeps, and vernal pools.

Action V 18. Protect, restore, or enhance degraded riparian communities where appropriate and when opportunities exist, subject to limitations of increased cost of operation or maintenance.

Action V 19. When possible, plan management activities that may impact wetlands for the dry season.

Action V 20. Promote stream bank and reservoir shoreline stability to encourage establishment of riparian vegetation.

Action V 21. Manage wetland communities to ensure no net loss of these habitats, in compliance with USACE and EPA policy.

FISH AND WILDLIFE

Goal 1: Manage for habitat quality to maintain or enhance biological diversity.
Goal 2: Manage vegetation in areas outside of fuel treatment project perimeters to retain sufficient wildlife cover.
Goal 3: Conserve sensitive wildlife habitats by minimizing disruption and loss.
Goal 4: Enhance wildlife habitat values, features, and diversity.
Goal 5: Restore wildlife habitat values of damaged areas through revegetation and restoration.

Action FW 1. Continue to operate within management guidelines for fish and wildlife resources from the 1976 Master Plan, as well as appropriate regulations and accepted standards for Reclamation.

Action FW 2. Fulfill mitigation requirements in the Peoria Wildlife Management Area.

Action FW 3. Document, conserve, and enhance habitat for fish and wildlife resources, where appropriate, and when opportunities exist that will not increase the cost of operation or maintenance.

Action FW 4. Leash or cage all domestic pets when on Reclamation lands.

Action FW 5. Develop and fund programs that improve habitat for wildlife within New Melones Lake Area. Such programs include the following:

- Protect, restore, and enhance wetlands, including vernal pools and drainages;
- Practice oak silviculture for hardwood-dependent species;
- Maintain snags and install nest boxes for cavity nesting birds, including wood ducks;
- Provide artificial nest structures for osprey (*Pandion haliaetus*) to supplement nests subject to inundation; and
- Provide wildlife water facilities, such as quail guzzlers, similar to those constructed in the Peoria Mountain Wildlife Area.

<table>
<tr><td colspan="4">Action FW 6. Prohibit release of any introduced species without permit from the CDFG or release of domestic animals onto Reclamation lands.

Action FW 7. Trespass grazing will be minimized by maintaining fence lines and posting signs. When trespass occurs, Reclamation will coordinate with local landowners and law enforcement to remove the animals.

Action FW 8. Throughout the New Melones Lake Area, allow hunting in accordance with applicable regulations, such as EO 13443, except where prohibited or restricted.

Action FW 9. The CDFG would be encouraged to monitor and enforce rules and regulations related to hunting and fishing.

Action FW 10. Continue to monitor New Melones lands for feral species, such as wild pigs, that may cause resource damage. If a feral animal population is confirmed, Reclamation will take action to control those populations using the methods described in the Integrated Pest Management Plan.</td></tr>
<tr><td>Action FW 11A. Continue to use BMPs and standard operating procedures (SOPs) to reduce fire danger and respond to wildland fire.

Implement prescribed fire techniques such as pile burning in late fall or early winter, in accordance with BMPs, to minimize erosion and fire hazard and to create wildlife habitat.</td><td>Action FW 11B. Implement the Fire Management Plan (Appendix D) by the following actions:
Construct fuel breaks by either mechanical means or prescribed burns that will increase access within Wildlife Management Areas, while continuing to provide wildlife habitat;
Conserve sensitive wildlife habitats by minimizing disruption and loss;
Enhance wildlife habitat values, features, and diversity;
Restore wildlife habitat values of damaged areas through revegetation and restoration; and
Design fuel breaks and firebreaks in a manner that minimizes impacts on ecological resources and consider resource objectives for wildlife habitat management.</td><td>Action FW 11C. Implement the Fire Management Plan (Appendix D) by the following actions:
Design fuel breaks and firebreaks in a manner that minimizes impacts on ecological resources and consider resource objectives for wildlife habitat management;
Conserve sensitive wildlife habitats by minimizing disruption and loss;
Enhance wildlife habitat values, features, and diversity;
Restore wildlife habitat values of damaged areas through revegetation and restoration;
Time prescribed burns to occur when fuel moisture is at a level to permit burning that creates brush islands to improve wildlife habitat; and
Manage prescribed burns to protect and encourage growth for threatened species or species of concern within Wildlife Management Areas.</td><td>Action FW 11D. Implement the Fire Management Plan (Appendix D) by taking the following actions:
Manage vegetation in areas outside of fuel treatment project perimeters to retain sufficient wildlife cover;
Conserve sensitive wildlife habitats by minimizing disruption and loss;
Enhance wildlife habitat values, features, and diversity;
Restore wildlife habitat values of damaged areas through revegetation and restoration;
Design fuel breaks and firebreaks to minimize impacts on ecological resources and to consider resource objectives for wildlife habitat management;
Time prescribed burns to occur when fuel moisture is at a level to permit burning that creates brush islands to improve wildlife habitat;
Manage prescribed burns to protect and encourage growth for threatened species or species of concern within Wildlife Management Areas; and
Use low-severity prescribed fire to create fire breaks in wetland and riparian buffer areas.</td></tr>
</table>

Action FW 12A. Continue to implement wildlife management requirements included in the Baseline Conservation Camp lease by having the lessee perform the following actions in the Peoria Wildlife Management Area: • Devote 250 person-days per year for wildlife enhancement project; • Implement an annual operating plan that includes erosion control projects, tree planting, fire lines to protect wildlife area, and maintaining and constructing water impoundments; and • Restrict access of inmates and Forestry or Corrections staff beyond the camp-leased area.	• **Action FW 12B.** Same as Alternative A.	**Action FW 12C.** Same as Alternative A, including • Provide at least 40 hours of dozer and operator time each year to help develop water impoundments and maintain fire roads.	**Action FW 12D.** Same as Alternative A until the new lease is signed and in effect.
Action FW 13A. In the Peoria Wildlife Management Area, continue to implement Interim Management Plan by the following actions: • Continue year-round public vehicle use restrictions for resource protection; • Build designated trails, in accordance with the trail plan; • Close and restore unauthorized trails; • Encourage continued hiking and biking, along with other low impact recreation; • Implement Vegetation Management Plan; • Environmental interpretation; • Limit camping to group camping permitted by reservation only; • Reseed/restore unauthorized roads and impacted areas; • Continue to ban shooting and target practice; and • Allow hunting in accordance with applicable regulations, except where prohibited or restricted.	**Action FW 13B.** In the Peoria Wildlife Management Area, implement a modified version of the Interim Management Plan including the following actions: • Restrict public vehicle use from December 1 to May 1; • Develop and implement a trail plan; • Build designated trails, in accordance with the trail plan; • Implement Vegetation Management Plan; • Implement environmental interpretation; • Limit camping to groups permitted by reservation only; • Allow nonequestrian camping by hunters and such organizations as the Boy Scouts and Girl Scouts by Special Use Permit and reservation; • Enhance wildlife watching opportunities; • Continue to ban shooting and target practice; and • Allow hunting in accordance with applicable regulations, except where prohibited or restricted.	**Action FW 13C.** In the Peoria Wildlife Management Area, implement a modified version of the Interim Management Plan, including the following actions: • Prohibit public vehicle use year-round to protect resources; • Prohibit camping; • Close and restore unauthorized trails; • Implement the Vegetation Management Plan; • Reseed and restore unauthorized roads and impacted areas; • Continue to ban shooting and target practice; and • Allow hunting in accordance with applicable regulations, except where prohibited or restricted.	**Action FW 13D.** Fully implement the Interim Peoria Wildlife Management Plan as described in Alternative A, by adopting the interim plan in the New Melones Resource Management Plan, thereby integrating the preferred actions described in the Peoria Wildlife Interim Management Plan into the long-term management at New Melones.
Action FW 14A. For existing purposes and levels of use, continue to allow Baseline Conservation Camp to operate on the existing footprint with the existing water supply and water treatment facilities of the camp in the Peoria Wildlife Management Area.	**Action FW 14B**. Allow Baseline Conservation Camp to expand operations such as periodic fire camps and/or different uses of the facility than currently in place. The existing water supply and waste treatment facilities would be upgraded and expanded to meet appropriate standards.	**Action FW 14C.** Reduce the footprint of the operation of Baseline Conservation Camp within the Peoria Wildlife Management Area. In addition, the water supply and waste treatment system would need to meet appropriate standards.	**Action FW 14D.** Allow Baseline Conservation Camp to realign or expand the existing footprint and upgrade existing facilities, if needed, to accommodate updated uses. In addition, the water supply and waste treatment system would need to meet appropriate standards.
Topic: Fisheries **NOTE:** Reclamation will follow directives to provide water releases from New Melones Reservoir to maintain downstream water quality and fisheries. A revised plan of operations is under development and will supersede any interim measures. Reservoir operations and water releases are beyond the scope of the management of the New Melones Field Office, Central California Area Office (CCAO), or this resource management plan.			

Action FW 15. Continue to manage fisheries through an agreement with the CDFG. **Action FW 16.** Limit disturbance and intensive visitor use along perennial stream corridors and reservoir coves that maintain prime spawning, rearing, and adult residence area fisheries. **Action FW 17.** Minimize disturbance of habitat in perennial streams that support native fish.			
Action FW 18. Continue to enhance fish habitat by installing fish attractors, consisting of piles of logs and brush anchored to the ground. **Action FW 19.** Support efforts by volunteers and partners to rehabilitate and improve fisheries, fish habitat, and aquatic resources. **Action FW 20.** Prevent entrapment and death of fish within water impoundment facilities. **Action FW 21.** Except when snags present a safety hazard, continue to leave dead trees in the reservoir to provide fish habitat.			
Action FW 22A. Restrict and minimize disturbance of known trout spawning areas in Texas Charley Gulch.	**Action FW 22B.** Same as Alternative A.	**Action FW 22C.** Annually restrict and minimize disturbance on a rotational basis of known trout spawning areas located in Coyote Creek Cove, Angels Creek Cove, Carson Creek Cove, and Mormon Creek Cove as well as areas of the Stanislaus River downstream from the confluence of Rose Creek and the South Fork.	**Action FW 22D.** During spawning season, minimize disturbance of known trout spawning areas in Coyote Creek Cove, Angels Creek Cove, Carson Creek Cove, and Mormon Creek Cove, as well as areas of the Stanislaus River downstream of the confluence of Rose Creek and the South Fork.
Action FW 23A. Minimize disturbance of known warm water fish spawning areas, such as Black Bart Cove.	**Action FW 23B**. Same as Alternative A.	**Action FW 23C.** During spawning season, restrict and minimize disturbance in known warm water fish spawning areas, such as Black Bart Cove and Mark Twain.	**Action FW 23D.** Same as Alternative A.
SPECIAL STATUS SPECIES (Federally Endangered, Threatened, Proposed, Candidate Species, and Other Special Status Fauna and Flora) **Goal 1: Manage habitat to contribute to the conservation of special status fish, wildlife and plant species.** **Goal 2: Manage public use and operations and maintenance to contribute to the conservation of special status fish, wildlife, and plant species.**			
Action SSS 1A. Protect wildlife species and habitats legally listed or proposed for listing under the federal Endangered Species Act.	**Action SSS 1B**. Same as Alternative A.	**Action SSS 1C.** Conserve sensitive wildlife habitats, such as caves and riparian areas, by minimizing disruption and loss. In the Peoria Wildlife Management Area, continue to implement the Peoria Wildlife Management Plan and consider seasonal use restrictions when legally mandated to avoid impacts on sensitive habitats and species. For example restrict recreational uses during breeding periods for raptors and bats.	**Action SSS 1D.** Same as Alternative C.
Action SSS 2. In Rural Natural Management Areas, continue to minimize impacts on sensitive natural and cultural resources by maintaining dispersed visitor use.			
Topic: Raptors			
Action SSS 3A. Conduct semiannual inventories of eagles, ospreys, and other raptors.	**Action SSS 3B.** Conduct semiannual inventories of eagles, ospreys, and other raptors. Maintain, construct, or modify osprey platforms and other nesting structures, as needed. Use information gathered during the semiannual inventory to improve the Interpretive Program at New Melones by encouraging visitor participation in such activities as lakeside viewing and boat tours.	**Action SSS 3C.** Conduct semiannual inventories of eagles, ospreys, and other raptors. Minimize disturbance to nesting raptors by regulating public uses, visitor density, and visiting hours or other appropriate measures. Partner with other agencies to study the environmental effects on raptors, using data from the semiannual inventory.	**Action SSS 3D.** In addition to Alternative A, maintain, construct, or modify osprey platforms and other nesting structures, as needed.
Topic: Bats			
Action SSS 4. In the Peoria Wildlife Management Area, manage rock climbing use in accordance with federal regulations on natural and cultural resources.			

Action SSS 5A. During the habitation period, conduct monthly inventories of sensitive bat species, such as the mastiff bat, on the northwest slope of Table Mountain. Climbing routes in the area are monitored for effects on sensitive species.	**Action SSS 5B.** Same as Alternative A, including partnering with local spelunker organizations to determine cave locations where bats are nesting.	**Action SSS 5C.** Conduct bat surveys to determine bat population numbers and locations at Natural Bridges and other outlying areas. Conduct a study to determine the impacts of climbers on sensitive bat species. Restrict access to climbing routes near sensitive bat species caves during bat habitation periods.	**Action SSS 5D.** Same as Alternative A.
Action SSS 6A. As described in the Peoria Wildlife Management Plan, if impacts on sensitive species are identified, Reclamation would develop and implement a climbing management plan.	**Action SSS 6B.** Same as Alternative A.	**Action SSS 6C.** Develop and implement a climbing management plan that includes designated climbing routes and areas.	**Action SSS 6D.** Same as Alternative A.
GENERAL LAND MANAGEMENT **Goal 1: Manage Reclamation owned and managed lands in accordance with authorized project purposes and applicable laws and regulations.** **Goal 2: Manage rights-of-way and right-of-use permits in accordance with authorized project purposes and applicable laws and regulations.** **Goal 3: Minimize and consolidate right-of-way and easement grants on Reclamation lands; if granted, monitor and enforce for compliance with permit measures.** **Goal 4: Reduce and eliminate encroachment onto or from New Melones Lake lands.** **Goal 5: Provide, operate, and maintain facilities appropriate to the needs of Reclamation and the general public.**			
Action LM 1. Continue the designation of the New Melones Lake Project as a Special Use Area, pursuant to 43 CFR, Part 423, for the protection of public health and safety, the protection and preservation of cultural and natural resources, the protection of environmental and scenic values, scientific research, the security of Reclamation facilities and the avoidance of conflict among visitor use activities. Reclamation has established schedules of visiting hours, public use limits, special uses and other conditions, restrictions and prohibitions on particular uses or activities. 43 CFR, Part 423 and subsequently established special use area regulations are used to maintain law and order and protect persons and property within the New Melones Lake Project.			
Topic: Coordination			
Action LM 2. Continue to encourage and support cooperative planning within the Stanislaus watershed among Reclamation, other affected federal, state, and local agencies, and the public.			
Action LM 3. Review and participate in the development of regional plans on adjacent lands to ensure that land use decisions and activities are compatible with those at New Melones. Coordinate with the Tuolumne and Calaveras County Planning Departments to review and contribute to resource and land use plans that may affect the Stanislaus watershed.			
Action LM 4. Coordinate with applicable agencies (such as Tuolumne County, BLM, USFWS, and CDFG) and appropriate private entities to develop measures to protect and preserve the ecological and cultural values at New Melones Lake. Measures would address such issues as access, land acquisition and disposal, recreational shooting, and the potential disturbance of vegetation, soils, and geologic features.			
Action LM 5. Coordinate with applicable entities (such as Pacific Gas and Electric, Calaveras County Water Agency, Calaveras County, BLM, USFWS, and CDFG) and appropriate private entities to develop measures to maintain effective management and decrease negative activities along Camp Nine Road. Measures would address issues such as safety, access, recreational shooting, and the potential disturbance of vegetation, soils, and geologic features.			

Action LM 6A. Continue to implement wildlife management requirements included in the Baseline Conservation Camp lease by having the lessee perform the following actions: • Provide fire suppression services for Reclamation lands at the New Melones Lake Area; • Provide crew assistance with project maintenance; • Develop an annual work plan identifying projects to be accomplished each year; • Use crews to maintain fire protection around facilities and infrastructure; and • Restrict access of inmates and forestry/corrections staff beyond leased area.	**Action LM 6B.** Continue to implement wildlife management requirements included in the Baseline Conservation Camp lease by having the lessee perform the following actions: • Provide fire suppression services for Reclamation lands at the New Melones Lake Area; • Provide crew assistance with project maintenance; • Develop an annual work plan identifying projects to be accomplished each year; • Use crews to maintain fire protection around facilities and infrastructure; and • Restrict access of inmates and forestry/corrections staff beyond leased area. If funding becomes available, move Baseline Conservation Camp to existing Equestrian Area away from the Stanislaus River area of the Peoria Wildlife Management Area. Restore open areas formerly used by Baseline Conservation Camp to natural habitat, leaving roads and specific facilities for future use. Allow a larger or different footprint for Baseline Conservation Camp if needed to accommodate updated facilities and uses.	**Action LM 6C.** Continue to implement wildlife management requirements included in the Baseline Conservation Camp lease by having the lessee perform the following actions: • Provide fire suppression services for Reclamation lands at the New Melones Lake Area; • Provide crew assistance with project maintenance; • Develop an annual work plan identifying projects to be accomplished each year; • Use crews to maintain fire protection around facilities and infrastructure; and • Restrict access of inmates and forestry/corrections staff beyond leased area. If funding becomes available, move Baseline Conservation Camp to existing Equestrian Area away from the Stanislaus River area of the Peoria Wildlife Management Area. Restore open areas formerly used by Baseline Conservation Camp to natural habitat, leaving roads and specific facilities for future use. Remove Baseline Conservation Camp lease area from the Peoria Wildlife Management Area, offsetting with equivalent or more acreage for wildlife mitigation adjacent to the Peoria Wildlife Management Area in other areas.	**Action LM 6D.** Continue to implement wildlife management requirements included in the Baseline Conservation Camp lease by having the lessee perform the following actions: • Provide fire suppression services for Reclamation lands at the New Melones Lake Area; • Provide crew assistance with project maintenance; • Develop an annual work plan identifying projects to be accomplished each year; • Use crews to maintain fire protection around facilities and infrastructure; and • Restrict access of inmates and forestry/corrections staff beyond leased area. If funding becomes available, move Baseline Conservation Camp to existing Equestrian Area away from the Stanislaus River area of the Peoria Wildlife Management Area. Restore open areas formerly used by Baseline Conservation Camp to natural habitat, leaving roads and specific facilities for future use. Allow a larger or different footprint for Baseline Conservation Camp if needed to accommodate updated facilities and uses. Change the boundaries of the Peoria Wildlife Management Area to exclude the Baseline Conservation Camp lease area, offsetting with equivalent or more acreage for wildlife mitigation adjacent to the Peoria Wildlife Management Area in other areas.
Topics: Rights of Use			
Action LM 7A. Continue to assess how lands contained within the New Melones Lake Area are being effectively used for project purposes. Maintenance of right-of-way utility crossings will be coordinated with Reclamation before any land or vegetation is altered.	**Action LM 7B.** Same as Alternative A.	**Action LM 7C.** In addition to Alternative A, avoid or minimize future easements and rights-of-way over Reclamation lands. As a condition of approval, new easements (e.g., roadways, electrical transmission lines, pipelines, structures, and facilities) must adhere to applicable guidelines to avoid potential operational and resource impacts.	**Action LM 7D.** Same as Alternative C.
Action LM 8. Continue to prohibit certain activities on federal land without a permit as per 43 CFR, Part 423, such as livestock grazing, OHV operation, and construction.			
Action LM 9A. Continue Reclamation's efforts to eliminate unpermitted grazing and water access on lands under its jurisdiction.	**Action LM 9B.** Continue Reclamation's efforts to eliminate unpermitted grazing and water access on lands under its jurisdiction. In appropriate areas, and with an approved permit and grazing plan, Reclamation may allow grazing and stock watering as a means to control invasive plant species and to reduce fire danger.	**Action LM 9C.** Same as Alternative B.	**Action LM 9D.** Same as Alternative B.

Topic: Trespass and Unauthorized Use			
Action LM 10. Continue to enforce regulations related to trespass onto, or the unauthorized use of, the land and water under Reclamation's jurisdiction. Trespass and unauthorized use deprives the public of its rightful use and enjoyment of the public lands. It is the general policy of Reclamation to facilitate and ensure the proper use of land resources. Benefits to the public as a whole resulting from nonexclusive uses of federal lands is the primary management emphasis. **Action LM 11.** Continue to implement a program to periodically patrol areas where unpermitted grazing or water access occurs, as well as areas where off-road vehicles are known to be used. **Action LM 12**. Pursue cooperation aimed at preventing unauthorized use and trespass by continuing to implement a program of public information, education, and contact (for example, through signs, pamphlets, maps, and public notices). Inform neighboring landowners and appropriate local, state, and federal agencies of changes to the boundaries of Reclamation-managed lands.			
Action LM 13A. Continue to enforce Reclamation's off-road vehicles policy and regulation, which states that all Reclamation lands are closed to off-road vehicles, except for those areas specifically designated for such use (43 CFR, Part 420). No off-road vehicles are allowed at New Melones Lake; vehicles must remain on paved or other specified hard surface roads. In accordance with 43 CFR, Part 420, vehicular access for fire, emergency, or law enforcement vehicles and those used for officially designated purposes is allowed.	**Action LM 13B.** Continue to enforce Reclamation's off-road vehicles policy and regulation, which states that all Reclamation lands are closed to off-road vehicles, except for those areas specifically designated for such use (43 CFR, Part 420). Enter into a managing partner or concession agreement to construct facilities and operate an OHV park. Locations to be considered may include Peoria Wildlife Management Area, Westside, Bowie Flat, Greenhorn Creek, French Flat, and Bear Creek Management Areas (See Action R 36B).	**Action LM 13C.** Same as Alternative A.	**Action LM 13D.** Same as Alternative A.
Action LM 14. Resolve land ownership and jurisdictional uncertainties with other agencies when discrepancies are identified.			
Action LM 15A. Using the existing land use allocation map in the Master Plan, manage land and water in the New Melones Lake Area.	**Action LM 15B.** Reclamation will not use the existing land use allocation map in the 1976 Master Plan to manage land and water in the New Melones Lake Area. Update land use allocation at New Melones Lake, as described in Table 2-1: Land Use, to reflect updated information, currently used management areas, and potential management from such sources as the WROS, carrying capacity study, and commercial services plan (Land Capability, per the 1976 Master Plan, page 45).	**Action LM 15C.** Same as Alternative B.	**Action LM 15D.** Same as Alternative B.
Action LM 16. Perform repairs/alterations on existing facilities necessary to comply with accessibility and public health and safety standards, such as the accessibility action plan. **Action LM 17.** In both Rural Developed and Rural Natural Management Areas, update minimum basic facilities and minimal facilities (expanded), such as parking and sanitation facilities, which, among other standards, need to protect public health and safety and protect water quality. **Action LM 18**. Unless otherwise specified, continue to operate and maintain current facilities and continue existing uses in all management areas. See Chapter 5 for description of facilities and uses.			
Action LM 19A. Continue closure of overlook facilities (parking, restroom, picnic area) at Peoria Flat.	**Action LM 19B.** If public health and safety and security concerns can be addressed, reopen the overlook facilities at Peoria Flat. Explore the possibility of finding a managing partner for the overlook and its facilities.	**Action LM 19C.** Same as Alternative A.	**Action LM 19D.** Continue closure of overlook facilities as in Alternative A. Allow public access to the overlook facilities at Peoria Flat through guided tours with Reclamation.
Topic: Utilities			
Action LM 20. Forecast and plan for updating systems to coincide with future demands and regulatory requirements. **Action LM 21.** Conduct periodic review of utilities, maintain a long-term plan for maintenance, replacement, and updating of systems, and seek funding to address deferred maintenance of utilities.			
ACCESS AND TRANSPORTATION **Goal: Manage travel, roads, and trails to provide safe access, minimize resource impacts and provide for multiple use recreation opportunities within the planning area.**			
Topic: Access			

Action TA 1. Continue the designation of the New Melones Lake Project as a Special Use Area, pursuant to 43 CFR, Part 423, which states that areas within the Special Use Area will remain open unless closed by Reclamation. Closure of federal lands under 43 CFR, Part 423 includes publication of a notice in the Federal Register and in the local press. **Action TA 2.** Continue to restrict public access to, and enforce a no trespassing zone in, the New Melones Dam and Spillway Management Area, which includes the New Melones power plant and outlet works, Stanislaus River downstream to buoy line, the Visitor Overlook, and area leased to the California Division of Forestry for Baseline Conservation Camp. To protect public health and safety, these areas are closed to public vehicles, hunting, and fishing. **Action TA 3.** Manage access to caves in the Camp Nine, Coyote Creek, and Stanislaus River Canyon Management Areas to comply with federal law and meet health and safety, as well as to minimize adverse impacts on cave organisms, microclimate, and paleontological resources.			
Action TA 4A. The following areas are closed to public vehicles, unless the current Closure Notice is changed (see page E-9): Old Parrotts Ferry Road, Peoria Wildlife Management Area, Melones Recreation Area, French Flat Recreation Area, Bear Creek Recreation Area, as well as the Westside, Bowie Flat, Greenhorn Creek, Carson Hill, Dam and Spillway, and Stanislaus River Canyon Management Areas.	**Action TA 4B.** The same areas would be closed to public vehicles as under Alternative A, unless the current Closure Notice is changed (see page E-9). Possible changes to these closures include opening the Peoria Wildlife Management Area to vehicular access from May 2 through November 30, and reopening Old Parrotts Ferry Road and Melones Recreation Area with updated facilities, if feasible.	**Action TA 4C.** Same as Alternative A.	**Action TA 4D.** The same areas would be closed to public vehicles as under Alternative A, unless the current Closure Notice is changed (see page E-9). A possible change to these closures is reopening Old Parrotts Ferry Road as a lake access point, if feasible.
Action TA 5A. Operate and maintain substandard lake access routes and associated facilities in Glory Hole, Tuttletown, Mark Twain, Camp Nine, Parrotts Ferry, and Stanislaus River Canyon Management Areas. When warranted, restrict access to these limited facilities.	**Action TA 5B.** Operate and maintain lake access routes and associated facilities at Glory Hole and Tuttletown Management Areas. Update and modernize lake access routes and associated facilities in the Mark Twain, Camp Nine, and Parrotts Ferry Management Area to meet requirements for minimum basic facilities, unless a nonfederal cost-sharing partnership or contractual agreement provides for additional improvements.	**Action TA 5C.** Same as Alternative A.	**Action TA 5D.** Same as Alternative B.
Topic: Roads			
Action TA 6. Operate and maintain roads and parking facilities in accordance with appropriate regulations and guidelines on Reclamation property and for access to the New Melones Lake Area. **Action TA 7.** Reclamation will continue to operate and maintain a system of recreation area access roads within the influence of the reservoir, which will be maintained as fluctuating water levels permit. Generally these roads above gross pool in the main lake area will be paved, while roads below gross pool will have a stabilized aggregate surface. **Action TA 8.** Continue to implement and update the project-wide sign management plan.			
Action TA 9A. Operate and maintain existing substandard lake access routes and associated facilities at Camp Nine Management Area. When warranted, restrict access to substandard facilities, per 43 CFR, Part 423, to meet health and safety standards for roads at Camp Nine Management Area.	**Action TA 9B.** Where appropriate, improve Camp Nine Road for safe vehicle ingress and egress from Camp Nine Management Area.	**Action TA 9C.** Same as Alterative B.	**Action TA 9D.** Same as Alterative B.
Action TA 10A. Operate and maintain existing substandard lake access routes and associated facilities at Coyote Creek Management Area. When warranted, restrict access to substandard facilities, per 43 CFR, Part 423, to meet health and safety standards for parking and roads at Coyote Creek Management Area.	**Action TA 10B.** Where appropriate, update and modernize the access road and parking for safe vehicle access and egress onto Parrotts Ferry Road in the Coyote Creek Management Area at Natural Bridges.	**Action TA 10C.** Same as Alterative B.	**Action TA 10D.** Same as Alterative B.

Action TA 11A. Operate and maintain roads to appropriate regulations and guidelines on Reclamation property and for access to the New Melones Lake Area.	**Action TA 11B.** Where appropriate, implement road maintenance agreements on management of Reclamation roads, such as along Glory Hole Road/Whittle Ranch Road. Where feasible, obtain access to landlocked Reclamation property, such as Bowie Flat, Skunk Gulch, Grapevine Gulch, and Melones Recreation Area. Where no road exists, construct a road that meets Reclamation standards and is suitable for management of the area.	**Action TA 11C.** Where appropriate, implement road maintenance agreements for management of Reclamation roads, such as along Glory Hole Road/Whittle Ranch Road.	**Action TA 11D.** Where appropriate, implement road maintenance agreements for management of Reclamation roads, such as along Glory Hole Road/Whittle Ranch Road. Where feasible, obtain easements or purchase fee titles to access landlocked Reclamation property, such as Bowie Flat, Skunk Gulch, Grapevine Gulch, and Melones Recreation Area. Where no road exists, construct a road that meets Reclamation standards and is suitable for management of the area.
Topic: Aircraft			
Action TA 12A. Continue to implement the existing New Melones seaplane policy and comply with 43 CFR, Part 423, which includes restrictions on commercial operation of seaplanes and designates appropriate landing zones and operations (see Figure 3-1).	**Action TA 12B.** Same as Alternative A.	**Action TA 12C.** Restrict access to New Melones Lake for seaplane activities.	**Action TA 12D.** Same as Alterative A.
Action TA 13A. Monitor aircraft for compliance with appropriate regulations, such as 43 CFR, Part 423, and report airplane -related problems on New Melones Lake to the Federal Aviation Administration, as needed. Reclamation reports aircraft that are too near infrastructure and when there are near misses between seaplanes and boats.	**Action TA 13B.** Prepare and implement a strategy to address adverse overflight activities. The strategy may include a range of actions, from increased education and communication with aviators, county airport personnel, and the Federal Aviation Administration (FAA), to requesting that the FAA restrict airspace over New Melones Lake Area to protect public safety and critical infrastructure. Exclusions would apply to fire fighting, emergency, and military air operations.	**Action TA 13C.** Increase and enforce designated no-fly zones near critical infrastructure for all aircraft except fire fighting, emergency, and military air operations.	**Action TA 13D.** Same as Alterative B.
Topic: Westside and Bowie Flat Management Areas			
Action TA 14A. Continue to manage the lands in the Westside and Bowie Flat Management Areas for project purposes. The Master Plan land use allocation was Recreation Low Density and Lands Excess to the Project Needs; this area was not included in any designated recreation area. The WROS designation is Rural Natural, and the facilities within this area include several fire roads. Public access to this area is via boat from New Melones Lake.	**Action TA 14B.** Develop an access road to the Westside through an appropriate route to an appropriate destination for the development and management of recreation facilities by a managing partner or contractor, if feasible, and in keeping with Reclamation's mission.	**Action TA 14C.** Allow access to the Westside for beneficial dispersed recreation via hiking or boat.	**Action TA 14D.** Allow access to the Westside for beneficial dispersed recreation by way of hiking, biking, and horseback riding via connecting trails in the Greenhorn Creek Management Area or by boat. Should vehicle access be needed for recreation use or other project purposes, transportation routes may be considered.
Action TA 15A. Continue to assess how lands contained within the New Melones Lake Area are being effectively utilized for project purposes.	**Action TA 15B.** If lands no longer serve project purposes, update management of those lands such as disposal of those lands or transfer of those lands.	**Action TA 15C.** Same as Alternative A.	**Action TA 15D.** Same as Alternative A.
Action TA 16A. Operate and maintain the existing fire road and trail system in Glory Hole, Greenhorn Creek, and Westside Management Areas.	**Action TA 16B.** Optimize the connectivity between the existing fire road and trail system for a variety of uses, such as mountain biking, equestrian use (outside of existing Rural Developed Management Areas), and hikers in Glory Hole, Greenhorn Creek, and Westside Management Areas. Develop new trailheads to access the Greenhorn Creek and Westside areas.	**Action TA 16C.** Optimize the connectivity between the existing fire road and trail system for use by hikers in Glory Hole, Greenhorn Creek, and Westside Management Areas.	**Action TA 16D.** Same as Alternative B.

Action TA 17A. Continue to manage the land at Bowie Flat Management Area for project purposes, with an emphasis on conservation.	**Action TA 17B.** Increase the use of the Bowie Flat Management Area to allow for multiuse trails (hiking, biking, equestrian) and a trailhead staging area and permit dry camping if suitable vehicle access is available. Possible special use activities could also be considered for this area should vehicles be allowed.	**Action TA 17C.** Use the Bowie Flat Management Area of recreation trails for hiking and equestrian use. Permit dry camping without additional vehicle access.	**Action TA 17D.** Same as Alternative B.
PUBLIC HEALTH AND SAFETY **Goal 1: Comply with applicable regulations to protect public health and safety.** **Goal 2: Comply with applicable health and safety requirements for Reclamation staff and representatives.** **Goal 3: Maintain a safe and healthy environment for employees and the public.**			
Action PHS 1. Provide staff levels and funding levels commensurate with recreation visitation in order to maintain the level and quality of services expected by the visitors to New Melones.			
Action PHS 2. Project specific safety plans are formulated by Reclamation or its agent for individual operations and maintenance projects. These plans would help staff recognize and address safety issues. In these plans, project personnel will identify precautionary measures to prevent accidents from common recurring hazards or unsafe conditions.			
Action PHS 3. Continue using park rangers to help prevent some unacceptable public behavior and increase visitor awareness through ranger interaction with the public. By patrolling New Melones, rangers can identify and report unacceptable behavior, be a visible presence on the land and water, and educate the public on a case-by-case basis on policies, rules, and regulations that apply at New Melones Lake**.**			
Action PHS 4. In support of primary emergency services, rangers provide first response for medical, hazardous materials, search and rescue, and other emergencies at New Melones Lake.			
Action PHS 5. Continue to develop appropriate educational opportunities on water, boating safety, and general boating etiquette. In addition, educate boaters on a case-by-case basis by monitoring boating activities and seeking voluntary compliance with federal and state laws and regulations. Establish a partnership with the Coast Guard Auxiliary to help with boater education.			
Action PHS 6. Where necessary, ensure adequate closure of unsafe or potentially hazardous areas (e.g., caves, old mine shafts, exposed steep areas, and high fire hazards areas) in compliance with closure procedures in 43 CFR, Part 423.			
Action PHS 7. Continue to mark the tops of intermittent islands, large rock outcroppings, or other aquatic hazards with warning buoys as per the New Melones Lake Waterway Hazard Marking Plan.			
Action PHS 8. Continue to coordinate response to health and safety issues with local, state, federal entities. Continue communications with representatives from Reclamation, BLM, USFWS, CDFG, Calaveras and Tuolumne Counties, and others to share information and work cooperatively on public safety issues. This includes improving communication capability in remote areas such as Camp Nine Management Area.			
Action PHS 9. Encourage Tuolumne and Calaveras Counties, CDFG, and BLM to monitor ongoing and reclaimed mining operations for compliance with permitting criteria.			
Action PHS 10A. Unless expressly prohibited, hunting is allowed on Reclamation lands or waters, except within 150 yards (135 meters) of any designated recreation area, facility, campground, day use area, boat ramp, parking area, neighboring residence, or within 150 yards (135 meters) of Camp Nine's two power plants (see Figure 3-7).	**Action PHS 10B.** Unless expressly prohibited, shotgun-only hunting is allowed on Reclamation lands or waters, except within 150 yards (135 meters) of any designated recreation area, facility, campground, day use area, boat ramp, parking area, neighboring residence, or within 150 yards (135 meters) of Camp Nine's two power plants (see Figure 3-7).	**Action PHS 10C.** To protect health and promote safety, develop and implement a long-term strategy for managing hunting as visitation and urban development increase. This policy may include restrictions to meet management goals, such as compliance with California Fish and Game code, as well as other applicable regulations, such as EO 13443 (see Figure 3-7).	**Action PHS 10D.** To protect health and promote safety, develop and implement a long-term strategy for managing shotgun-only hunting as visitation and urban development increase. This policy may include restrictions to meet management goals, such as compliance with California Fish and Game code, as well as other applicable regulations, such as EO 13443 (see Figures 3-6 and 3-8).
Action PHS 11A. Inform visitors of fire activity in the area, including suppression and prescribed burns, through personal contact, announcements, signs, and news articles.	**Action PHS 11B.** Continue to implement a project-wide Fire Management Plan and Integrated Pest Management Plan (Appendix D). These plans include procedures for notifying the public and local, state, and federal agencies of fire activity in the area, including suppression and prescribed burns.	**Action PHS 11C.** Same as Alternative B.	**Action PHS 11D.** Same as Alternative B.
Topic: Law Enforcement			
Action PHS 12. Address illegal activities in all management areas through continued law enforcement presence, management controls such as gates and visiting hours, signs, and education.			
Action PHS 13. Continue to implement a long-term strategy for effective law enforcement at New Melones Lake by cooperating with local, state, and federal agencies.			
Action PHS 14. Continue working relationships and oversee contracts with Tuolumne and Calaveras Counties to provide law enforcement services. Work to increase law enforcement presence through patrols, public affairs, and other feasible means.			
Action PHS 15. Develop a strong partnership with CDFG to increase communication, leading to more effective enforcement of the appropriate regulations under the Clean Water Act and the Fish and Game Code of California. Encourage CDFG to enforce laws and regulations related to gold dredging.			

Action PHS 16A. Continue the existing working relationships and contracts with Tuolumne and Calaveras Counties to provide law enforcement services, which are based on patrols and dispatch from the respective county sheriff station.	**Action PHS 16B.** As part of the working relationships with Tuolumne and Calaveras Counties, explore the feasibility of siting a sheriff substation with lake access to each county, which would decrease the response time for a sheriff to respond to disturbances in the New Melones Lake Area.	**Action PHS 16C.** Same as Alternative A.	**Action PHS 16D.** Same as Alternative B.
INVASIVE SPECIES CONTROL **Goal: Prevent and control invasive species infestations using integrated pest management techniques.**			
Action ISC 1A. Continue to use BMPs and SOPs to reduce fire danger and respond to wildland fire.	**Action ISC 1B.** Implement a project-wide Fire Management Plan targeting late spring or early summer burning to control or eliminate invasive plants such as yellow star-thistle (Appendix D).	**Action ISC 1C.** Implement a project-wide Fire Management Plan targeting late spring or early summer burning to control or eliminate invasive plants such as yellow star-thistle (Appendix D). Rehabilitate all burn areas to prevent infestation of invasive plant species.	**Action ISC 1D.** Implement a project-wide Fire Management Plan targeting late spring or early summer burning to control or eliminate invasive plants such as yellow star-thistle (Appendix D). Work with CAL FIRE and federal agencies to coordinate rehabilitation efforts on moderate to large fire areas to prevent invasive plant infestation.
Action ISC 2A. Use integrated pest management strategies that determine the acceptable level of pest populations rather than attempting to eradicate populations; apply pesticides only when necessary, considering alternative measures first or as a means of complementing pesticide application.	**Action ISC 2B.** Coordinate and share information on invasive species with the appropriate federal, state, and local agencies. Currently the Agricultural Departments of Calaveras and Tuolumne Counties track new types of pests and the severity of infestation within their respective counties.	**Action ISC 2C.** Evaluate all pest problems and previous pest control measures. Research newer practices and other measures available for effective invasive species control.	**Action ISC 2D.** When pesticide application is necessary for invasive species control, targeted chemicals will be used when available, such as Transline for thistle control. Work with Tuolumne and Calaveras Counties to monitor for invasive species infestations by trapping and other means.
Action ISC 3A. Continue to implement an Integrated Pest Management Plan that describes appropriate techniques for invasive species control (i.e., quagga/zebra mussels, yellow star thistle, New Zealand mud snail). These techniques include pesticide and herbicide application, grazing, fire, mechanical techniques, and biological control.	**Action ISC 3B.** Same as Alterative A.	**Action ISC 3C.** Continue to implement a portion of an Integrated Pest Management Plan that describes appropriate techniques for invasive species control (i.e., quagga/zebra mussels, yellow star thistle New Zealand mud snail). These techniques include grazing, fire, mechanical techniques, target-specific herbicides, and biological control.	**Action ISC 3D.** Same as Alterative A.
Action ISC 4A. All grazing leases within New Melones lands are now expired and have not been renewed. Continuance of grazing could be allowed with the development of approved grazing plans.	**Action ISC 4B.** On completing approved grazing plans, allow grazing in all areas permitable for this type of use except high-density recreation areas. Implement industry standard BMPs to protect water quality. This grazing could be used to control invasive species, to reduce the fire hazard, to increase the abundance of desired plant populations, and to generate revenue.	**Action ISC 4C.** On completing approved grazing plans, allow grazing in all areas permitable for this type of use except high density recreation areas. Implement industry standard BMPs to protect water quality. This grazing could be used to control invasive species, to reduce the fire hazard, and to increase the abundance of desired plant populations.	**Action ISC 4D.** On completing approved grazing plans, allow grazing in all areas permitable for this type of use except high density recreation areas. Implement industry standard BMPs to protect water quality. This grazing could be used to control invasive species, to reduce the fire hazard, and to increase the abundance of desired plant populations. Investigate and implement, if feasible, seasonal grazing of recreation areas to reduce grass growth for controlling invasive plant species and reducing fire hazards.
FIRE MANAGEMENT **Goal 1: Comply with applicable fire protection regulations (state and local) and fulfill the requirements of the National Fire Plan for Reclamation.** **Goal 2: Suppress fires that threaten life, property, and public safety to achieve 100% protection of adjacent communities and resource/social values at risk from unwanted wildfire.**			
Action FM 1A. Continue to implement project-wide BMPs to reduce fire danger and respond to wildland fire. The fire management measures currently implemented are as follows: **1.** Maintain defensible space and implement BMPs to ensure public health and safety.	**Action FM 1B.** Implement the project-wide Fire Management Plan (Appendix D). The additional measures for implementation include the following: **1.** Provide for immediate and effective fire response. **2.** Post signs and gate main entry points to	**Action FM 1C.** Implement the project-wide Fire Management Plan (Appendix D). The additional measures for implementation include the following: **1.** Fire suppression strategies will be tailored to address areas of significant constraints, including critical habitat for wildlife, threatened and endangered species, areas	**Action FM 1D.** Implement the project-wide Fire Management Plan (Appendix D). The additional measures for implementation include the following: **1.** Use natural or manufactured barriers, such as roads, streams, ponds, and wetlands, to minimize the need for fire

2. Project lands are within a USFS and CAL FIRE mutual aid zone, with CAL FIRE having responsibility for fire control. Fire prevention and suppression activities will be supervised and coordinated by CAL FIRE through the unit chief stationed at the Tuolumne/Calaveras Unit in San Andreas. **3.** Maintain interagency agreements for fire prevention and suppression. **4.** Minimize the bulldozing of fire lines in high erosion areas. If unavoidable, construct on contour or stabilize with water bars to control erosion. **5.** Design fuel breaks and firebreaks to minimize impacts on aesthetic, scenic, and ecological resources, and to consider resource objectives for vegetation management, wildlife habitat management, soil stabilization public safety, ignition sources, and safety of firefighters. **6.** Limit open campfires to designated overnight campgrounds and within provided fire rings and pedestal grills. **7.** Maintain adequate grass and brush clearance next to roads and in recreation areas consistent with the Integrated Pest Management Plan and special status plant requirements. **8.** Ensure that CAL FIRE-Tuolumne-Calaveras Ranger Unit has updated fire suppression information, including boundary maps and fire management units.	Reclamation lands. Signs will give the current fire danger warning status or the reason for site closure, if necessary, under extreme fire danger conditions. **3.** Fuel hazard reduction activities will be designed and implemented to maintain adequate grass and brush clearance directly adjacent to high use roads and in Reclamation recreation areas during the fire season, consistent with the Vegetation Management Plan for New Melones Lake objectives and special status plant requirements. **4.** Design fuel breaks and firebreaks to minimize impacts on aesthetic, scenic, cultural, and ecological resources and to consider resource objectives for vegetation management, wildlife habitat management, soil stabilization public safety, ignition sources, and safety of firefighters. **5.** Burned Area Stabilization and Emergency Response Plan will be followed and includes • Considering nonpoint sources of pollution resulting from wildfire suppression and rehabilitation, while recognizing safety and operational priorities of fighting wildfires; • Consulting with staff archaeologist, botanist, wildlife biologist, and other staff specialists to evaluate fire and suppression operations effects and to determine if additional restoration is necessary; and • Rehabilitate burned areas with native plant species or other methods or activities necessary to stabilize soils and prevent unacceptable degradation of natural and cultural resources. **6.** Meet resource, watershed, wetlands, wildlife, fisheries, cultural, and vegetation/fuels management goals and objectives through the appropriate use of fire and nonfire fuel treatments. Implement appropriate decisions, as identified in the final draft New Melones Fire Management Plan. **7.** In prescriptions for burns, fire lines should be constructed on contour or stabilized with water bars or other appropriate techniques to control erosion, protect water quality, and prevent rolling fire brands. Prevent runoff from directly entering water bodies.	of soil instability, areas of other critical resource constraints (cultural), and where plant communities are at risk due to current conditions/times of year or other ecological constraints. **2.** To the extent practical, sensitive sites will be protected from damage by heavy mechanized equipment. **3.** Design fuel breaks and firebreaks in a manner that minimizes impacts on aesthetic, scenic, cultural, and ecological resources and consider resource objectives for vegetation management, wildlife habitat management, soil stabilization public safety, ignition sources, and safety of firefighters. **4.** Retain clumps of unmodified vegetation within fuel breaks to provide cover and food for wildlife. **5.** Follow the Burned Area Stabilization and Emergency Response Plan including: • Considering nonpoint sources of pollution resulting from wildfire suppression and rehabilitation, while recognizing safety and operational priorities of fighting wildfires; • Consulting with staff archaeologist, botanist, wildlife biologist, and other staff specialists to evaluate fire and suppression operations effects and to determine if additional restoration is necessary; and • Rehabilitating burned areas with native plant species or other methods or activities necessary to stabilize soils and prevent unacceptable degradation of natural and cultural resources. **6.** Use low-severity prescribed burns to establish fire breaks within wetland/riparian buffer zones. **7.** Carefully plan burning to consider weather and fuel conditions that will help achieve the desired results, while minimizing water quality impacts. **8.** Create fuel breaks with blended or feathered edges through selective thinning and by cutting indentations in brush to create bays. **9.** Perform low-severity burning to create wildlife passage through heavy fuels. **10.** Retain mature oaks for their wildlife benefits	line construction. **2.** In coordination with CAL FIRE, implement site closure procedures during periods of extreme fire danger according to the state fire warning system. **3.** Post signs and gate main entry points to Reclamation lands. Signs will give the current fire danger warning status or the reason for site closure, if necessary, under extreme fire danger conditions. **4.** Design fuel breaks and firebreaks to minimize impacts on aesthetic, scenic, cultural, and ecological resources and to consider resource objectives for vegetation management, wildlife habitat management, soil stabilization, public safety, ignition sources, and safety of firefighters. **5.** Follow the Burned Area Stabilization and Emergency Response Plan, including: • Considering nonpoint sources of pollution resulting from wildfire suppression and rehabilitation, while recognizing safety and operational priorities of fighting wildfires; • Consulting with staff archaeologist, botanist, wildlife biologist, and other staff specialists to evaluate fire and suppression operations effects and to determine if additional restoration is necessary; and • Rehabilitate burned areas with native plant species or other methods or activities necessary to stabilize soils and prevent unacceptable degradation of natural and cultural resources. **6.** Meet resource, watershed, wetlands, wildlife, fisheries, cultural, and vegetation/fuels management goals and objectives through the appropriate use of fire and nonfire fuel treatments. Implement appropriate decisions, as identified in the final draft New Melones Fire Management Plan. **7.** Retain mature oaks for their wildlife benefits and scenic qualities during fire management activities. **8.** Use CAL FIRE, Baseline Conservation Camp crews and staff from other federal

		and scenic qualities during fire management activities. **11.** Partner with CAL FIRE, federal agencies, and local Fire Safe Councils to complete fuel breaks to aid in protecting both the cultural and natural resources, along with the wildlife habitat.	agencies on prescribed burns to improve firefighting skills, while increasing knowledge of the New Melones Project's terrain and unique weather patterns. **9.** Improve Shell Road for use as a fire road and fuel break. **10.** Construct a fuel break along the Westside from Peoria to Angels Creek to aid in protecting project lands from fire threat.

CULTURAL RESOURCES

Goal 1: Comply with all applicable cultural resources laws including the National Historic Preservation Act (NHPA) and implementing regulations at 36 CFR, Part 800, the Archaeological Resources Protection Act (ARPA), and the Native American Graves Protection and Repatriation Act (NAGPRA).

Goal 2: Manage activities for the long-term preservation of cultural resources and, whenever feasible, design activities to avoid impacts to cultural resources eligible for inclusion in the National Register of Historic Places (NRHP).

Goal 3: Complete the process of nominating the New Melones Archaeological District to the NRHP.

Action CR 1. Reclamation will manage cultural resources in the New Melones Lake Area in accordance with Reclamation Policy and Directives and Standards for Cultural Resources Management and Museum Property Management, the Inadvertent Discovery of Human Remains on Reclamation Lands, Department of the Interior Departmental Manual 411, the NHPA, the Archaeological Resources Protection Act (ARPA), the Native American Graves Protection and Repatriation Act (NAGPRA), 36 CFR, Part 800, 36 CFR, Part 60, 36 CFR, Part 79, and 43 CFR, Part 10.

Action CR 2. In all Rural Natural Management Areas, continue to minimize impacts on cultural resources by maintaining dispersed visitor use.

Action CR 3. Whenever possible, protect historic properties by avoidance through Reclamation's planning process.

Action CR 4. Complete electronic data base and GIS mapping of known cultural resources.

Action CR 5. Promote protection of cultural resources through visitor education and public outreach.

Action CR 6. Provide protective signs, educational printed handouts, interpretative programs, and ranger interface with the public to explain the values of cultural resources.

Action CR 7. Protect cultural resources through the use of protective fencing, coverings, and exclusion, as applicable.

Action CR 8. Protect cultural resources through ranger patrol.

Action CR 9. For site-specific projects, consider the effects on historic properties through implementation of the Section 106 process of the NHPA.

Action CR 10. Excavation of cultural resources will be permitted in accordance with the ARPA and the American Antiquities Act. Intentional removal of human remains under NAGPRA will require an ARPA permit.

Action CR 11. Permitting for cultural resources survey and excavation will be processed by Reclamation's Regional Office.

Action CR 12. When compatible with resource protection, interpret selected cultural resources for the education and enjoyment of the general public; give priority to sites within public use areas in proximity to special cultural features; and give special attention to public use areas being degraded through natural or human impacts.

Action CR 13. Produce scientifically accurate and culturally sensitive cultural resources displays and brochures.

Action CR 14. Continue to operate the visitor center and maintain cultural resources interpretive displays.

Action CR 15. Minimize publicity and access to sensitive cave locations; avoid constructing trails to caves and install gates where necessary for conservation purposes.

Action CR 16. Require permits and review for all research projects within and around cave resources.

Action CR 17. For all actions at New Melones Lake, if buried cultural resources, such as chipped or ground stone, historic debris, building foundations, or bone are discovered during ground-disturbing activities, all work in that area and within 100 feet (30 meters) of the find would be stopped immediately until a Reclamation archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment and avoidance measures in consultation with the State Historic Preservation Officer.

Action CR 18. Complete Section 106 before initiating any ground-disturbing actions under the Peoria Wildlife Mitigation Area Plan. No construction related to the Peoria Wildlife Mitigation Area Plan can be implemented until a Section 106 consultation is completed.

Action CR 19. In areas of known archaeological resources, protect sensitive cultural resources by using Minimum Impact Suppression Tactics and by coordinating with a cultural resource advisor during fire suppression activities. Such activities must be coordinated with Reclamation cultural resources staff.

Action CR 20. In emergency circumstances, where heavy equipment was employed without prior on-site coordination, Reclamation will conduct post-fire archaeological evaluations to assess and document equipment damage to cultural resources. Damage assessments and possible mitigation work may be required.			
Action CR 21A. In the Peoria Wildlife Management Area, continue operation of the noncompliant New Melones Archaeological Storage Facility near Baseline Conservation Camp. This facility does not meet modern standards for an archaeological collections storage facility.	**Action CR 21B.** Move the New Melones Archaeological Storage Facility to a site outside of the wildlife mitigation area in the Peoria Wildlife Management Area and construct a new building that meets modern standards for an archaeological collections storage facility. Operate and maintain this modern facility and the collections stored there in accordance with regulatory requirements.	**Action CR 21C.** Same as Alternative B.	**Action CR 21D.** Same as Alternative B.
SOCIOECONOMIC AND ENVIRONMENTAL JUSTICE **Goal: While meeting Reclamations obligations and goals, provide opportunities that will result in economic benefits to the community.**			
Action SE 1. Coordinate with local agencies to promote tourism within the region.			
Action SE 2. Comply with EO 12898 by identifying and addressing any disproportionately high and adverse human health and environmental effects on low-income and minority populations.			
INDIAN TRUST ASSETS (ITAs) **Goal: Continue to ensure that management actions will not negatively affect any tribal trust resources or assets by consulting with recognized tribal governments.**			
Action ITA 1. Early in the planning process, consultation should be initiated with appropriate Indian Tribes/Nations and the Bureau of Indian Affairs (BIA) concerning potential ITAs. The initial contact with the Indian Tribes/Nations in the immediate area should be government-to-government in a face-to-face meeting, if possible. Coordination should also occur with Reclamation's Native American Affairs Office and the BIA to identify other Indian tribes/nations outside the immediate area that may be interested or affected.			
GENERAL RECREATION **Goal 1: Provide for diverse recreation within Reclamation's authorities, to afford a safe and quality recreation experience consistent with natural and cultural resource management objectives.** **Goal 2: Achieve fair value for recreation.** **Goal 3: Ensure that concessions are planned, developed and managed to meet public needs, are compatible with the natural and cultural resources and provide a variety of services which are consistent with authorized project purposes.**			
Action R 1. Develop a long-term strategy that maintains and, wherever appropriate, optimizes the diversity of recreation and level of service found at New Melones Lake. **Action R 2.** Meet visitor demand for specific recreation opportunities within the constraints of the existing infrastructure and while complying with existing applicable regulations, policies, laws, and funding. **Action R 3.** Continue to update recreation management, where it supports Reclamation's mission, to accommodate trends in demographics and recreation interests of the potential visitor to New Melones Lake. **Action R 4.** Recreation activities would be sufficiently varied to accommodate the diversity of potential visitors to New Melones Lake. Activities target different age groups, a range of ability levels, and a mix of cultures. **Action R 5.** When special events support Reclamation's mission, events such as fishing tournaments, triathlons, water-ski exhibitions, equestrian trail trials, special hunts, or cross-country sporting events, may be allowed by permit. **Action R 6.** Long-term and seasonal concessionaire agreements with private enterprises would be explored and, where appropriate, supported to achieve needed recreational support services, programs, and facilities and to disseminate Reclamation information.			
Action R 7A. Minimize conflicts and promote safety between recreational activities and users, by monitoring and seeking compliance with existing reservoir management regulations.	**Action R 7B.** Same as Alternative A.	**Action R 7C.** Minimize conflicts and promote safety between recreational activities and users by monitoring and seeking collaboration for compliance with management regulations and expanded environmental constraints.	**Action R 7D.** Same as Alternative C.
Topic: Coordination			
Action R 8. Implement, in coordination with the BLM, a strategy to prevent illegal activities and public trespass in addition to a proper stock handling program at the French Flat Management Area. **Action R 9.** Continue to educate agencies and landowners on the negative impacts that certain land use activities that may affect the visual quality of the study area. **Action R 10.** Continue to support and expand boating law enforcement services from Tuolumne and Calaveras counties.			

Topic: Commercial Services / Concessions			
Action R 11. All concession contracts will be written in accordance with all applicable policies and regulations; administration of the concessions contract will be the responsibility of New Melones Recreation Resource Branch. **Action R 12.** Continue to implement the regulations and Reclamation policies related to concessions and commercial services, such as 43 CFR, Part 429 (Cost Recovery) and Reclamation Manual Direction. Educate the public in the need to acquire a permit from Reclamation for commercial services on Reclamation lands. **Action R 13.** Implement concessionaire agreements or commercial service permits with private enterprises to achieve needed recreational support services, programs, and facilities. Potential concessions or commercial services may include, but are not limited to, watercraft rentals, dry boat storage, equestrian day rides, an additional marina, food trucks, and firewood sales.			
Action R 14. Continue the existing concessionaire agreement at New Melones Lake through its expiration in 2012. Plan for future concession services through a commercial services plan and financial feasibility study. Potential concessions must be self supporting and compatible with Reclamation goals and objectives and must provide services desired by the public. The plan would analyze the existing marina concession and explore feasibility of additional services or contracts.			
Action R 15A. Continue to operate the existing marina concession in its present location, with a seasonal reduction in services.	**Action R 15B.** In addition to Alternative A, construct a wave attenuator in the current marina location to minimize storm damage.	**Action R 15C.** Relocate the marina within Glory Hole Management Area, but with a smaller footprint or seasonal operation to minimize storm damage.	**Action R 15D.** Relocate the marina within Glory Hole Management Area, with separate areas for private moorage and public rentals and services. Construct an appropriate wave attenuator for the marina or allow for seasonal operation to minimize storm damage.
Action R 16A. No similar action.	**Action R 16B.** Construct additional full service marina(s) in appropriate locations in Rural Developed Management Areas, such as Tuttletown. Provide additional marina services at Glory Hole, which could include day rentals of non-motorized boats, wave runners, runabouts, patio boats, and small houseboats that can be trailered and launched.	**Action R 16C.** Provide seasonally-operated additional marina services in appropriate locations in Rural Developed Management Areas, such as Tuttletown and Glory Hole. Additional services could include day rentals of non-motorized boats.	**Action R 16D.** Provide seasonally-operated additional marina services in appropriate locations in Rural Developed Management Areas, such as Tuttletown and Glory Hole. Additional services could include day rentals of non-motorized boats, wave runners, runabouts, patio boats, and small houseboats that can be trailered and launched.
Action R 17A. No similar action.	**Action R 17B.** Construct additional marina(s) in appropriate locations in Rural Natural Management Areas, such as French Flat, Bear Creek, Parrotts Ferry, or Greenhorn Creek. The additional marina(s) would be operated under a Managing Partner Agreement and/or Concession Agreement.	**Action R 17C.** No similar action.	**Action R 17D.** Provide seasonally-operated additional marina services in appropriate locations in Rural Natural Management Areas, such as Parrotts Ferry, Greenhorn Creek, or Camp Nine. Additional services could include day rentals of non-motorized boats.
Action R 18A. No similar action.	**Action R 18B.** Provide additional marina amenities in appropriate areas, such as dry storage, dry stacking, transient slips, restaurant or food service, boat repair yard and/or boat repair services.	**Action R 18C.** No similar action.	**Action R 18D.** Same as Alternative B.
Action R 19A. Continue to operate and maintain the Angels Creek swim beach at lake elevations above 1,050 feet msl.	**Action R 19B.** In addition to Alternative A, construct protected floating swim dock facilities.	**Action R 19C.** Same as Alternative A.	**Action R 19D.** Same as Alternative B.
Action R 20A. No similar action.	**Action R 20B.** Construct floating overnight lodging facilities, such as “Dockominiums,” “Flotels,” or floating campsites with yurts and restrooms.	**Action R 20C.** No similar action.	**Action R 20D.** Construct floating campsites with yurts and restrooms.
Action R 21A. No similar action.	**Action R 21B.** Provide seasonal scenic cruises, such as sunset dinner cruises, which include interpretation of area history, and natural and cultural resources.	**Action R 21C.** Provide seasonal scenic cruises and lake tours to view physical and environmental features and provide education on conservation and appropriate uses.	**Action R 21D.** Provide seasonal scenic cruises and lake tours that include interpretation of area history, natural and cultural resources, and provide education on conservation and appropriate uses.

Action R 22A. Continue to provide a marina-based store facility in Glory Hole for retail sales of recreation-related products.	**Action R 22B.** In addition to Alternative A, provide a "Camp Store" to sell ice, beverages, film, firewood, and other related products in Tuttletown and Glory Hole.	**Action R 22C.** Same as Alternative A.	**Action R 22D.** Same as Alternative B.
Action R 23A. Continue to provide a marina-based store facility in Glory Hole for retail sales of recreation-related equipment.	**Action R 23B.** Issue permits to a limited number of commercial businesses for rental operations for equipment such as bicycles, non-motorized boats, camping gear, and pre-delivered RVs.	**Action R 23C.** Same as Alternative A.	**Action R 23D.** Same as Alternative B.
Action R 24A. No similar action.	**Action R 24B.** Construct a new full hook-up RV park within Tuttletown and/or Glory Hole Management Areas.	**Action R 24C.** No similar action.	**Action R 24D.** Same as Alternative B.
Action R 25A. No similar action.	**Action R 25B.** Construct overnight lodging facilities, such as yurts, park models, and cabins within Tuttletown and/or Glory Hole Management Areas.	**Action R 25C.** Construct eco-friendly "green" lodging facilities such as yurts within the existing footprint of development in Tuttletown and/or Glory Hole Management Areas.	**Action R 25D.** Same as Alternative B.
Action R 26A. No similar action.	**Action R 26B.** Construct a cafe, restaurant, or walk-up grill facility within Tuttletown and/or Glory Hole Management Areas.	**Action R 26C.** No similar action.	**Action R 26D.** Same as Alternative B.
Action R 27A. Continue to issue Special Event permits when and where appropriate, per 43 CFR, Parts 429 and 423.	**Action R 27B.** Construct new facilities within Tuttletown and/or Glory Hole Management Areas for staging large events such as Boy Scout camperees, concerts, and dramatic presentations.	**Action R 27C.** Same as Alternative A.	**Action R 27D.** In addition to Alternative A, update and modify the existing amphitheater in Glory Hole and construct an amphitheater in Tuttletown, to hold mission-related interpretive and other events under Reclamation management.
Action R 28A. No similar action.	**Action R 28B.** Enter into a managing partner or concession agreement, to construct facilities and operate a mountain bike course or park in Tuttletown or Glory Hole Management Areas.	**Action R 28C.** No similar action.	**Action R 28D.** Same as Alternative B.
Action R 29A. In all Reclamation management areas, continue to operate and maintain Reclamation facilities and provide services with a combination of Reclamation staff, service contracts, concession agreements, and MOU or MOA with other entities for maximum flexibility and resource protection.	**Action R 29B.** If feasible, assign operation and management of all developed recreation areas, facilities, and public services to a non-federal managing partner, federal partner, or concessioner(s). Reclamation will retain direct management responsibility for all Rural Natural Management Areas, project operational areas, and administrative areas.	**Action R 29C.** Same as Alternative A, except, in all decisions regarding commercial services, emphasize conservation of natural and cultural resources over and above additional development of facilities or services for the generation of profit for a managing entity.	**Action R 29D.** Same as Alternative A.
Action R 30A. Continue to issue Special Event permits when and where appropriate, per 42 CFR, Parts 429 and 423.	**Action R 30B.** Issue permits to a limited number of commercial businesses to operate mission-compatible "adventure" outfitter guide services in Rural Natural Management Areas.	**Action R 30C.** Same as Alternative B, except emphasize non-consumptive, low-impact "ecotourism" activities, such as interpretive tours for wildlife viewing, caves and geology, and/or living history/cultural resources education.	**Action R 30D.** Same as Alternative B.
Action R 31A. Do not permit a seaplane school at New Melones Lake, per 43 CFR, Part 423.	**Action R 31B.** Issue permits to a limited number of commercial businesses to operate mission-compatible seaplane training.	**Action R 31C.** Same as Alternative A.	**Action R 31D.** Same as Alternative A.

Action R 32A. Continue to issue Special Event permits when and where appropriate, per 42 CFR, Parts 429 and 423.	**Action R 32B.** Issue permits to a limited number of commercial businesses, or enter into a managing partner or concession agreement, to construct facilities and operate an equestrian trail riding business in a Rural Natural Management Area. Locations to be considered may include Peoria Wildlife Management Area, Westside, Bowie Flat, Greenhorn Creek, French Flat, and Bear Creek Management Areas.	**Action R 32C.** Same as Alternative B, except emphasize minimum facilities for day use staging only, featuring horseback tours focusing on interpretive subjects and education, such as natural and cultural history and resource conservation.	**Action R 32D.** Same as Alternative B.
Action R 33A. Continue to issue Special Event permits when and where appropriate, per 42 CFR, Parts 429 and 423.	**Action R 33B.** Issue permits to a limited number of commercial businesses, or enter into a managing partner or concession agreement, to construct facilities and operate venues for outdoor adventure schools, environmental education outings, ecotourism, and/or volunteer vacations for the public. Locations to be considered include Peoria Wildlife Management Area, Westside, Bowie Flat, Greenhorn Creek, Stanislaus River Canyon, Camp Nine, French Flat, and Bear Creek Management Areas.	**Action R 33C.** Same as Alternative B, except emphasize minimum facilities for day use only.	**Action R 33D.** Same as Alternative B.
Action R 34A. Do not allow primitive camping in Rural Natural Management Areas per 43 CFR, Part 423.	**Action R 34B.** Construct and maintain primitive camping facilities in a Rural Natural Management Area at trailhead staging areas or other areas for overnight backpacking, equestrian, guided services, or other commercial activities. Locations to be considered may include Peoria Wildlife Management Area, Westside, Bowie Flat, Greenhorn Creek, Stanislaus River Canyon, Camp Nine, French Flat, and Bear Creek Management Areas.	**Action R 34C.** Same as Alternative A.	**Action R 34D.** Same as Alternative B.
Action R 35A. Do not allow RV camping in Rural Natural Management Areas per 43 CFR, Part 423.	**Action R 35B.** Construct and maintain a full-service RV campground in a Rural Natural Management Area with hook-ups at trailhead staging areas or other areas or overnight use associated with authorized dispersed recreation activities. Locations to be considered may include Peoria Wildlife Management Area, Westside, Bowie Flat, Greenhorn Creek, Stanislaus River Canyon, Camp Nine, French Flat, and Bear Creek Management Areas.	**Action R 35C.** Same as Alternative A.	**Action R 35D.** Same as Alternative A.
Action R 36A. Do not allow OHV use per 43 CFR, Part 423.	**Action R 36B.** Enter into a managing partner or concession agreement, to construct facilities and operate an OHV park in a Rural Natural Management Area. Locations to be considered may include Peoria Wildlife Management Area, Westside, Bowie Flat, Greenhorn Creek, French Flat, and Bear Creek Management Areas.	**Action R 36C.** Same as Alternative A.	**Action R 36D.** Same as Alternative A.
Action R 37A. No similar action.	**Action R 37B.** Enter into a managing partner or concession agreement, to construct facilities and operate a mountain bike course or park in a Rural Natural or Semi Primitive Management Area. Locations to be considered may include Peoria Wildlife Management Area, Westside, Bowie Flat, Greenhorn Creek, French Flat, and Bear Creek Management Areas.	**Action R 37C.** Do not allow construction of a mountain bike course in Rural Natural or Semi Primitive Management Areas.	**Action R 37D.** Same as Alternative C.

Action R 38A. Continue to operate and maintain the existing water-ski club course located within the South Bay/Bear Creek Management Area.	**Action R 38B.** Develop additional water sports courses, such as a jet ski course or high speed boat racing in appropriate areas of the lake.	**Action R 38C.** Same as Alternative A.	**Action R 38D.** Same as Alternative A.
Action R 39A. Do not allow skeet or target shooting per 43 CFR, Part 423.	**Action R 39B.** Enter into a managing partner or concession agreement, to construct facilities and operate a skeet or target shooting range.	**Action R 39C.** Same as Alternative A.	**Action R 39D.** Same as Alternative A.
Action R 40A. Continue to operate and maintain the existing radio controlled flying facility in the Peoria Wildlife Management Area, Peoria Flat subarea.	**Action R 40B.** Develop additional radio-controlled flying facilities in locations such as Westside, Bowie Flat, Greenhorn Creek, French Flat, or Bear Creek Management Areas.	**Action R 40C.** Same as Alternative A.	**Action R 40D.** Same as Alternative A.
Topic: Facilities and Maintenance Program			
Action R 41. Provide a recreation maintenance program that includes such components as potable water, sanitation, refuse management, landscape maintenance, building and facility repairs, waterway and hazard marking, and pest control. **Action R 42.** Restrict all public vehicles to designated roads, except as authorized under permit. **Action R 43.** Roads, trails, and access easements would be designed to follow the natural topography, minimizing steep slopes and the number of stream crossings. **Action R 44.** Land and water-based toilets would be provided and maintained to minimize exposure to unsanitary conditions for visitors. **Action R 45.** Appropriate storage, transfer, containment, and disposal facilities would be provided and maintained for liquids, such as oil, solvents, antifreeze, and paints, at Reclamation and lessee facilities. Recycling of these materials would be encouraged.			
Action R 46A. Operate and maintain facilities in Rural Natural Management Areas.	**Action R 46B.** In addition to operating and maintaining facilities in all Rural Natural Management Areas, assess the need and feasibility of future additional development to meet recreation demand in Rural Natural Management Areas.	**Action R 46C.** In addition to operating and maintaining facilities in Rural Natural Management Areas, minimize development of future recreational facilities in Rural Natural Management Areas, such as Bear Creek, Parrotts Ferry, Westside, Bowie Flat, French Flat, Natural Bridges, Camp Nine, and Greenhorn Creek.	**Action R 46D.** In addition to operating and maintaining facilities in Rural Natural Management Areas, assess the need and feasibility of appropriate additional development, in keeping with Rural Natural attributes, to meet recreation demand in the following areas: French Flat, Bear Creek, Parrotts Ferry, Westside, Natural Bridges, Westside, Bowie Flat, Mark Twain, Camp Nine, and Greenhorn Creek.
Action R 47A. Operate and maintain facilities in Rural Developed Management Areas.	**Action R 47B.** In addition to operating and maintaining facilities in all Rural Developed Management Areas, assess the need and feasibility of constructing additional facilities in one or more Rural Natural Management Areas, such as Westside, French Flat, Parrotts Ferry, Greenhorn Creek, Bowie Flat, and Mark Twain, changing their WROS designation from Rural Natural to Rural Developed.	**Action R 47C.** Minimize development of future recreational facilities in Rural Developed Management Areas.	**Action R 47D.** In addition to operating and maintaining facilities in all Rural Developed Management Areas, assess feasibility of future development. Any additional facilities would be concentrated in areas of existing development, such as Tuttletown and the Glory Hole Management Area.
Topic: Recreation Use Fees			
Action R 48. In the designated fee areas, continue to implement a user fee program and expand to areas if appropriate to achieve management goals.			
Action R 49A. Evaluate visitor satisfaction with the operation and management of New Melones Lake through anecdotal information.	**Action R 49B.** Evaluate quality and variety of recreation through formal customer surveys, as well as other forms of public involvement. Evaluate visitor satisfaction with value for fee paid through formal surveys approved by the Office of Management and Budget.	**Action R 49C.** Same as Alternative B.	**Action R 49D.** Same as Alternative B.
Topic: Universal Access			
Action R 50. All new facilities and programs would be designed to incorporate the universal design approach to accessibility. All existing facilities would be retrofitted to provide accessibility per ADA, ADA Accessibility Guidelines for Buildings and Facilities, Architectural Barriers Act of 1968, and mandates in Section 504 of the Rehabilitation Act of 1973. This approach combines the basic principle of barrier-free design with the more comprehensive view, which considers all degrees of sensory awareness, all types of locomotion, and all levels of physical and intellectual function. As required, facilities and programs would meet legally mandated accessibility standards (per the ADA of 1990 and the 1991 ADA accessibility guidelines, Section 504 of the Rehabilitation Act of 1973, as amended in 1978, and the International Building Code [National Fire Protection			

Association 5000 Building and Safety Code]).

Action R 51. An accessibility review would be conducted of all facilities at developed and undeveloped recreation areas not previously surveyed or in response to new requirements.

Action R 52. A site's topography and natural features, the degree of structural modification, and visitors' expectations related to the recreational land use would be considered when determining the applicable levels of accessibility. Efforts would be made to provide accessibility to all visitors within the confines of topography, natural features, and cultural and historical site locations.

Action R 53. Facilities and programs would be modified to comply with ADA requirements, where practical to provide for reasonable accommodations as resources for updating become available.

Topic: Visitor Services and Ranger Program

Action R 54. Continue to implement the RRMA of 1992.

Action R 55. Park Rangers and resource staff implement and manage the recreation, interpretive, natural resource, and visitor services programs.

Action R 56. A phone and Internet-based reservation system (National Recreation Reservation System) is used for campground and group picnic facility reservations.

Action R 57. In support of primary emergency services, provide first response for medical, hazardous materials, search and rescue, and other emergencies at New Melones Lake.

Action R 58. Provide public education on natural resources, cultural resources, public safety, invasive species, and Reclamation's mission.

AQUATIC RECREATION

(fishing, motorized boating, nonmotorized boating, seaplane operation, swimming, wake boarding, water skiing)

Goal 1. Provide a diverse range of water-based recreation opportunities suited to user needs compatible with the existing character of the lake and surrounding lands.

Goal 2. Protect cultural resources, natural resources, and water quality for the future while providing safe and enjoyable recreational experiences.

Action AR 1A. No similar action.	**Action AR 1B.** Use the WROS and the related carrying capacity study as a guide when managing visitor use and recreation (Appendix B). Included in the carrying capacity are estimates of the optimum number of visitors at New Melones Lake and the optimum density of watercraft on New Melones Lake.	**Action AR 1C.** Same at Alternative B.	**Action AR 1D.** Same at Alternative B.

Action AR 2. Develop appropriate educational opportunities on water and boating safety.

Action AR 3. (Also Action R 5) When special events support Reclamation's mission, events such as fishing tournaments, triathlons, water-ski exhibitions, or similar aquatic sporting events may be allowed by permit.

Action AR 4. Prevent the introduction of aquatic invasive pest species through procedures such as prohibiting launching of boats from known source locations, screening for invasive pest species, and education efforts.

Action AR 5A. To address ongoing safety concerns, prohibit specific uses of the water surface by continuing to require the following measures: • No ski zones in the Camp Nine, and Stanislaus River Canyon areas; • No-wake zones 200 feet (60 meters) from the launch and marina; • No boating in designated swimming areas; • No swimming zone within the marina; • No swimming zones within 100 feet (30 meters) of launch ramps or docks; and • No fishing off of docks unless otherwise permitted (see Figure 3-2).	**Action AR 5B.** Implement additional lake zones to promote safety and protect the public. For example, designate additional swimming areas and areas appropriate for nonmotorized boating, houseboats, and seaplanes. Zones may include, but would not be limited to, designated areas of Greenhorn Creek, Glory Hole, Coyote Creek, Parrotts Ferry, Tuttletown, French Flat, Mark Twain, Stanislaus River Canyon, and Camp Nine Management Areas. Additional float docks (to be used for swimming and fishing) and floating campsites could also be constructed under this alternative (See Figure 3-3).	**Action AR 5C.** Implement additional lake zones to promote safety, and protect the public and natural resources. For example, designate additional swimming areas and areas appropriate for nonmotorized boating, houseboats, and seaplanes. Further, designate no-wake zones to prevent shore erosion. Zones may include, but would not be limited to, designated areas of Greenhorn Creek, Westside, Glory Hole, Coyote Creek, Parrotts Ferry, Tuttletown, French Flat, Mark Twain, Stanislaus River Canyon, and Camp Nine Management Areas. (see Figure 3-4).	**Action AR 5D.** Implement additional lake zones to promote safety, and protect the public and natural resources. For example, designate additional swimming areas and areas appropriate for nonmotorized boating, houseboats, and seaplanes. Further, designate no-wake zones to prevent shore erosion. Zones may include, but would not be limited to, designated areas of Greenhorn Creek, Westside, Glory Hole, Coyote Creek, Parrotts Ferry, Tuttletown, French Flat, Mark Twain, Stanislaus River Canyon, and Camp Nine Management Areas (see Figures 3-5 and 3-6).
Action AR 6A. Maintain existing floating vault toilets at various locations on New Melones Lake when lake level and weather conditions permit.	**Action AR 6B.** Install additional floating vault toilets at various locations on New Melones Lake when lake level and weather conditions permit.	**Action AR 6C.** Same at Alternative B.	**Action AR 6D.** Same at Alternative B.

Topic: Fishing			
Action AR 7 (Also Action FW 15). Continue to manage fisheries through an agreement with the CDFG. **Action AR 8 (Also Action PHS 15).** Develop a strong partnership with CDFG to increase communication, leading to more effective enforcement of the appropriate regulations under the Clean Water Act and the Fish and Game Code of California. **Action AR 9 (Also Action FW 16).** Limit disturbance and intensive visitor use along perennial stream corridors and reservoir coves that maintain prime spawning, rearing, and adult residence area fisheries. **Action AR 10 (Also Action FW 17).** Minimize disturbance of habitat in perennial streams that support native fish. **Action AR 11 (Also Action FW 18).** Continue to enhance fish habitat by installing fish attractors, consisting of piles of logs and brush anchored to the ground, to provide cover for fish. **Action AR 12 (Also Action FW 19).** Support efforts by volunteers and partners to rehabilitate and improve fisheries, fish habitat, and aquatic resources. **Action AR 13 (Also Action FW 20).** Prevent entrapment and death of fish within water impoundment facilities. **Action AR 14 (Also Action FW 21).** Except when snags present a safety hazard, continue to leave dead trees in the reservoir to provide fish habitat.			
Action AR 15A (Also see Action AR 5A). Continue to prohibit specific uses of the water to maintain quiet fishing zones around the lake, including no ski zones in the Camp Nine and Stanislaus River Canyon areas and no wake zones 200 feet (60 meters) from the launch and marina, and no boating in designated swimming areas.	**Action AR 15B (Also see Action AR 5B).** Designate additional zoning at Glory Hole, Mark Twain, Tuttletown, Parrotts Ferry, Stanislaus River Canyon, and Camp Nine to encourage fishing, prevent shoreline erosion, and protect public safety.	**Action AR 15C (Also see Action AR 5C).** Same as Alternative B, with the inclusion of no wake zones in Texas Charley Gulch, Vonich Gulch, and the South Fork of the Stanislaus River in the Stanislaus River Canyon area. In addition, designate Camp Nine, Coyote Creek, Greenhorn Creek, and Mormon Creek as environmentally sensitive areas.	**Action AR 15D (Also see Action AR 5D).** Same as Alternative B, with the inclusion of no wakes zones in Texas Charley Gulch, Vonich Gulch, South Fork of the Stanislaus River in the Stanislaus River Canyon area, and Greenhorn Creek. In addition, designate Camp Nine, Coyote Creek, and Mormon Creek as environmentally sensitive areas.
Action AR 16A (Also Action FW 23A). Minimize disturbance of known warm water fish spawning areas, such as Black Bart Cove.	**Action AR 16B (Also Action FW 23B).** Same as Alternative A.	**Action AR 16C (Also Action FW 23C).** Especially during spawning season, restrict and minimize disturbance in known warm water fish spawning areas such as Black Bart Cove.	**Action AR 16D (Also Action FW 23D).** Same as Alternative A.
Action AR 17A (Also Action FW 22A). Restrict and minimize disturbance of known trout spawning areas in Texas Charley Gulch.	**Action AR 17B (Also Action FW 22B).** Same as Alternative A.	**Action AR 17C (Also Action FW 22C).** Especially during spawning season, restrict and minimize disturbance of known trout spawning areas in Coyote Creek Cove, Angels Creek Cove, Carson Creek Cove, and Mormon Creek Cove, as well as areas of the Stanislaus River downstream from the confluence of Rose Creek and the South Fork.	**Action AR 17D (Also Action FW 22D).** Minimize disturbance of known trout spawning areas in Coyote Creek Cove, Angels Creek Cove, Carson Creek Cove, and Mormon Creek Cove as well as areas of the Stanislaus River downstream from the confluence of Rose Creek and the South Fork.
Topic: Boating, Water-Skiing, Wake Boarding, and Rafting			
Action AR 18 (Also Action PHS 7). Continue to mark the tops of intermittent islands, large rock outcroppings, or other aquatic hazards with warning buoys as per the New Melones Lake Waterway Hazard Marking Plan. **Action AR 19.** Provide courtesy docks in the waters surrounding usable boat ramps to facilitate the efficient launch and take-out of boats. **Action AR 20.** Provide flexible support facilities at all functioning (usable) boat ramp locations (e.g., portable toilets, trash receptacles).			
Action AR 21A. A water ski club has a license to construct, operate, and maintain for public use a ski course and dock within Bear Creek Cove. This nonprofit organization is open to the public and conducts periodic public outreach activities.	**Action AR 21B.** Relocate the public ski course and dock to Carson Creek cove (Figure 3-3). The water ski club will continue to operate and maintain the ski course, which is open to the public, and to conduct periodic public outreach activities.	**Action AR 21C.** Do not relocate the public ski course and dock unless a more suitable location is found that would benefit resources, provide for public safety, minimize conflicts, and optimize recreational opportunities in keeping with the planned WROS designation.	**Action AR 21D.** Same as Alternative C.
Action AR 22A. Continue operation and maintenance of New Melones Lake to allow for the current level of watercraft use.	**Action AR 22B.** Allow increased level of watercraft use at New Melones Lake, in accordance with an updated carrying capacity, desired future conditions, and WROS designations for the various management areas.	**Action AR 22C.** Decrease the level of watercraft use at New Melones Lake, in accordance with an updated carrying capacity, desired future conditions, and WROS designations for the various management areas.	**Action AR 22D.** Same as Alternative B.

Action AR 23A. Continue status quo management of houseboat activities and overnight occupancy vessels on New Melones Lake.	**Action AR 23B.** Prepare and implement a moored vessel plan for New Melones Lake, addressing such topics as mooring sites, houseboat size limits, quantities, mooring agreements, term limits, and boat slips (Appendix C).	**Action AR 23C.** Same as Alternative B.	**Action AR 23D.** Same as Alternative B.
Action AR 24A (Also see Action AR 5A). Continue to prohibit specific uses of the water surface to address safety concerns, including no wake zones in the Camp Nine and Stanislaus River Canyon areas and 200 feet (60 meters) from the launch and marina, and no boating in designated swimming areas (see Figure 3-2).	**Action AR 24B (Also see Action AR 5B).** Designate areas as no wake zones. These areas would encourage a diversity of experiences at the lake, prevent shoreline erosion, and protect public safety (see Figure 3-3).	**Action AR 24C (Also see Action AR 5C).** Designate additional areas as no wake zones. These areas would encourage an increased diversity of experiences at the lake, would prevent shoreline erosion, and would protect public safety (see Figure 3-4).	**Action AR 24D (Also see Action AR 5D).** Designate additional areas as no wake zones. These areas would encourage an increased diversity of experiences at the lake, would prevent shoreline erosion, and would protect public safety (see Figures 3-5 and 3-6).
Action AR 25A. Continue to issue Special Event permits when and where appropriate, per 43 CFR, Parts 429 and 423.	**Action AR 25B.** Issue permits to a limited number of commercial businesses to operate mission-compatible white-water rafting services in the Camp Nine Area.	**Action AR 25C.** Concessionaire-operated white-water rafting opportunities would not be considered at New Melones Lake.	**Action AR 25D.** Same as Alternative B.
Topic: Aircraft Operation			
Action AR 26A (also Action TA 12A). Continue to implement the New Melones seaplane policy and comply with 43 CFR, Part 423, which includes restrictions on commercial operation of seaplanes and designates appropriate landing zones and operations (see Figure 3-1).	**Action AR 26B (Also Action TA 12B).** Same as Alternative A.	**Action AR 26C (Also Action TA 12C).** Restrict seaplane access to New Melones Lake.	**Action AR 26D (Also Action TA 12D).** Same as Alternative A.
Action AR 27A (also Action TA 13A). Monitor aircraft for compliance with appropriate regulations, such as 43 CFR, Part 423 and report airplane-related problems on New Melones Lake to the FAA, as needed. Reclamation reports aircraft that are too near infrastructure and when there are near misses between seaplanes and boats.	**Action AR 27B (Also Action TA 13B).** Prepare and implement a strategy to address adverse overflight activities. The strategy may include a range of actions from increased education and communication with aviators, county airport personnel, and the FAA, to requesting that the FAA restrict airspace over New Melones Lake Area to protect public safety and critical infrastructure.	**Action AR 27C (Also Action TA 13C).** Increase and enforce designated no-fly zones near critical infrastructure for all aircraft.	**Action AR 27D (Also Action TA 13D).** Same as Alternative B.
Topic: Swimming			
Action AR 28A. Designated swimming areas are buoyed off and closed to incompatible uses.	**Action AR 28B.** Designate additional water play areas, which would be safe for swimming and close those areas to incompatible uses (see Figure 3-3).	**Action AR 28C.** Maintain existing water play areas and close those areas to incompatible uses.	**Action AR 28D.** Same as Alternative B.
LAND-BASED RECREATION (biking, camping, hiking, horseback riding, wildlife viewing, hunting, picnicking and day use activities, radio-controlled aircraft, rock climbing, spelunking) **Goal 1.** Provide a diverse range of land-based recreation opportunities suited to user needs compatible with the existing character of the project lands. **Goal 2**. Protect cultural and natural resources for the future, while providing safe and enjoyable recreational experiences. **Goal 3.** Provide specific recreation opportunities and adequate flexible and efficient support facilities under varying lake level conditions, without compromising ecological resources and by demonstrating compatibility with the site-specific suitability of land and water environmental conditions. **Goal 4.** Provide a variety of nonmotorized recreational experiences using trails and pathways. **Goal 5.** Provide safe recreational hunting opportunities compatible with the Wildlife Management Plan, while respecting private property rights and management authority over wildlife resources.			
Action LR 1. Continue to provide a diverse range of land-based recreation opportunities suited to user needs, compatible with the existing character of the project lands, and targeting a diversity of visitor interest and capabilities. **Action LR 2.** Land use activities are limited within wetland/riparian buffer zones to prevent significant deterioration of wetland habitats. **Action LR 3.** Promote wildlife viewing and appropriate dispersed recreation, such as hiking, horseback riding, climbing, bicycling, hunting, and fishing throughout New Melones, but especially in the Peoria Wildlife Management Area. **Action LR 4 (Also Action R 5).** When special events support Reclamation's mission, events such as equestrian trail trials, special hunts, or cross-country sporting events, may be allowed by permit.			

<table>
<tr><td colspan="4">Action LR 5. Design recreation area facilities to minimize water contamination and loss of soils due to surface runoff.</td></tr>
<tr><td colspan="4">Topic: Trails and Pathways for Biking, Hiking, and Horseback Riding</td></tr>
<tr><td colspan="4">Action LR 6. Directional signs will continue to be provided at trailheads and trail junctions, and trail markers would be provided as required on longer trails.
Action LR 7. Interpretive markers will continue to be placed at selected sites along designated trails.
Action LR 8. Within intensively used recreation areas, pathways are constructed to concentrate foot traffic in specific areas.
Action LR 9. Pathways lead from the parking lots to picnic areas, restrooms, beaches, and walk-in campsites.
Action LR 10. Pathways and trails follow current Reclamation design standards and industry standard BMPs.
Action LR 11. Roads, trails, and access easements are designed to follow the natural topography, minimizing steep slopes, and to limit the number of stream crossings.
Action LR 12. Reclamation coordinates with the county, local landowners, and other partners in regional trails planning.
Action LR 13. Continue to develop and maintain partnerships to construct and manage the trail systems.
Action LR 14. Develop and maintain trailhead staging areas with minimum basic facilities in strategic locations to provide visitor access to trails, while protecting sensitive natural and cultural resources.
Action LR 15. Continue to prohibit equestrian use of trails within developed portions of existing Rural Developed Management Areas (e.g., Tuttletown). Where equestrians are permitted, allow multiple use by bicycles only if safe to do so.</td></tr>
<tr><td>Action LR 16A. In the Peoria Wildlife Management Area, relocate equestrian staging area and associated minimum basic facilities to a more appropriate location that allows day use and possible overnight use by permit.</td><td>Action LR 16B. In the Peoria Wildlife Management Area, relocate equestrian staging area and associated minimum basic facilities to a more appropriate location that allows day use and possible overnight use by permit. Improve the staging area and existing trails, and develop additional trails by a concession-operated equestrian facility or managing partner.</td><td>Action LR 16C. Continue to operate and maintain the equestrian staging area in the Peoria Wildlife Management Area and impose use limits as necessary to protect sensitive resources. Relocate Baseline Conservation Camp to the existing equestrian area, keeping only limited structures in the original site to reduce the footprint of the facility in the Peoria Wildlife Management Area.</td><td>Action LR 16D. In the Peoria Wildlife Management Area, relocate equestrian staging area and associated minimum basic facilities to a more appropriate location that allows day use and possible overnight use by permit. Improve the staging area and existing trails. Develop additional trails by a concession-operated equestrian facility or managing partner if the purpose is to meet the management goals of better stewardship presence, trail and facility maintenance, and enhancement of public education through interpretive efforts regarding sensitive species conservation in the serpentine plant community. Develop a partnership with CAL FIRE or other entity to manage recreation opportunities in the Peoria Wildlife Management Area.</td></tr>
<tr><td>Action LR 17A. In the development of future trail systems, where appropriate, the use of existing trails and unpaved roads would be promoted.</td><td>Action LR 17B. Same as Alternative A.</td><td>Action LR 17C. No new trails will be developed beyond existing trails and unpaved roads unless for the purpose of protecting sensitive species and habitats.</td><td>Action LR 17D. Same as Alternative A.</td></tr>
<tr><td>Action LR 18A. Operate and maintain trail infrastructure within intensively used recreation areas. Pathways were constructed to concentrate foot traffic in specific areas and reduce trampling of the natural vegetation and provide efficient circulation routes. Pathways lead from the parking lots to picnic areas, beaches, and campsites.</td><td>Action LR 18B. Multiuse trail activities (pedestrian, equestrian, and bicycle) would be encouraged in the development of new trails or the redevelopment of existing trails through consideration of trail design (width, surface, visibility), compatibility, and land use suitability.</td><td>Action LR 18C. Multiuse trail activities (pedestrian, equestrian, and bicycle) would be encouraged in the redevelopment of trails through consideration of trail design (width, surface, visibility), compatibility, and land use suitability.</td><td>Action LR 18D. Same as Alternative B.</td></tr>
<tr><td>Action LR 19A. Pathways would be three feet (one meter) wide, with a stabilized aggregate surface, and would generally follow the natural contours of the land.</td><td>Action LR 19B. Prepare and implement a trails management plan that optimizes connectivity and multiple uses of trails including ADA-compliant trails where appropriate. Consider improvements for safety, sanitation, and better access, such as connection of the lower bridge at Natural Bridges to the rest of the trail system.</td><td>Action LR 19C. Prepare and implement a trails management plan that focuses on resource protection, including ADA-compliant trails, where appropriate.</td><td>Action LR 19D. Same as Alternative B.</td></tr>
</table>

Action LR 20A. Operate and maintain the existing Natural Bridges trail.	**Action LR 20B.** In the Coyote Creek Management Area, update Natural Bridges access trail including trail markers.	**Action LR 20C.** In the Coyote Creek Management Area, update Natural Bridges access trail, including trail markers to correct existing and prevent future resource degradation.	**Action LR 20D.** Same as Alternative C.
Action LR 21A. Operate and maintain the fire road and trail system in Glory Hole, Greenhorn Creek, and Westside Management Areas.	**Action LR 21B.** Optimize the connectivity between the existing fire road and trail system for a variety of uses, such as mountain biking, equestrian use (outside of existing Rural Developed Management Areas), and hikers in Glory Hole, Greenhorn Creek, and Westside Management Areas. Develop new trailheads to access the Greenhorn Creek and Westside areas.	**Action LR 21C.** Optimize the connectivity between the fire road and trail system for use by hikers in Glory Hole, Greenhorn Creek, and Westside Management Areas.	**Action LR 21D.** Same as Alternative B.
Action LR 22A. Operate and maintain the fire road and trail system in Tuttletown, Bear Creek, French Flat, and Peoria Wildlife Management Areas.	**Action LR 22B.** Optimize the connectivity between the existing fire road and trail system for a variety of uses, such as mountain biking, equestrian use (outside of existing Rural Developed Management Areas), and hikers in Tuttletown, Bear Creek, French Flat, and Peoria Wildlife Management Areas. Develop trailheads in these areas.	**Action LR 22C.** Optimize the connectivity between the fire road and trail system for use by hikers in Tuttletown, Bear Creek, French Flat, and Peoria Wildlife Management Areas.	**Action LR 22D.** Same as Alternative B.
Topic: Camping, Picnicking, and other Day Use Activities			
Action LR 23. Continue to operate and manage the campgrounds and day use facilities under the New Melones Lake Policy (Appendix E), and 43 CFR, Part 423. **Action LR 24.** Manage fee collection for campground and day use through the National Recreation Reservation Service.			
Action LR 25A. Continue to update and modernize campground and day-use facilities. Reclamation efforts are concentrated on redeveloping and enhancing facilities in high demand areas, expanding day-use facilities for larger groups, providing permanent restrooms with showers to replace portable facilities, installing additional potable water outlets, and improving potable water and waste treatment facilities.	**Action LR 25B.** Continue to update and modernize campground and day-use facilities. Reclamation efforts are concentrated on creating full hookup campsites, redeveloping and enhancing facilities in high demand areas, expanding day use facilities for larger groups, providing permanent restrooms with showers to replace portable facilities, installing additional potable water outlets, and improving potable water and waste treatment facilities.	**Action LR 25C.** Continue to update and modernize campground and day-use facilities. Reclamation efforts are concentrated on installing vehicle barriers in the campgrounds and day-use areas, redeveloping and enhancing facilities in high demand areas, expanding day-use facilities for larger groups, providing permanent restrooms with showers to replace portable facilities, installing additional potable water outlets, and improving potable water and waste treatment facilities.	**Action LR 25D.** Continue to update and modernize campground and day-use facilities. Reclamation efforts are concentrated on installing vehicle barriers in the campgrounds and day-use areas, creating full hookup campsites, redeveloping and enhancing facilities in high demand areas, expanding day-use facilities for larger groups, providing permanent restrooms with showers to replace portable facilities, installing additional potable water outlets, and improving potable water and waste treatment facilities.
Action LR 26. Campsites and picnic sites for groups, including persons with disabilities, would be located within camping and day-use areas at the larger recreation areas. **Action LR 27.** Continue to operate a volunteer camp host program to provide information to visitors and maintain a Reclamation presence in the campgrounds.			
Action LR 28A. In all Rural Developed Management Areas, update and modernize campground facilities for RVs and tent camping.	**Action LR 28B.** In all Rural Developed Management Areas, update and modernize campground facilities for RVs and tent camping. In particular, at Glory Hole and Tuttletown, consider adding utilities to RV sites or constructing additional full-service RV campgrounds via a concession contract.	**Action LR 28C.** Consider reducing the density of campground facilities at Rural Developed Management Areas. Install vehicle barriers in the campgrounds and day-use areas.	**Action LR 28D.** In all Rural Developed Management Areas, update and modernize campground facilities for RVs and tent camping. In particular, at Glory Hole and Tuttletown, consider adding utilities to RV sites or constructing additional full-service RV campgrounds via a concession contract. Install vehicle barriers in the campgrounds and day-use areas.
Action LR 29A. No similar action.	**Action LR 29B.** If feasible and in conjunction with Caltrans, manage a 66-acre parcel of land near the Peoria Wildlife Management Area. Create a day-use parking area to allow additional access to the Peoria Wildlife Management Area.	**Action LR 29C.** If feasible and in conjunction with Caltrans, manage a 66-acre parcel of land near the Peoria Wildlife Management Area for natural resource restoration projects.	**Action LR 29D.** If feasible and in conjunction with Caltrans, manage a 66-acre parcel of land near the Peoria Wildlife Management Area. Provide a combination of recreation access and resource restoration.

Topic: Hunting			
Action LR 30. Reclamation would manage hunting in accordance with rules and regulations set forth by the CDFG, 43 CFR, Part 423 and other federal laws and regulations. **Action LR 31.** Provide information to visitors on hunting opportunities and restrictions through signs, maps, visitor contact, and other media.			
Action LR 32A. Recreational target shooting is not permitted on Reclamation lands or waters.	**Action LR 32B.** If a target shooting range is constructed, allow target shooting only in designated areas.	**Action LR 32C.** Same as Alternative A.	**Action LR 32D.** Same as Alternative A.
Action LR 33A. Unless expressly prohibited, hunting is allowed on Reclamation lands or waters, except within 150 yards (135 meters) of any designated recreation area, facility, campground, day use area, boat ramp, parking area, neighboring residence, or within 150 yards (135 meters) of Camp Nine's two power plants (see Figure 3-7).	**Action LR 33B.** Unless expressly prohibited, shotgun-only hunting is allowed on Reclamation lands or waters, except within 150 yards (135 meters) of any designated recreation area, facility, campground, day use area, boat ramp, parking area, neighboring residence, or within 150 yards (135 meters) of Camp Nine's two power plants (see Figure 3-7).	**Action LR 33C.** To protect health and safety, develop and implement a long-term strategy for managing hunting as visitation and urban development increase. This policy may include restrictions to meet management goals, such as compliance with California Fish and Game code, as well as other applicable regulations, such as EO 13443 (see Figure 3-7).	**Action LR 33D.** To protect health and safety, develop and implement a long-term strategy for managing shotgun-only hunting as visitation and urban development increase. This policy may include restrictions to meet management goals, such as compliance with California Fish and Game code, as well as other applicable regulations, such as EO 13443 (see Figures 3-6 and 3-8).
Action LR 34A. Educate hunters through passive dissemination of information, such as signs, maps, and other media.	**Action LR 34B.** Enhance hunting opportunities by developing agreements to allow special hunting events, such as youth hunts and special needs hunts.	**Action LR 34C.** Same as Alternative A.	**Action LR 34D.** Same as Alternative B.
Topic: Radio-Controlled Aircraft			
Action LR 35. Reclamation would continue to allow the use of radio-controlled model airplanes in Peoria Flat via existing agreements/license. Use is allowed only in a designated facility that is open to the public and subject to contract terms and conditions.			
Topic: Rock Climbing			
Action LR 36. Continue to allow rock climbing at the visitor's own risk. **Action LR 37 (Also Action SSS 4).** In the Peoria Wildlife Management Area, manage rock climbing use in accordance with federal regulations on natural and cultural resources.			
Action LR 38. During the habitation period, conduct monthly inventories of sensitive bat species such as the mastiff bat on the northwest slope of Table Mountain. Climbing routes in the area are monitored for effects to sensitive species.			
Action LR 39A (Also Action SSS 6A). As described in the Peoria Wildlife Management Plan, if impacts on sensitive species are identified, Reclamation would develop and implement a climbing management plan.	**Action LR 39B (Also Action SSS 6B).** Same as Alternative A.	**Action LR 39C (Also Actions SSS 5C and 16C).** Restrict access to climbing routes near sensitive bat species caves during bat habitation periods. Develop and implement a climbing management plan, which includes designation of climbing routes and areas.	**Action LR 39D (Also Action SSS 6D).** Same as Alternative A.
Topic: Spelunking			
Action LR 40. Continue to allow spelunking at the visitor's own risk. **Action LR 41 (Also Action C 2).** A protection plan for caves with significant resource value or potential hazards will be implemented as needed. **Action LR 42 (Also Action C 3).** To preserve cave resources such as scenic qualities, fragile formations, cultural resources, and/or sensitive species, recreation use is managed to minimize impacts as needed.			
Action LR 43A (Also Action C 4A). Manage access to caves to comply with federal law and meet health and safety requirements.	**Action LR 43B (Also Action C 4B).** Expand access to caves while complying with federal law and meet health and safety requirements.	**Action LR 43C (Also Action C 4C).** Measures to control access to caves will be implemented.	**Action LR 43D (Also Action C 4D).** Same as Alternative A.
INTREPRETIVE SERVICES AND VISITOR INFORMATION **Goal 1.** Enhance the public's understanding of the history, purpose, and operation of the project and its archaeological, historical, human-made, natural, and cultural features. **Goal 2.** Enhance recreation experiences through the Visitor's Center, interpretive services, and volunteer programs. **Goal 3.** Enhance the quality of recreation for all visitors including those with physical, sensory and cognitive impairments. **Goal 4.** Educate the public about Reclamation, water resources, water conservation, and water safety. **Goal 5.** Promote stewardship, achieve management objectives, optimize resources, provide enhanced services, and provide educational opportunities.			

Action IS 1. Interpret the natural, cultural, and recreation resources at New Melones, as well as the importance of water resource management and conservation activities of Reclamation, its water users, and other agencies. **Action IS 2.** Provide public information and education within all aspects of visitor services that support recreational activities. **Action IS 3.** Provide information, education, and quality recreational experiences through interpretive displays, trails, signs, visitor contact, brochures, booklets, programs, presentations, publications, and other media both on and off Reclamation lands. **Action IS 4.** Encourage recreational user groups and neighbors to assist Reclamation with the stewardship and management of project lands.			
Action IS 5A. Provide interpretive services in accordance with the Project Master Plan and current directives.	**Action IS 5B.** Prepare and implement an Interpretive Master Plan.	**Action IS 5C.** Prepare and implement an Interpretive Master Plan. Develop an interpretive program pertaining to the ecological importance of caves. Allow access to certain cave sites during low water periods for this program.	**Action IS 5D.** Same as Alternative B.
Action IS 6A. All concessionaires provide interpretation and public education to visitors such as water safety and boating rules.	**Action IS 6B.** All concessionaires could provide expanded interpretation and public education as appropriate and in conjunction with the Interpretive Master Plan. In addition, develop concessionaire contracts and partnerships specifically to provide interpretive services. These contracts could include a variety of programs ranging from activities based education such as boating safety to natural and cultural resource based education such as the history, prehistory, and ecology of the New Melones Area.	**Action IS 6C.** Same as Alternative B.	**Action IS 6D.** Same as Alternative B.
Action IS 7A. Continue to provide education and interpretation at existing facilities in Tuttletown Management Area and Glory Hole Management Area.	**Action IS 7B.** Update and modernize to ADA standards outdoor facilities for interpretive programs and services in Tuttletown Management Area and Glory Hole Management Area. This may include modification to the Glory Hole amphitheater and development of an amphitheater in the Tuttletown Management Area.	**Action IS 7C.** Update and modernize to ADA standards the outdoor amphitheater in the Glory Hole Management Area for interpretive programs and services.	**Action IS 7D.** Same as Alternative B.
Topic: Visitor Center			
Action IS 8. Operate the visitor center to provide interpretive services and visitor information. Provide accessibility services for all interpretive programs as needed at the visitor center. **Action IS 9.** Provide information through a variety of multimedia tools and programs at the Visitor Center. **Action IS 10.** Provide displays at the visitor center that are interactive and in compliance with ADA mandates.			
Action IS 10A. Operate and maintain the visitor center to modern standards.	**Action IS 10B.** Operate and maintain the visitor center to modern standards. This includes compliance with Reclamation's directives and standards on visitor centers LND 13-01.	**Action IS 10C.** Operate and maintain the visitor center to modern standards and develop an outdoor classroom at the Visitor Center for environmental education. This includes compliance with Reclamation's directives and standards on visitor centers LND 13-01.	**Action IS 10D.** Same as Alternative C.
Action IS 11A. Provide guided interpretive walks in the Mark Twain Management Area along the Norwegian Gulch Trail.	**Action IS 11B.** In the Mark Twain Management Area, develop interpretive features for the Norwegian Gulch Trail starting from park headquarters and the Visitor Center.	**Action IS 11C.** Same as Alternative B.	**Action IS 11D.** Same as Alternative B.

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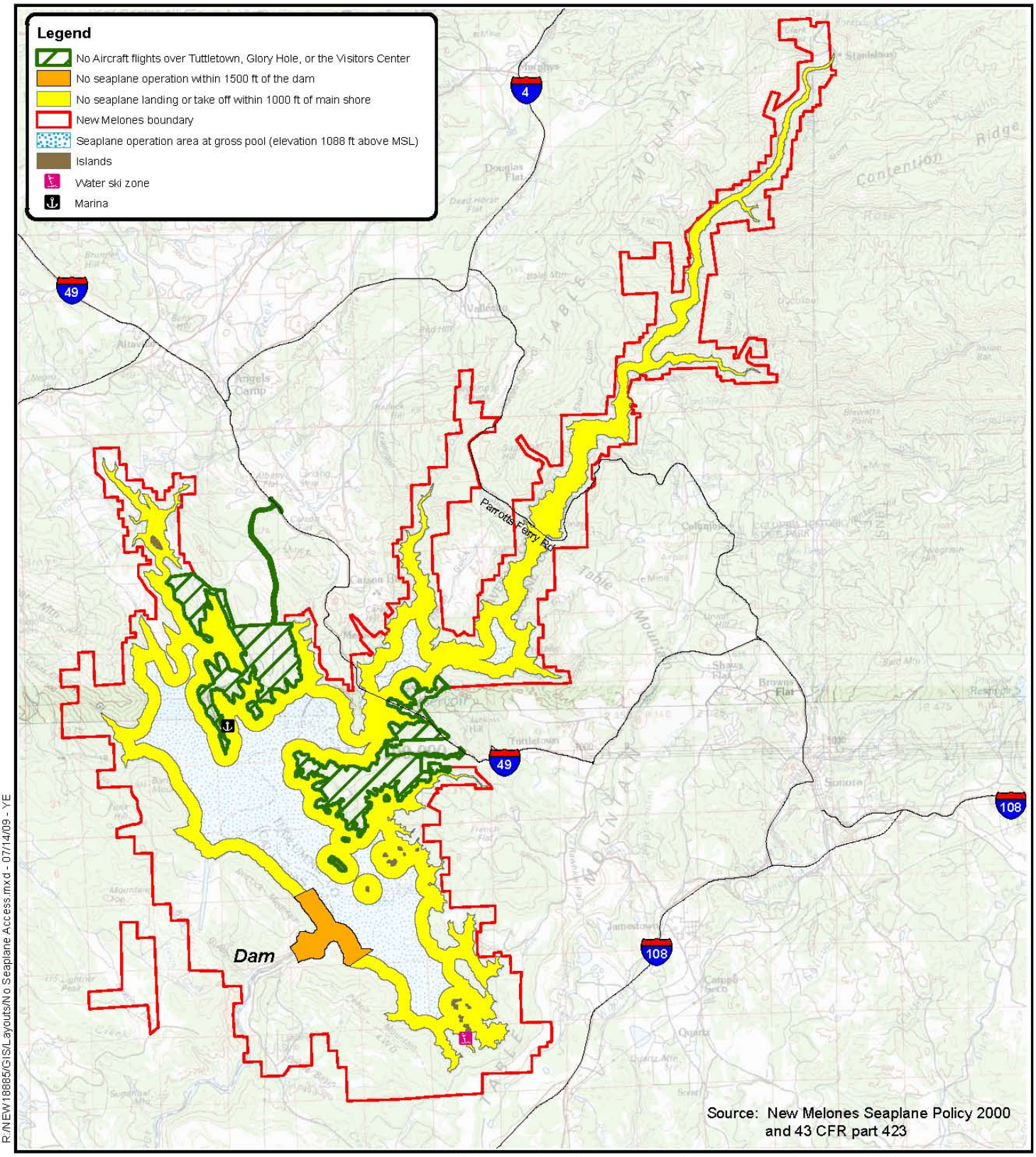

R:/NEW16885/GIS/Layouts/No Seaplane Access.mxd - 07/14/09 - YE

New Melones Current and Proposed Seaplane and Aircraft Operation Policy

New Melones Lake Area, California
Central California Area Office

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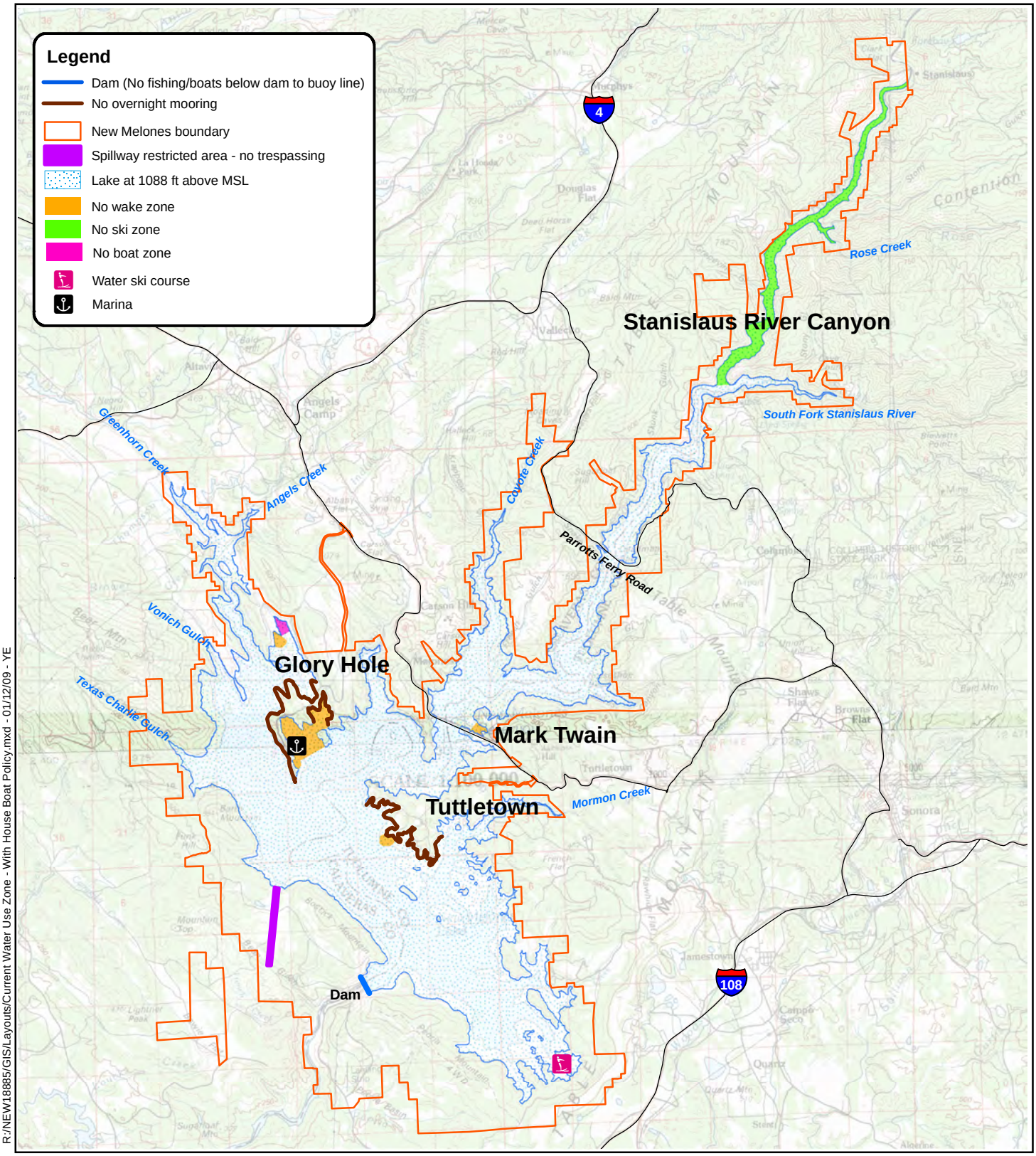
Figure 3-1



R:/NEW18885/GIS/Layouts/Current Water Use Zone - With House Boat Policy.mxd - 01/12/09 - YE

No wake zone - 200 ft around marina, boat launches, and lake access

No ski zone - Areas where it has been determined that, due to the nature of the area, it is too dangerous to tow a person behind a vessel. No waterskiing, tubing, wakeboarding or kneeboarding is permitted.

No boat zone - No boats within designated area

Marina - No swimming within marina area

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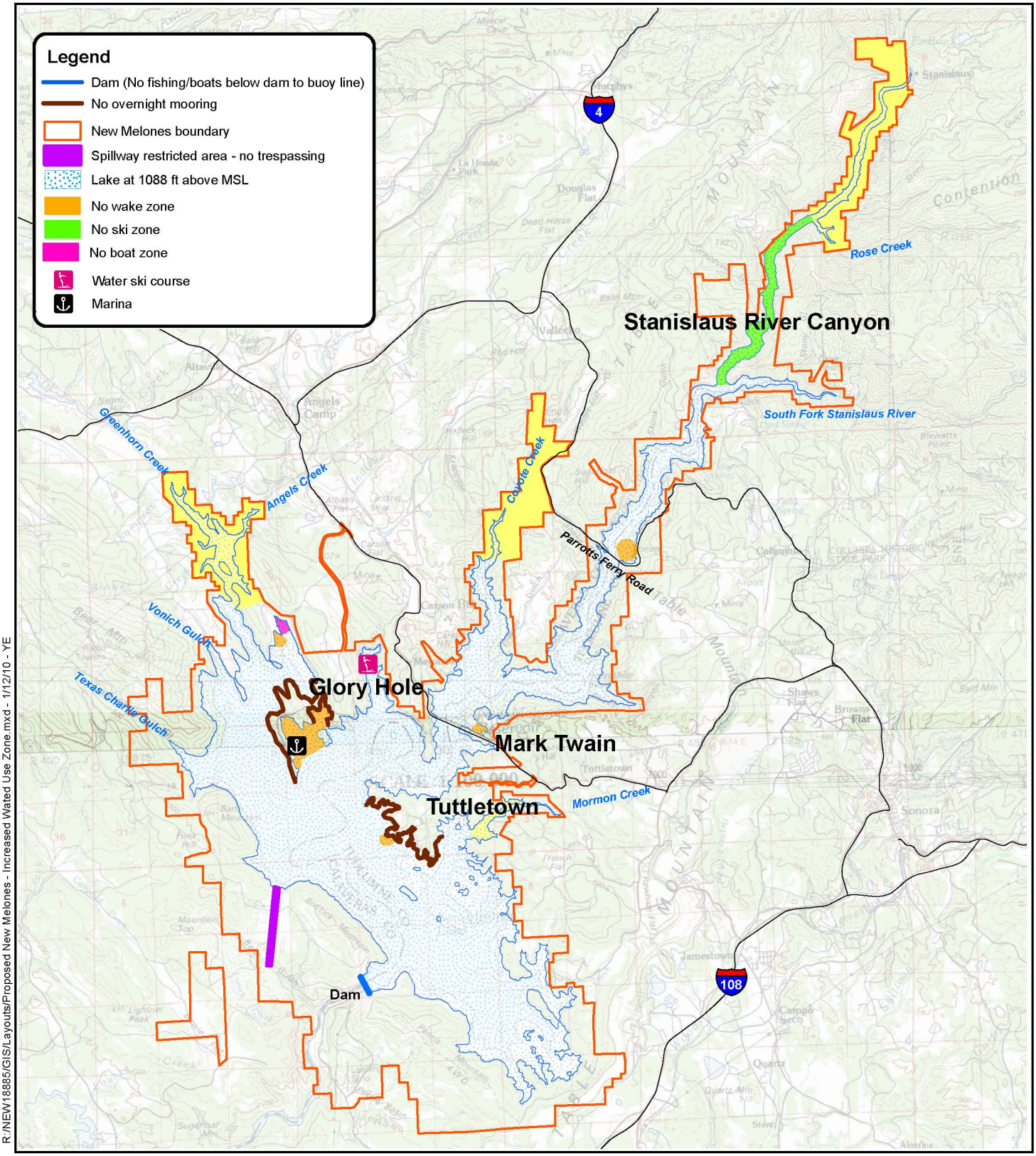
New Melones Water Use Zones
No Action Alternative

New Melones Lake Area, California
Central California Area Office

Figure 3-2



R:/NEW18885/GIS/Layouts/Proposed New Melones - Increased Wated Use Zone.mxd - 1/12/10 - YE

No wake zone - 200 ft around marina, boat launches, and lake access

Environmentally sensitive area - No overnight use, no wake zone, no ski zone, no excessive noise, and no mining

No ski zone - Areas where it has been determined that, due to the nature of the area, it is too dangerous to tow a person behind a vessel. No waterskiing, tubing, wakeboarding or kneeboarding is permitted.

No boat zone - No boats within designated area

Marina - No swimming within marina area

New Melones Water Use Zones Increased Use Alternative

New Melones Lake Area, California
Central California Area Office

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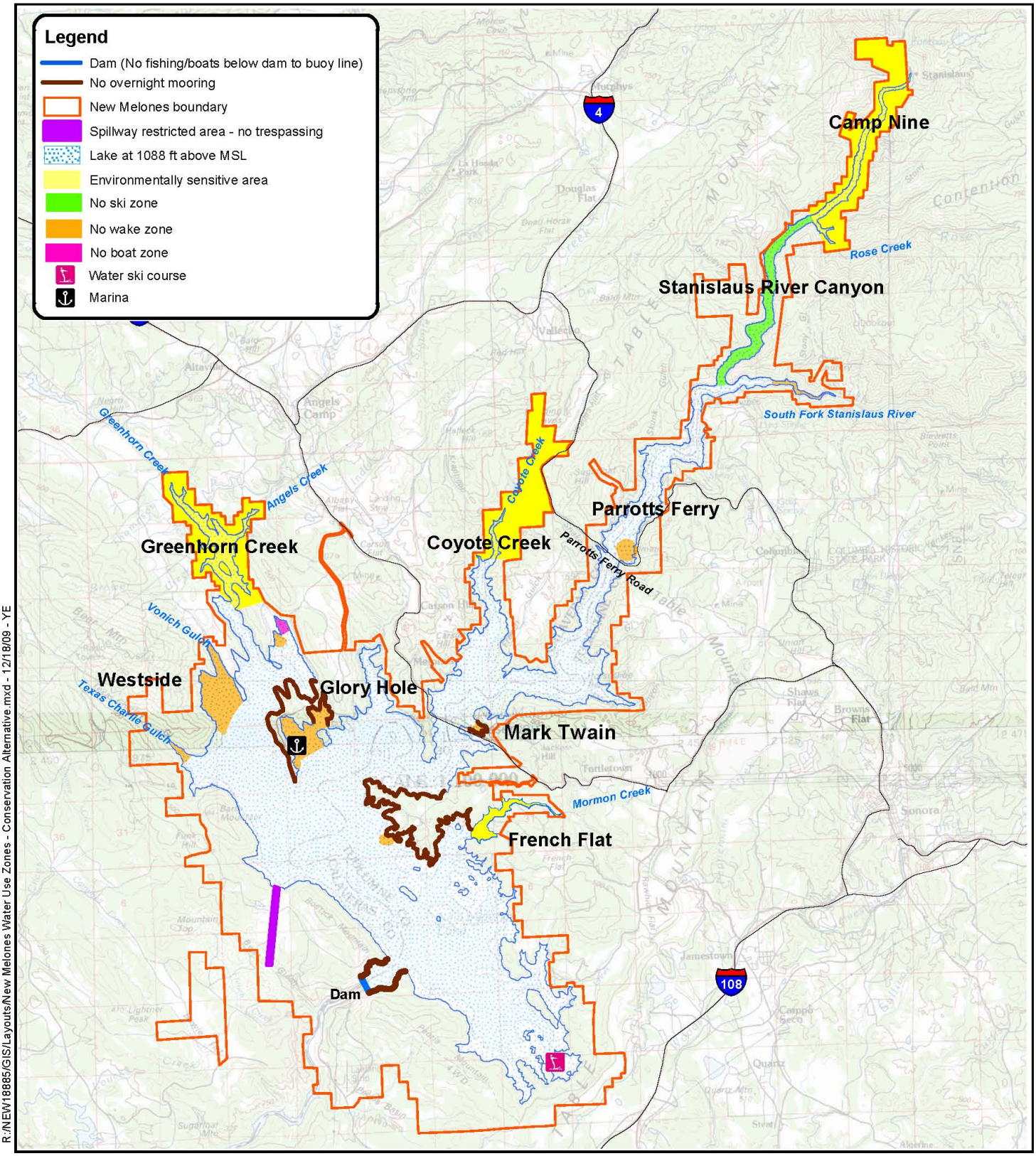
Figure 3-3



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No wake zone - 200 ft around marina, boat launches, and lake access, and other designated areas.

Environmentally sensitive area - No overnight use, no wake zone, no ski zone, no excessive noise, and no mining

No ski zone - Areas where it has been determined that, due to the nature of the area, it is too dangerous to tow a person behind a vessel. No waterskiing, tubing, wakeboarding or kneeboarding is permitted.

No boat zone - No boats within designated area

Marina - No swimming within marina area

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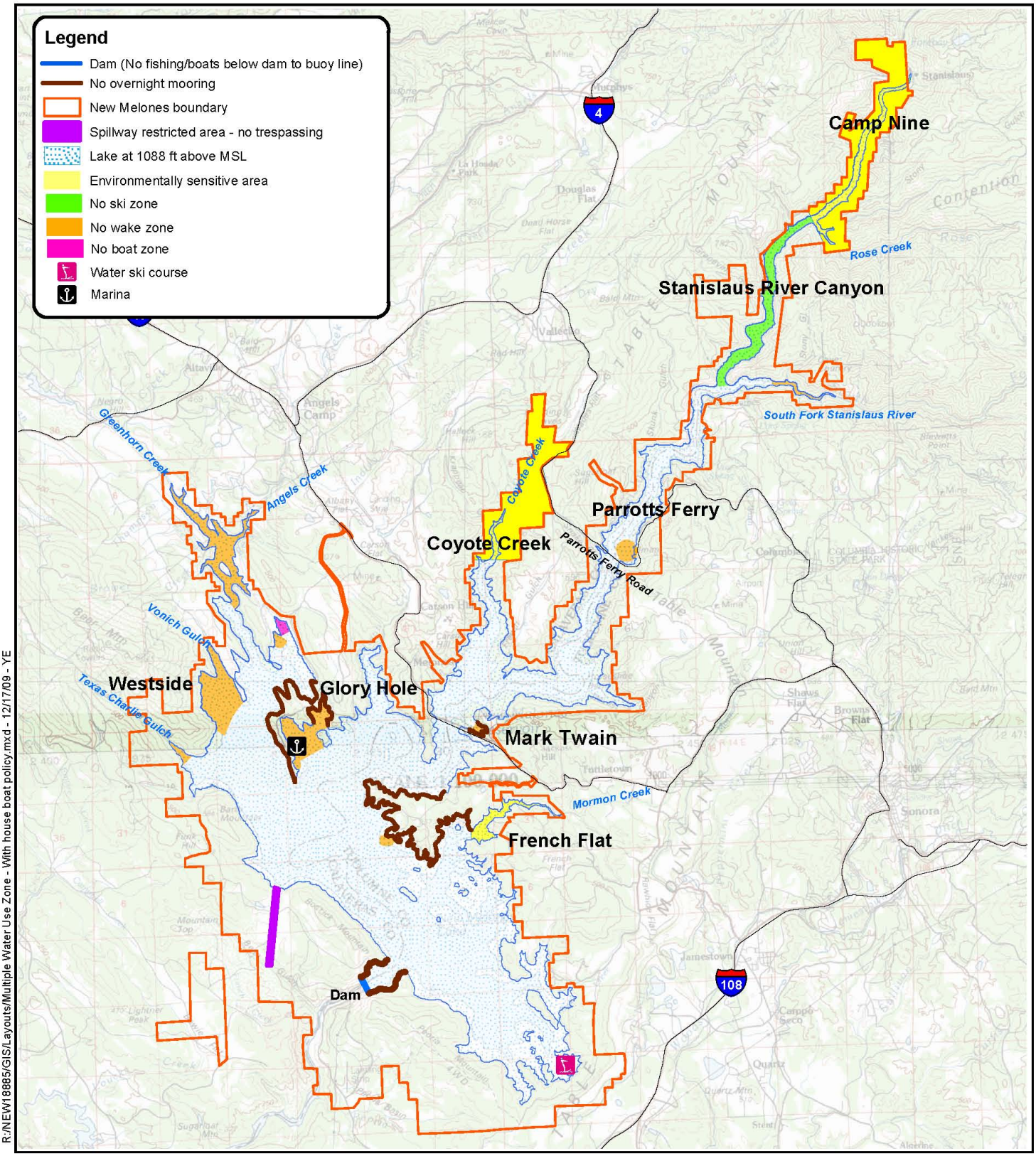
New Melones Water Use Zones Conservation Alternative

New Melones Lake Area, California
Central California Area Office

Figure 3-4



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New Melones Water and Land Use Zones
Multiple Use Alternative

No wake zone - 200 ft around marina, boat launches, and lake access, and other designated areas.

Environmentally sensitive area - No overnight use, no wake zone, no ski zone, no excessive noise, and no mining

No ski zone - Areas where it has been determined that, due to the nature of the area, it is too dangerous to tow a person behind a vessel. No waterskiing, tubing, wakeboarding or kneeboarding is permitted.

No boat zone - No boats within designated area

Marina - No swimming within marina area

New Melones Lake Area, California
Central California Area Office

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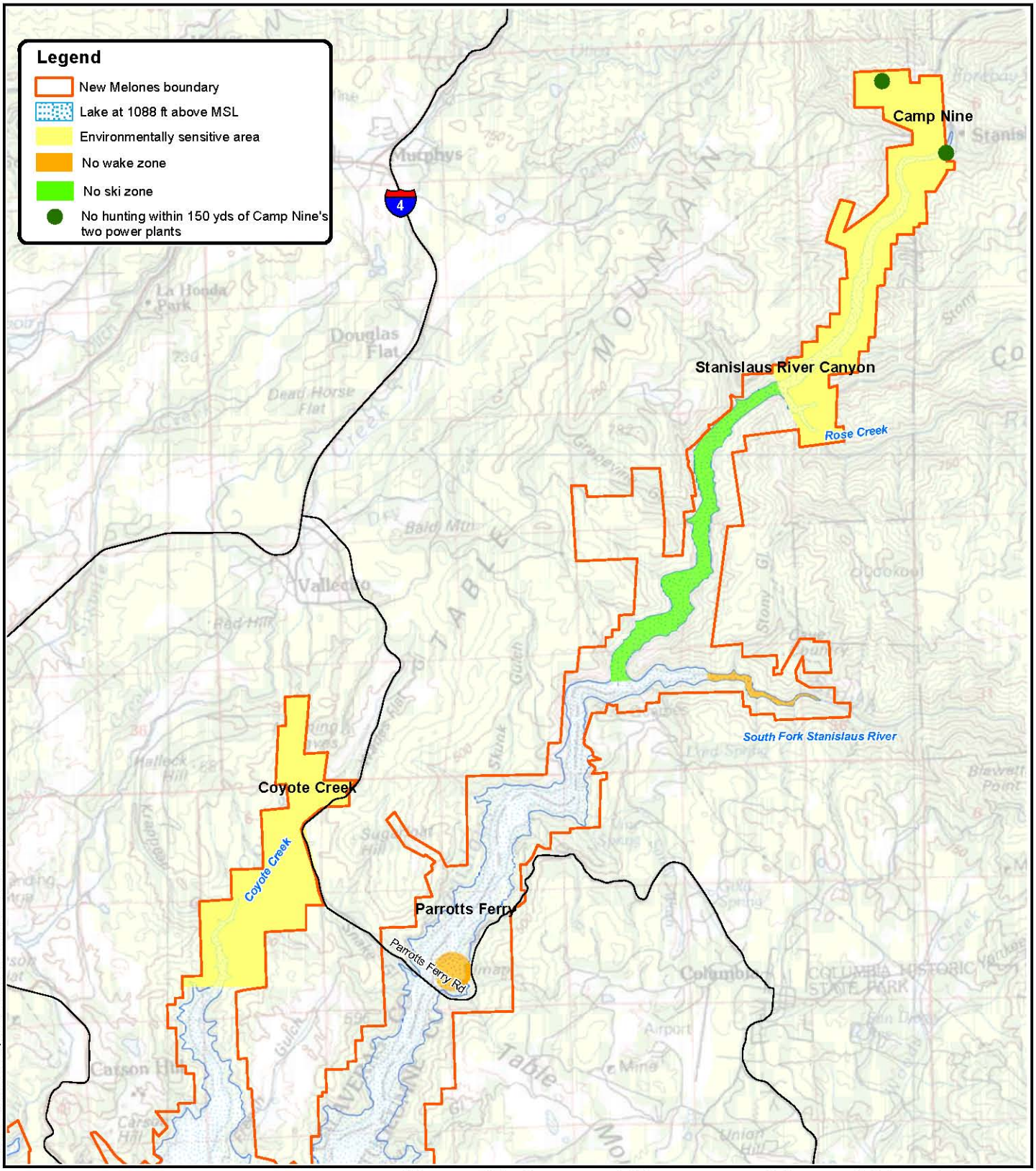
Figure 3-5



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New Melones Water and Land Use Zones
Northeast Zone - Multiple Use Alternative

Northeast Zone - Camp Nine, Stanislaus River Canyon, Parrotts Ferry, and Coyote Creek Management Areas

Environmentally sensitive area - No overnight use, no wake zone, no excessive noise, and no mining

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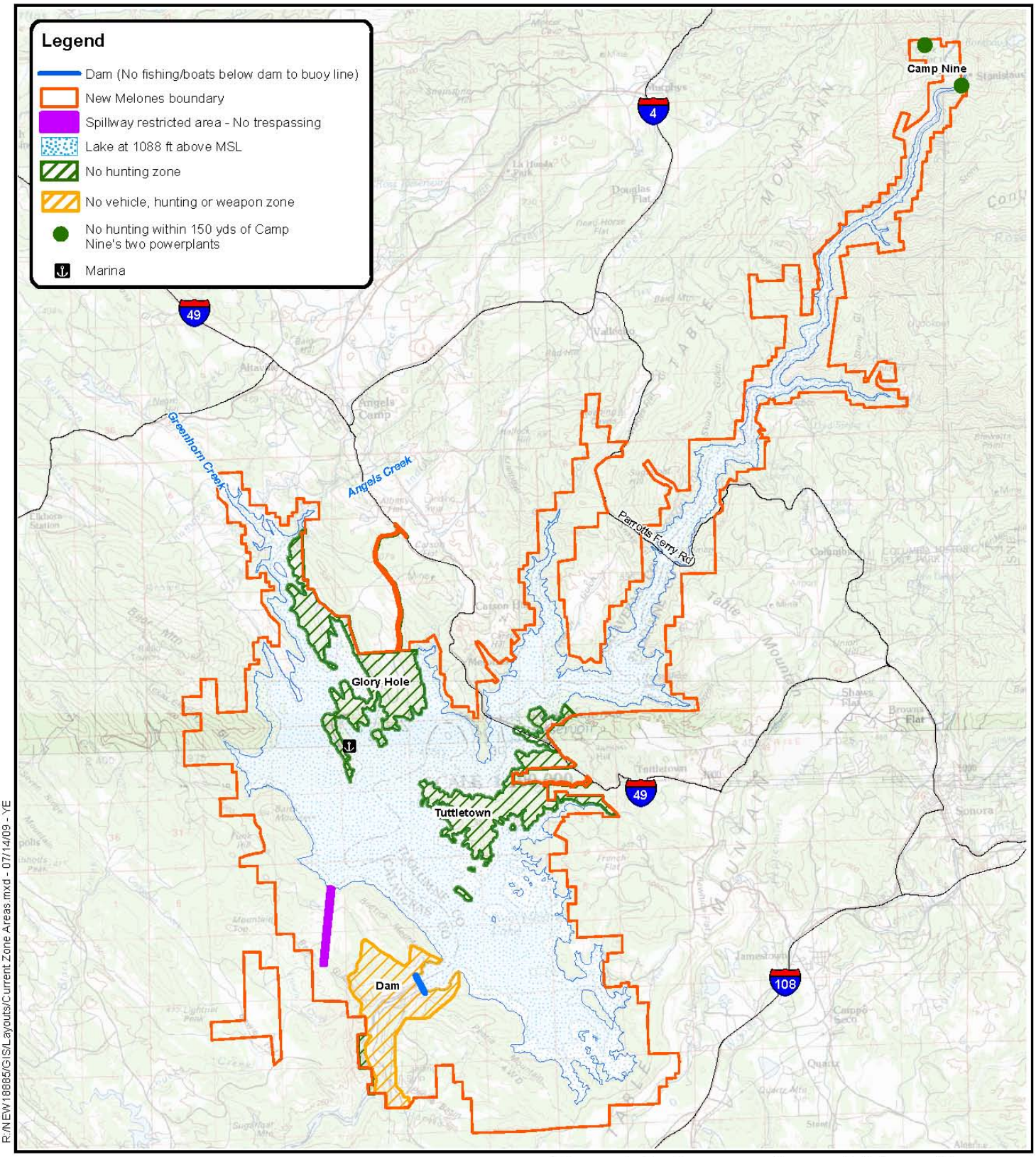
New Melones Lake Area, California
Central California Area Office

Figure 3-6



No hunting within 150 yds of any developed recreation area, campgrounds, or other facilities, boat ramp parking area, day use area, neighboring residences, or within 150 yds of Camp Nine's two power plants

Dam zone - No vehicles, hunting or weapons

New Melones Land Use Zones
No Action Alternative

New Melones Lake Area, California
Central California Area Office

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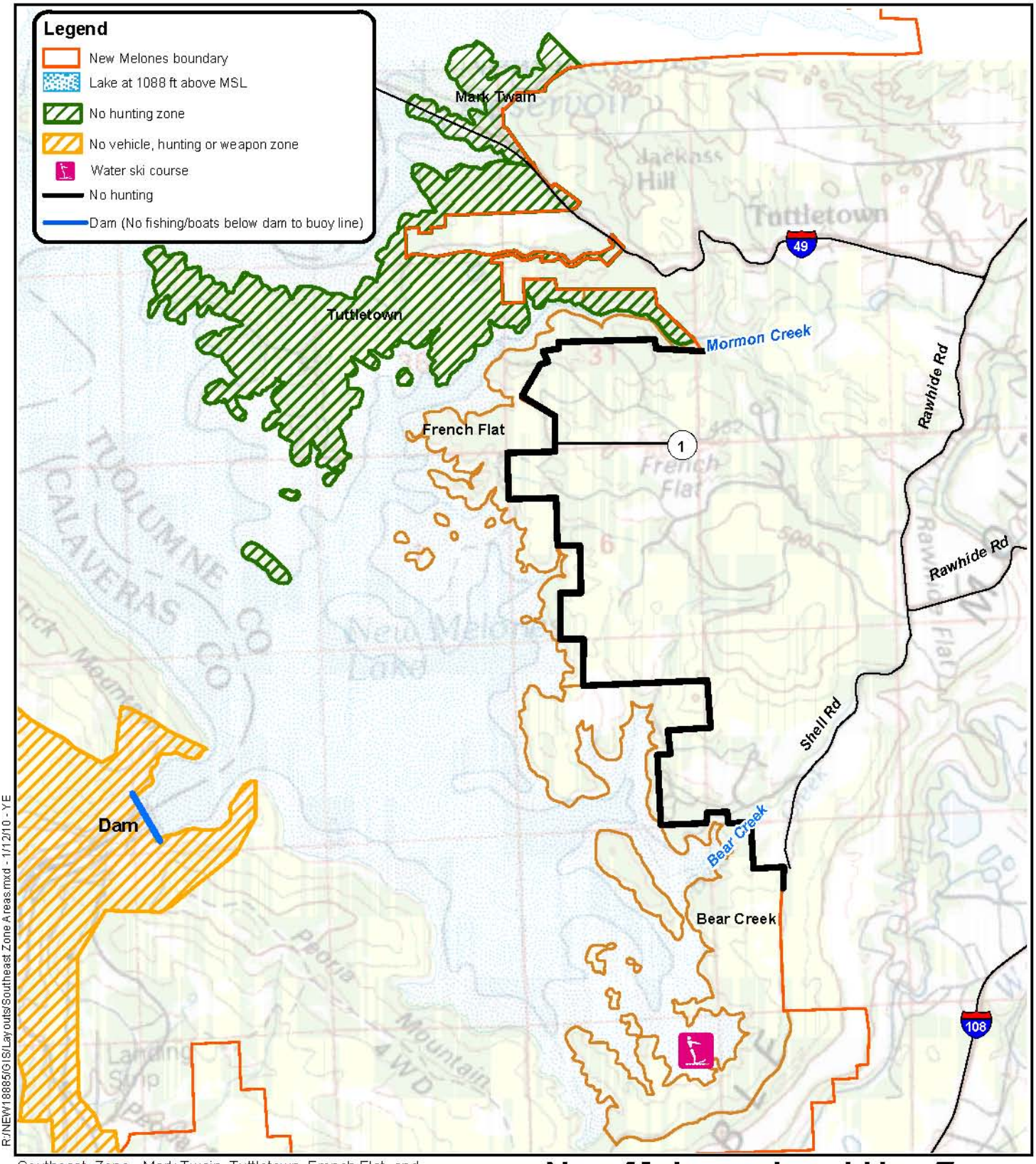
Figure 3-7



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Southeast Zone - Mark Twain, Tuttletown, French Flat, and Bear Creek Management Areas.

No hunting within 150 yds of any developed recreation area, campgrounds or other facilities, boat ramp parking area, day use area, and neighboring residences.

(1) French Flat and Bear Creek - No hunting 150 yds inside Reclamation boundary north from the end of the paved portion of Shell Road to Mormon Creek Cove.

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New Melones Land Use Zones
Southeast Zone - Multiple Use Alternative

New Melones Lake Area, California
Central California Area Office

Figure 3-8

4. Description of the Proposed Action Alternative

4.1 Description of the Proposed Action

4.1.1 Goals, Objectives and Implementation Strategies

The Proposed Action Alternative, Alternative D, strives to balance management of recreational uses and resources with management of natural and cultural resources. This alternative was developed by combining those aspects of Alternatives A, B, and C that provide the most balanced outcome for managing public lands within the New Melones Lake Area. This alternative incorporates many management objectives and actions from the other alternatives and may include new management direction as necessary. This alternative also generally allows for more uses and active resource management than does Alternative C but less than does Alternative B. The proposed goals are listed below in general terms and describe conditions that Reclamation, with input from the public, would envision at New Melones as a result of this RMP. Implementation strategies are listed that describe some of the options that Reclamation may pursue in carrying out the goals.

Air Quality

Goal: Comply with applicable air quality regulations to meet public health and safety requirements.

Air Quality Implementation Strategies:

- Comply with applicable asbestos regulations regarding friable asbestos;
- Conduct wetting operation during periods of serpentine outcrop disturbance to minimize release of airborne asbestos fibers; and
- Comply with smoke production limitations during period of poor air quality; for example, restrict sanctioned visitor fires and Reclamation use of fire during designated burn days (cooking fires are exempt).

Noise

Goal: Comply with applicable noise regulations to meet public health and safety requirements. Manage noise at levels appropriate to the use of particular areas (zoning, lake, and campground policies).

Noise Implementation Strategies:

- Monitor and seek voluntary compliance with boat noise regulations and
- Monitor and seek voluntary compliance with visitor noise regulations.

Geologic Resources (Excluding Caves)

Goal: Allow appropriate uses of geologic resources while protecting resource values (i.e., rock climbing, education, scientific research, soils, minerals, mining).

Geologic Implementation Strategies:

- Restrict mining and material excavation within the study area and coordinate with adjacent landowners/managers to prevent degradation of Reclamation lands;
- Continue closing old mine workings after conducting appropriate studies; and
- Review and comment on all proposed mining plans and reclamation plans that may affect the New Melones watershed.

Caves

Goals: Comply with applicable cave management regulation, such as the 1988 Federal Cave Resources Protection Act. Protect cave formations and the sensitive resources within them.

Cave Implementation Strategies:

- Update the cave inventory to identify and classify caves;
- Implement a protection plan for caves with significant resource value or potential hazards, as needed. Create a partnership with local spelunkers to protect and preserve cave resources. Should funding become available, Reclamation may develop an updated cave management plan by coordinating with other agencies to strengthen and protect cave resources;
- Manage recreation use, as needed, to preserve cave resources, such as scenic qualities, fragile formations, cultural resources, and sensitive species;
- Manage access to caves to comply with federal law and meet health and safety requirements; and
- Identify caves appropriate for interpretive opportunities. Provide cave tours led by Reclamation or a concessionaire for suitable caves.

Hydrology/Water Quality

Goals: Comply with applicable water quality regulations, such as the Clean Water Act. Conserve water resources and protect the water quality of those resources at New Melones Lake (management action, visitor use). Maintain the ecological health of aquatic habitats on New Melones Lake lands, for example riparian and wetlands.

Hydrology/Water Quality Implementation Strategies:

- In all Rural Developed and Rural Natural Management Areas, update minimum basic facilities, such as parking and restrooms, which, among other standards, need to provide for public health and safety, water quality, and ecosystem protection;

- Coordinate management of shared watersheds with neighboring landowners and agencies to protect ecological health and water quality;
- Coordinate with and assist local and state agencies for possible water quality monitoring;
- Review environmental documents for projects within the watershed and provide comments to the lead agency on limiting increases in impervious surfaces, minimizing soil disturbances, and other water quality impacts;
- Design, operate, and maintain recreation area facilities to minimize water contamination and the loss of soils due to surface runoff;
- Where appropriate, design, operate, and maintain recreation area facilities to maximize water conservation; and
- The number, extent, and adverse effect of stream crossings would be minimized when new roads, trails, or easements are designed. New stream crossings would be designed and existing crossings would be maintained to minimize disruption to riparian vegetation, to prevent alteration of stream flow regime, and to prevent initial and chronic sources of erosion and sedimentation.

Sanitation Implementation Strategies:

- Continue to ensure that waste treatment systems comply with applicable waste discharge requirements;
- Promote sound fish waste management through a combination of fish-cleaning facilities and public education;
- Implement industry standard BMPs, in addition to minimum basic facilities, to improve sanitation facilities and infrastructure and pollution prevention structures, such as lift stations, floating restrooms, and improved waste management facilities;
- Locate the restrooms in high-visibility areas to maximize use and minimize vandalism;
- Continue to operate and maintain floating restrooms at various locations on the lake;
- Locate permanent facilities above gross pool. Use concrete vault toilets or portables where facilities are needed below the gross pool;
- Ensure facilities below gross pool are pumped dry or removed before inundation;
- Continue to require houseboat operators to meet industry standards in regard to holding tanks. Require marina to provide sewage pump-out service to the public and upgrade marina sewage facilities;
- Prohibit dumping of any kind on Reclamation lands and water;

- Modify fish-cleaning stations to improve sanitation, and provide an adequate fish-cleaning station closer to the boat launch area in the Tuttletown and Glory Hole Management Areas;
- Provide and maintain appropriate restroom facilities at existing high-use areas and as a part of all new development. When water levels decrease also provide temporary restroom facilities at lower elevations; and
- Install a sign that indicates that there are no toilets near Coyote Creek. Should funding become available, a compost facility could be installed at Natural Bridges in the Coyote Creek Management Area, to accompany an existing facility.

Erosion Implementation Strategies:

- Locate and design roads, trails, and access easements to follow the natural topography, minimizing steep slopes and the number of stream crossings;
- To the extent possible, avoid disturbing the soil of areas that are particularly vulnerable to erosion and sediment loss;
- Confine all public vehicles to roadways and continue to enforce ban on off-highway vehicle (OHV) operation;
- Implement BMPs, such as water bars, trail nicks, drains, and culverts, to control erosion on roads and trails;
- Prohibit discharge of sediment to any water body;
- Identify areas where stormwater runoff from paved surfaces is concentrated and drains directly to water bodies; develop retention basins or other water quality control features for these areas;
- Harden surfaces prone to erosion and subject to extensive visitor use by using compacted aggregate or paving with asphalt or concrete, soil cement, or other hardening agent;
- Promote stream bank and reservoir shoreline stability to encourage riparian vegetation;
- If funding becomes available, in Rural Developed Management Areas, update and improve roads to Mark Twain, Parrott's Ferry, and Melones Recreation Area, while minimizing erosion and water quality impacts;
- Restrict or reduce vehicle use on roadways in Semi Primitive Management Areas and reduce vehicle operation on unimproved roadways in Rural Natural Management Areas; and
- Where appropriate, provide for dry camp (no fire rings or piped water, or other amenities) opportunities at walk-in portions of Semi Primitive Management Areas and Rural Natural Management Areas (e.g., Bowie Flat), and provide floating campsites in Rural Natural Management Areas.

Contamination Implementation Strategies:

- Comply with applicable hazardous waste and materials (HazMat) regulations, including the Resource Conservation and Recovery Act (RCRA), such as for storing, transferring, containing, and disposing of hazardous materials, such as oil, solvents, antifreeze, and paints. When appropriate, Reclamation staff, Reclamation contractors, and facility lessees at New Melones are encouraged to recycle these materials;
- Respond to any hazardous waste problems discovered on Reclamation lands immediately to minimize water quality degradation, per RCRA and other applicable regulations;
- Continue to require emergency spill plans for the marina and all other facilities that store fuels. Continue to require that these facilities have spill containment equipment;
- Continue to require the marina to use automatic shutoff nozzles and promote the use of fuel/air separators on air vents or tank stems of inboard fuel tanks to reduce the amount of fuel spilled into surface waters during fueling of boats;
- Restrict vehicle and vessel maintenance, repairs, and construction on Reclamation lands to designated areas;
- Minimize development and disturbance on serpentine outcrops to control movement of asbestos fibers into water bodies. Conduct wetting operation during periods of serpentine outcrop disturbance to minimize release of airborne asbestos fibers and to prevent runoff into adjacent water bodies;
- Control surface runoff of pesticides and fertilizers from Reclamation lands by using the Integrated Pest Management Plan for the New Melones Management Area; and
- Use chemical, mechanical and biological methods of pest control in accordance with the Integrated Pest Management Plan for the New Melones Management Area.

Visual Resources

Goal: Manage Reclamation lands and activities to provide protection of the visual values and scenic quality of existing landscapes.

- Continue to educate agencies and landowners on the negative impacts of certain land use activities that may affect the visual quality of the study area;
- Manage recreation impacts in Rural Natural Management Areas to preserve sensitive resources in their natural state, and to maintain scenic qualities associated with these areas;
- Design all facilities to blend in to the natural landscape through careful siting (for example, behind terrain, away from ridgelines, within vegetated areas), screening with appropriate native plant species, use of architectural design compatible with

the applicable surroundings (including style, scale, texture, and colors) and avoiding the use of unpainted metallic surfaces, such as roof materials;

- Have all Reclamation and concession signs comply with the Reclamation sign manual;
- Comment on plans and environmental documents for new major projects within the watershed to prevent potential adverse visual effects on Reclamation lands;
- Continue to implement and update the project-wide sign management plan; and
- Using the principles of shaded fuel breaks, design fuel breaks and firebreaks in a manner that minimizes impacts on aesthetic, visual, and scenic resources.

Vegetation

Goal: Maintain and enhance native and unique plant communities.

General Vegetation Implementation Strategies:

- Protect and promote native and unique plant communities for long-term sustainability and viability. These communities include oak woodlands, native perennial grasslands, wetlands, vernal pools, and plants associated with serpentine soils;
- Minimize clearing or converting native plant communities caused by human activities;
- Implement the Fire Management Plan for the New Melones Management Area, which includes using prescribed burning to achieve the following vegetation management goals, objectives, and benefits:
    - Protect native habitats from conversion to nonnative habitats by returning fire to the landscape,
    - Rejuvenate chaparral by reducing brush density and creating variable structure and age composition in chaparral communities,
    - Remove buildup of chaparral fuels to provide for propagation and rejuvenation of native plants in heavy brush areas,
    - Rejuvenate oak woodland by curtailing brush encroachment,
    - Prevent severe infestation of some invasive plant species,
    - Design fuel breaks and firebreaks to consider resource objectives for vegetation management and soil stabilization; and
- Continue to implement the Vegetation Management Plan.

Invasive Species Implementation Strategies:

- When appropriate, reseed degraded or impacted grassland and woodland habitats with native seed;

- Use target-specific herbicides, when used seasonally (late winter or early spring) and in conjunction with mechanical removal operations and biological controls to reduce infestations of invasive species; and
- Continue to prevent severe invasions of exotics (such as yellow star thistle).

Native Plant Community Implementation Strategies:

- Restore or enhance lost or degraded native communities, where appropriate and when opportunities exist, subject to limitation of increased cost of operation or maintenance;
- Provide for public education on the ecology and cultural importance of native plant communities, such as oak woodland, native perennial grasslands, vernal pools, riparian areas and wetlands, and plants associated with serpentine soils;
- Minimize disturbance detrimental to native plant communities, such as infrastructure development, extensive visitor use, clearing, or other human activity that might cause conversion of plant communities;
- Preserve serpentine-based communities by performing a plant survey during project planning and, where possible, modify the proposed project to avoid occurrences of special status plants, such as *Chlorogalum grandiflora* and *Allium tuolumnense*;
- When practical, avoid serpentine soils, especially when an activity or visitor use may cause erosion or compaction that would degrade habitat values;
- Survey and inventory New Melones Lake Area lands to establish baseline plant communities;
- If feasible and in conjunction with Caltrans, manage a 66-acre parcel of land near the PWMA for a possible oak tree mitigation area; and
- Develop a full baseline survey of the populations of serpentine special status plants at New Melones Lake, such as *Chlorogalum grandiflora* and *Allium tuolumnense*. This survey could then be used for monitoring key plant populations and project planning.

Wetland Implementation Strategies:

- When practical, avoid wetland communities, such as riparian communities along streams, rivers, or shoreline, wet meadow communities, seeps, vernal pools, or other water-dependent communities, especially when an activity or visitor use may cause erosion or compaction that would degrade habitat values;
- Educate the public about the ecology and cultural importance of wetland vegetation communities, such as riparian areas, seeps, and vernal pools;
- Protect, restore, or enhance degraded riparian communities where appropriate and when opportunities exist, subject to limitations of increased cost of operation or maintenance;

- When possible, plan management activities that may impact wetlands for the dry season;
- Promote stream bank and reservoir shoreline stability to encourage establishment of riparian vegetation; and
- Manage wetland communities to ensure no net loss of these habitats, in compliance with USACE and EPA policy.

Fish and Wildlife

Goals: Manage for habitat quality to maintain or enhance biological diversity. Manage vegetation in areas outside of fuel treatment project perimeters to retain sufficient wildlife cover. Conserve sensitive wildlife habitats by minimizing disruption and loss. Enhance wildlife habitat values, features, and diversity. Restore wildlife habitat values of damaged areas through revegetation and restoration.

General Fish and Wildlife Implementation Strategies:

- Continue to operate within management guidelines for fish and wildlife resources from the 1976 Master Plan, as well as appropriate regulations and accepted standards for Reclamation;
- Fulfill mitigation requirements in the Peoria Wildlife Management Area;
- Document, conserve, and enhance habitat for fish and wildlife resources, where appropriate, and when opportunities exist that will not increase the cost of operation or maintenance;
- Leash or cage all domestic pets when on Reclamation lands;
- Develop and fund programs that improve habitat for wildlife within New Melones Lake Area. Such programs include the following:
    - Protect, restore, and enhance wetlands, including vernal pools and drainages,
    - Practice oak silviculture for hardwood-dependent species,
    - Maintain snags and install nest boxes for cavity-nesting birds, including wood ducks,
    - Provide artificial nest structures for osprey (*Pandion haliaetus*) to supplement nests subject to inundation,
    - Provide wildlife water facilities, such as quail guzzlers, similar to those constructed in the Peoria Mountain Wildlife Area;
- Prohibit release of any introduced species without permit from the CDFG or release of domestic animals onto Reclamation lands**;**
- Minimize trespass grazing by maintaining fence lines and posting signs. When trespass occurs, coordinate with local landowners and law enforcement to remove the animals;

- Throughout the New Melones Lake Area, allow hunting in accordance with applicable regulations, such as EO 13443, except where prohibited or restricted;
- Encourage the CDFG to monitor and enforce rules and regulations related to hunting and fishing;
- Continue to monitor New Melones lands for feral species, such as wild pigs, that may damage resources. If a feral animal population is confirmed, take action to control those populations using the methods described in the Integrated Pest Management Plan;
- Implement the Fire Management Plan by taking the following actions:
    - Manage vegetation in areas outside of fuel treatment project perimeters to retain sufficient wildlife cover,
    - Conserve sensitive wildlife habitats by minimizing disruption and loss,
    - Enhance wildlife habitat values, features, and diversity,
    - Restore wildlife habitat values of damaged areas through revegetation and restoration,
    - Design fuel breaks and firebreaks to minimize impacts on ecological resources and to consider resource objectives for wildlife habitat management,
    - Time prescribed burns to be done when fuel moisture is at a level where burning would create brush islands to improve wildlife habitat,
    - Manage prescribed burns within Wildlife Management Areas to protect and encourage growth for threatened species or species of concern, and
    - Use low-severity prescribed fire to create fire breaks in wetland and riparian buffer areas;
- Continue to implement wildlife management requirements included in the Baseline Conservation Camp Lease until the new lease is signed and in effect.
- Fully implement the Interim Peoria Wildlife Management Plan by adopting the interim plan in the New Melones Resource Management Plan, thereby integrating the preferred actions described in the Peoria Wildlife Interim Management Plan into the long-term management at New Melones. Implement the Plan with the following actions:
    - Continue to restrict public vehicle use to protect resources year-round;
    - Develop and implement a trail plan;
    - Build designated trails, in accordance with the trail plan;
    - Close and restore unauthorized trails;
    - Encourage continued hiking and biking, along with other low impact recreation;

    - Implement the Vegetation Management Plan;
    - Implement environmental interpretation;
    - Limit camping to groups permitted by reservation only;
    - Reseed and restore unauthorized roads and impacted areas;
    - Continue to ban shooting and target practice; and
    - Allow hunting in accordance with applicable regulations, except where prohibited or restricted.
- Allow Baseline Conservation Camp to realign or expand the existing footprint and replace or upgrade existing facilities, if needed, to accommodate updated uses. In addition, ensure that the water supply and waste treatment systems meet appropriate standards.

Fisheries Implementation Strategies:

- Continue to manage fisheries through an agreement with the CDFG;
- Limit disturbance and intensive visitor use along perennial stream corridors and reservoir coves that maintain prime spawning, rearing, and adult residence area fisheries;
- Minimize disturbance of habitat in perennial streams that support native fish;
- Continue to enhance fish habitat by installing fish attractors, consisting of piles of logs and brush anchored to the ground;
- Support efforts by volunteers and partners to rehabilitate and improve fisheries, fish habitat, and aquatic resources;
- Prevent entrapment and death of fish within water impoundment facilities;
- Except when snags present a safety hazard, continue to leave dead trees in the reservoir to provide fish habitat;
- During spawning season, minimize disturbance of known trout spawning areas in Coyote Creek Cove, Angels Creek Cove, Carson Creek Cove, and Mormon Creek Cove, as well as areas of the Stanislaus River downstream of the confluence of Rose Creek and the South Fork; and
- Minimize disturbance of known warm-water fish spawning areas, such as Black Bart Cove.

Special Status Species

Goals: Manage habitat to contribute to the conservation of special status fish, wildlife and plant species. Manage public use and operations and maintenance to contribute to the conservation of special status fish, wildlife, and plant species.

General Special Status Species Implementation Strategies:

- In Rural Natural Management Areas, continue to minimize impacts on sensitive natural and cultural resources by maintaining dispersed visitor use;
- Conserve sensitive wildlife habitats, such as caves and riparian areas, by minimizing disruption and loss; and
- In the Peoria Wildlife Management Area, continue to implement the Peoria Wildlife Management Plan and consider seasonal use restrictions when legally mandated to avoid impacts on special status plants and sensitive habitats and species. For example, restrict recreational uses during breeding periods for raptors and bats.

Raptor Implementation Strategies:

Conduct semiannual inventories of eagles, ospreys, and other raptors. Maintain, construct, or modify osprey platforms and other nesting structures, as needed.

Bat Implementation Strategies:

- In the Peoria Wildlife Management Area, manage rock climbing use in accordance with federal regulations on natural and cultural resources;
- During the habitation period, conduct monthly inventories of sensitive bat species, such as the mastiff bat, on the northwest slope of Table Mountain. Monitor climbing routes in the area for effects on sensitive species. Consider expanding bat survey area to include other bat habitation areas, such as Natural Bridges; and
- As described in the Peoria Wildlife Management Plan, if impacts on sensitive species are identified, develop and implement a climbing management plan.

Land Management

Goals: Manage Reclamation owned and managed lands in accordance with authorized project purposes and applicable laws and regulations. Manage rights-of-way and right-of-use permits in accordance with authorized project purposes and applicable laws and regulations. Minimize and consolidate right-of-way and easement grants on Reclamation lands; if granted, monitor and enforce for compliance with permit measures. Reduce and eliminate encroachment onto or from New Melones Lake lands. Provide, operate, and maintain facilities appropriate to the needs of Reclamation and the general public.

General Land Management Implementation Strategies:

Continue the designation of the New Melones Lake Project as a Special Use Area, in accordance with 43 CFR, Part 423, for the protection of public health and safety, the

protection and preservation of cultural and natural resources, the protection of environmental and scenic values, scientific research, the security of Reclamation facilities, and the avoidance of conflict among visitor use activities. Reclamation has established schedules of visiting hours, public use limits, special uses and other conditions, restrictions and prohibitions on particular uses or activities. 43 CFR, Part 423, and subsequently established special use area regulations to maintain law and order and to protect persons and property within the New Melones Lake Project.

Coordination Implementation Strategies:

- Continue to encourage and support cooperative planning within the Stanislaus watershed among Reclamation, other affected federal, state, and local agencies, and the public;
- Review and participate in the development of regional plans on adjacent lands to ensure that land use decisions and activities are compatible with those at New Melones. Coordinate with the Tuolumne and Calaveras County Planning Departments to review and contribute to resource and land use plans that may affect the Stanislaus watershed;
- Coordinate with applicable agencies, such as Tuolumne County, BLM, USFWS, and CDFG, and appropriate private entities to develop measures to protect and preserve the ecological and cultural values at New Melones Lake. Address such issues as access, land acquisition and disposal, recreational shooting, and the potential disturbance of vegetation, soils, and geologic features. Encourage local volunteer organizations to participate in recreation planning for projects to protect and enhance resources. Reclamation will adaptively manage the implementation of the RMP, with input from applicable agencies and private entities;
- Coordinate with applicable entities (such as Pacific Gas and Electric, Calaveras County Water Agency, Calaveras County, BLM, USFWS, and CDFG) and appropriate private entities to develop measures to maintain effective management and decrease negative activities along Camp Nine Road. Measures would address such issues as safety, access, recreational shooting, and the potential disturbance of vegetation, soils, and geologic features.
- Continue to implement wildlife management requirements included in the Baseline Conservation Camp lease by having the lessee perform the following actions:
    - Provide fire suppression services for Reclamation lands at the New Melones Lake Area,
    - Provide crew assistance with project maintenance,
    - Develop an annual work plan identifying projects to be accomplished each year,
    - Use crews to maintain fire protection around facilities and infrastructure, and

    - Restrict access of inmates and forestry/corrections staff beyond leased area;

- If funding becomes available, move Baseline Conservation Camp to existing Equestrian Area away from the Stanislaus River area of the PWMA;
- Restore open areas formerly used by Baseline Conservation Camp to natural habitat, leaving roads and specific facilities for future use; and
- Allow a larger or different footprint for Baseline Conservation Camp if needed to accommodate updated facilities and uses; and
- Change the boundaries of the PWMA to exclude the Baseline Conservation Camp lease area, offsetting with equivalent or more acreage for wildlife mitigation next to the PWMA in other areas.

Rights of Use Implementation Strategies:

- Continue to assess how lands contained within the New Melones Lake Area are being effectively used for project purposes;
- Assure that maintenance of right-of-way utility crossings will be coordinated with Reclamation before any land or vegetation is altered;
- Avoid or minimize future easements and rights-of-way over Reclamation lands. If allowed, ensure that new easements (e.g., roadways, electrical transmission lines, pipelines, structures, and facilities) adhere to applicable guidelines to avoid potential operational and resource impacts;
- Continue to prohibit certain activities on federal land without a permit as per 43 CFR, Part 423, such as livestock grazing, OHV operation, and construction; and
- Continue Reclamation's efforts to eliminate unpermitted grazing and water access on lands under its jurisdiction. In appropriate areas, and with an approved permit and grazing plan, allow grazing and stock watering as a means to control invasive plant species and to reduce fire danger.

Trespass and Unauthorized Use Implementation Strategies:

- Continue to enforce regulations related to trespass onto, or the unauthorized use of, the land and water under Reclamation's jurisdiction. Trespass and unauthorized use deprives the public of its rightful use and enjoyment of the public lands. It is the general policy of Reclamation to facilitate and ensure the proper use of land resources. Benefits to the public as a whole resulting from nonexclusive uses of federal lands is the primary management emphasis;
- Continue to implement a program to periodically patrol areas where unpermitted grazing or water access occurs, as well as areas where off-road vehicles are known to be used;
- Pursue cooperation aimed at preventing unauthorized use and trespass by continuing to implement a program of public information, education, and contact (for example, through signs, pamphlets, maps, and public notices). Inform

neighboring landowners and appropriate local, state, and federal agencies of changes to the boundaries of Reclamation-managed lands;

- Continue to enforce Reclamation's OHV policy and regulation, which states that all Reclamation lands are closed to OHVs, except for those areas specifically designated for such use (43 CFR, Part 420). No OHVs are allowed at New Melones Lake; vehicles must remain on paved or other specified hard surface roads. In accordance with 43 CFR, Part 420, allow access for fire, emergency, or law enforcement vehicles and those used for officially designated purposes; and
- Resolve land ownership and jurisdictional uncertainties with other agencies when discrepancies are identified.

Facilities, Land Use, and Management Areas:

- Discontinue use of the existing land use allocation map in the 1976 Master Plan to manage land and water in the New Melones Lake Area;
- Update land use allocation at New Melones Lake, as described in Table 2-1: Land Use to reflect updated information, currently used management areas, and potential management from such sources as the WROS, carrying capacity study, and commercial services plan (Land Capability per the 1976 Master Plan, page 45);
- Perform repairs/alterations on existing facilities necessary to comply with accessibility and public health and safety standards (such as the accessibility action plan);
- In all Rural Developed and Rural Natural Management Areas, update minimum basic facilities and minimal facilities (expanded), such as parking and sanitation facilities, which, among other standards, need to protect public health and safety and protect water quality;
- Unless otherwise specified, continue to operate and maintain current facilities and continue existing uses in all management areas. See Chapter 5 for description of facilities and uses;
- Continue closure of overlook facilities (parking, restroom, picnic area) at Peoria Flat; and
- Allow public access to the overlook facilities at Peoria Flat through guided tours with Reclamation.

Utilities:

- Forecast and plan for updating systems to coincide with future demands and regulatory requirements; and
- Conduct periodic review of utilities, maintain a long-term plan for maintenance, replacement, and updating of systems, and seek funding to address deferred maintenance of utilities.

Access and Transportation

Goal: Manage travel, roads, and trails to provide safe access, minimize resource impacts and provide for multiple use recreation opportunities within the planning area.

Access Implementation Strategies:

- Continue designating the New Melones Lake Project as a Special Use Area, pursuant to 43 CFR, Part 423, which states that areas within the Special Use Area will remain open unless closed by Reclamation. Closure of federal lands under 43 CFR, Part 423 includes publishing a notice in the *Federal Register* and in the local press;
- Continue to restrict public access to, and enforce a no trespassing zone in, the New Melones Dam and Spillway Management Area, which includes the New Melones power plant and outlet works, spillway, Stanislaus River downstream to the buoy line, the Visitor Overlook, and the area leased to the California Division of Forestry for Baseline Conservation Camp. To protect public health and safety, close these areas to public vehicles, hunting, and fishing;
- Manage access to caves in the Camp Nine, Coyote Creek, and Stanislaus River Canyon Management Areas to comply with federal law and meet health and safety, as well as to minimize adverse impacts on cave organisms, microclimate, and paleontological resources;
- Continue to close the following areas to public vehicles, unless the current Closure Notice is changed (see page E-9): Mark Twain Lake Access (past vehicle barricades), Old Parrotts Ferry Road, Peoria Wildlife Management Area, Melones Recreation Area, French Flat Recreation Area, Bear Creek Recreation Area, as well as the Westside, Bowie Flat, Greenhorn Creek, Carson Hill, Dam and Spillway, and Stanislaus River Canyon Management Areas. A possible change to these closures is reopening Old Parrotts Ferry Road as a lake access point, if feasible; and
- Operate and maintain lake access routes and associated facilities at Glory Hole and Tuttletown Management Areas. Update and modernize lake access routes and associated facilities in the Mark Twain, Camp Nine, and Parrotts Ferry Management Area to meet requirements for minimum basic facilities, unless a nonfederal cost-sharing partnership or contractual agreement provides for additional improvements.

Road Implementation Strategies:

- Operate and maintain roads and parking facilities in accordance with appropriate regulations and guidelines on Reclamation property and for access to the New Melones Lake Area;
- Continue to operate and maintain a system of recreation area access roads within the influence of the reservoir, which will be maintained as fluctuating water levels

permit. Generally these roads above the gross pool in the main lake area will be paved, while roads below the gross pool will have a stabilized aggregate surface;

- Continue to implement and update the project-wide sign management plan;
- Where appropriate, improve Camp Nine Road for safe vehicle ingress and egress from the Camp Nine Management Area;
- Where appropriate, update and modernize the access road and parking for safe vehicle access and egress onto Parrotts Ferry Road in the Coyote Creek Management Area at Natural Bridges;
- Where appropriate, implement road maintenance agreements for management of Reclamation roads, such as along Glory Hole Road/Whittle Ranch Road; and
- Where feasible, obtain easements or purchase fee titles to access landlocked Reclamation property, such as Bowie Flat, Skunk Gulch, Grapevine Gulch, and Melones Recreation Area. Where no road exists, construct a road that meets Reclamation standards and is suitable for management of the area.

Aircraft Implementation Strategies:

- Continue to implement the existing New Melones seaplane policy and comply with 43 CFR, Part 423, which includes restrictions on commercial operation of seaplanes and designates appropriate landing zones and operations (see Figure 3-1) and
- Prepare and implement a strategy to address adverse overflight activities. The strategy may include a range of actions, from increased education and communication with aviators, county airport personnel, and the Federal Aviation Administration (FAA), to requesting that the FAA restrict airspace over New Melones Lake Area to protect public safety and critical infrastructure. Exclusions would apply to fire fighting, emergency, and military air operations.

Westside and Bowie Flat Management Area Implementation Strategies:

- Allow access to the Westside for beneficial dispersed recreation by way of hiking, biking, and horseback riding via connecting trails in the Greenhorn Creek Management Area or by boat. Should vehicle access be needed for recreation use or other project purposes, transportation routes may be considered;
- Continue to assess how lands contained within the New Melones Lake Area are being effectively used for project purposes;
- Optimize the connectivity between the existing fire road and trail system for a variety of uses, such as mountain biking, equestrian use (outside of existing Rural Developed Management Areas), and hiking in Glory Hole, Greenhorn Creek, and Westside Management Areas. Develop new trailheads to access the Greenhorn Creek and Westside areas; and
- Increase the use of the Bowie Flat Management Area to allow for multiuse trails (hiking, biking, horseback riding), and a trailhead staging area, and dry camping

if suitable vehicle access is available. Possible Special Use activities could also be considered for this area should vehicles be allowed.

Public Health and Safety

Goal: Comply with applicable regulations to protect public health and safety. Comply with applicable health and safety requirements for Reclamation staff and representatives. Maintain a safe and healthy environment for employees and the public.

General Public Health and Safety Implementation Strategies:

- Provide staff levels and funding levels commensurate with recreation visitation in order to maintain the level and quality of services expected by the visitors to New Melones;
- Project specific safety plans are formulated by Reclamation or its agent for individual operations and maintenance projects. These plans would help staff recognize and address safety issues. In these plans, project personnel will identify precautionary measures to prevent accidents from common recurring hazards or unsafe conditions;
- Continue using park rangers to help prevent some unacceptable public behavior and increase visitor awareness through ranger interaction with the public. By patrolling New Melones, rangers can identify and report unacceptable behavior, be a visible presence on the land and water, and educate the public on a case-by-case basis on policies, rules, and regulations that apply at New Melones Lake;
- In support of primary emergency services, rangers provide first response for medical, hazardous materials, search and rescue, and other emergencies at New Melones Lake;
- Continue to develop appropriate educational opportunities on water, boating safety, and general boating etiquette. In addition, educate boaters on a case-by-case basis by monitoring boating activities and seeking voluntary compliance with federal and state laws and regulations. Establish a partnership with the Coast Guard Auxiliary to help with boater education;
- Where necessary, ensure adequate closure of unsafe or potentially hazardous areas (e.g., caves, old mine shafts, exposed steep areas, and high fire hazards areas) in compliance with closure procedures in 43 CFR, Part 423;
- Continue to mark the tops of intermittent islands, large rock outcroppings, or other aquatic hazards with warning buoys, in accordance with the New Melones Lake Waterway Hazard Marking Plan;
- Continue to coordinate response to health and safety issues with local, state, and federal entities. Continue communications with representatives from Reclamation, BLM, USFWS, CDFG, Calaveras and Tuolumne Counties, and others to share information and cooperative on public safety issues. This includes improving communication capability in remote areas, such as Camp Nine Management Area;

- Encourage Tuolumne and Calaveras Counties, the CDFG, and the BLM to monitor ongoing and reclaimed mining operations for compliance with permitting criteria;
- To protect public health and promote safety, develop and implement a long-term strategy for managing shotgun-only hunting as visitation and urban development increase. This policy may include restrictions to meet management goals, such as compliance with California Fish and Game code, as well as other applicable regulations, such as EO 13443; and
- Continue to implement a project-wide Fire Management Plan and Integrated Pest Management Plan. These plans include procedures for notifying the public and local, state, and federal agencies of fire activity in the area, including suppression and prescribed burns.

Law Enforcement Implementation Strategies:

- Address illegal activities in all management areas through continued law enforcement presence and management controls, such as gates and visiting hours, signs, and education;
- Continue to implement a long-term strategy for effective law enforcement at New Melones Lake by cooperating with local, state, and federal agencies;
- Continue working relationships and oversee contracts with Tuolumne and Calaveras Counties to provide law enforcement services. Work to increase law enforcement presence through patrols, public affairs, and other feasible means;
- Develop a strong partnership with CDFG to increase communication, leading to more effective enforcement of the appropriate regulations under the Clean Water Act and the Fish and Game Code of California;
- Encourage CDFG to enforce laws and regulations related to gold dredging; and
- As part of the working relationships with Tuolumne and Calaveras Counties, explore the feasibility of siting a sheriff substation with lake access to each county, which would decrease the response time for a sheriff to respond to disturbances in the New Melones Lake Area.

Invasive Species Control

Goal: Prevent and control invasive species infestations using integrated pest management techniques.

General Invasive Species Implementation Strategies:

- Implement a project-wide Fire Management Plan targeting late spring or early summer burning to control or eliminate invasive plants such as yellow star-thistle. Work with CAL FIRE and federal agencies to coordinate rehabilitation efforts on moderate to large fire areas to prevent invasive plant infestation;

- When pesticide application is necessary to control invasive species, use targeted chemicals when available, such as Transline for thistle control. Work with Tuolumne and Calaveras Counties to monitor for invasive species infestations by trapping and other means;
- Continue to implement an Integrated Pest Management Plan that describes appropriate techniques for invasive species control (i.e., quagga/zebra mussels, yellow star thistle, New Zealand mud snail). These techniques include applying pesticides and herbicides, grazing, fire, mechanical techniques, and biological control; and
- Upon completion of approved grazing plans, allow grazing in all areas permitable for this type of use except high density recreation areas. Implement industry standard BMPs to protect water quality. This grazing could be used to control invasive species, to reduce the fire hazard, and to increase the abundance of desired plant populations. Investigate and implement, if feasible, seasonal grazing of recreation areas to reduce grass growth for the purpose of controlling invasive plant species and reducing fire hazards.

Fire Management

Goals: Comply with applicable fire protection regulations (state and local) and fulfill the requirements of the National Fire Plan for Reclamation. Suppress fires that threaten life, property, and public safety to achieve 100% protection of adjacent communities and resource/social values at risk from unwanted wildfire.

General Fire Management Implementation Strategies:

Implement the project-wide Fire Management Plan (Appendix D). The additional measures for implementation include the following:

- Use natural or manufactured barriers, such as roads, streams, ponds, and wetlands to minimize the need for fire line construction;
- In coordination with CAL FIRE, implement site closure procedures during periods of extreme fire danger, according to the state fire warning system;
- Post signs and gate main entry points to Reclamation lands. Signs will give the current fire danger warning status or the reason for site closure, if necessary, under extreme fire danger conditions;
- Design fuel breaks and firebreaks to minimize impacts on aesthetic, scenic, and ecological resources, and to consider resource objectives for vegetation management, wildlife habitat management, soil stabilization, public safety, ignition sources, and safety of firefighters.
- Follow the Burned Area Stabilization and Emergency Response Plan, including
    - Consider nonpoint sources of pollution resulting from wildfire suppression and rehabilitation, while recognizing safety and operational priorities of fighting wildfires,

    - Consult with staff archaeologist, botanist, wildlife biologist, and other staff specialists to evaluate fire and suppression operations effects and to determine if additional restoration is necessary, and
    - Rehabilitate burned areas with native plant species or other methods or activities necessary to stabilize soils and prevent unacceptable degradation of natural and cultural resources;
- Meet resource, watershed, wetlands, wildlife, fisheries, cultural, and vegetation/fuels management goals and objectives through the appropriate use of fire and nonfire fuel treatments. Implement appropriate decisions, as identified in the final draft New Melones Fire Management Plan;
- Conduct fire management activities in a manner that retains mature oaks for their wildlife benefits and scenic qualities;
- Use CAL FIRE, Baseline Conservation Camp crews and staff from other federal agencies on prescribed burns to improve firefighting skills, while increasing both knowledge of the New Melones Project's terrain and unique weather patterns;
- Improve Shell Road for use as a fire road and fuel break; and
- Construct a fuel break along the Westside from Peoria to Angels Creek to aid in protecting project lands from fire threat.

Cultural Resources

Goals: Comply with all applicable cultural resources laws including the NHPA and implementing regulations at 36 CFR, Part 800, ARPA, and NAGPRA. Manage activities for the long-term preservation of cultural resources and, whenever feasible, design activities to avoid impacts to cultural resources eligible for inclusion in the NRHP. Complete the process of nominating the New Melones Archaeological District to the NRHP.

General Cultural Implementation Strategies:

- Manage cultural resources in the New Melones Project Area in accordance with Reclamation Policy and Directives and Standards for Cultural Resources Management and Museum Property Management, the Inadvertent Discovery of Human Remains on Reclamation Lands, Department of the Interior Departmental Manual 411, the NHPA, the Archaeological Resources Protection Act (ARPA), the Native American Graves Protection and Repatriation Act (NAGPRA), 36 CFR, Part 800, 36 CFR, Part 60, 36 CFR, Part 79, and 43 CFR, Part 10;
- In all Rural Natural Management Areas, continue to minimize impacts on cultural resources by maintaining dispersed visitor use;
- Whenever possible, protect historic properties by avoidance through Reclamation's planning process;
- Complete electronic database and GIS mapping of known cultural resources;

- Promote protection of cultural resources through visitor education and public outreach;
- Provide protective signs, educational printed handouts, interpretative programs, and ranger interface with the public to explain the values of cultural resources;
- Protect cultural resources through the use of protective fencing, coverings, and exclusion, as applicable;
- Protect cultural resources through ranger patrol;
- For site-specific projects, consider the effects on historic properties by implementing the Section 106 process of the NHPA;
- Permit excavation of cultural resources in accordance with the ARPA and the American Antiquities Act; require intentional removal of human remains under NAGPRA to be done under an ARPA permit;
- Process permits for cultural resources survey and excavation at Reclamation's Regional Office;
- When compatible with resource protection, interpret selected cultural resources for the education and enjoyment of the general public, give priority to sites within public use areas in proximity to special cultural features, and give special attention to public use areas being degraded through natural or human impacts;
- Produce scientifically accurate and culturally sensitive cultural resources displays and brochures;
- Continue to operate the visitor center and maintain cultural resources interpretive displays;
- Minimize publicity and access to sensitive cave locations, avoid constructing trails to caves, and install gates where necessary for conservation purposes;
- Require permits and review for all research projects within and around cave resources;
- For all actions at New Melones Lake, if buried cultural resources, such as chipped or ground stone, historic debris, building foundations, or bone are discovered during ground-disturbing activities, require that all work in that area and within 100 feet (30 meters) of the find be stopped immediately until a Reclamation archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment and avoidance measures in consultation with the State Historic Preservation Officer;
- Complete Section 106 before beginning any ground-disturbing actions under the Peoria Wildlife Mitigation Area Plan; allow no construction related to the Peoria Wildlife Mitigation Area Plan until a Section 106 consultation is completed;
- In areas of known archaeological resources, protect sensitive cultural resources by using Minimum Impact Suppression Tactics and by coordinating with a cultural

resource advisor during fire suppression activities. Such activities must be coordinated with Reclamation cultural resources staff;

- In emergencies, where heavy equipment is used without prior on-site coordination, conduct post-fire archaeological evaluations to assess and document equipment damage to cultural resources. Under certain circumstances, require damage assessments and possible mitigation work; and
- Move the New Melones Archaeological Storage Facility to a site outside of the wildlife mitigation area in the Peoria Wildlife Management Area and construct a new building that meets modern standards for an archaeological collections storage facility. Operate and maintain this modern facility and the collections stored there in accordance with regulatory requirements.

Socioeconomics and Environmental Justice

Goal: While meeting Reclamations obligations and goals, provide opportunities that will result in economic benefits to the community.

General Socioeconomic Implementation Strategies:

- Coordinate with local agencies to promote tourism within the region; and
- Comply with EO 12898 by identifying and addressing any disproportionately high and adverse human health and environmental effects on low-income and minority populations.

Indian Trust Assets

Goal: Continue to ensure that management actions will not negatively affect any tribal trust resources or assets by consulting with recognized tribal governments.

General ITA Implementation Strategies:

- Early in the planning process, begin consultation with appropriate Indian tribes or nations and the Bureau of Indian Affairs (BIA) concerning potential ITAs. The initial contact with the Indian Tribes/Nations in the immediate area should be government-to-government in a face-to-face meeting, if possible. Coordination should also occur with Reclamation's Native American Affairs Office and the BIA to identify other Indian tribes/nations outside the immediate area that may be interested or affected.

General Recreation

Goals: Provide for diverse recreation within Reclamation's authorities, to afford a safe and quality recreation experience consistent with natural and cultural resource management objectives. Achieve fair value for recreation. Ensure that concessions are planned, developed and managed to meet public needs, are compatible with the natural and cultural resources and provide a variety of services which are consistent with authorized project purposes.

General Recreation Implementation Strategies:

- Develop a long-term strategy that maintains and, wherever appropriate, optimizes the diversity of recreation and level of service found at New Melones Lake;
- Meet visitor demand for specific recreation opportunities within the constraints of the existing infrastructure and while complying with existing applicable regulations, policies, laws, and funding;
- Continue to update recreation management, where it supports Reclamation's mission, to accommodate trends in demographics and recreation interests of the potential visitor to New Melones Lake;
- Ensure that recreation activities be sufficiently varied to accommodate the diversity of potential visitors to New Melones Lake. Target different age groups, range of ability levels, and mix of cultures;
- Allow special events when they support Reclamation's mission, such as fishing tournaments, triathlons, water-ski exhibitions, equestrian trail trials, special hunts, or cross-country sporting events;
- Explore long-term and seasonal concessionaire agreements with private enterprises or managing partners, where appropriate, support them to achieve needed recreational support services, programs, and facilities and to disseminate Reclamation information; and
- Minimize conflicts and promote safety between recreational activities and users by monitoring and seeking collaboration for compliance with management regulations and expanded environmental constraints.

Coordination Implementation Strategies:

- In coordination with the BLM, implement a strategy to prevent illegal activities and public trespass in addition to a proper stock handling program at the French Flat Management Area;
- Continue to educate agencies and landowners on the negative impacts of certain land use activities that may affect the visual quality of the study area; and
- Continue to support and expand boating law enforcement services from Tuolumne and Calaveras Counties.

Commercial Services/Concession Implementation Strategies:

- Write all concession contracts to be in accordance with all applicable policies and regulations; administration of the concessions contract will be the responsibility of New Melones Recreation Resource Branch;
- Continue to implement the regulations and Reclamation policies related to concessions and commercial services, such as 43 CFR, Part 429 (Cost Recovery), and Reclamation Manual Direction. Educate the public in the need to acquire a permit from Reclamation for commercial services on Reclamation lands;

- Implement concessionaire agreements or commercial service permits with private enterprises to achieve needed recreational support services, programs, and facilities. Potential concessions or commercial services may include, but are not limited to, watercraft rentals, dry boat storage, equestrian day rides, an additional marina, food trucks, and firewood sales;
- Continue the concessionaire agreement at New Melones Lake through its expiration in 2012. Plan for future concession services through a commercial services plan and financial feasibility study. Potential concessions must be self supporting and compatible with Reclamation goals and objectives and must provide services desired by the public. In the plan, analyze the existing marina concession and explore feasibility of additional services or contracts;
- If feasible, relocate the marina within Glory Hole Management Area, with separate areas for private moorage and public rentals and services;
- Construct an appropriate wave attenuator for the marina or allow for seasonal operation to minimize storm damage;
- Provide seasonally-operated, additional marina services in appropriate locations in Rural Developed Management Areas, such as Tuttletown and Glory Hole. Additional services could include day rentals of non-motorized boats, wave runners, runabouts, patio boats, and small houseboats that can be trailered and launched;
- Provide seasonally-operated additional marina services in appropriate locations in Rural Natural Management Areas, such as Parrotts Ferry, Greenhorn Creek, or Camp Nine. Additional services could include day rentals of non-motorized boats;
- Provide additional marina amenities in appropriate areas, such as dry storage, dry stacking, transient slips, restaurant or food service, boat repair yard or boat repair services;
- Continue to operate and maintain the Angels Creek swim beach at lake elevations above 1,050 feet msl;
- Construct protected floating swim-dock facilities;
- Construct floating campsites with yurts and restrooms;
- Provide seasonal scenic cruises and lake tours that include interpretation of area history, natural and cultural resources, and provide education on conservation and appropriate uses;
- Continue to provide a marina-based store in Glory Hole for sale of recreation-related products. In addition, provide a camp store to sell ice, beverages, film, firewood, and other related products in Tuttletown and Glory Hole;
- Issue permits to a limited number of commercial businesses for rental operations for equipment such as bicycles, non-motorized boats, camping gear, and pre-delivered RVs;

- Construct a new full hook-up RV park within Tuttletown and/or Glory Hole Recreation Areas;
- Construct overnight lodging facilities, such as yurts, park models, or cabins within Tuttletown and Glory Hole Management Areas;
- Construct a cafe, restaurant, or walk-up grill facility within Tuttletown and/or Glory Hole Management Areas;
- Continue to issue Special Event permits when and where appropriate as per 43 CFR, Parts 429 and 423;
- Update and modify the existing amphitheater in Glory Hole and construct an amphitheater in Tuttletown, to hold mission-related interpretive and other events under Reclamation management;
- Enter into a managing partner or concession agreement, to construct facilities and operate a mountain bike course or park in Tuttletown or Glory Hole Management Areas;
- In all Reclamation management areas, continue to operate and maintain Reclamation facilities and provide services with a combination of Reclamation staff, service contracts, concession agreements, and MOU or MOA with other entities for maximum flexibility and resource protection;
- Issue permits to a limited number of commercial businesses to operate mission-compatible "adventure" outfitter guide services in Rural Natural Management Areas;
- Continue to not permit a seaplane school at New Melones Lake, per 43 CFR, Part 423;
- Issue permits to a limited number of commercial businesses, or enter into a managing partner or concession agreement, to construct facilities and operate an equestrian trail riding business in a Rural Natural Management Area. Locations to be considered may include PWMA, Westside, Bowie Flat, Greenhorn Creek, French Flat, or Bear Creek Management Areas;
- Issue permits to a limited number of commercial businesses, or enter into a managing partner or concession agreement, to construct facilities and operate venues for outdoor adventure schools, environmental education outings, ecotourism, or volunteer vacations for the public. Locations to be considered include PWMA, Westside, Bowie Flat, Greenhorn Creek, Stanislaus River Canyon, Camp Nine, French Flat, or Bear Creek Management Areas;
- Construct and maintain primitive camping facilities in a Rural Natural Management Area at trailhead staging areas or other areas for overnight backpacking, equestrian, guided services, or other commercial activities. Locations to be considered may include PWMA, Westside, Bowie Flat, Greenhorn Creek, Stanislaus River Canyon, Camp Nine, French Flat, or Bear Creek Management Areas;

- Do not allow RV camping in Rural Natural Management Areas per 43 CFR, Part 423;
- Do not allow OHV use per 43 CFR, Part 423;
- Do not allow construction of a mountain bike course in Rural Natural or Semi Primitive Management Areas;
- Continue to operate and maintain the existing water-ski club course located within the South Bay and Bear Creek Management Area;
- Do not allow skeet or target shooting per 43 CFR, Part 423; and
- Continue to operate and maintain the existing RC flying facility in the PWMA, Peoria Flat subarea.

Facilities and Maintenance Program Implementation Strategies:

- Provide a recreation maintenance program that includes such components as potable water, sanitation, refuse management, landscape maintenance, building and facility repairs, waterway and hazard marking, and pest control;
- Restrict all public vehicles to designated roads, except as authorized under permit;
- Design roads, trails, and access easements to follow the natural topography, minimizing steep slopes and the number of stream crossings;
- Provide and maintain land and water-based toilets to minimize exposure to unsanitary conditions for visitors;
- Provide and maintain appropriate storage, transfer, containment, and disposal facilities for liquids, such as oil, solvents, antifreeze, and paints, at Reclamation and lessee facilities. Encourage recycling of these materials;
- In addition to operating and maintaining facilities in Rural Natural Management Areas, assess the need and feasibility of appropriate additional development, in keeping with Rural Natural attributes, to meet recreation demand in French Flat, Bear Creek, Parrotts Ferry, Natural Bridges, Westside, Bowie Flat, Mark Twain, Camp Nine, and Greenhorn Creek; and
- In addition to operating and maintaining facilities in all Rural Developed Management Areas, assess feasibility of future development. Concentrate any additional facilities in areas of existing development, such as Tuttletown and the Glory Hole Management Area.

Recreation Use Fee Implementation Strategies:

- In the designated fee areas, continue to implement a user fee program and expand to areas when appropriate to achieve management goals; and
- Evaluate quality and variety of recreation through formal customer surveys, as well as other forms of public involvement. Base planning for future use of funds on surveys. Evaluate visitor satisfaction with value for fee paid through formal surveys approved by the Office of Management and Budget.

Universal Access Implementation Strategies:

- Incorporate the universal design approach to accessibility in all new facilities and programs. Retrofit all existing facilities to provide accessibility, in accordance with ADA, ADA Accessibility Guidelines for Buildings and Facilities, Architectural Barriers Act of 1968, and mandates in Section 504 of the Rehabilitation Act of 1973. This approach combines the basic principle of barrier-free design with the more comprehensive view, which considers all degrees of sensory awareness, all types of locomotion, and all levels of physical and intellectual function. As required, facilities and programs would meet legally mandated accessibility standards (per the ADA of 1990 and the 1991 ADA accessibility guidelines, Section 504 of the Rehabilitation Act of 1973, as amended in 1978, and the International Building Code [National Fire Protection Association 5000 Building and Safety Code]);
- Conduct an accessibility review of all facilities at developed and undeveloped recreation areas not previously surveyed or in response to new requirements;
- When determining the applicable levels of accessibility, consider a site's topography and natural features, the degree of structural modification, and visitors' expectations related to the recreational land use. Provide accessibility to all visitors within the confines of topography, natural features, and cultural and historical site locations; and
- Modify facilities and programs to comply with ADA requirements, where practical to provide for reasonable accommodations as resources for updating become available.

Visitor Services/Ranger Program Implementation Strategies:

- Continue to implement the RRMA of 1992;
- Require park rangers and resource staff to implement and manage the recreation, interpretive, natural resource, and visitor services programs;
- Use a phone and Internet-based reservation system (National Recreation Reservation System) for campground and group picnic facility reservations;
- In support of primary emergency services, provide first response for medical, hazardous materials, search and rescue, and other emergencies at New Melones Lake; and
- Educate the public on natural resources, cultural resources, public safety, invasive species, and Reclamation's mission.

Aquatic Recreation

Goals: Provide a diverse range of water-based recreation opportunities suited to user needs compatible with the existing character of the lake and surrounding lands. Protect cultural resources, natural resources, and water quality for the future while providing safe and enjoyable recreational experiences.

General Aquatic Recreation Implementation Strategies:

- Use the WROS and the related carrying capacity study as a guide when managing visitor use and recreation (Appendix B). Included in the carrying capacity are estimates of the optimum number of visitors at New Melones Lake and the optimum density of watercraft on New Melones Lake;
- Develop appropriate educational opportunities on water and boating safety;
- Allow special events by permit when they support Reclamation's mission; examples are fishing tournaments, triathlons, water-ski exhibitions, or similar aquatic sporting events;
- Prevent the introduction of aquatic invasive pest species through prohibiting boat launching from known source locations, screening for invasive pest species, and education;
- Implement additional lake zones to protect the public and natural resources. For example, designate additional swimming areas and areas appropriate for nonmotorized boating, houseboats, and seaplanes. Further, designate no wake zones to prevent shore erosion. Zones may include, but would not be limited to, designated areas of Greenhorn Creek, Westside, Glory Hole, Coyote Creek, Parrotts Ferry, Tuttletown, French Flat, Mark Twain, Stanislaus River Canyon, and Camp Nine Management Areas (see Figures 3-5 and 3-6); and
- Install additional floating vault toilets at various locations on New Melones Lake when lake level and weather conditions permit.

Fishing Implementation Strategies:

- Continue to manage fisheries through an agreement with the CDFG;
- Develop a strong partnership with CDFG to increase communication, leading to more effective enforcement of the appropriate regulations under the Clean Water Act and the Fish and Game Code of California;
- Limit disturbance and intensive visitor use along perennial stream corridors and reservoir coves that maintain prime spawning, rearing, and adult residence area fisheries;
- Minimize disturbance of habitat in perennial streams that support native fish;
- Continue to enhance fish habitat by installing fish attractors, consisting of piles of logs and brush anchored to the ground, to provide cover for fish;
- Support efforts by volunteers and partners to rehabilitate and improve fisheries, fish habitat, and aquatic resources;

- Prevent entrapment and death of fish within water impoundment facilities;
- Except when snags present a safety hazard, continue to leave dead trees in the reservoir to provide fish habitat;
- Designate additional zoning at Glory Hole, Mark Twain, Tuttletown, Parrotts Ferry, Stanislaus River Canyon, and Camp Nine to encourage fishing, prevent shoreline erosion, and protect public safety. Designate no wakes zones in Texas Charley Gulch, Vonich Gulch, South Fork of the Stanislaus River in the Stanislaus River Canyon area, and Greenhorn Creek. In addition, designate Camp Nine, Coyote Creek, and Mormon Creek as environmentally sensitive areas (see Figures 3-5 and 3-6);
- Minimize disturbance of known warm-water fish spawning areas, such as Black Bart Cove; and
- Minimize disturbance of known trout spawning areas in Coyote Creek Cove, Angels Creek Cove, Carson Creek Cove, and Mormon Creek Cove, as well as areas of the Stanislaus River downstream from the confluence of Rose Creek and the South Fork.

Motorized Boating, Water Skiing, and Wakeboarding Implementation Strategies:

- Continue to mark the tops of intermittent islands, large rock outcroppings, or other aquatic hazards with warning buoys, in accordance with the New Melones Lake Waterway Hazard Marking Plan;
- Provide courtesy docks in the waters surrounding usable boat ramps to facilitate the efficient launch and take-out of boats;
- Provide flexible support facilities at all functioning (usable) boat ramp locations (e.g., portable toilets, trash receptacles);
- Do not relocate the public ski course and dock unless a more suitable location is found that would benefit resources, provide for public safety, minimize conflicts, and optimize recreational opportunities in keeping with the planned WROS designation;
- Allow an increased level of watercraft use at New Melones Lake, in accordance with an updated carrying capacity, desired future conditions, and WROS designations for the various management areas;
- Prepare and implement a moored vessel plan for New Melones Lake, addressing such topics as mooring sites, houseboat size limits, quantities, mooring agreements, term limits, and boat slips (Appendix C);
- Designate additional areas as no-wake zones. These areas would encourage an increased diversity of experiences at the lake, would prevent shoreline erosion, and would protect public safety (see Figures 3-5 and 3-6); and
- Issue permits to a limited number of commercial businesses to operate mission-compatible white-water rafting services in the Camp Nine Area.

Aircraft Implementation Strategies:

- Continue to implement the New Melones seaplane policy and comply with 43 CFR, Part 423, which includes restrictions on commercial operation of seaplanes and designates appropriate landing zones and operations (see Figure 3-1); and
- Prepare and implement a strategy to address adverse overflight activities. The strategy may include a range of actions, from increased education and communication with aviators, county airport personnel, and the FAA to requesting that the FAA restrict airspace over New Melones Lake Area to protect public safety and critical infrastructure.

Swimming Implementation Strategy:

Designate additional water play areas, which would be safe for swimming, and close those areas to incompatible uses (see Figure 3-5).

Land-Based Recreation

Goals: Provide a diverse range of land-based recreation opportunities suited to user needs compatible with the existing character of the project lands. Protect cultural and natural resources for the future, while providing safe and enjoyable recreational experiences. Provide specific recreation opportunities and adequate flexible and efficient support facilities under varying lake level conditions, without compromising ecological resources and by demonstrating compatibility with the site-specific suitability of land and water environmental conditions. Provide a variety of nonmotorized recreational experiences using trails and pathways. Provide safe recreational hunting opportunities compatible with the Wildlife Management Plan, while respecting private property rights and management authority over wildlife resources.

General Land-Based Recreation Implementation Strategies:

- Continue to provide a diverse range of land-based recreation opportunities suited to user needs, compatible with the character of the project lands, and targeted to a diversity of visitor interest and capabilities;
- Limit land use activities within wetland/riparian buffer zones to prevent significant deterioration of wetland habitats;
- Promote wildlife viewing and appropriate dispersed recreation, such as hiking, horseback riding, climbing, bicycling, hunting, and fishing throughout New Melones, but especially in the Peoria Wildlife Management Area;
- Allow by permit special events that support Reclamation's mission, such as equestrian trail trials, special hunts, and cross-country sporting events; and
- Design recreation area facilities to minimize water contamination and loss of soils due to surface runoff.

Trail/Pathway Implementation Strategies:

- Continue to provide directional signs at trailheads and trail junctions, and provide trail markers on longer trails;

- Continue to place interpretive markers at selected sites along designated trails;
- Within intensively used recreation areas, construct pathways to concentrate foot traffic;
- Construct pathways from the parking lots to picnic areas, restrooms, beaches, and walk-in campsites;
- Construct pathways and trails to follow current Reclamation design standards and BMPs;
- Design roads, trails, and access easements to follow the natural topography, minimizing steep slopes, and to limit the number of stream crossings;
- Coordinate with the county and local landowners and other partners in regional trails planning;
- Continue to develop and maintain partnerships to construct and manage the trail systems;
- Develop and maintain trailhead staging areas with minimum basic facilities in strategic locations to provide visitor access to trails, while protecting sensitive natural and cultural resources;
- Continue to prohibit equestrian use of trails within developed portions of existing Rural Developed Management Areas, such as Tuttletown. Where equestrians are permitted, allow multiple use by bicycles only if safe to do so;
- In the Peoria Wildlife Management Area, relocate equestrian staging area and associated minimum basic facilities to a more appropriate location that allows day use and possible overnight use by permit. Improve the staging area and existing trails. Develop additional trails by a concession-operated equestrian facility or managing partner, if the purpose is to meet the management goals of better stewardship presence, trail and facility maintenance, and public education about sensitive species in the serpentine plant community. Develop a partnership with CAL FIRE or other entity to manage recreation opportunities in the Peoria Wildlife Management Area;
- Promote the use of existing trails and unpaved roads in developing future trail systems, where appropriate;
- Encourage multiuse trail activities (pedestrian, equestrian, and bicycle) in developing new trails or redeveloping existing trails through consideration of trail design (width, surface, visibility), compatibility, and land use suitability;
- Prepare and implement a trails management plan that optimizes connectivity and multiple uses of trails, including ADA-compliant trails where appropriate. Consider improvements for safety, sanitation, and better access, such as connecting the lower bridge at Natural Bridges to the rest of the trail system;

- In the Coyote Creek Management Area, update Natural Bridges access trail, including trail markers to correct existing and prevent future resource degradation;
- Optimize the connectivity between the fire road and trail system for a variety of uses, such as mountain biking, equestrian use (outside of Rural Developed Management Areas), and hiking in Glory Hole, Greenhorn Creek, and Westside Management Areas. Develop new trailheads to access the Greenhorn Creek and Westside areas; and
- Optimize the connectivity between the fire road and trail system for a variety of uses, such as mountain biking, equestrian use (outside of Rural Developed Management Areas), and hiking in Tuttletown, Bear Creek, French Flat, and Peoria Wildlife Management Areas. Develop trailheads in these areas.

Camping, Picnicking, and other Day-Use Implementation Strategies:

- Continue to operate and manage the campgrounds and day-use facilities under the New Melones Lake Policy (Appendix E), and 43 CFR, Part 423;
- Manage fee collection for campground and day use through the National Recreation Reservation Service;
- Continue to update and modernize campground and day-use facilities. Concentrate on installing vehicle barriers in the campgrounds and day-use areas, creating full hookup campsites, redeveloping and enhancing facilities in high demand areas, expanding day-use facilities for larger groups, providing permanent restrooms with showers to replace portable facilities, installing additional potable water outlets, and improving potable water and waste treatment facilities;
- Locate campsites and picnic sites for groups, including persons with disabilities, within camping and day-use areas at the larger recreation areas;
- Continue to operate a volunteer camp host program to provide information to visitors and maintain a Reclamation presence in the campgrounds;
- In all Rural Developed Management Areas, update and modernize campground facilities for RVs and tent camping. In particular, at Glory Hole and Tuttletown, consider adding utilities to RV sites or constructing additional full-service RV campgrounds via a concession contract. Install vehicle barriers in the campgrounds and day-use areas; and
- If feasible and in conjunction with Caltrans, manage a 66-acre parcel of land near the PWMA. Provide a combination of recreation access and resource restoration.

Hunting Implementation Strategies:

- Manage hunting in accordance with rules and regulations set forth by the CDFG, 43 CFR, Part 423, and other federal laws and regulations;

- Provide information to visitors on hunting opportunities and restrictions through signs, maps, visitor contact, and other media;
- Continue to prohibit recreational target shooting on Reclamation lands and waters;
- To protect health and safety, develop and implement a long-term strategy for managing shotgun-only hunting as visitation and urban development increase. This policy may include restrictions to meet management goals, such as compliance with California Fish and Game code, as well as other applicable regulations, such as EO 13443. Restrict hunting within 150 yards of the Reclamation boundary at French Flat and Bear Creek (see Figures 3-6 and 3-8); and
- Enhance hunting opportunities by developing agreements to allow special hunting events, such as youth hunts and special needs hunts.

Radio Controlled Aircraft Implementation Strategy:

Continue to allow the use of radio-controlled model airplanes in Peoria Flat via existing agreements/license. Allow only in a designated facility that is open to the public and subject to contract terms and conditions.

Rock Climbing Implementation Strategies:

- Continue to allow rock climbing at the visitor's own risk;
- In the Peoria Wildlife Management Area, manage rock climbing use in accordance with federal regulations on natural and cultural resources;
- During the habitation period, conduct monthly inventories of sensitive bat species, such as the mastiff bat, on the northwest slope of Table Mountain. Monitor climbing routes in the area for effects on sensitive species; and
- As described in the Peoria Wildlife Management Plan, if impacts on sensitive species are identified, develop and implement a climbing management plan.

Spelunking Implementation Strategies:

- Continue to allow spelunking at the visitor's own risk;
- Implement a protection plan for caves with significant resource value or potential hazards, as needed; create a partnership with local spelunkers to protect and preserve cave resources;
- To preserve cave resources, such as scenic qualities, fragile formations, cultural resources, and sensitive species, manage recreation use to minimize impacts as needed; and
- Manage access to caves to comply with federal law and meet health and safety requirements.

Interpretive Services

Goals: Enhance the public's understanding of the history, purpose, and operation of the project and its archaeological, historical, human-made, natural, and cultural features Enhance recreation experiences through the Visitor's Center, interpretive services, and volunteer programs. Enhance the quality of recreation for all visitors including those with physical, sensory and cognitive impairments. Educate the public about Reclamation, water resources, water conservation, and water safety. Promote stewardship, achieve management objectives, optimize resources, provide enhanced services, and provide educational opportunities.

General Interpretive Service Implementation Strategies:

- Interpret the natural, cultural, and recreation resources at New Melones, as well as the importance of water resource management and conservation activities of Reclamation, its water users, and other agencies;
- Provide public information and education within all aspects of visitor services that support recreational activities;
- Provide information, education, and quality recreational experiences through interpretive displays, trails, signs, visitor contact, brochures, booklets, programs, presentations, publications, and other media both on and off Reclamation lands;
- Encourage recreational user groups and neighbors to assist Reclamation with the stewardship and management of project lands;
- Prepare and implement an Interpretive Master Plan;
- Require all concessionaires to provide expanded interpretation and public education as appropriate and in conjunction with the Interpretive Master Plan. In addition, develop concessionaire contracts and partnerships specifically to provide interpretive services. Include in these contracts a variety of programs, ranging from activities-based education, such as boating safety, to natural and cultural resource-based education, such as the history, prehistory, and ecology of the New Melones Area; and
- Update and modernize to ADA standards outdoor facilities for interpretive programs and services in Tuttletown Management Area and Glory Hole Management Area. This may include modifying the Glory Hole amphitheater and developing an amphitheater in the Tuttletown Management Area.

Visitor Center Implementation Strategies:

- Operate the visitor center to provide interpretive services and visitor information. Provide accessibility services for all interpretive programs as needed at the visitor center;
- Provide information through a variety of multimedia tools and programs at the visitor center;
- Provide displays at the visitor center that are interactive and in compliance with ADA mandates;

- Operate and maintain the visitor center to modern standards and develop an outdoor classroom at the visitor center for environmental education. This includes compliance with Reclamation's directives and standards on visitor centers LND 13-01; and
- In the Mark Twain Management Area, develop interpretive features for the Norwegian Gulch Trail starting from park headquarters and the visitor center.

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5. Affected Environment

5.1 Introduction

This chapter is a description of the biological, physical, and socioeconomic characteristics, including human uses that could be affected by implementing the action alternatives for this RMP/EIS (see Chapter 3). Where possible, the information and direction for Reclamation resources has been further broken down into fine-scale assessments and information. Specific aspects of each resource discussed in this section were raised during the public and agency scoping process. The level of information presented in this chapter is commensurate with and sufficient to assess potential effects of the action alternatives in Chapter 6.

5.2 Resources

This section contains a description of the biological and physical resources of the New Melones Lake Area and generally follows the order of topics addressed in Chapter 3, as follows:

- Air quality;
- Noise;
- Climate;
- Geology;
- Topography;
- Hydrology/water quality;
- Visual Resources;
- Vegetation;
- Fish and wildlife;
- Special status species;
- General land management;
- Access and transportation;
- Public health and safety;
- Invasive species control;
- Fire management;
- Cultural resources;
- Indian Trust Assets;
- Socioeconomic and environmental justice;
- General recreation;
- Facilities, land use, and management areas;
- Aquatic recreation;
- Land-based recreation;
- Interpretive services and visitor information; and
- Utilities.

5.2.1 Air Quality

The New Melones Lake Area's location in Calaveras and Tuolumne Counties places it in the Mountain Counties Air Basin in the central Sierra Nevada foothills. Air quality problems in this air basin include periodic high levels of ozone and suspended particulate matter. Other air pollutants generally do not occur in concentrations high enough to constitute a problem.

Air quality management programs in California are the responsibility of local air pollution control districts (APCDs), the California Air Resources Board (CARB), and the US EPA. The local air pollution control districts for the New Melones Lake Area are the Calaveras County APCD and the Tuolumne County APCD.

Federal and state air quality management programs have evolved using a combination of two different approaches:

- The state implementation plan (SIP) process of setting ambient air quality standards for acceptable exposure to air pollutants, conducting monitoring programs to identify locations experiencing air quality problems, and then developing programs and regulations designed to reduce or eliminate those problems; and
- The hazardous air pollutant process of identifying specific chemical substances that are potentially hazardous to human health and then setting emission standards to regulate the amount of those substances that can be released by individual commercial or industrial facilities or by specific types of equipment.

Both the EPA and CARB have adopted ambient air quality standards for various pollutants. Federal ambient air quality standards have been adopted for ozone, suspended particulate matter, carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead. State ambient air quality standards have been adopted for these same pollutants, plus sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Federal and state ambient air quality standards for suspended particulate matter have been established for two different size ranges of suspended particles: inhalable particles (designated as particulate matter less than 10 microns in equivalent aerodynamic diameter [PM_{10}]), and fine particles (designated as particulate matter less than 2.5 microns in equivalent aerodynamic diameter [$PM_{2.5}$]).

Ambient air quality in Tuolumne County is monitored in Sonora, specifically ozone, PM_{10}, $PM_{2.5}$, and carbon monoxide; ambient air quality in Calaveras County is monitored in San Andreas, specifically ozone and carbon monoxide. There is no PM_{10} or $PM_{2.5}$ monitoring in Calaveras County.

High ozone levels in Calaveras and Tuolumne Counties are due almost entirely to pollutant transport from the Central Valley and the San Francisco Bay Area (CARB 2001a). Air quality management programs for Calaveras and Tuolumne Counties rely

primarily on emission control programs in upwind source areas to provide for eventual attainment of state and federal ozone air quality standards.

Ozone monitoring data from Sonora and San Andreas show that the state and federal ozone standards typically are exceeded several times each year, with considerable year-to-year variation (CARB 2007a). Ozone monitoring data from Sonora and San Andreas show no clear trend in either the frequency of violations or the maximum measured ozone levels. PM_{10} monitoring data from San Andreas in Calaveras County do not show any clear trends in annual average PM_{10} levels (CARB 2007a).

Most hazardous air pollutant regulations relate to specific industrial sources and operations, but California has identified naturally occurring asbestos as a toxic air contaminant. Naturally occurring asbestos is found in serpentine rock and in some types of ultramafic rocks (those most often found in fault zones). CARB has adopted regulations for limiting the amount of naturally occurring asbestos in aggregate material used for surfaces, including those for roads, road shoulders, parking areas, trails, and playgrounds (CARB 2000). CARB also has adopted separate regulations for construction, grading, quarrying, and surface mining that disturb areas of serpentine, ultramafic rocks, or other areas found to have naturally occurring asbestos (CARB 2001b). The local APCDs enforce these regulations.

Air pollutant emission sources associated with New Melones Lake Area include car and truck traffic, boat and personal watercraft engine emissions, and generators, camp stoves, and campfires at campground facilities. Localized air quality can be lowered at boat ramps where cars, boats, and personal watercraft may idle while launching. Seaplanes and wildfires and prescribed burns on lands surrounding the New Melones Lake Area are additional but infrequent sources of air pollutant emissions. Facility construction is another, temporary and localized, source of fugitive dust and vehicle emissions.

5.2.2 Noise

In general, background noise levels vary with wind conditions and relative location (on the lake, along the shoreline, or inland). Typical background noise levels are expected to vary from 35 A-weighted decibels (dBA) to 50 dBA, depending on wind conditions. Aircraft overflights represent an intermittent contributor to overall background noise levels. Noise levels are often somewhat higher near such sources as highway traffic, occupied campgrounds, and areas of the lake with boat and personal watercraft use.

Intermittent but intense noise sources may occur as a result of floatplane landings and takeoffs, model aircraft flying, amplified music on wakeboard boats and houseboats, and construction or maintenance at various facilities (Reclamation 2006a) or detonations of explosives at the nearby Carson Hill Mine and at the Blue Mountain Minerals Mine in River Canyon. Hunting represents a seasonal, localized, and intermittent source of noise in areas away from campgrounds and other heavily used visitor facilities. Unauthorized off-road vehicle use represents another intermittent noise source affecting some portions of the New Melones Lake Area.

The highest overall noise levels are expected to be in the vicinity of campgrounds, the marina, boat launching facilities, and occupied day use areas. In general, noise conditions in the New Melones Lake Area would not interfere with recreational activities and experiences. However, in a 1993 survey during the Independence Day holiday, some visitors complained about excessive nighttime noise in campgrounds and high noise levels from boats. Boats and personal watercraft with underwater engine exhaust and at full throttle generally produce noise levels of 75 to 85 dBA at a distance of 50 feet (15 meters) (Lanpheer 2000).

5.2.3 Climate

The foothills in which New Melones Lake is located are part of the Sierra bioregion, which includes the entire Sierra Nevada, extending approximately 380 miles (610 kilometers) along California's eastern side. Climate at the lake is Mediterranean, meaning that it has wet winters and dry summers. The location of the lake between the higher elevations of the Sierra and the low-lying floor of the Central Valley means that temperatures are moderate and between those found at these two extremes. Because of this transitional location, climatic features, such as temperature and precipitation, fluctuate widely throughout the year. This fluctuation in turn leads to profound yet predictable seasonal variations in the conditions of various resources, including water temperatures and levels, vegetative vigor, and wildlife residency.

Localized fluctuations in temperature and precipitation within the project area result from aspect and elevation. These fluctuations are apparent as differences in vegetation patterns, soil formation and stability, and moisture retention. Although these localized variations in resource conditions may affect planning on a project level, climatic resource conditions for the RMP/EIS are reported on a regional level.

Climate data shown in Table 5-1 reflect average high and low temperatures and average precipitation from 1992 to 2006. During this time, the maximum recorded temperature at New Melones Dam was 110 degrees Fahrenheit (43 degrees Celsius), while the lowest temperature was 24 degrees F (- 5 degrees Celsius). Extended periods of temperatures at or below freezing are uncommon. Mean annual rainfall at the dam during this period was about 33 inches (83 centimeters) (Western Regional Climate Center [WRCC] 2006).

Table 5-1: New Melones Dam, Period of Record Monthly Climate Summary

Period of Record: 3/1/1992 to 10/31/2006													
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Annual**
Average maximum temperature (F)	56.2	59.3	64.8	69.2	79.3	88.1	96.5	95.8	90.1	79.2	64.6	56.6	75.0
Average minimum temperature (F)	38.4	40.1	43.6	45.2	52.5	58.2	65.0	63.8	59.4	51.9	43.3	38.1	50.0
Average total precipitation (in.)	7.67	5.35	4.18	2.75	1.82	0.48	0.05	0.07	0.23	1.33	2.86	5.71	32.50

Source: WRCC 2006

More annual precipitation is expected in some of the higher watersheds that ultimately contribute to New Melones Lake. Most precipitation in the immediate vicinity of the lake falls as rain, with a very small amount falling as snow, and occurs primarily between November and April (WRCC 2006). Although the dry season at New Melones is long, hot, and dry, lake levels are maintained during this time by melting snowpack. Other climatic variables, such as global warming, drought, or long-term regional changes in precipitation, may affect resources over the next 15 to 20 years.

5.2.4 Geology

Overall Geology

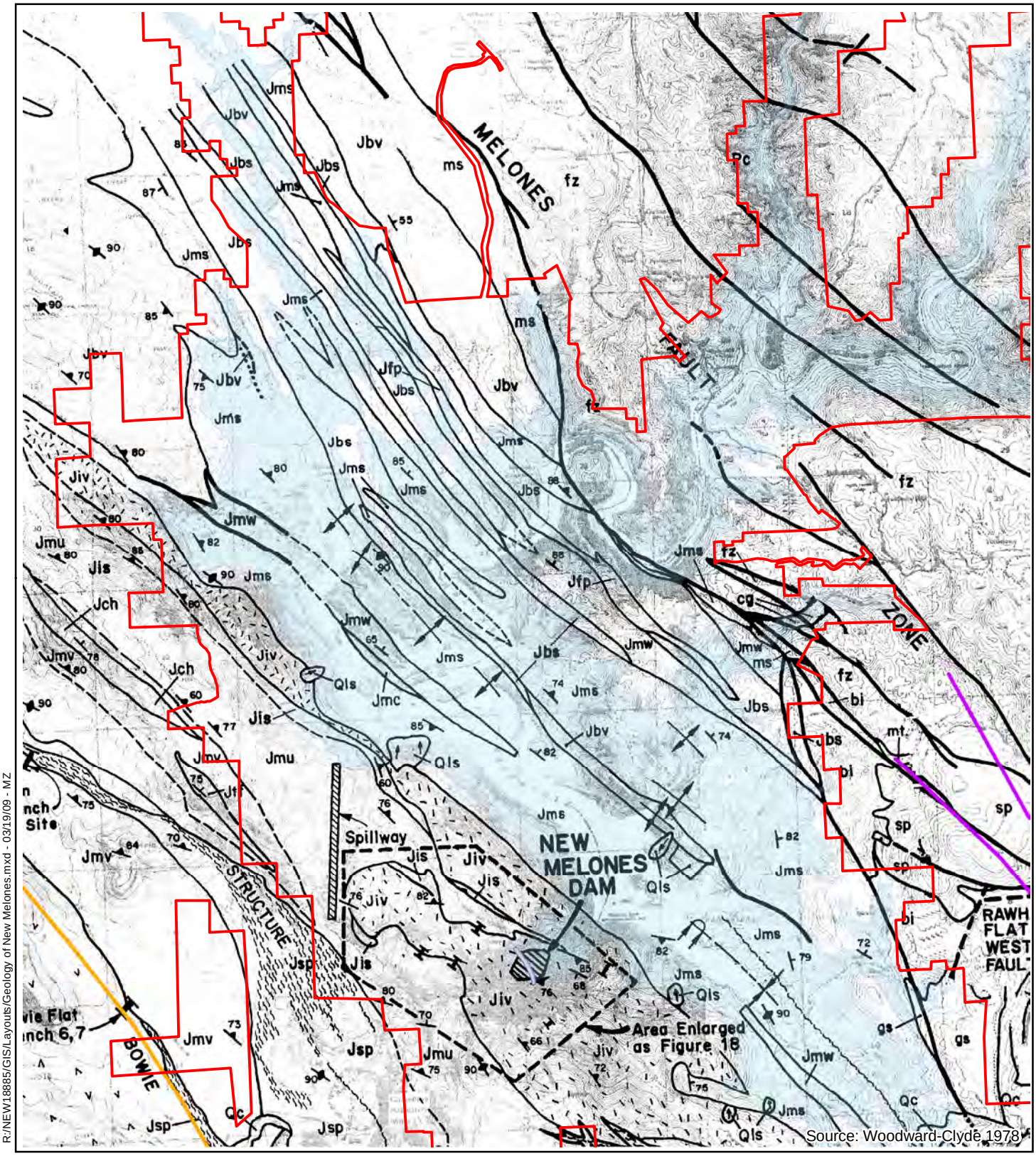
This section has been organized into the following subsections:

- **Geologic Formations—**Subterranean features that shape the topography of the lake and its surroundings;
- **Seismicity—**Faults found in the area;
- **Mineral Resources—**Minerals that have been mined commercially in the area or for which there may be specific management actions in the RMP/EIS;
- **Soils—**Soil types found in the area and the geologic features that produce them; and
- **Caves—**The numerous caves that are found in the limestone formations at the northern part of the lake.

Geologic Formations. The interpretation of the geology of the foothills of the Sierra Nevada is difficult because the understanding of the geology has undergone many changes and refinements. A narrative of the major geologic features has been included in this section to highlight the formations and stratigraphic units particularly influential to the New Melones Lake Area.

One of the noteworthy features of the study area that is apparent in Figure 5-1 is a general tendency of the mapped units and of lines representing structural features to have a northwest trend. In fact, it is clear that the main body of New Melones Lake is similarly oriented. This northwest trend is produced by the Foothills Metamorphic Belt (FMB), which extends about 150 miles (240 kilometers) from the Modoc Plateau in the north to about the latitude of Merced in the south. In the study area, the FMB is bounded on the east by the Calaveras Formation (also referred to as the Calaveras Complex) and on the west by sedimentary rocks of the Great Valley sequence. The two most prominent structural features within the FMB are the Melones Fault Zone and the Bear Mountain Fault Zone.

The Sierra Nevada is the result of relatively recent uplift of the range by faulting. The block containing the Sierra Nevada batholith was pushed up to the east and tilted down to the west. As this happened, the rocks into which the batholith had intruded eroded away,



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Geology of New Melones

Legend

- Project Boundary
- New Melones Lake

Late Quaternary Fault Segments (Jennings 1994)

- Bear Mountain
- Melones

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Miles

New Melones Lake Area, California
Central California Area Office

Figure 5-1

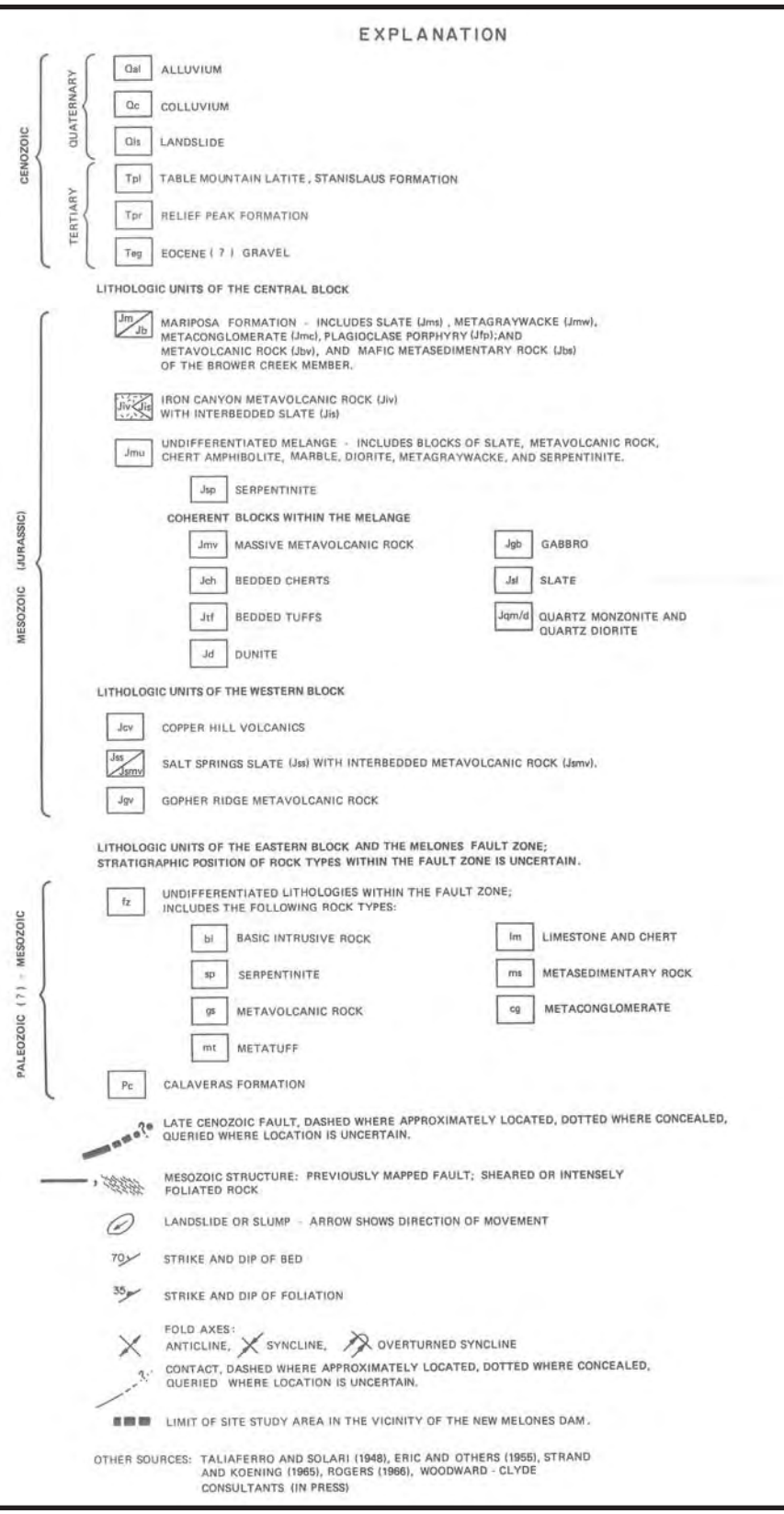

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Figure 5-1 Legend

New Melones Lake Area, California
Central California Area Office

exposing its younger and more resistant granitic rocks. However, small remnants of the original continental rocks were preserved, including bodies of limestone that belong to the Calaveras Formation.

The uplift of the Sierra Nevada was preceded and accompanied by volcanic activity that resulted in significant deposits of volcanic material, some of which have been given formation names, the most prominent of which within the study area is the Table Mountain latite.

Unique Geologic Features. Table Mountain is the cast of an ancient river valley. During the early to middle Miocene Period, large volumes of andesitic lava erupted from volcanoes east of the study area in what is now the Carson Pass area. Large quantities of andesitic mud and debris washed down the stream channels. Subsequent eruptions of latite lava followed and filled these ancient stream channels, forcing the rivers to find other routes. The river channels buried under these volcanic deposits contained placer gold deposits. The lava buried and preserved both the placer gold deposits and the Mehrten Formation deposits. Eventually, the surrounding land surface eroded, leaving behind flat-topped ribbons of the resistant latite lava.

Seismicity. The two major faults affecting the dam foundation are the Powerhouse Fault and the IF-83 Fault. The Powerhouse Fault passes through the Powerhouse foundation, across the canyon floor downstream of the toe of the dam, and curves toward the east, crossing the left abutment of the dam at an elevation of about 940 feet (290 meters). The IF-83 Fault strikes north 75 degrees west and dips 65 degrees south. It passes through the foundation of the sloping intake structure, under the extreme upstream toe of the dam, and continues up the left abutment, where it intersects the Powerhouse Fault. Two smaller faults occur within the foundation, one located high on the right abutment and the other on the lower left abutment (Reclamation 2006b).

Faults found in the vicinity of the New Melones Lake Area are not considered active, and the lake area's situation atop shallow bedrock would minimize shaking in the event of an earthquake. Reclamation would construct any new facilities in compliance with the California Building Code, which requires measures to minimize building failure in the event of an earthquake. Reclamation must also comply with the Alquist-Priolo Earthquake Zone Act, although this act would not restrict building because there are no Alquist-Priolo faults in the project area.

Mineral Resources. The mineral resources described below are found within the project area.

Gold. Gold occurs in lode deposits and placer deposits within the study area, which overlies the Carson Hill and Jamestown Gold Districts. The Carson Hill District (also known as the Melones District) includes the portion of the Mother Lode Belt, which extends from Carson Flat to the town of Melones on the Stanislaus River. (The town was abandoned when New Melones Lake was filled.) The Jamestown District extends south to the town of Stent. Milling ore of the Carson Hill District was usually low in grade, but the ore bodies were extensive (Oakland Museum of California 1998a, 1998b).

The Carson Hill (Melones) Mine is the largest recently active lode mining operation adjacent to New Melones Lake Area. It is between State Route (SR) 49 Stevenot Stanislaus River Bridge and Coyote Creek, just outside the study area boundary. The Jamestown Mine is on the southeast side of Table Mountain, outside the study area.

The town of Melones was historically the site of a placer gold dredging operation, and there are several former hydraulic mining locations within the study area. More important are the placer deposits contained in the ancient stream channels buried beneath Miocene Mehrten Formation and Table Mountain latite flows.

Chromite. Chromite deposits with moderate potential are present in the ultramafic rocks associated with the Bear Mountain Fault Zone. Little or no exploration has been conducted since the 1940s.

Limestone and dolomite. High-calcium limestone suitable for cement production is present in the Paleozoic limestone deposits of the Calaveras Complex.

Talc. Talc is present in localized hydrothermally altered schist deposits within the Melones Fault Zone. There are no active talc mining operations in the vicinity of the study area.

Asbestos. Asbestos minerals, such as chrysotile, are present in the serpentine deposits associated with the New Melones and Bear Mountain Fault Zones. The Jefferson Lake Asbestos Company operated the largest open pit asbestos mine in the United States at a site just south of the New Melones Dam, along the upper inlet of Lake Tulloch. The mine was closed in 1987. Calaveras Asbestos, Ltd. has operated the former pit as a landfill for disposing of asbestos-containing material and used tires.

Axonite. Axonite is a rare mineral known from only a few locations worldwide. Although not particularly valuable in and of itself, it is sought after by rock collectors due to its scarcity. Axonite has been identified at a single location on Reclamation lands, but collection of this mineral is not permitted.

Soils. Soils result from weathering rocks. They can be formed in place, or the parent material may be transported during a part of its history, as occurs with alluvial soils, which are deposited by flowing water. Soils reflect not only the geologic and mineral character of the parent rock material, but to an even greater extent, they reflect the climate conditions that the material is exposed to and the slopes that they form on. The study area is generally steep, with narrow V-shaped valleys and steep stream channels. There are few significant areas in which alluvium accumulates. The soils tend to be shallow and rocky. Soils on north-facing slopes are generally deeper than soils developed on south-facing slopes.

As part of an effort to classify the ecological regions of the United States into successively smaller units, the US Forest Service (USFS) has produced a map of the ecological subregions of California. Among other elements, the map identifies the broad categories of soils within the subregions (USFS 1997). The study area is in the Lower

Sierra Nevada Foothills Metamorphic Belt Ecological Subregion, where the soils are well drained. Bicarbonate weathering and leaching and clay accumulating in subsoils are the main processes driving soil formation. Soil temperature regimes are mostly thermic, and soil moisture regimes are xeric (requiring little moisture).

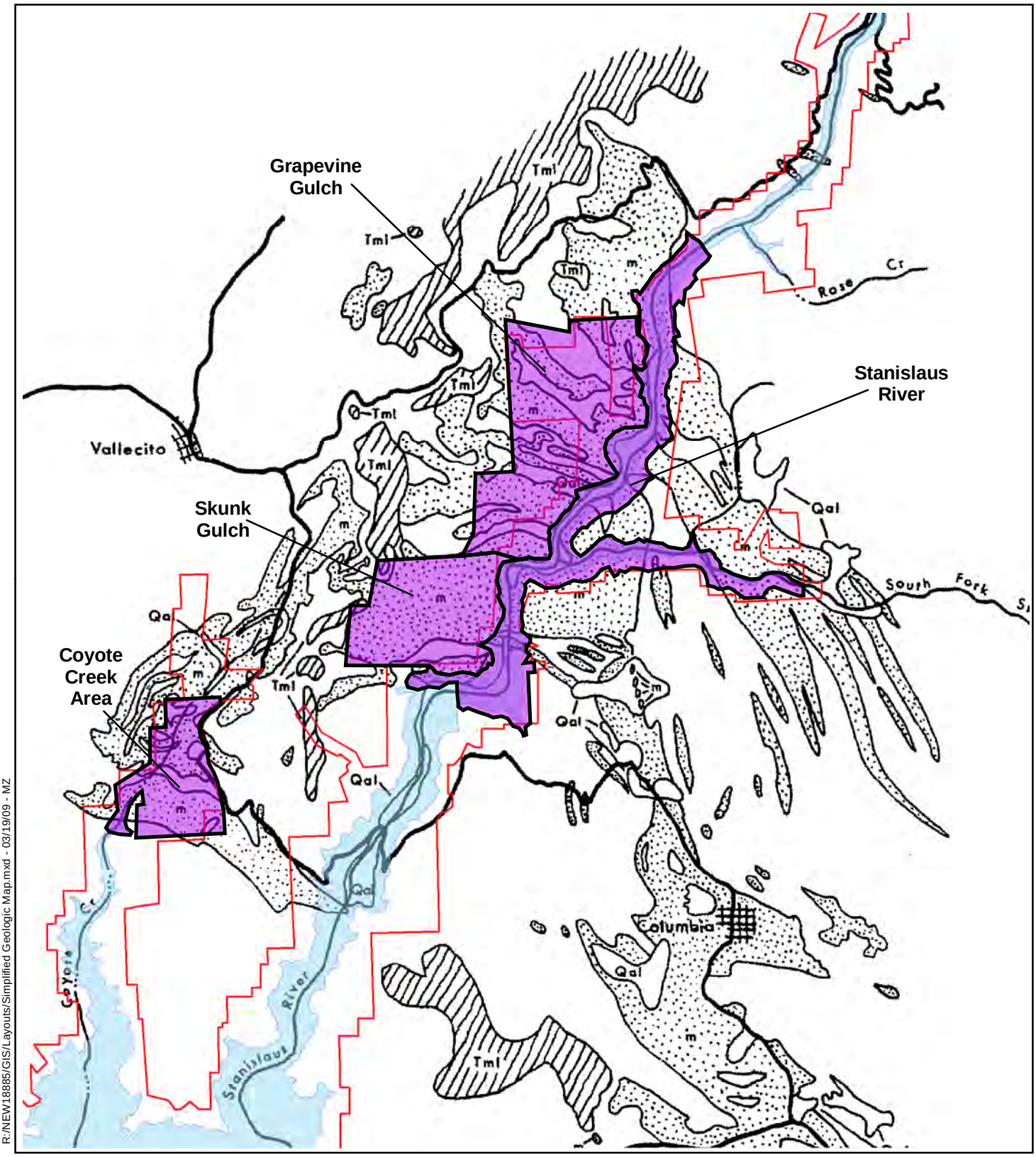
Serpentine soils are derived from serpentine, a type of rock with high magnesium to calcium ratios that was pushed up onto the continent during the subduction of the oceanic crust from the west. Serpentine rock weathers to soils which are often chemically different than the surrounding soils, with high amounts of magnesium, nickel, cobalt, chromium, and iron, while being poor in other plant nutrients (e.g., nitrogen, phosphorus). Therefore, the plants found on serpentine soils vary from those found on the surrounding soils. While serpentine soils occupy only 1 percent of the land area in California, 10 percent of native plant species are adapted to these soils. In California, these soils largely occur in the foothills of the Sierra Nevada and the Coast Ranges from San Luis Obispo County north to the Oregon border. These soils can also include naturally occurring asbestos derived from the serpentine source rock. The asbestos can be a hazard to public health and is considered in fire management plans.

Soils are most vulnerable where they have been denuded. In the New Melones Lake Area, this is most apparent where there has been a very hot wildfire or a landslide or below the top of the "bathtub ring" that is found beneath the high water mark of New Melones Lake. Soils in the bathtub ring are vulnerable to runoff from precipitation and also erode readily as a result of boat wakes or where vehicles have been driven across them.

Soil management measures are most apparent in the Shell Road and Peoria Wildlife Management Areas. Reclamation attempts to control illegal grazing and inappropriate vehicle use by fencing sensitive areas, installing educational or warning signs, closing access roads, maintaining roads and trails, and creating stormwater pollution prevention plans for areas where construction or other use may occur. Reclamation also limits the construction season to minimize soil disturbance, initiates park ranger patrols, and creates no-wake zones to minimize shoreline erosion.

Caves. This section addresses cave conditions in the Calaveras Terrain bordering the Stanislaus River, the South Fork Stanislaus River, and the headwaters of Coyote Creek. The cave area is north of the Melones Fault Zone, and most of it is north of the Parrotts Ferry Bridge (Figure 5-2). Limestone deposits within the Calaveras Formation consist of isolated blocks of recrystallized limestone and dolomite, which have been identified in some reports as marble. About 11,000 acres (4,450 hectares), or roughly half of the known marble and limestone within the Calaveras Formation, is found in the vicinity of the New Melones Lake Area, although most of these deposits are outside the management area.

The limestone and dolomite within the Calaveras Formation, known as the Calaveras Karst, is one of the most important karst areas in the state. Over 100 caves have been identified in the limestone of the Calaveras Formation. Before New Melones Lake was filled, the New Melones Reservoir Project (BLM 1978) studied cave resources, dividing



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Simplified Geologic Map of Columbia Area

Legend

Qal Quaternary Alluvium
Tml Table Mountain Latite
M Limestone/Dolomite/Marble

Project Boundary

Cave Inventory Areas (Mc Eachern & Grady 1978)

0 1
Miles

New Melones Lake Area, California
Central California Area Office

Figure 5-2

the study area into four subareas: the Stanislaus River Canyon, Coyote Creek, Skunk Gulch, and Grapevine Gulch. These areas overlap the New Melones Lake Area, as shown in Figure 5-2.

The 1978 study identified 87 caves in the inventory area. Thirty of the forty-four caves identified in the Stanislaus River Canyon are below the current spillway elevation of 1,088 feet (330 meters) above mean sea level and therefore are now inundated or subject to inundation by the lake. Nineteen caves were identified in the Coyote Creek Canyon. All but one of these (Lower Natural Bridges Cave) are above the current spillway elevation. Upper and Lower Natural Bridges caves are popular destinations for day hikers and have been since the Gold Rush. Coyote Creek flows through both caves. An early description of the Natural Bridges is included in a traveler's guide written by James Hutchings (Hutchings 1862). Moaning Caves, a large commercial cave, is in the Coyote Creek watershed upstream of the study area. Fifteen caves were identified in the Skunk Gulch Recreation Area (now part of the Parrotts Ferry Management Area), none of which are below the spillway elevation. Northeast of Skunk Gulch, the Grapevine Gulch Recreation Area (now part of the Stanislaus River Canyon Management Area) contains nine known caves, all above spillway elevation.

Table 5-2 gives a summary of the study areas and the numbers of caves in each. Appendix F lists the caves identified in the 1978 study and summarizes information on each cave. The specific locations of the caves are not provided in the report in order to protect fragile resources. The study ranked each cave based on priority for implementing mitigation recommendations for various resource values. The ranking criteria included geological, paleontological, archaeological, biological, aesthetic, and recreational significance. Also included was a taphonomic rating, which is concerned with the processes that affect animal and plant remains as they become fossilized. Caves 9, 16, 25, 43, 51, and 54 received the highest geological resource rankings. Of these, caves 25 and 54 are below the 1,088-foot (330-meter) elevation.

In December 1994, the Mother Lode Grotto of the National Speleological Society nominated five caves in the vicinity of New Melones Lake as significant and eligible for protection under the Federal Cave Resources Protection Act of 1988. These included Caves 25, 54, 77, Upper and Lower Natural Bridges (Caves 52 and 85, respectively), and Dragon's Breath caves. Lower Natural Bridges Cave may be inundated at high lake elevations.

Table 5-2: Summary of Pertinent Cave Study Area Information

Study Area	Elevation Range of Caves in Study Area (feet above sea level)	Number of Caves	Caves above High Water (1,088 feet)	Significant Caves*
Stanislaus River Canyon	910-1,550	44	13	3
Coyote Creek	1,060-1,980	20	19	2
Skunk Gulch	1,525-1,800	14	14	0
Grapevine Gulch	1,200-1,980	8	8	0

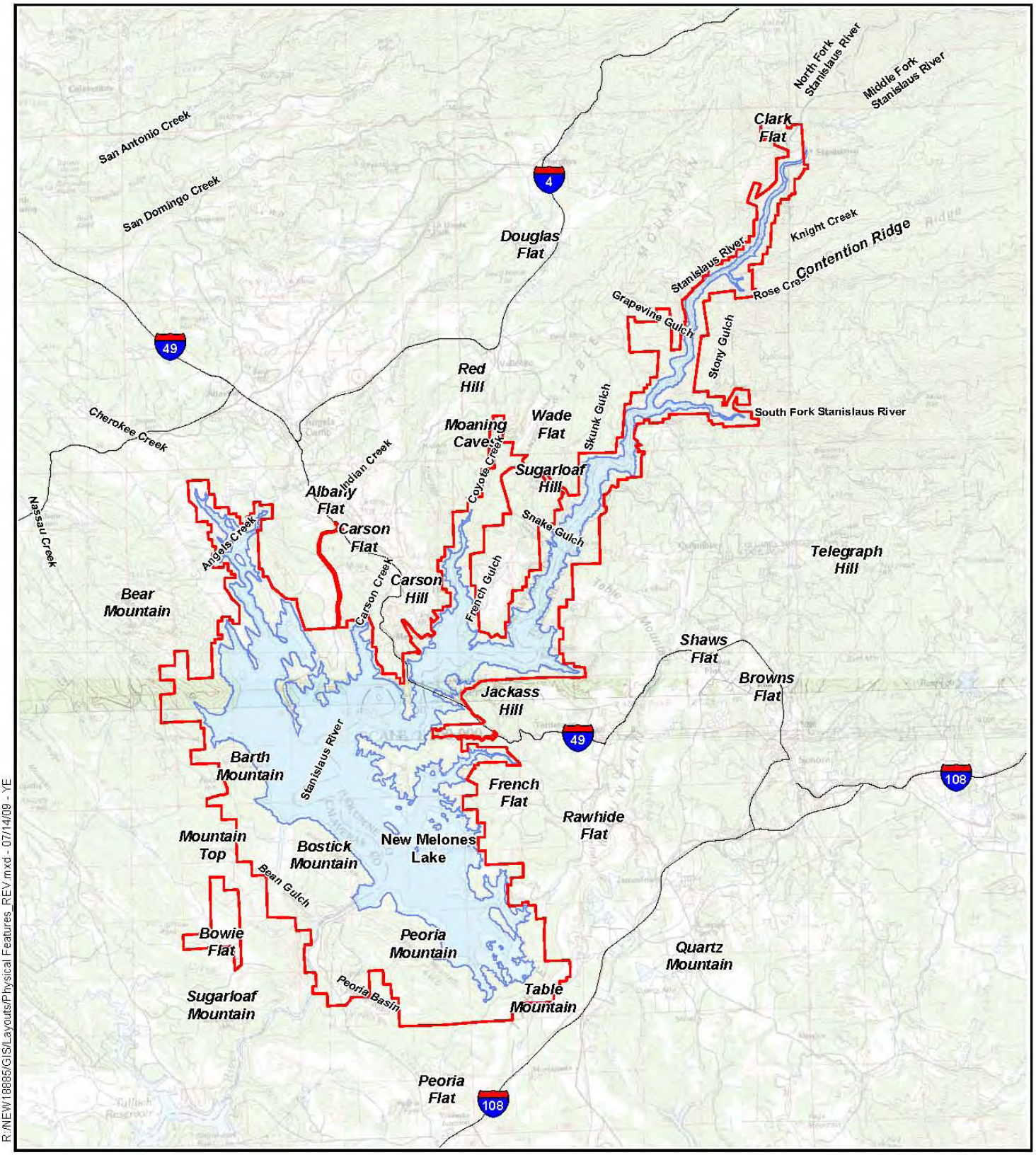
Notes: *Caves that have been nominated as "significant" and therefore eligible for protection under the Federal Cave Resources Protection Act of 1988.
Source: BLM 1978

5.2.5 Topography

Topographical features of the New Melones Lake Area include steep, rolling hills, incised river canyons, and distinct cliff and plateau features formed by unique geological processes. This variety of features contributes to a dramatic visual setting and provides for many recreational opportunities and habitat types. The lake itself is situated primarily along the historic canyon of the Stanislaus River, which was first flooded on completion and closure of Melones Dam and later by the much larger New Melones Dam. The orientation of the main stem of the Stanislaus River follows a general heading from northeast to southwest, with the canyons of several tributaries joining at different angles. The main body of the lake, stretching between Table Mountain in the south and Angels Arm in the north, follows a northwest-to-southeast bearing. The various ridges appear as islands as the lake is drawn down over the dry season or during a period of below-average precipitation.

Figure 5-3 shows the physical details of the planning area as well as the major topographical features. The main stem of the Stanislaus River between the Clark Flat and Mark Twain planning units is dominated by very steep canyon walls that make much of the lakeshore inaccessible except by boat. The original streambed of the Stanislaus River is evident upstream of Clark Flat, which is above the flooded zone. The northeast side of the main body of the lake, which includes the Tuttletown, Carson, and Glory Hole planning units as well as lake headquarters, has more gently rolling and accessible terrain. The south end of the main body of the lake is dominated by Table Mountain, which is within the Table Mountain planning unit and exhibits dramatic topographical relief provided by fluted cliffs and a flat top. Sheer cliff faces of up to 300 vertical feet (90 meters) are found on the north side of Table Mountain, which is composed of more erosion-resistant bedrock than the surrounding area and thus was exposed as fluvial processes eroded softer materials around it. The mesa top slopes gently downward to the west and ranges between 1,500 and 1,800 feet (450 to 550 meters). Both the cliffs and the flat top provide unique opportunities for recreation, as the cliffs offer climbing and bird-watching opportunities and the mesa top offers scenic views.

The topography of the top of Table Mountain, being flat and exposed to few eroding features, such as rockfalls or streams, creates conditions conducive to vernal pools. Such pools form where rainwater is trapped in impervious depressions and dissipates solely by



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Physical Features

New Melones Lake Area, California
Central California Area Office

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Miles

Figure 5-3

evaporation, allowing concentric rings of vegetation to become established. Plant and animal species that colonize vernal pools are often rare and endemic only to vernal pools.

In the Peoria Wildlife Area planning unit, 1,832-foot (560-meter) Peoria Mountain dominates the southwest end of the main body of the lake and, compared to terrain in the north fork arm, is marked by rolling topography and gentler ridgelines. This terrain and a north-facing aspect have allowed moderately deep to deep soils to develop, which in turn support a healthy and productive oak savannah habitat type. On the south side of the dam, Peoria Mountain's peaks plunge steeply into Iron Canyon, which contains New Melones Dam. On the north side of the dam, Bostick Mountain rises steeply to an elevation of 1,814 feet (550 meters), then gradually slopes down to Bowman Gulch, which spills into Bean Gulch before it enters Lake Tulloch. North of the spillway, Barth Mountain rises to an elevation of 1,916 feet (580 meters). Gently sloping terrain is found at the eastern foot of Bear and Barth Mountains in the Texas Charley planning unit and on the other side of the Angel Creek Arm in the vicinity of Glory Hole. Peoria, Bostick, Barth, and Bear Mountains form a major ridgeline on the west side of the main body of the lake. This ridgeline drops at a fairly steep angle into the lake, making development on this side of the lake difficult due to lack of access and staging areas.

5.2.6 Hydrology/Water Quality

Overall Hydrology

The hydrology section has been organized into two subsections. The first focuses on water resources in the New Melones Lake Area and gives a brief introduction to dam operations, including storage and release requirements; the second subsection focuses on water quality issues and current conditions in New Melones Lake.

Water Resources. Although dam operations are not managed by New Melones resource staff and will not be addressed in the RMP/EIS, this introduction is given to provide an overview of issues that relate to water levels, which in turn influence management of resources that will be addressed in the RMP/EIS.

One of the primary purposes of New Melones Lake is water storage for flood control. The primary operational criteria for New Melones Lake are provided in the California State Water Resources Control Board (SWRCB) Water Right Decision 1422, which was issued in 1973. This decision allowed Reclamation to appropriate water from the Stanislaus River into New Melones Lake for irrigation and municipal and industrial uses but required that lake operations include releases of water for existing water rights, fish and wildlife enhancement, and the maintenance of water quality conditions (primarily temperature and dissolved oxygen) on the Stanislaus and Lower San Joaquin Rivers (Reclamation 2005).

The maximum storage volume of the lake is 2,420,000 acre-feet (2.9 million megaliters), and the maximum surface area is 12,500 acres (5,000 hectares). The lake has a shoreline of approximately 100 miles (160 kilometers) when filled to capacity. Between 2000 and 2006, storage in New Melones Lake ranged from approximately 1.1 to 2.1 million acre-

feet (1.3 to 2.6 million megaliters), with the highest levels typically in early summer and the lowest levels at the beginning of the water year in October. According to Reclamation's rating curve for the lake, this translates into a maximum water level elevation of 1,061 feet (320 meters) above mean sea level. Water levels vary as a result of drought, varying amounts of precipitation, and discharge requirements for flood control, power generation, irrigation, municipal requirements, and maintenance of aquatic habitat. Surface levels may also vary as a result of managed releases from storage facilities on streams above New Melones Lake. At least 10 reservoirs, with storage capacities ranging from 250 acre-feet (310 megaliters) to 189,000 acre-feet (233,000 megaliters), store water above New Melones. Those facilities and their storage capacities are shown in Table 5-3. The New Melones Lake Area's position in the regional watershed is shown on Figure 5-4, and the watershed draining directly to the New Melones Lake Area is shown on Figure 5-5.

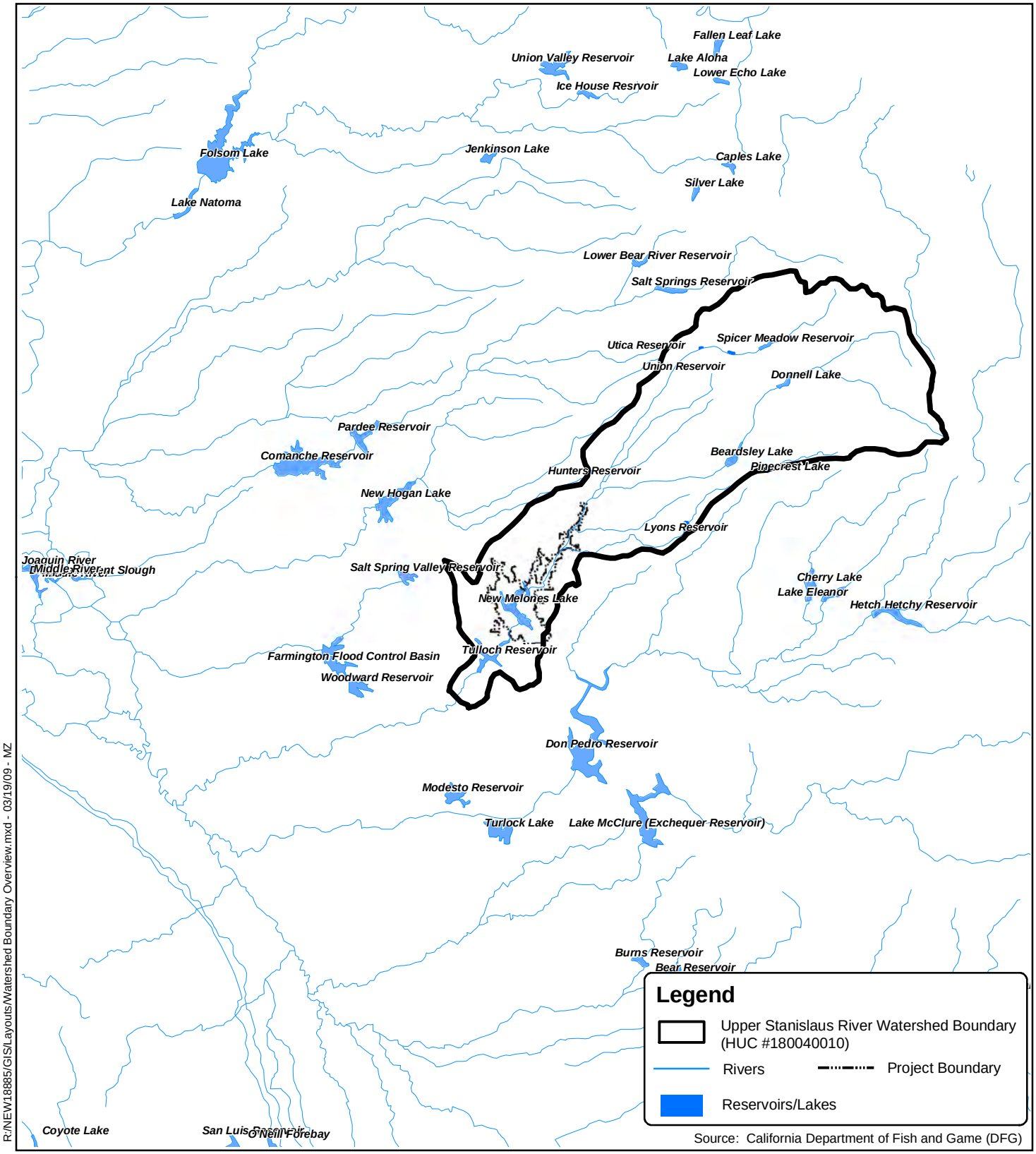
Daily outflows from the lake vary widely and are generally lowest during the rainy season (approximately October through April). Between 2000 and 2006, outflows ranged from 0 to 3,000 cubic feet per second (85 cubic meters per second), with the highest outflows typically in the summer (US Geological Survey [USGS] 2007).

Table 5-3: Existing Storage Above New Melones Lake

Fork of the Stanislaus River	Reservoir	Storage Capacity (acre-feet)
North		
	Lake Alpine	4,120
	Union Reservoir	3,130
	Utica Reservoir	2,330
	Spicer Meadows Reservoir	189,000
	Hunters Reservoir	250
Middle		
	Relief Reservoir	15,500
	Donnel Lake	64,300
	Beardsley Lake	97,800
South		
	Pinecrest Reservoir	18,310
	Lyons Reservoir	6,220

Source: Moore 1994

Streams. All three forks of the Stanislaus River originate in the Sierra Nevada. There are also a number of small creeks, both ephemeral (flowing only a portion of the year) and perennial (flowing year round), that discharge into New Melones Lake, including Coyote Creek, Carson Creek, and Angels Creek; however, the Stanislaus River is the main source of water for New Melones Lake. The main factor that determines whether streams within the planning area maintain perennial or ephemeral characteristics is their place of origin. In general, streams originating higher in the Sierra Nevada and fed by melting snowpack are more likely to flow year round than streams fed primarily by rainfall. The



Watershed Boundary Overview

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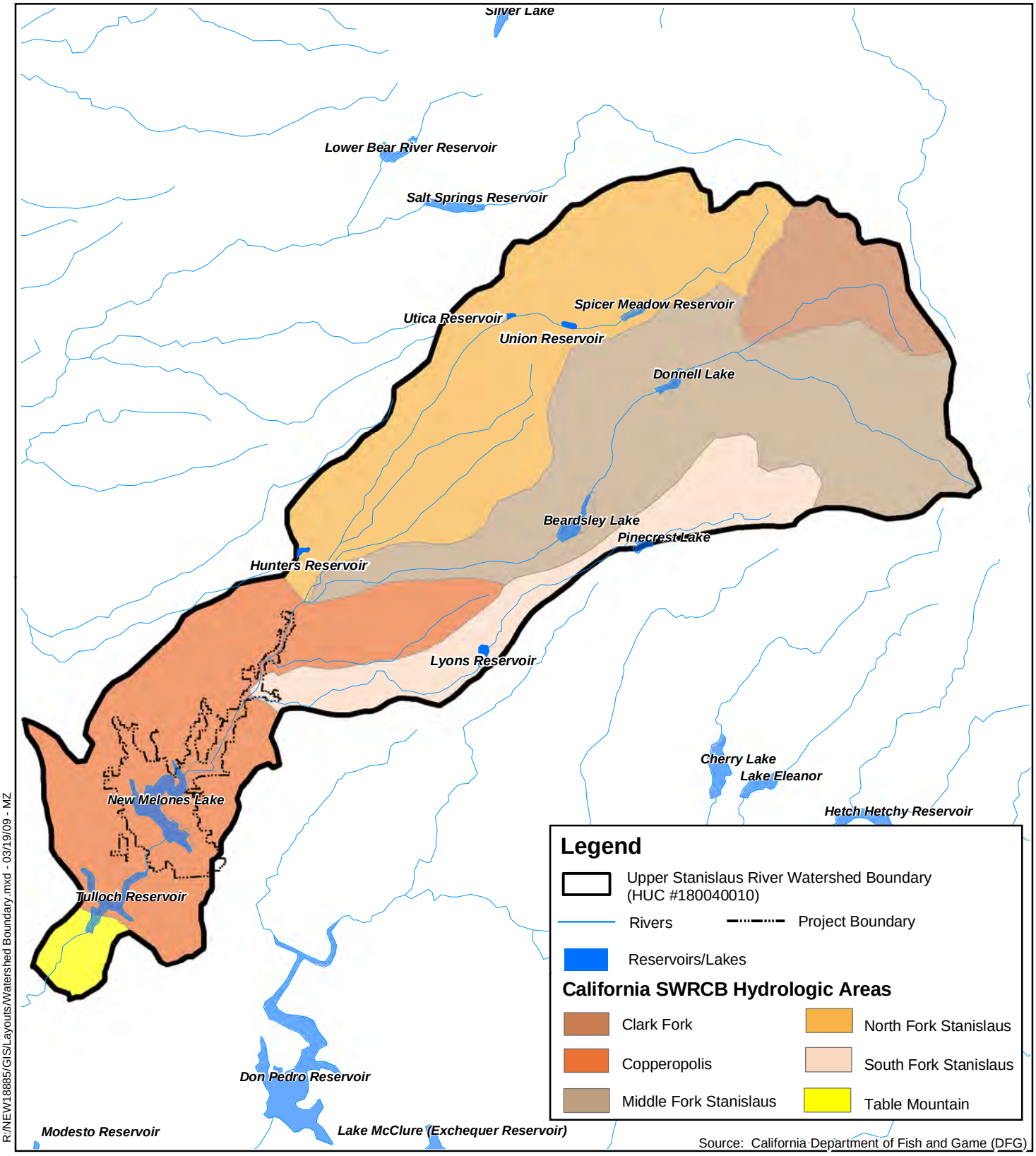
Miles

New Melones Lake Area, California
Central California Area Office

Figure 5-4



Watershed Boundary

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Miles

New Melones Lake Area, California
Central California Area Office

Figure 5-5

exception to this is Coyote Creek, which is spring fed and maintains year-round flows of cold clear water.

With the exception of the Stanislaus River, which contains weirs and other diversion structures, streams on Reclamation lands and their associated riparian areas are largely unaltered from their original conditions, except in cases where historic placer or dredge mining altered surface features. Some modification of stream substrate from recreational gold dredge operations may continue today, but these operations are small and focus on sandy or gravelly substrate that regains its natural form quickly.

Watersheds and Drainage. New Melones Dam is on the Stanislaus River below the confluence of its North, Middle, and South Forks, forming New Melones Lake. Most of the water comes from the North and Middle Forks, with a lesser amount coming from the South Fork drainage. New Melones Lake is in the Upper Stanislaus River watershed, USGS hydrologic unit code 18040010. (This watershed is called the Stanislaus River Hydrologic Unit in the SWRCB hydrologic code system.) Figure 5-5 shows the location of New Melones Lake within the Upper Stanislaus River watershed and several subbasins that have been delineated by the SWRCB. The Upper Stanislaus River watershed has a drainage area of approximately 980 square miles (250 hectares). Over 90 percent of this area (approximately 904 square miles [230 hectares]) drains into New Melones Lake. Those areas draining directly to the lake include the following:

- Subbasins draining directly to the Stanislaus River and New Melones Lake, below the confluence of the North and Middle Forks of the Stanislaus River;
- The portion of the South Fork of the Stanislaus River drainage basin below the confluence of Wet Gulch;
- The lower watersheds of eastern tributaries to the main stem of the Stanislaus River, including the Rose Creek, Knight Creek, and Stony Gulch drainage basins;
- Watersheds of several small eastern tributaries to the main stem, including Experimental Gulch, Sandy Wash, Wolf Gulch, Deadman Gulch, Chile Gulch, Quail Gulch, Grizzly Gulch, Devils Canyon, and Norwegian Gulch;
- Coyote Creek drainage basin below Wades Flat Gulch;
- Small western tributaries to the main stem, including Squirrel Gulch, Snake Gulch, Skunk Gulch, Deep Gulch, Mariana Gulch, Grapevine Gulch, Wool Hollow, Cataract Gulch, and Yea Hoo Gulch;
- Slopes along the eastern portion of the lake, including portions of Mormon Creek, Bear Creek, Jackass Hill, and French Flat; and
- Slopes along the northwestern portion of the lake, including portions of Carson Creek, Greenhorn Creek, Indian Gulch, Indian Creek, Six Mile Creek, Angels Creek, Vonich Gulch, and Texas Charley Gulch.

Upstream of New Melones Lake and within the lake's watershed, the Middle Fork of the Stanislaus is dammed at Beardsley Lake and Donnell Lake. Water from New Melones Lake feeds into Tulloch Lake, located directly downstream.

Water Quality. Water quality refers to physical, biological, and chemical properties of a water body. These properties include temperature, organic content, carbon and dissolved oxygen, turbidity, and pathogen content. Water quality is influenced by vegetation, soil and mineral substrate, livestock and human activities, and the source of the water. Surface water has less mineral content than groundwater and is indicative of the most water entering New Melones Lake.

Water quality issues at New Melones Lake are typical of those found in most reservoirs. Compared to natural lakes or streams, reservoirs may have elevated surface water temperatures in shallow areas or areas with poor circulation, high incidence of suspended sediments from shoreline erosion, high nutrient levels, and diminished dissolved oxygen. Localized water quality problems may occur as a result of recreational boaters, particularly in refueling areas or in areas where boaters congregate.

In some reservoirs, pollution from historic mining sites has been cited as a major water quality issue. Although this has not been reported as a problem at New Melones, its location in the heart of the Mother Lode gold mining region and its proximity to both active and abandoned mines greatly increases the chances that mine-based pollution will find its way into the lake. One of the most likely sources of mine-based pollution is acid mine drainage, which is metal-rich water formed from the chemical reaction between water and rocks containing sulfur-bearing minerals. The runoff formed is usually acidic and frequently comes from areas where ore or coal mining have exposed rocks containing pyrite, which is a sulfur-bearing mineral. Problems that can be associated with mine drainage include contaminated drinking water, disrupted growth, and reproduction of aquatic plants and animals and the corroding effects of the acid on parts of infrastructures, such as bridges (USGS 2008).

Under Section 303(d) of the 1972 Clean Water Act, states, territories, and authorized tribes are required to develop a list of water quality-limited segments. The waters on the list do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology (SWRCB 2004).

The most recent 303(d) list for California is the 2002 list, which the EPA approved in July 2003. The 2002 list indicates that the Lower Stanislaus River is the only water body in the Stanislaus River watershed that is impaired. This segment of the Stanislaus River is at the bottom of the watershed, below both New Melones Lake and Tulloch Reservoir. Water quality impairments for this section of the Stanislaus River include diazinon, group A pesticides, and mercury. Total maximum daily loads (TMDLs) have not been established for these chemicals for this watershed.

A revision to the 303(d) list for California is in progress. The contributors to the draft revision recommend retaining diazinon, group A pesticides, and mercury on the 303(d) list for the Lower Stanislaus River. In addition, chlorpyrifos and water temperature are

proposed to be added. A TMDL for diazinon was expected to be established in 2008, but has not yet been approved (CVRWQCB 2009).

5.2.7 Visual Resources

The New Melones Lake Area is in Calaveras and Tuolumne Counties among the foothills of the west slope of the Sierra Nevada. The primary dominant visual elements are the hills, ridges, small valleys, the patterns created by the vegetation on the hills, and the surface of the lake (Reclamation 1995, 2007a).

The landscape within this region is characterized by relatively steep-sided and rolling hills that range from a few hundred to a thousand feet high (Photographs 1 and 2 in Appendix H) (Reclamation 1995, 2007a). Occasional rock outcrops are also visible (Photograph 3 in Appendix H). Visual contrast is provided by Table Mountain, which forms the watershed boundary to the south and is a long flat-topped ridge of volcanic origin (Photograph 4 in Appendix H).

The dominant natural vegetation is annual grassland and native oak woodlands occurring in varying densities (Photographs 5 to 8 in Appendix H) (Reclamation 2007a). The tree canopy cover and species diversity increases in small draws and valley bottoms where the moisture is more readily available. Gray pine and lower shrub masses are found in drier locations, mixed with oaks in some areas (Reclamation 1995). In summer, the grasses become dry and turn from bright rich green to soft golden yellow.

The New Melones Lake Area occupies two fairly distinct areas contained within the Stanislaus River Canyon: a long, narrow upper reach and the wider main body of the lake (Reclamation 1995). The upper reach of the lake extends north-northeast from the SR 49 Stevenot Stanislaus River Bridge across the middle fork of the Stanislaus River (Photograph 9 in Appendix H) (Reclamation 1995). This part of the lake becomes increasingly narrow from the bridge northward and is characterized by steep-sided slopes which give way to near vertical limestone cliffs in the canyon's far upper reaches. The Camp Nine, Stanislaus River Canyon, Parrotts Ferry, Carson, and Coyote Creek planning units are in this area. Also, the Mark Twain and Carson planning units straddle the SR 49 Stevenot Stanislaus River Bridge. In contrast to the main body of the lake, most of the upper reach resembles an enlarged river rising up the sides of the steep canyon walls (Photograph 10 in Appendix H).

The main body of the lake is south of the SR 49 Stevenot Stanislaus River Bridge. This area of the lake is relatively open, providing expansive views of the lake's primary body of water and the surrounding hillsides (Photograph 11 in Appendix H). Because of the many convolutions in the hills and their steep sides, the shoreline along this part of the lake is quite irregular. It features many fingers that project inward, and branches that extend back for varying distances from the main body of water (Photograph 12 in Appendix H). This configuration prohibits views of the entire main body of the lake surface at one time from any single location. Many areas of the lake are somewhat hidden from view until approached directly by boat. In a few areas, small hills that stood near the original river channel have been surrounded by water with the construction of the lake,

forming islands. These visual features are found in the vicinity of Tuttletown French Flat, Bear Creek, Peoria Wildlife Area, Dam and Spillway, Westside, Greenhorn Creek, and Glory Hole planning units.

In general, the qualities of the scenic landscape increase with distance from the lake. The long, narrow upper reaches have dramatic aesthetic qualities. Farther down the river and around the main body of the lake, the aesthetic qualities of the landscape are compromised by greater development, including administration and recreational facilities, homes in the upper watershed, and a large mine that is visible from the visitor center and other areas (Photographs 13 and 14 in Appendix H).

Due to the orientation of the lake in the river canyon, views of the water and surrounding shoreline are possible only from locations within the basin itself, and usually only from points relatively close to the lake (Reclamation 1995). Views of the upper reach of the lake are generally limited to a vehicular turnout and scenic overlook on the east side of Highway 49 near the west end of the bridge, from recreation areas, from Parrotts Ferry Road, and from Camp Nine Road. In general, views of the main body of the lake are limited to the developed recreation facilities associated with the lake (Tuttletown and Glory Hole Recreation Areas), from the lake surface itself, and to a lesser extent from the SR 49 Stevenot Stanislaus River Bridge.

From some of the higher elevation points near the main body of the lake, such as at the admission/park ranger booth on the entrance road to the Glory Hole Recreation Area, more distant, open, and panoramic views of the basin and portions of the lake are available (Reclamation 1995). Distant features are often the focus of attention, even though details are not readily perceptible (Photograph 15 in Appendix H). From points that are mid-range in terms of elevation with respect to the lake surface and the surrounding ridges, such as some of the day use areas and parking lots above the boat ramps, views become somewhat confined by the surrounding topography and are more focused on the lake and the hillsides that rise from the edge of the water (Photograph 16 in Appendix H). From the shore of the lake and the water's surface, views become oriented out across the water, which is by far the most dominant element of the scene, and up the hillsides to the ridgetops that form the skyline. At these locations, views are relatively confined and tend to be focused on foreground details.

Fluctuation Zone. One of the most striking visual characteristics of the lake basin is the band-like scar created by the high water mark of the lake and zone of former inundation (the area between the present water level and the high water mark), referred to as the fluctuation zone (Photograph 17 in Appendix H) (Reclamation 1995). The fluctuation zone forms a wide horizontal band that completely encircles the lake and stands out in sharp contrast with the hillsides immediately above it. The contrast is created by an abrupt and complete absence of shrubs and trees on the hills below the high water mark resulting in significant differences in texture and color above and below the high water mark. Above the mark, the hillsides appear to be in a relatively natural state with respect to vegetation and land surface. Some portions of the fluctuation zone contain stands of

dead trees and shrubs that were originally inundated but have since been exposed as the water has receded.

Within the upper reach of the lake, riparian vegetation becomes established as the lake recedes (Reclamation 1995). This area begins to resemble its former river corridor as the water course narrows and the shoreline vegetation thickens. However, as water levels rise, it forces the inundation zone farther up into this section of the lake, thereby inundating the reestablished vegetation.

Below the high water mark, and within the main body of the lake, few live trees or shrubs occur (Reclamation 1995). Live vegetation in this zone is limited to grasses and some riparian vegetation, which have become established as the water has receded to its present levels and the area has remained dry. In some locations, minor rock outcrops are visible within this barren zone and in a few areas evidence of erosion can be seen.

Development. The overall visual character of the lake basin is distinctly rural and undeveloped, although there are numerous indicators that the landscape has been strongly affected in several ways by human influence (Reclamation 1995). In general, the most noticeable developed features are the various recreation facilities at the Tuttletown and Glory Hole Recreation Areas (Photograph 18 in Appendix H). However, these features appear relatively minor in scale within the overall visual context of the basin, particularly when viewed from a distance. Widely scattered private residential development within the basin, for the most part, is quite unobtrusive. Communications facilities that exist within the basin, such as hillside microwave towers and antennae, are minor features that do not attract the viewer's attention. Overhead utility lines, while present and noticeable in a few locations, seem to attract little attention.

Prominent human-made features within the basin, aside from the lake, are the spillway situated along the ridge on the west side of the main body of the lake (Photograph 19 in Appendix H) and the Marble Quarry. Also noticeable are the mined hillsides at Carson Hill (Photograph 20 in Appendix H) (Reclamation 1995). The abrupt, strong contrast in color and landform created by the stepped benches, together with their very large scale, are readily evident from many locations and are capable of attracting and holding the viewer's attention. In this way, the features compete for visual dominance with the surrounding hillsides and with the lake itself.

The Tuttletown and Glory Hole Recreation Areas are the two primary locations within the basin where land-based recreation occurs (Reclamation 1995). Both feature a network of roadways providing public access to a host of facilities that serve the needs of visitors. Together, they include campgrounds and boat launch areas consisting of concrete ramps and extensive parking for cars and trailers.

At both Tuttletown and Glory Hole, boat ramps were designed to provide service under differing lake surface elevations (Reclamation 1995). In these cases, the ramps appear on the hillsides as large abandoned slabs of concrete. The New Melones Marina complex is in an inlet within the Glory Hole Recreation Area. The marina complex is contained far

enough back in the inlet that it can be seen only from a few relatively nearby locations or from Tuttletown (across the lake).

Many of the recreation facilities—that is, most campsites and the day use areas—are located among groves of trees, taking advantage of topography to screen views of these uses from other areas (Reclamation 1995). Some facilities, particularly the boat launch ramps and adjacent parking areas, are fully exposed to view.

Some of the smaller recreation areas appear as little more than roadways that disappear beneath the surface of the lake (Reclamation 1995). The Camp Nine Recreation Area at the north end of the lake's upper reach is rustic, and here the water body takes on the appearance of a flowing river corridor rather than a lake, particularly during times of low lake levels.

5.2.8 Vegetation

General Plant Species and Communities

Five broad categories of vegetation are found within the planning area: woodlands, grasslands, wetlands, serpentine, and other. These are subdivided into more specific vegetation associations. The most common plant communities, as well as their acreage and percentage of the planning area can be found in Table 5-4.

Blue oak woodland is the most common, blue oak-foothill pine woodland is the second most common, and annual grassland is the third most common vegetation type within the planning area (Reclamation 1997).

Table 5-4: Plant Communities Found in the Planning Area

Plant Community	Acreage	Percentage of Study Area
Woodlands		
Blue oak woodland	7,915	52 %
Blue oak-foothill pine woodland	2,082	14%
Montane hardwood woodland	592	4%
Montane hardwood-conifer woodland	257	2%
Grasslands and chaparral		
Annual grassland	1,709	11%
Chamise chaparral	1,090	7%
Wetlands		
Valley and foothill riparian woodland	249	2%
Wet meadow	91	< 1%
Vernal pool	53	< 1%
Serpentine-based communities		
Serpentine foothill pine-chaparral	669	4%
Blue oak woodland and serpentine foothill pine-chaparral	84	< 1%

Table 5-4: Plant Communities Found in the Planning Area

Plant Community	Acreage	Percentage of Study Area
Other land use designations		
Not classified	203	1%
Barren land	148	1%
Residential or park	18	< 1%
Total	15,168	

Source: Reclamation 1997

Montane hardwood and montane hardwood-conifer woodlands are the dominant vegetative communities in the northeasterly portion of the planning area. Wetland vegetation is found in some locations along the edges of the lake and in moist canyons. There are many riparian communities, seeps, and wet meadows in the upper reaches of streams that are tributaries of the lake (Reclamation 1995). Each vegetation community is described in detail below.

Blue oak woodland (Sawyer and Keeler-Wolf 1995: blue oak series). In this community, blue oaks average 47 percent of the vegetation cover and grasses make up nearly 100 percent of the understory (Allen et al. 1989 *in* Reclamation 1995). Oaks usually form an open canopy on hills and ridges, usually on slopes of less than 45 percent, particularly on the rolling hills surrounding the lake (Reclamation 1995). Blue oak woodlands grow on all types of soils and parent materials (Allen et al. 1989 *in* Reclamation 1995) and occur in the planning area between 300 and 1,000 feet (90 and 300 meters) in elevation. Characteristic plant species include blue oak (*Quercus douglasii*), bromegrass (*Bromus* sp.), and wild oats (*Avena* sp.). Other species that may be found in blue oak woodland communities are ponderosa pine (*Pinus ponderosa*), California buckeye (*Aesculus californica*), manzanita (*Arctostaphylos* spp.), ceanothus (*Ceanothus* spp.), yerba santa (*Eriodictyon californicum*), foothill pine (*Pinus sabiniana*), scrub oak (*Quercus berberidifolia*), black oak (*Q. kelloggii*), valley oak (*Q. lobata*), interior live oak (*Q. wislizenii*), coffeeberry (*Rhamnus californica*), redberry (*R. crocea*), holly-leaved cherry (*Prunus ilicifolia*), and needlegrass (*Stipa* sp.) (Reclamation 1997).

Blue oak woodland is a common community type within the Tuttletown, Dam and Spillway, Glory Hole, Greenhorn Creek, and Westside Management Areas. It is also the most extensive plant community in the Peoria Wildlife Management Area (PWMA), where it occurs along the southern two-thirds of the access road and is also present at the Peoria Basin trailhead site (Reclamation 2007a). Within the PWMA, blue oak woodlands are particularly prevalent where steep rock outcrops and fields with boulders occur, including the talus slopes of Table Mountain and the rocky slopes overlooking the lake and the dam output. Stands of blue oak woodland also occur in a riparian corridor in the PWMA (Evens et al. 2004).

Blue oak woodlands are common but are under considerable development and grazing pressure in the California foothills (Reclamation 1995). Other activities threatening oaks in the planning area, particularly along the PWMA access road, include illegal OHV

traffic and unregulated camping, fire building, trash dumping, and woodcutting (Reclamation 2007a). Soil compaction from concentrated recreational use, such as camping, also threatens oak trees. In addition, fluctuating levels in New Melones Lake impact oaks because high water levels occasionally inundate and kill lower growing oaks.

Blue oak-foothill pine woodland (Sawyer and Keeler-Wolf 1995: blue oak series). In this community, mixed stands of oak and pine occur. The open oak canopy ranges from 20 to 40 feet (6 to 12 meters) high, with occasional less open pine canopies above. Frequent fire favors blue oak over pine. This community occurs between 500 and 3,000 feet (150 and 920 meters) in elevation (Verner *in* GWH 1988 *in* Reclamation 1995) on steep, rocky, or exposed, largely north-facing sites along ridges or canyons with poor or shallow soils (Holland 1986 *in* Reclamation 1995). Dominant species in this woodland are foothill pine and blue oak, with associated species, including California buckeye, coast live oak (*Quercus agrifolia*), scrub oak, valley oak, interior live oak, poison oak (*Toxicodendron diversilobum*), woodland star (*Lithophragma heterophylla*), sugar cups (*Saxifraga californica*), shooting stars (*Dodecatheon hendersonii*), Chinese houses (*Colinsia heterophylla*), and gooseberry (*Ribes quercetorum*) (Reclamation 1997).

Blue oak-foothill pine woodlands are found in the Westside and Bowie Flat Wildlife Management Areas and PWMA on gentle to moderate slopes with variable parent material. In particular, this community type occurs on all of the slopes at the immediate base of Table Mountain, with foothill pine, blue oak, California buckeye, and toyon as the common species (Ayres 2005; Evens et al. 2004). Additionally, mixed oak woodlands are found in the Bear Creek planning area.

Montane hardwood woodland (Sawyer and Keeler-Wolf 1995: Interior live oak series). Vegetation in this community is broad-leaved and grows up to 50 feet (15 meters), where dense canopy closure and abundant, persistent leaf litter preclude an herbaceous understory (Holland 1986 *in* Reclamation 1995). It occurs on north-facing hillsides farther upstream and at higher elevations (300 to 3,000 feet [91 to 910 meters]) than the blue oak woodland, above the reservoir's historic high water mark (GWH 1988 *in* Reclamation 1995). Slopes where this vegetation occurs are steep to very steep. Dominant plant species include interior live oak, blue oak, buckeye, and California bay laurel (*Umbellularia californica*). Species that are less abundant in the montane hardwood woodland include canyon oak (*Quercus chrysolepis*), elderberry (*Sambucus mexicana*), western redbud (*Cercis occidentalis*), redberry (*Rhamnus crocea*), buck brush (*Ceanothus cuneatus*), and poison oak. Special status plant species that may occur in this woodland include Layne's butterweed (*Packera layneae*) and Red Hills soaproot (*Chlorogalum grandiflorum*) (Reclamation 1995). A more detailed discussion of special status plants can be found in Section 5.2.10 below.

This community type can be found in the Camp Nine Management Area at elevations ranging from 1,500 to 2,000 feet (450 to 610 meters). Upstream of Camp Nine, the Stanislaus River flows through very narrow steep canyons. Montane hardwood woodland vegetation, such as interior live oak, canyon oak, and black oak, is found along the

canyon walls. Stands of this community type occur throughout the PWMA, usually on somewhat steep cool slopes with moderately high rockiness. In particular, it is found on the north-facing slope of Table Mountain and on the metavolcanic slopes overlooking the lake (Evens et al. 2004). In addition, montane hardwood woodland is present along the northern third of the PWMA access road and on the slopes between the road and Table Mountain.

Montane hardwood-conifer woodland (Sawyer and Keeler-Wolf 1995: Black oak series or canyon live oak series). This community occurs most commonly on north-facing slopes (between 25 and 66 percent grade) in canyons upstream of the lake between 1,000 and 2,400 feet (300 and 730 meters) in the planning area. It occurs mainly on soils having sandstone parent material, but metamorphic and igneous parent materials are also known to support this community (Allen et al. 1989 *in* Reclamation 1995). Species of this community are less tolerant of dry conditions than montane hardwood woodland and are adapted to regular but light ground fires (Holland 1986 *in* Reclamation 1995). Dominant species are black oak, canyon oak, interior live oak, and coast live oak. Species that may associate with this community type include foothill pine, California buckeye, mariposa manzanita (*Arctostaphylos viscida*), deer brush (*Ceanothus intergerrimus*), toyon (*Heteromeles arbutifolia*), redbud, mountain mahogany (*Cercocarpus betuloides*), and poison oak (Reclamation 1997).

The composition and diversity of these woodlands has changed as a result of fire suppression throughout California (Reclamation 1997). In particular, densities of incense cedar (*Calocedrus decurrens*) and white fir (*Abies concolor*) have increased in previously ponderosa pine-dominated forests (Vankat 1970, in Reclamation 1997). Continuation of fire suppression policies may further shift the dominant species in the montane woodlands to incense cedar and white fir (Reclamation 1997).

Annual grassland (Sawyer and Keeler-Wolf 1995: California annual grassland series). This vegetation type is characterized by dense to sparse cover of annual grasses and some perennial bunchgrasses. Flower heads are generally one to two feet high, although they may be as tall as eight feet in a moist year. Annual grasslands occur between 800 and 3,000 feet (240 and 910 meters) on relatively flat plains and rolling hills of valleys or on steep slopes of foothill regions. Perennial grasslands are often found on finely textured moist soils. Common annual plant species include wild oats, soft chess (*Bromus mollis*), ripgut (*B. diandrus*), fiddleneck (*Amsinckia* sp.), longbeak stork's bill (*Erodium botrys*), and redstem stork's bill (*E. cicutarium*). Dominant perennial grasses may include triple-awned grass (*Aristida* spp.), wheat grass (*Agropyron* spp.), bent grass (*Agrostis* spp.), wild-rye (*Elymus triticoides*), melic grass (*Melica* spp.), needle-grass (*Stipa pulchra, S. cernua, S. lepida*), and muhly (*Muhlenbergia* spp.). Other plant species that may be associated with grasslands are foothill pine, blue oak, California poppy (*Eschscholzia californica*), and lupines (*Lupinus* spp.) (Reclamation 1997).

Annual grasslands are found within the PWMA and the Bowie Flat and Glory Hole Management Areas. It is the principal plant community on the top of Table Mountain. Throughout these areas, grasslands are often correlated with areas burned in the mid-

1990s or along roads and power lines where native shrub vegetation has been cleared. They are also found on relatively gentle volcanic and serpentine substrates, particularly the long narrow draws on the ridgetop of Table Mountain that collect more soil than the surrounding, more exposed rocky areas of the ridgetop (Evens et al. 2004). Annual grassland also occurs in a narrow band along the PWMA access road and is a component of the understory of the oak woodlands along the PWMA access road corridor. In this area, the characteristic grasses are soft chess, ripgut brome, medusahead (*Taeniatherum caput-medusae*), and Italian ryegrass (*Lolium multiflorum*). The forb component is diverse, composed of both native and nonnative species, including winecup clarkia (*Clarkia purpurea*), popcornflower (*Plagiobothrys* sp.), yellowflower tarweed (*Holocarpha virgata*), sky lupine (*Lupinus nanus*), winter vetch (*Vicia villosa*), and clover (*Trifolium* sp.) (Reclamation 2007a).

Nonnative grasses dominate annual grasslands and cannot realistically be eliminated under current rangeland management practices (Reclamation 1997). Further, grazing livestock and wildlife depend on some introduced species for forage, such as soft chess (*Bromus hordeaceus*), wild oats (*Avena fatua*), slender wild oats (*A. barbata*), and annual ryegrass.

Chamise chaparral (Sawyer and Keeler-Wolf 1995: Chamise series). This community type is dominated by the chamise shrub (*Adenostoma fasciculatum*), generally three to ten feet tall. Vegetation can be very dense, reaching 50 percent cover in 10 years. This community is adapted to frequent fires by stump sprouting, and plants will reach maturity in 25 to 60 years in the absence of fire. Chamise chaparral occurs between 1,000 and 2,000 feet (300 and 610 meters) in elevation on dry, south- or west-facing slopes and ridges. Limestone soils in the middle basin above the reservoir but not far upstream in the lake area support chamise. Species that may co-occur with chamise in this community include several manzanitas (*Arctostaphylos glauca, A. tomentosa, A. viscida*), ceanothus species (*Ceanothus cuneatus, C. papillosus*), mountain mahogany, buckwheat (*Eriogonum fasciculatum*), yerba santa, deer brush, holly-leaf cherry, and scrub oak (Reclamation 1997).

Chamise chaparral occurs on various substrates throughout the PWMA (Evens et al. 2004). This community type is intermixed with oak woodland in the PWMA access road corridor (Reclamation 2007a). In addition, several stands were located on the volcanic ridgetop of Table Mountain (Evens et al. 2004).

Valley and foothill riparian woodland (Sawyer and Keeler-Wolf 1995: California sycamore series). Vegetation in this community consists of tall, dense, winter-deciduous, broad-leafed, riparian forest whose canopy may be closed with a shade-tolerant understory. It grows on relatively fine-textured alluvium, somewhat receded from river channels, in the floodplains of low gradient streams and rivers. Dominant species in this community include box elder (*Acer negundo californica*), sycamore (*Platanus racemosa*), Fremont cottonwood, and several willow species (*Salix gooddingii variabilis, S. laevigata, S. lasiandra*). White alder (*Alnus rhombifolia*) and big-leaf maples (*Acer macrophylla*) are less common species (Reclamation 1997). California vervain (*Verbena*

californica) is a special status plant species that may grow in valley and foothill woodlands, particularly near streams that run through serpentine areas, as in the northernmost reach of the north fork of the Stanislaus River (Reclamation 1997).

Little riparian vegetation exists along the shoreline because fluctuating water levels make it hard for riparian vegetation to become established (Reclamation 1997). Riparian vegetation is more commonly found in the upstream reaches of some of the perennial drainages that flow into the reservoir, within the Stanislaus River Arm, Tuttletown, Greenhorn Creek, Carson, and Coyote Creek Management Areas. Other management areas that support riparian vegetation are Camp Nine, Parrotts Ferry, Mark Twain, Bear Creek, and Dam and Spillway.

Wet meadow (Sawyer and Keeler-Wolf 1995: Sedge series). This community is composed of generally grass (or grasslike) species and forbs, ranging from six inches to three feet (15 cm to 1m) high. Cover may be sparse to dense, depending on the intensity of grazing, if any. In the planning area, wet meadows are found at elevations between 800 and 2,000 feet (240 to 610 meters). This natural community develops on flats or in bowl-like basins, which may have rapid drainage or none at all. Soils may vary from 20 percent organic material to sandy loam with almost no organic material. In wet meadows, water is at or near the soil surface most of the growing season, rather than having standing water (Holton Associates 1987 *in* Reclamation 1997). They may dry up in the summer or stay ponded all year. Meadow-type indicator species include short-hair sedge (*Carex exserta*), shorthair (*Calamagrostis breweri*), gentian-aster (*Gentian newberryi aster* sp.), few-flowered spikerush (*Heleocharis pauciflora*), carpet clover (*Trifolium monathum*), bentgrass (*Agrostis scabra*), pull-up muhly (*Muhlenbergia filiformis*), beaked sedge (*Carex rostrata*), Nebraska sedge (*C. nebrascensis*), Kentucky bluegrass (*Poa pratensis*), longstalk clover (*Trifolium longipes*), and tufted hairgrass (*Deschampsia caespitosa*) (Ratliff 1982 *in* Reclamation 1995). Special status plant species that grow in wet meadows are California vervain and Ahart's dwarf rush (*Juncus leiospermus* var. *aharti*).

Field observations at the Angels Creek arm, conducted by Reclamation in 1997, found no typical wet meadow community or topography, despite previous documentation of wet meadows in this planning area (Reclamation 1995). However, the bunch grass (reed canarygrass) found on a hillside at Angels Creek grows in moist areas, indicating a seep-like condition, which is considered a wetland community (Reclamation 1997). Such a unique upland site with more available water than the surrounding upland areas increases wildlife habitat values and the overall biodiversity at the lake.

Vernal pool (Sawyer and Keeler-Wolf 1995: Northern basalt flow vernal pools). Vernal pools are an ephemeral wetland vegetative community with predominantly low-growing ephemeral herbs. Germination and early growth occur in winter and early spring, often while plants are submerged, and pools dry out by summer. Flowering is often in bands at the margins of the pools. This community type occurs in shallow depressions, ranging from a few meters to tens of meters in diameter. Characteristic plant species found in vernal pools are Pacific foxtail (*Alopecurus saccatus*), common blennosperma

(*Blennosperma nanum*), Cleveland's shooting star (*Dodecatheon clevelandii* var. *patulum*), toothed downingia (*Downingia cuspidata*), spiny-sepaled button-celery (*Eryngium spinosepalum*), hedge-hyssop (*Gratiola ebracteata*), Fremont's goldfields (*Lasthenia fremontii*), Douglas' meadowfoam (*Limnanthus douglasii* var. *rosea*), white-headed navarretia (*Navarretia leucocephala* ssp. *leucocephala*), adobe popcorn flower (*Plagiobothrys acanthocarpus*), miniature popcorn flower (*P. stipitatus* var. *micranthus*), Sacramento pogogyne (*Pogogyne zizyphoroides*), Delta woolly marbles (*Psilocarphus brivissimus* var. *multiflorus*), greater duckmeat (*Spirodela polyrrhiza*), and Wildenov's clover (*Trifolium willdenovii*) (Stone et al. 1993 *in* Reclamation 1995). Special status plant species that may grow in the planning area vernal pools include Tuolumne button-celery (*Eryngium pinnatisectum*), spiny-sepaled button-celery (*Eryngium spinosepalum*), and pincushion navarretia (*Navarretia myersii* ssp. *myersii*).

Within the planning area, ephemeral pools appear after rainfall or snowmelt on top of Table Mountain, between 1,200 feet (360 meters) in elevation in the south and 2,600 feet (790 meters) in the north. Although these pools share some of the characteristics of some vernal pools in the Central Valley, they are not true vernal pools in that they do not have a clay under layer that prevents percolation. Instead, they form in swales in the rocky surface of Table Mountain. The soil is poorly drained and the parent material on Table Mountain is a Pliocene lava flow (andesite). Intermittent pools occur on Table Mountain in seasonally wet to saturated rocky meadows that have slight soil development (Evens et al. 2004). They are interspersed within the annual grassland (Reclamation 2007a). Intermittent pools at Table Mountain do not support the range of species found in vernal pools in the Central Valley, possibly due to differences in substrate (primarily shallow, rocky substrate versus clay substrate in valley vernal pools). Although vernal pool habitats are very delicate and easily disturbed in general, this is even more pronounced on Table Mountain, where soils are poor, shallow, and loose.

To date, vernal pools have resisted invasion by exotic plant species, probably due to their ephemeral nature (Reclamation 1997). However, the scientific community is concerned that exotic plants may colonize vernal pool communities, possibly displacing the highly specialized native vernal pool species (Reclamation 1997). Despite these concerns, there is no supporting evidence that this change is occurring in vernal swales found on Table Mountain (Reclamation 1997).

Serpentine foothill pine-chaparral (Sawyer and Keeler-Wolf 1995: Foothill pine series). This natural community consists of an open woodland with some chaparral on Redhills soils derived from serpentine. Serpentine soils are high in magnesium, iron, silicates, and asbestos and low in nitrogen and phosphorus (Reclamation 1997). Serpentine soils in the planning area are of the Delpiedra and Henneke Series. The Redhills form a rounded rolling terrain and occur at elevations between 800 and 2,000 feet (240 and 610 meters). Characteristic plant species on Delpiedra soils are foothill pine and buckbrush, while on Henneke soils manzanitas (*Arctostaphylos manzanita* and *A. viscida*), chamise, and toyon are prevalent. A number of special status plant species prefer serpentine foothill-pine chaparral habitat, including Rawhide hill onion (*Allium tuolumnense*), Chinese Camp brodiaea (*Brodiaea pallida*), Red Hills soaproot, Congdon's lomatium (*Lomatium*

congdonii), shaggyhair lupine (*Lupinus spectabilis*), Layne's butterweed, and California vervain.

Stands of this community type have been found in the southwest and lower central portions of the PWMA on serpentine parent material (Evens et al. 2004). Serpentine soils provide habitat for only very specialized plant species that are highly adapted to the relatively inhospitable soil type. There is no evidence of ecological stages in serpentine vegetation (Kruckberg 1984, *in* Reclamation 1997); therefore, unless severely disturbed by humans or natural causes, the composition and structure of serpentine-based vegetative communities at the New Melones Lake will likely change little over time.

Blue oak woodland and serpentine foothill pine-chaparral (Sawyer and Keeler-Wolf 1995: foothill pine series). This type of chaparral is similar to serpentine foothill pine-chaparral, with blue oaks interspersed throughout. It occurs upland on gentle to steep slopes. Soils are shallow, infertile, moderately to excessively drained. The soil surface may be covered with stones and rock outcrops. Foothill pine emerges from a shrub canopy composed of blue oak, black oak, California buckeye, coast live oak, Coulter pine, interior live oak, valley oak, and western juniper. Vegetation height is less than 70 feet (20 meters) and occurs at elevations of between 1,000 and 7,000 feet (300 and 2,100 meters).

Serpentine chaparral plant communities can be found in the Stanislaus River Canyon, PWMA, and Dam and Spillway planning areas (Reclamation 1995).

Sensitive Habitat Types

Several sensitive habitat types, as listed by the CDFG due to their rarity and threat, occur in the planning area. These are serpentine communities and wetlands, such as vernal pools and valley and foothill riparian woodlands.

Serpentine communities. Serpentine is considered an ultramafic rock formation, meaning that it is high in ferromagnesian silicate minerals (Kruckberg 1984, USFWS 2002 *in* Ayres 2005). These minerals produce soils with several unique characteristics, including low calcium levels, high magnesium levels, high concentrations of heavy metals (especially iron, chromium, and nickel), and nitrogen, potassium, and phosphorus levels below that needed to grow agricultural crops (Kruckberg 1984 *in* Ayres 2005). These chemical characteristics usually co-occur with a distinctive vegetation pattern of sparse amounts of plant biomass, even in areas known for their productivity, such as coastal forests. The sparse vegetation in these environments contributes to low turnover of nitrogen and phosphorus, high temperatures, high water stress, and low soil stability (Kruckberg 1984, USFWS 2002 *in* Ayres 2005). The coexistence and interdependence of these biochemical factors in the same environment has been dubbed the serpentine effect (Kruckberg 1984 *in* Ayres 2005). However, this sparse vegetation is also characterized by a high degree of endemic plant species (found only in California or only on West Coast serpentine). In California, endemic serpentine species make up ten percent (215 species) of the total endemic flora of California (2,125 species), while serpentine soils make up only 0.6 percent of the area of California (Raven and Axelrod 1978; Kruckberg

1984, *in* Ayres 2005). In addition, many of these endemic species are endangered, threatened, or rare. Of the five federally listed plant species potentially occurring in the planning area, three are found on serpentine soils. This community's small land area and high proportion of endemic plant species makes it particularly important to the preservation of biodiversity. Further, the barren appearance of serpentine communities falsely indicates that they lack ecological value; as a result, they are threatened by disturbance and degradation (e.g., grazing or mining) (Reclamation 1997). Serpentine communities are found within the Westside, Peoria Wildlife Area, and Dam and Spillway planning units.

Wetlands. In California's Mediterranean climate, with hot dry summers, wetlands have always been scarce and limited in size. These small isolated areas are very productive because associated plants have longer growing periods. Further, wetlands are valuable to animals because they provide abundant food and water. Since the distribution of wetlands has generally declined, associated plants and animals have, in some cases, become rare and endangered (Reclamation 1995). Further, wetlands play a critical role in the watershed as the most productive of all ecosystems, as habitat for many sensitive plant and wildlife species, as flood control areas, as natural water quality purification systems, and as buffers against erosion (Reclamation 1995). Wetlands are found in all planning areas.

Vernal pools. The ponded water in vernal pools prevents annual grasses and other introduced forbs from growing in these depressions. Instead, the depressions are host to a number of native plants that may be limited in distribution to the pools of one particular area. Many vernal pool plants are known for their medicinal value (BLM 2006). Frequently, the endemic plant species are considered endangered or threatened due to lack of habitat caused by development and urban encroachment (Reclamation 1995). Due to their ephemeral nature, vernal pools provide habitat for short-lived invertebrates and breeding habitat for amphibians, such as the Pacific tree frog and western toad. Species that inhabit surrounding grasslands may also use the pools as a temporary water source. An extremely seasonal water regime provides foraging habitat for waterfowl and a number of bird species during spring migrations, as well as habitat for endemic species specifically adapted to vernal pool soil conditions (Reclamation 1995). More than 70 rare species are restricted to vernal pools, with new species discovered regularly (BLM 2006).

Only about 10 to 25 percent of the vernal pools that originally occurred in California remain. The two biggest threats to vernal pools now are development and agricultural conversion (USFWS 2007a). Vernal pools have not been documented in the New Melones Lake Area, although vernal swales may be found on the top of Table Mountain.

Valley and foothill riparian woodland. Riparian areas along larger streams that are tributaries of New Melones Lake provide important habitat for a diverse array of species, including nesting habitat for a great variety of birds. More than 225 species of mammals, birds, reptiles, and amphibians rely on riparian areas. These shaded, moist, and typically well-vegetated corridors serve as escape cover and facilitate movement and dispersal of several species, such as black-tailed deer. Perennial stream courses also provide a year-

long source of water for mammals, reptiles, and amphibians; a large range of species require riparian zones for breeding and foraging needs (Reclamation 1995).

Riparian systems are vulnerable and are easily altered by human activities. Even a slight change in the vegetation can modify the flow of the system, the temperature and pH of the water, the amount of oxygen in the water, and even the substrate. All of these changes have a subsequent impact on the species that depend on the systems. River corridors and riparian areas with natural flows and qualities are becoming a diminished resource throughout all of California (BLM 2006). Riparian woodlands can be found in the Camp Nine, Stanislaus River Canyon, Parrotts Ferry, Mark Twain, Tuttletown, French Flat, Bear Creek, Dam and Spillway, Greenhorn Creek, Carson, and Coyote Creek Planning Areas.

5.2.9 Fish and Wildlife

Fish

The Stanislaus River and New Melones Lake are part of the Sacramento-San Joaquin drainage system, a large interior system draining the west slope of the Sierra Nevada Mountains, the east slope of the Coast Ranges, and the southern Cascade Mountains, Warner Mountains, and Goose Lake to the north (Reclamation 1995). The native fish of the Stanislaus River likely included spring-run Chinook salmon (*Oncorhynchus tschawytscha*), rainbow trout (*O. mykiss)*, Sacramento sucker (*Catostomus occidentalis)*, large minnows, such as hardhead (*Mylopharodon conocephalus*), Sacramento squawfish (*Ptychocheilus grandis)*, hitch (*Lavinia exilicauda*), and one or two species of sculpin (*Cottus* spp.). Some of the numerous fish species introduced by humans to the Sacramento-San Joaquin system likely also colonized the Stanislaus River prior to dam construction, and others, such as bass (*Micropterus* spp.) and catfish (*Ictalurus catus, I. nebulosus, I. punctatus*), have been introduced to New Melones Lake as sport fish.

The fish species known to occur or most likely to occur in the reservoir or its tributaries are listed in Table 5-5.

Table 5-5: Fish Species of New Melones Lake

Common Name	Scientific Name	Origin	Comments
Minnows and Carps	**Cypriniformes**		
Sacramento sucker	*Catostomus occidentalis*	N	C
Common carp	*Cyprinus carpio*	I	C
Hitch	*Lavinia exilicauda*	N	P
Hardhead	*Mylopharodon conocephalus*	N	P
Golden shiner	*Notemigonus crysoleucas*	I	C
Sacramento blackfish	*Orthodon microlepidotus*	N	C
Sacramento squawfish	*Ptychocheilus grandis*	N	C
Catfish	**Siluriformes**		
White catfish	*Ictalurus catus*	I	C
Brown bullhead	*I. nebulosus*	I	C

Table 5-5: Fish Species of New Melones Lake

Common Name	Scientific Name	Origin	Comments
Channel catfish	*I. punctatus*	I	C
Trout and Salmon	**Salmoniformes**		
Rainbow trout	*Oncorhynchus mykiss*	N	C
Kokanee salmon	*O. nerka*	I	C
Brown trout	*Salmo truna*	I	C
Livebearers	**Cyprinodontiformes**		
Western mosquitofish	*Gambusia affinis*	I	P
Scorpion Fish	**Scorpaeniformes**		
Prickly sculpin	*Cottus asper*	N	P
Riffle sculpin	*C. gulosus*	N	P
Perch, Freshwater Sunfish	**Perciformes**		
Green sunfish	*Lepomis cyanellus*	I	C
Bluegill	*L. macrochirus*	I	C
Red-eye bass	*Micropterus coosae*	I	C
Spotted bass	*M. punctularus*	I	C
Largemouth bass	*M. salmoides*	I	C
White crappie	*Pomoxis annularis*	I	C
Black crappie	*P. nigromaculatus*	I	C

Notes: N = native species, I = introduced species, C = confirmed, P = probable, U = unlikely
Sources: USGS 2007, Lewis 2008

Chinook salmon are restricted to the river downstream from New Melones Lake, although the CDFG successfully planted them in the lake in 1985 to enhance the sport fishery. Those salmon are no longer present, and a Chinook salmon fishery in the lake could be maintained only by regular stocking. The present sport fishery in the lake is focused on rainbow and brown trout (*Salmo truna*), largemouth bass (*Micropterus salmoides*), other sunfishes, such as black crappie (*Pomoxis nigromaculatus*) and bluegill, and three species of catfish. Kokanee salmon (*Oncorhynchus nerka*), which are land-locked sockeye salmon, were introduced to the lake in 1997. The CDFG annually stocks rainbow trout, Kokanee salmon, and brown trout, while largemouth bass are stocked in smaller numbers by local bass clubs, with guidance from the CDFG (Lewis 2008).

The large native minnows and suckers, and introduced carp, although edible and catchable, are generally ignored by sport fisherman. The bass, crappie, bluegill, and smaller species of catfish (white catfish and brown bullhead) are regarded as shallow-water, warm-water species, and are sought by fisherman. These fish are caught in the warm upper layer of water on New Melones Lake, mainly around the shoreline. The catfish live on the soft lake bottom, whereas the bass and crappie typically occupy territories offering some kind of cover, such as snags, logs, rocks, and emergent plants. Thus, prime areas for fisherman seeking sunfishes are shorelines with a lot of relief, such as cliffs or rock outcrops, and especially those narrow arms and coves with many

drowned trees, logs, and marsh areas. Shorelines from which trees and brush have been cleared for aesthetic or other purposes are much less important to these species.

Rainbow trout, brown trout, and the large channel catfish are generally restricted to colder, deeper water during the summer when New Melones Lake has two distinct thermal layers of water, although large brown trout and channel catfish are often caught in shallow water near steep banks at night, when they ascend in search of food. Rainbow trout generally feed in deep water during the daytime and feed in shallower areas at night. In fall, when the lake "turns over," thermal stratification disappears and both species of trout may be caught in shallower water through winter and spring. Trout are also vulnerable to shallow-water fishing in tributary arms in late summer, when they enter tributaries to spawn.

The lake's perennial tributary streams and their associated lake arms are critically important aquatic habitat. The cool clean water and gravel beds of these tributaries are likely to be trout spawning and rearing areas. Artificial habitat was created at the time of construction.

Wildlife

The planning area contains a diverse range of wildlife habitats typical of the lower Sierra Nevada foothills, including open water, riparian, and oak woodland communities in the lower lake area to montane hardwood and montane hardwood-conifer woodlands in the upstream canyon area. Consequently, a diverse range of bird, mammal, reptile, amphibian, and invertebrate species are also present. Numbers and species of birds vary by season, habitat, weather, and migration patterns. Section 5.2.8 (Vegetation) contains additional information on vegetation communities that make up wildlife habitats. The following sections describe wildlife resources by habitat type.

Open Water and Riparian Areas. The open water of New Melones Lake, along with associated shoreline vegetation, provides foraging and resting habitat for a variety of waterfowl and shorebirds, such as ruddy duck (*Oxyura jamaicensis*), ring-necked duck (*Aythya collaris*), and mallard ducks (*Anas platyrhynchos*), grebes, and coots. Several fish-eating bird species, such as grebes, forage in the open water; other species, such as ducks, herons, and egrets, dabble along the shoreline foraging on seeds and small fish in shallow areas.

Trees along the shoreline provide nesting substrate adjacent to preferred foraging habitat for some of these species, such as osprey. Riparian areas along larger tributaries to New Melones Lake provide important habitat for a diverse species assemblage. These shaded, moist, and typically densely vegetated corridors provide food, cover, water, and nesting habitat, and they serve as travel corridors for species such as black-tailed deer (*Odocoileus hemionus columbianus*). Perennial streams provide a year-long source of water for mammals, reptiles, and amphibians. A large assortment of species, including several bird species, require riparian zones for breeding and foraging needs.

Oak woodlands. Oak woodlands are interwoven with grasslands at lower elevations and more conifer-dominated woodlands at higher elevations. In association with a grassy understory, oak woodlands cover virtually all of the gently rolling hills that surround New Melones Lake. Where oak woodland occurs adjacent to open grasslands, many species move between and use resources provided by both communities. Oak woodlands provide important food resources, such as acorns, fungi, lichens, galls, and mistletoe. They also provide shelter, shade, and nesting sites for numerous species, including mule deer (*Odocoileus hemionus californicus*), which winter in the Railroad Flat area, black-tailed deer, which winter in the Stanislaus River Canyon and Parrotts Ferry areas, western grey squirrel (*Sciurus griseus*), gray fox (*Urocyon cinereoargenteus*), raccoon (*Procyon lotor*), feral pig (*Sus scrofa*), striped skunk (*Mephitis mephitis*), mountain lion (*Felis concolor*), bobcat (*F. rufus*), California quail, wild turkeys, woodpeckers, and mourning doves. Tree cavities provide nesting opportunities for several species. The PWMA contains large areas of representative high quality oak woodlands.

Grasslands. While grasslands offer relatively few roosting or nesting sites for birds, they provide a large number of seeds for seed-eating species, such as mice, voles, quail, meadowlarks (*Sturnella neglecta*), horned larks (*Eremophila alpestris*), and sparrows. These species, in turn, provide food for predatory species, such as black-shouldered kite (*Elanus caeruleus*), northern harrier (*Circus cyaneus*), great horned owl (*Bubo virginianus*), red-tailed hawk (*Buteo jamaicensis*), and Swainson's hawk (*B. swainsoni*), which nest and roost in adjacent oak woodlands, wetlands, and riparian areas.

Chaparral. Often merging with oak woodlands and grasslands, chaparral provides large amounts of dead material and leaf litter, as well as almost impenetrable cover, for reptiles, birds, and smaller mammals. Although not restricted to this habitat type, fence lizards (*Sceloporus occidentalis*), quail, wren tits (*Chamaea fasciata*), deer mice (*Peromyscus maniculatus*), feral pigs, California thrashers (*Toxostoma redivivum*), and bobcats often use chaparral communities for cover and forage.

Table Mountain. The Table Mountain area, located primarily to the west and south of New Melones Lake, includes unique habitat conditions and opportunities not found elsewhere in the vicinity. The relatively steep cliffs and ledges (including caves and crevices) associated with Table Mountain provide nesting and roosting substrate required by several bird and bat species, several of which are special status species described in Section 5.2.10. On the top of Table Mountain, vernal swales are interspersed with grassland and rock. Due to their short-lived nature, vernal swales provide habitat for short-lived invertebrates and breeding habitat for amphibians, such as Pacific tree frog (*Hyla regilla*). Species that inhabit surrounding grasslands may also use the pools as a temporary water source. An extremely seasonal water regime in this habitat type provides foraging habitat for waterfowl and other birds in the spring, as well as habitat for endemic species specifically adapted to vernal swale conditions.

Montane hardwood. Once established, the montane hardwood community is relatively stable, with a dense canopy and supporting wildlife species that rely on acorns as a primary food source or that browse on hardwood foliage. The forest floor, as opposed to

lower elevation oak woodlands, is covered by a persistent leaf litter that provides habitat for many species of amphibians and reptiles. Representative wildlife species found in this community include gray fox, coyote (*Canis latrans*), striped skunk, opossum (*Didelphis virginiana*), quail, wild turkey, band-tailed pigeon (*Patagioenas fasciata*), Nuttall's woodpecker (*Picoides nuttallii*) and acorn woodpecker (*Melanerpes formicivorus*), scrub jay (*Aphelocoma californica*) and Steller's jay (*Cyanocitta stelleri*), titmouse, western gray squirrel, dusky-footed woodrat (*Neotoma fuscipes*), black-tailed deer, black bear (*Ursus americanus*) in the Camp Nine region, mountain lion, bobcat, California mountain kingsnake (*Lampropeltis zonata*), and western rattlesnake (*Crotalus viridis*). Special status species that use this habitat type are described in Section 5.2.10.

Montane hardwood-conifer. This typically climax community supports a variety of wildlife species and is transitional between dense coniferous forests and montane hardwood, mixed chaparral, or open oak woodlands and savannahs. Mature trees provide nest cavities and acorns for some birds and mammals. Variability in canopy cover and understory vegetation provides structural diversity within this community. Representative wildlife species include mule deer, mountain lion, bobcat, pine siskin evening grosbeak (*Pinicola enucleator*), Steller's jay, western bluebird (*Sialia mexicana*), western tanager (*Piranga ludoviciana*), acorn woodpecker, wild turkey, western rattlesnake, and gopher snake (*Pituophis catenifer*). Special status species associated with this community are described in Section 5.2.10.

Limestone Caves/Outcrops. Some limestone caves and outcrops provide temperature, light, and moisture suitable for endemic invertebrate species. Cave and cavity-dwelling mammals, such as bats, may also find suitable habitat in these features. Two genera of bats, *Myotis* and *Corynorhinus* (*Plecotus*), are known to use the caves for roosting and breeding. The interior of some caves provides unique habitats where over 50 species of invertebrates have developed adaptations specific to the cave conditions. Several species of special status bats and invertebrates have been found in this type of habitat in the region and are described in Section 5.2.10.

When New Melones Dam was constructed, many limestone caves were inundated, and species' habitats were lost. To mitigate these effects on the New Melones harvestman (*Banksula melones*), a type of rare spider, the USACE transplanted individuals of this species to other caves that would not be affected by inundation. Monitors of these transplants have found that they have successfully become established in the caves where they were transplanted (CDFG 2009).

Game species. Hunting is permitted in the New Melones Lake Area and is regulated by the CDFG. Game species include waterfowl, mourning dove (*Zenaida macroura*), California quail (*Callipepla californica*), wild turkey (*Meleagris gallopavo*), and deer (See Section 5.2.22 for further discussion of hunting opportunities).

5.2.10 Special Status Species

Federally Endangered, Threatened, Proposed, or Candidate Species of Wildlife

There are eleven species or subspecies that are listed as threatened or endangered under the federal Endangered Species Act that could occur and be affected by projects in Calaveras or Tuolumne Counties (Table 5-6) (USFWS 2009). In addition six species are candidates for listing. No species that occur in the counties are currently proposed for listing.

Table 5-6: Federal Threatened, Endangered, Proposed, and Candidate Wildlife Species That Occur in or That May Be Affected by Projects in Calaveras and Tuolumne Counties

Scientific Name	Common Name	Habitat	Status E=Endangered T = Threatened C = Candidate SC = Species of Concern DL = Delisted CH = Critical Habitat	Potential Occurrence in the Planning Area C = Confirmed P = Possible U = Unlikely
Invertebrates				
Branchinecta lynchi	Vernal pool fairy shrimp	Vernal pools	T	U
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	Riparian habitats and associated upland habitats where elderberry grows	T	P
Lepidurus packardi	Vernal pool tadpole shrimp	Vernal pools	E	U
Fish				
Oncorhynchus clarki henshawi	Lahontan cutthroat trout	Lahontan Basin of northern Nevada, eastern California, and southern Oregon	T	U
O. clarki seleniris	Paiute cutthroat trout	Watershed of Silver King Creek and its isolated tributaries in Alpine County	T	U
O. mykiss	Central Valley steelhead	Sacramento and San Joaquin Rivers and their tributaries (excluding steelhead from San Francisco and San Pablo Bays and their tributaries)	T CH	U
O. tshawytscha	Winter-run Chinook salmon, Sacramento River	Sacramento River and its tributaries in California	E	U

Table 5-6: Federal Threatened, Endangered, Proposed, and Candidate Wildlife Species That Occur in or That May Be Affected by Projects in Calaveras and Tuolumne Counties

Scientific Name	Common Name	Habitat	Status E=Endangered T = Threatened C = Candidate SC = Species of Concern DL = Delisted CH = Critical Habitat	Potential Occurrence in the Planning Area C = Confirmed P = Possible U = Unlikely
Amphibians				
Ambystoma californiense	California tiger salamander, central population	Vernal pools and permanent waters in grasslands; burrows in adjacent upland sites	T CH	U
Bufo canorus	Yosemite toad	Lakes or ponds with grassy margins, wet meadows, and quiet areas of streams above 4,800 feet (1,460 meters) elevation	C	U
Rana aurora draytonii	California red-legged frog	Aquatic habitat (for breeding); use a variety of habitat types, including riparian and upland areas	T CH	P
R. muscosa	Mountain yellow-legged frog	Rocky and shaded streams with cool waters above 4,500 feet (1,460 meters) elevation	C	U
R. sierrae	Sierra Nevada yellow-legged frog	Rocky and shaded streams with cool waters at high elevation	C	U
Reptiles				
Thamnophis gigas	Giant garter snake	Inhabits natural and artificial wetlands, irrigation supply and drainage canals, freshwater marshes, sloughs, ponds, and other aquatic habitats	T	U
Birds				
Coccyzus americanus occidentalis	Western yellow-billed cuckoo	Deciduous riparian woodlands, especially dense stands of cottonwood and willow	C	P

Table 5-6: Federal Threatened, Endangered, Proposed, and Candidate Wildlife Species That Occur in or That May Be Affected by Projects in Calaveras and Tuolumne Counties

Scientific Name	Common Name	Habitat	Status E=Endangered T = Threatened C = Candidate SC = Species of Concern DL = Delisted CH = Critical Habitat	Potential Occurrence in the Planning Area C = Confirmed P = Possible U = Unlikely
Synthliboramphus hypoleucus	Xantus's murrelet	Islands off the Pacific coastline	C	U
Mammals				
Martes pennanti (pacifica) DPS	Fisher	Mature coniferous forest and dense riparian habitats at high elevations	C	U
Vulpes macrotis mutica	San Joaquin kit fox	Annual grasslands with scattered shrubs and loose soils for burrowing	E	U

Source: USFWS 2009

The valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) occurs in association with elderberry (*Sambucus* spp.) shrubs in riparian areas and oak savanna habitats. Because these habitat types and elderberry occur in the New Melones Lake Area and the species has been documented nearby, it is possible that the species occurs in the planning area.

The California red-legged frog (CRLF) (*Rana aurora draytonii*) inhabits a variety of aquatic habitats, usually with submerged and emergent vegetation. CRLF typically inhabit the margins of still or very slow water where bordering and aquatic vegetative cover is very dense and large populations of forage species occur, including aquatic macroinvertebrates, rodents, and Pacific tree frogs (*Hyla* [=*Pseudacris*]) regilla) (Storer 1925; Hayes and Tennant 1986; Hayes 1989; Jennings and Hayes 1994 *in* Barry 2007). Most of the low gradient riparian stream zones that may have offered this type of habitat in the New Melones Lake Area were inundated when the lake was filled, and any such habitat in the planning area is remnant and fragmented at best. A 2006-2007 survey of Sierra Nevada foothill streams in the counties north of the project area found that the nearest extant population of CRLFs was west of New Hogan Lake, approximately 25 miles (40 kilometers) northwest of the project area (Barry 2007). A valid historical record of a CRLF sighting occurred near Columbia, approximately five miles from the lake, but this record was not confirmed during the recent survey. The overall results of this survey indicated that although CRLFs can and do occupy streams at similar elevations as those in the New Melones Lake Area, populations are relatively rare and depend on high-quality habitat.

No records exist of CRLFs in streams in the planning area, and there is a low probability that the species occurs in the planning area.

The rest of the listed species that could occur in the counties are unlikely to occur in the New Melones Lake Area due to lack of appropriate habitat or documented range, including elevation.

Federally Endangered, Threatened, Proposed or Candidate Species of Plants

The project area encompasses portions of Tuolumne and Calaveras Counties. Within these counties, the five federally listed plant species that may occur include Ione manzanita (*Arctostaphylos myrtifolia*), Chinese Camp brodiaea (*Brodiaea pallida*), Hartweg's golden sunburst (*Pseudobahia bahifolia*), Layne's ragwort (*Packera layneae*), and California vervain (*Verbena californica*) (USFWS 2009). These are presented in Table 5-7 and are described in detail below.

Table 5-7: Federally Endangered, Threatened, Proposed, or Candidate Plant Species That Occur in or That May Be Affected by Projects in Calaveras and Tuolumne Counties

Scientific Name	Common Name	Preferred Habitat	Status E= Endangered T = Threatened	Potential Occurrence in the Planning Area C = Confirmed P = Possible U = Unlikely
Arctostaphylos myrtifolia	Ione manzanita	Chaparral or oak-dominated, open-canopied woodlands	T	U
Brodiaea pallida	Chinese Camp brodiaea	Valley and foothill grassland, vernal swales, or serpentine clay	T	U
Pseudobahia bahifolia	Hartweg's golden sunburst	Valley and foothill grasslands at the margins of blue oak woodland	E	P
Packera layneae	Layne's ragwort	Dry serpentine or granular igneous soils in chaparral and foothill pine/oak woodlands	T	P
Verbena californica	California vervain	Cismontane woodland, valley and foothill grassland, and foothill pine-blue oak woodland, often on serpentine	T	P

Sources: California Native Plant Society (CNPS) 2009; CDFG 2009; Reclamation 2007a; USFWS 2007b; Ayres 2005

The California Natural Diversity Database (CNDDB) (CDFG 2009) has no recorded occurrence of Ione manzanita, Chinese Camp brodiaea, or Hartweg's golden sunburst within the planning area (CDFG 2009). Further, Ione manzanita and Chinese Camp brodiaea were not found during surveys conducted in the planning area for these species (Evens et al. 2004; Reclamation 2007a). As such, these species are considered unlikely to occur in the planning area and are given no further consideration in this document.

Layne's ragwort. This species is federally listed as threatened and is listed as rare in California (CDFG 2009). It is a perennial herb with yellow flowers (CNPS 2009). Layne's ragwort has eight to thirteen ray flowers and fewer than 40 disk flowers that bloom April through July (Reclamation 1995, 2007a).

The species can be found on dry serpentine or granular igneous soils in chaparral and foothill pine/oak woodlands (Ayres 2005). It has been found in the Red Hills area, approximately 10 miles (16 kilometers) south of the lake area (BLM 2006), and a possible population was recorded in a drying stream margin in Peoria basin (Ayres 2005). The CNDDB does not have a recorded occurrence of this species within the project area (CDFG 2009).

California vervain. This species is federally listed as threatened and is found in Tuolumne County (CNPS 2009). It is a perennial or biennial herb, with violet to purple flowers that bloom May through September (CNPS 2009; Reclamation 1995).

The species is known from ten occurrences in the Red Hills and is threatened by grazing, mining, development, recreation, and vehicles (CNPS 2009). It is protected in part at Red Hills Area of Critical Environmental Concern (ACEC) on BLM land (CNPS 2009). California vervain may grow in cismontane woodland, valley and foothill grassland, and foothill pine-blue oak woodland (CDFG 2009; Ayres 2005). It has been found on mesic sites on Delpiedra serpentine, usually seeps, creeks, swales, or in wet meadows at 830 to 1,300 feet (250 to 400 meters) (CDFG 2009; BLM 2006; Ayres 2005). It is often associated with Cleveland's butterweed, which was observed on Peoria serpentine (Ayres 2005). The CNDDB does not have a recorded occurrence of this species within the project area; further, the species was not recorded during surveys conducted on PWMA serpentine (CDFG 2009; Reclamation 2007a). California vervain has been recorded at Yosemite Junction, approximately seven miles from the lake area (Reclamation 1995).

Federally Proposed or Designated Critical Habitat for Fish and Wildlife

Two threatened species have critical habitat designated within Calaveras or Tuolumne Counties, Central Valley steelhead (*Onchorhynchus mykiss*) and California tiger salamander (*Ambystoma californiense*), central population (USFWS 2009). The planning area is not within either of these designated areas (NMFS 1999; USFWS 2006).

Federally Proposed or Designated Critical Habitat for Plants

Within Tuolumne County there is designated critical habitat for four special status plant species: succulent owl's clover (*Castilleja campestris* ssp. *succulenta*), Hoover's spurge

(*Chamaesyce hooveri*), Colusa grass (*Neostapfia colusana*), and Greene's tuctoria (*Tuctoria greenei*) (USFWS 2009).

For all species, critical habitat was designated in FR 68:46683, on August 6, 2003. The designation was revised in FR 70:46923 on August 11, 2005, and species by unit designations were published in FR 71:7117 on February 10, 2006 (USFWS 2009). The critical habitat in Tuolumne County is present as a small band on the western edge of the county, outside of the planning area.

None of the four species have been recorded within the planning area, and Greene's tuctoria has not been recorded within either Calaveras or Tuolumne County. Due to a lack of recorded occurrences and distance to the designated critical habitat, these four species are considered unlikely to occur within the planning area.

All Other Special Status Wildlife

Twenty special status species (state endangered, state threatened, California species of special concern, state fully protected, and federal birds of conservation concern) have been documented in the planning area. These species are presented in Table 5-8.

The MBTA prohibits the take, harm, or trade of any migratory bird species and requires that all agencies must have a policy in place to prevent harm to such species as a result of that agency's actions. Birds protected by the MBTA include raptors, waterfowl, shorebirds, and neotropical migrants. Due to the large number of MBTA-protected bird species that could be found within the planning area, this section will not include a species-specific discussion of MBTA birds. All potentially occurring MBTA species are not listed in Table 5-8.

The USFWS prepared the Birds of Conservation Concern report (USFWS 2008) to help identify birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act. Birds identified in this report are given no additional legal protection, but are included in this RMP/EIS since they are species that could potentially be impacted by management actions.

Several invertebrates that are tracked by the CNDDB are included in Table 5-8. This is because, when New Melones Dam was constructed, many limestone caves were inundated, and species' habitats were lost. To mitigate these effects on the New Melones harvestman (*Banksula melones*), a type of rare spider, the USACE transplanted individuals of this species to other caves that would not be inundated. The invertebrates listed in Table 5-8 all potentially occur within caves in the planning area, and thus could be impacted by management actions.

Table 5-8: Special Status Wildlife Species* That Occur in or That May Be Affected by Projects in Calaveras and Tuolumne Counties

Scientific Name	Common Name	Preferred Habitat	Status SE= CA State Endangered ST = CA State Threatened DL = Federally delisted FP = Fully protect in CA BCC=Birds of Conservation Concern CSC = CA Species of Special Concern ** = Tracked by the CNDDB	Potential Occurrence in the Planning Area C = Confirmed P = Possible U = Unlikely
Invertebrates				
Aphrastochthonius grubbsi	Grubbs' Cave pseudoscorpion	Caves	**	P
Banksula melons	New Melones harvestman	Limestone caves with temperatures between 57 and 60 degrees F (14 and 16 degrees Celsius) and humidity between 82 and 97 percent. Found under rocks or wandering on floor or walls.	**	P
B. Tuolumne	Tuolumne cave harvestman	Caves	**	P
B. tutankhamen	King Tut Cave harvestman	Caves	**	P
Larca laceyi	Lacey's Cave pseudoscorpion	Caves	**	P
Pseudogarypus orpheus	Music Hall Cave pseudoscorpion	Caves	**	P
Stygobromus gradyi	Grady's Cave amphipod	Mostly found in caves, but one collection from a spring.	**	P
Fish				
Lavinia symmetricus ssp. 1	San Joaquin roach	Generally found in small, warm, intermittent streams. Most abundant in mid-elevation streams in the Sierra foothills and in the lower reaches of some coastal streams.	CSC	U
L. symmetricus ssp. 3	Red Hills roach	Small streams in areas with serpentine soil.	CSC	P

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Amphibians				
Ambystoma californiense	California tiger salamander, central population	Vernal pools and permanent waters in grasslands; burrows in adjacent upland sites.	CSC	U
Bufo canorus	Yosemite toad	Ponds used as breeding areas and nearby meadows that provide food.	CSC	U
Hydromantes platycephalus	Mount Lyell salamander	Caves, granite exposures, rock fissures, and seepages from springs and melting snow.	CSC	U
Rana aurora draytonii	California red-legged frog	Aquatic habitat (for breeding); a variety of habitat types, including riparian and upland areas.	CSC	P
Rana boylii	Foothill yellow-legged frog	Permanent water.	CSC	C
R. muscosa	Mountain yellow-legged frog	Rocky and shaded streams with cool waters above 4,500 feet (1,460 meters) elevation.	CSC	U
R. sierrae	Sierra Nevada yellow-legged frog	Rocky and shaded streams with cool waters at high elevation.	CSC	U
Scaphiopus hammondii (=*Spea hammondii*)	Western spadefoot	Grasslands; nests in temporary wetlands.	CSC	U

Table 5-8: Special Status Wildlife Species* That Occur in or That May Be Affected by Projects in Calaveras and Tuolumne Counties

Scientific Name	Common Name	Preferred Habitat	Status SE= CA State Endangered ST = CA State Threatened DL = Federally delisted FP = Fully protect in CA BCC=Birds of Conservation Concern CSC = CA Species of Special Concern ** = Tracked by the CNDDB	Potential Occurrence in the Planning Area C = Confirmed P = Possible U = Unlikely
Reptiles				
Emys (=*Clemmys*) *marmorata*	Western pond turtle	Permanent or near permanent water bodies with logs, vegetation, or mudflats for basking.	CSC	P
E. (=*Clemmys*) *marmorata marmorata*	Northwestern pond turtle	Permanent or near permanent water bodies with logs, vegetation, or mudflats for basking.	CSC	P
Phrynosoma coronatum (frontale population)	Coast (California) horned lizard	Lowlands along sandy washes with scattered low bushes.	CSC	P
Birds				
Accipiter gentilis	Northern goshawk	Woodlands with suitable prey source.	CSC	U
A. striatus	Sharp-shinned hawk	Woodlands with suitable prey source.	CSC	C
Agelaius tricolor	Tri-colored blackbird	Marsh vegetation or vegetation near small water bodies.	CSC, BCC	C
Aquila chrysaetos	Golden eagle	Cliffs or isolated trees.	CSC	C
Aphelocoma insularis	Island scrub-jay	Open oak woodland, brushland, and chaparral on Santa Cruz Island.	BCC	U
Athene cunicularia	Burrowing owl	Flat open grasslands.	CSC, BCC	C
Baeolophus inornatus	Oak titmouse	Oak and pine-oak woodlands, tall chaparral, and oak-riparian associations.	BCC	P
Bucephala islandica	Barrow's goldeneye	Open water bodies.	CSC	C
Buteo regalis	Ferruginous hawk	Open grasslands.	CSC	C

Table 5-8: Special Status Wildlife Species* That Occur in or That May Be Affected by Projects in Calaveras and Tuolumne Counties

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B. swainsoni	Swainson's hawk	Oak savannah; isolated trees or riparian areas.	ST	C
Calidris canutus population 1 (*roselaari* type)	Red knot	Sea coasts on tidal flats and beaches.	BCC	U
Calypte costae	Costa's hummingbird	Desert, semi-desert, arid, brushy foothills, and chaparral in southern California.	BCC	U
Campylorhynchus brunneicapillus	Cactus wren	Desert, mesquite, arid scrub, and coastal sage scrub in southern California.	BCC	U
Carduelis lawrencei	Lawrence's goldfinch	Oak woodland, chaparral, riparian woodland, and pinyon-juniper woodland.	BCC	P
Charadrius alexandrinus nivosus	Snowy plover	Beaches, dry mud or salt flats, and sandy shores of rivers, lakes, and ponds.	CSC, BCC	U
C. montanus	Mountain plover	Short-grass plains and fields, plowed fields, and sandy deserts.	CSC, BCC	U
Circus cyaneus	Northern harrier	Marshlands	CSC	C
Coccyzus americanus occidentalis	Western yellow-billed cuckoo	Deciduous riparian woodlands, especially dense stands of cottonwood and willow.	SE, BCC	P
Coturnicops noveboracensis	Yellow rail	Freshwater and brackish marshes and deep grass.	CSC, BCC	U
Cypseloides niger	Black swift	Cliffs near waterfalls.	CSC, BCC	U

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Dendroica petechia brewsteri	Yellow warbler	Riparian areas; chaparral.	CSC, BCC	C
Empidonax traillii	Willow flycatcher	Riparian areas; dense willows.	SE	U
Eremophila alpestris actia	California horned lark	Open grasslands or treeless areas.	CSC	C
Falco columbarius	Merlin	Open areas by woods.	CSC	C
F. mexicanus	Prairie falcon	Mountainous grasslands, open hills, plains, cliffs adjacent to open areas; prairies.	CSC, BCC	C
F. peregrinus anatum	American peregrine falcon	Forages over a variety of habitats with aerial prey; nests on cliffs or ledges.	DL, SE, FP, BCC	C
Gelochelidon nilotica	Gull-billed tern	Coastlines, salt marshes, rivers, and lakes in southern California.	CSC, BCC	U
Geothlypis trichas sinuosa	Saltmarsh common yellowthroat	Salt marsh and coastal areas of California.	CSC, BCC	U
Haematopus bachmani	Black oystercatcher	Pacific coastline.	BCC	U
Haliaeetus leucocephalus	Bald eagle	Large bodies of open water, such as lakes, marshes, coasts, and rivers. Also need tall trees for nesting and roosting. Three bald eagle nests were recorded in 2006 and 2007 at New Melones Lake. Also use the lake for foraging and roosting in the winter.	DL, SE, BCC	C

Table 5-8: Special Status Wildlife Species* That Occur in or That May Be Affected by Projects in Calaveras and Tuolumne Counties

Scientific Name	Common Name	Preferred Habitat	Status SE= CA State Endangered ST = CA State Threatened DL = Federally delisted FP = Fully protect in CA BCC=Birds of Conservation Concern CSC = CA Species of Special Concern ** = Tracked by the CNDDB	Potential Occurrence in the Planning Area C = Confirmed P = Possible U = Unlikely
Lanius ludovocianus	Northern loggerhead shrike	Open habitat with scattered perches.	CSC, BCC	C
Laterallus jamaicensis coturniculus	Black rail	Coastal and freshwater marshes.	ST, FP, BCC	U
Limnodromus griseus	Short-billed dowitcher	Salt water wetlands.	BCC	U
Limosa fedoa	Marbled godwit	Marshes and flooded plains.	BCC	U
Melanerpes lewis	Lewis's woodpecker	Open forest and woodland, riparian woodland, and ponderosa pine forest.	BCC	P
Melospiza melodia ssp. *graminea*	Channel Island song sparrow	Brushy, shrubby, and deep grassy areas along seacoasts and waterways on the Channel Islands.	CSC, BCC	U
M. melodia ssp. *maxillaris*	Suisun song sparrow	Brushy, shrubby, and deep grassy areas along seacoasts and waterways in the Suisun Bay area.	CSC, BCC	U
M. melodia ssp. *pusillula*	Alameda song sparrow	Brushy, shrubby, and deep grassy areas along seacoasts and waterways in the San Francisco Bay region.	CSC, BCC	U
M. melodia ssp. *samuelis*	San Pablo song sparrow	Brushy, shrubby, and deep grassy areas along seacoasts and waterways near San Pablo Bay.	CSC, BCC	U
Numenius americanus	Long-billed curlew	Beaches and mudflats.	BCC	U

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N. phaeopus	Whimbrel	Beaches, tidal mudflats, marshes, and flooded fields and pastures.	BCC	U
Oceanodroma homochroa	Ashy storm-petrel	Islands off the Pacific coastline.	CSC, BCC	U
Otus flammeolus	Flammulated owl	Wooded and open areas in lowlands and mountains.	BCC	P
Pandion haliaeetus	Osprey	Large water bodies.	CSC	C
Phalacrocorax auritus	Double-crested cormorant	Large water bodies.	CSC	C
Phoebastria nigripes	Black-footed albatross	Islands off the Pacific coastline.	BCC	U
Pica nuttalli	Yellow-billed magpie	Oak woodland interspersed with grasslands or cultivated fields; also open riparian woodland.	BCC	P
Picoides albolarvatus	White-headed woodpecker	Conifer woodland at high elevations.	BCC	U
P. nuttallii	Nuttall's woodpecker	Oak woodland, chaparral, and riparian woodland.	BCC	P
Pipilo maculatus clementae	San Clemente spotted towhee	Islands off the central California coast.	CSC, BCC	U
Ptychoramphus aleuticus	Cassin's auklet	Pacific coastline.	CSC, BCC	U
Puffinus creatopus	Pink-footed shearwater	Islands off the Pacific coastline.	BCC	U
P. opisthomelas	Black-vented shearwater	Islands off the Pacific coastline.	BCC	U
Riparia riparia	Bank swallow	Riparian areas; stream banks.	ST	C

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Rynchops niger	Black skimmer	Pacific coastline.	CSC, BCC	U
Selasphorus sasin	Allen's hummingbird	Chaparral, thickets and open coniferous woodlands in coastal and southern California.	BCC	U
Spizella atrogularis	Black-chinned sparrow	Chaparral, sagebrush, and arid scrub.	BCC	P
Strix nebulosa	Great gray owl	Old growth coniferous forests.	SE	U
S. occidentalis	Spotted owl	Dense forest and deep, wooded canyons.	CSC, BCC	U
Synthliboramphus hypoleucus	Xantus's murrelet	Islands off the Pacific coastline.	ST, BCC	U
Toxostoma lecontei	LeConte's thrasher	Sparsely vegetated desert flats and dunes in southeastern California.	CSC, BCC	U
Tyto alba	Barn owl	Open habitats, including grassland, chaparral, riparian, and wetlands.	**	C
Mammals				
Antrozous pallidus pacificus	Pallid bat	Grasslands, shrublands, woodlands; roosts in locations protected from general disturbance.	CSC	C
Aplodontia rufa californica	Sierra Nevada mountain beaver	Dense riparian areas.	CSC	U
Corynorhinus (=*Plecotus*) *townsendii*	Townsend's big-eared bat	Rocky areas with caves.	CSC	C
Euderma maculatum	Spotted bat	Roosts in caves, crevices, and cracks, and canyons.	CSC	U

Table 5-8: Special Status Wildlife Species* That Occur in or That May Be Affected by Projects in Calaveras and Tuolumne Counties

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Eumops perotis californicus	Western mastiff bat	Primarily roosts in high buildings and cliff faces, also trees.	CSC	C
Gulo gulo	California wolverine	High-elevation habitats; open terrain above timberline.	ST	U
Lasiurus blossevillii	Western red bat	Habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	CSC	P
Lepus americanus tahoensis	Sierra Nevada snowshoe hare	Boreal zones, riparian communities with thickets of deciduous trees and shrubs.	CSC	U
Lepus townsendii	Western white-tailed jackrabbit	Open areas with scattered shrubs at high elevations.	CSC	U
Martes pennanti (pacifica) DPS	Pacific fisher	Mature and old growth forests; use large areas of primarily coniferous forests with fairly dense canopies and large trees, snags, and down logs.	CSC	U
Sorex lyelli	Mount Lyell shrew	High elevation riparian areas in the southern Sierra Nevada.	CSC	U
Taxidea taxus	American badger	Dry open grasslands, fields, and pastures.	CSC	U

Table 5-8: Special Status Wildlife Species* That Occur in or That May Be Affected by Projects in Calaveras and Tuolumne Counties

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Vulpes vulpes necator	Sierra Nevada red fox	Forest openings, meadows, and barren rocky areas associated with its high elevation habitats.	ST	U

Notes: *Special Status species in this table include state-listed threatened and endangered species and California special concern species, USFWS Birds of Conservation Concern (USFWS 2008), species that are tracked by the CNDDB (CDFG 2009) for Tuolumne or Calaveras County, or those otherwise documented in the planning area. Tracked species are those that do not have special legal protection, but are tracked by the CNDDB due to their rarity, restricted distribution, or threats to the species' survival.

Sources: CDFG 2009; USFWS 2006a.

Other Special Status Plant Species

A list of other special status plant species that may occur within the planning area was compiled from USFWS, CNDDB, and CNPS lists for Tuolumne and Calaveras Counties and is presented in Table 5-9 (CDFG 2009; CNPS 2009).

Table 5-9: Special Status Plant Species* That Occur in or That May Be Affected by Projects in Calaveras and Tuolumne Counties

Scientific Name	Common Name	Preferred Habitat	Status SE= CA State Endangered ST = CA State Threatened Rare = CA State Rare 1A = Presumed extinct in CA 1B = Rare, threatened, or endangered in CA and elsewhere 0.1 = Seriously endangered in CA 0.2 = Fairly endangered in CA 0.3 = Not very endangered in CA	Potential Occurrence in the Planning Area C = Confirmed P = Possible U = Unlikely
Allium jepsonii	Jepson's onion	Serpentine soils in open areas.	1B.2	P
A. tribracteatum	Three-bracted onion	Chaparral and coniferous forest above 3,300 feet (1,000 meters) elevation.	1B.2	U
A. tuolumnense	Rawhide Hill onion	Serpentine soil in foothill pine chaparral.	1B.2	P
A. yosemitense	Yosemite onion	Chaparral, woodland, and coniferous forest above 1,650 feet (500 meters) elevation.	Rare 1B.3	U
Arctostaphylos myrtifolia	Ione manzanita	Chaparral or oak-dominated, open-canopied woodlands.	1B.2	U
A. nissenana	Nissenan manzanita	Coniferous forest and chaparral.	1B.2	P
Brodiaea pallida	Chinese Camp brodiaea	Valley and foothill grassland, vernal swales, or serpentine clay.	SE 1B.1	U
Calochortus clavatus var. *avius*	Pleasant Valley mariposa lily	Coniferous forest.	1B.2	U
Calycadenia hooveri	Hoover's calycadenia	On exposed, rocky, barren soil in cismontane woodland and valley and foothill grasslands.	1B.3	P
Chlorogalum grandiflorum	Red Hills soaproot	Coniferous forest, woodlands, and chaparral.	1B.2	C
Clarkia australis	Small's southern clarkia	High elevation woodlands and coniferous forest.	1B.2	U

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Scientific Name	Common Name	Preferred Habitat	Status SE= CA State Endangered ST = CA State Threatened Rare = CA State Rare 1A = Presumed extinct in CA 1B = Rare, threatened, or endangered in CA and elsewhere 0.1 = Seriously endangered in CA 0.2 = Fairly endangered in CA 0.3 = Not very endangered in CA	Potential Occurrence in the Planning Area C = Confirmed P = Possible U = Unlikely
C. rostrata	Beaked clarkia	Woodlands and valley and foothill grassland.	1B.3	P
Cryptantha crymophila	Subalpine cryptantha	Subalpine coniferous forest	1B.3	U
C. mariposae	Mariposa cryptantha	Serpentine outcrops in chaparral.	1B.3	P
Draba asterophora var. *asterophora*	Tahoe draba	Subalpine coniferous forest.	1B.3	U
Epilobium howellii	Subalpine fireweed	Subalpine coniferous forest and meadows.	1B.3	U
Eriogonum luteolum var. *saltuarium*	Jack's wild buckwheat	Coniferous forest at high elevations.	1B.2	U
Eriophyllum nubigenum	Yosemite woolly sunflower	High elevation coniferous forest and chaparral.	1B.3	U
Eryngium pinnatisectum	Tuolumne button-celery	Vernal pools, woodlands, and coniferous forest.	1B.2	P
E. racemosum	Delta button-celery	Seasonally inundated riparian scrub with clay depressions.	SE 1B.1	P
E. spinosepalum	Spiny-sepaled button-celery	Vernal pools and valley and foothill grassland.	1B.2	P
Erythronium taylorii	Pilot Ridge fawn lily	Coniferous forest at high elevations	1B.2	U
E. tuolumnense	Tuolumne fawn lily	Coniferous forest, woodlands, and chaparral above 1,650 feet (500 meters) elevation.	1B.2	U
Horkelia parryi	Parry's horkelia	Openings in chaparral or woodlands.	1B.2	P

Table 5-9: Special Status Plant Species* That Occur in or That May Be Affected by Projects in Calaveras and Tuolumne Counties

Scientific Name	Common Name	Preferred Habitat	Status SE= CA State Endangered ST = CA State Threatened Rare = CA State Rare 1A = Presumed extinct in CA 1B = Rare, threatened, or endangered in CA and elsewhere 0.1 = Seriously endangered in CA 0.2 = Fairly endangered in CA 0.3 = Not very endangered in CA	Potential Occurrence in the Planning Area C = Confirmed P = Possible U = Unlikely
Hulsea brevifolia	Short-leaved hulsea	High elevation coniferous forest.	1B.2	U
Iris hartwegii ssp. *columbiana*	Tuolumne iris	Woodland and coniferous forest above 1,300 feet (400 meters) elevation.	1B.2	U
Juncus leiospermus var. *aharti*	Ahart's dwarf rush	Mesic valley and foothill grassland.	1B.2	U
Lomatium congdonii	Congdon's lomatium	Serpentine soils with serpentine chaparral plants and foothill pines.	1B.2	C
L. stebbinsii	Stebbin's lomatium	Openings in yellow pine forest at high elevation.	1B.1	U
Lupinus gracilentus	Slender lupine	Subalpine coniferous forest.	1B.3	U
L. spectabilis	Shaggyhair lupine	Serpentine chaparral and cismontane woodland.	1B.2	P
Mimulus filicaulis	Slender-stemmed monkeyflower	Coniferous forest and woodlands above 3,000 feet (900 meters) elevation.	1B.2	U
M. pulchellus	Yellow-lip pansy monkeyflower	Moist meadows and coniferous forest.	1B.2	P
M. whipplei	Whipple's monkeyflower	Yellow pine forest above 2,000 feet (600 meters) elevation.	1A	U
Navarretia myersii ssp. *myersii*	Pincushion navarretia	Vernal pools and valley and foothill grassland.	1B.1	P
Packera layneae	Layne's ragwort	Dry serpentine or granular igneous soils in chaparral and foothill pine/oak woodlands.	Rare 1B.2	P

Table 5-9: Special Status Plant Species* That Occur in or That May Be Affected by Projects in Calaveras and Tuolumne Counties

Scientific Name	Common Name	Preferred Habitat	Status SE= CA State Endangered ST = CA State Threatened Rare = CA State Rare 1A = Presumed extinct in CA 1B = Rare, threatened, or endangered in CA and elsewhere 0.1 = Seriously endangered in CA 0.2 = Fairly endangered in CA 0.3 = Not very endangered in CA	Potential Occurrence in the Planning Area C = Confirmed P = Possible U = Unlikely
Pseudobahia bahifolia	Hartweg's golden sunburst	Valley and foothill grasslands at the margins of blue oak woodland.	SE 1B.1	P
Senecio clevelandii var. *heterophyllus*	Red Hills ragwort	Serpentine seeps in cismontane woodland.	1B.2	P
Streptanthus oliganthus	Masonic Mountain jewelflower	Pinyon-juniper woodland at high elevations.	1B.2	U
Verbena californica	California vervain	Cismontane woodland, valley and foothill grassland, and foothill pine-blue oak woodland.	ST 1B.1	P

Notes: *Special Status species in this table include state-listed threatened, endangered, and rare species and CNPS 1A or 1B list species for Tuolumne or Calaveras County.

The PWMA has documented occurrences of special status plant species. Other planning areas may have suitable habitat for several special status species but have not been surveyed. In addition, special status plants have been documented on lands near, but not within, the planning area. These species may occur within the planning area, particularly in areas that have not been surveyed.

Table Mountain. On Table Mountain, *Allium jepsonii* occurs near Rawhide Flat (Reclamation 1995). In addition, *Eryngium spinosepalum* is found in vernal pools of the Sierra Nevada foothills and may occur on Table Mountain (Reclamation 1995).

Peoria Wildlife Management Area. In the Peoria Wildlife Area Management Area, several occurrences of *Lupinus spectabilis* and one occurrence of *Packera clevelandii* and *Monardella douglasii* ssp. *venosa* have been documented (Ayres 2005; Vasquez 2007). Populations of *Allium tuolumnense* and *A. jepsonii* have been identified in the lower Peoria basin (Ayres 2005; Vasquez 2007), and this species also occurs on Rawhide Hill and in the BLM Red Hills Management Area adjacent to the planning area (Reclamation

1995). *Chlorogalum grandiflorum* is endemic only to the Red Hills of Tuolumne County, as well as El Dorado and Placer Counties, south of the planning area (Reclamation 1995). Potential populations of this species have been found in the Peoria basin (Ayres 2005; Evens et al. 2004). The species was found adjacent to the PWMA access road (Reclamation 2007a). *Lomatium congdonii* can be found in the Red Hills Management Area (Reclamation 1995) and has been recorded throughout the Peoria basin (Ayres 2005; Evens et al. 2004).

5.2.11 General Land Management

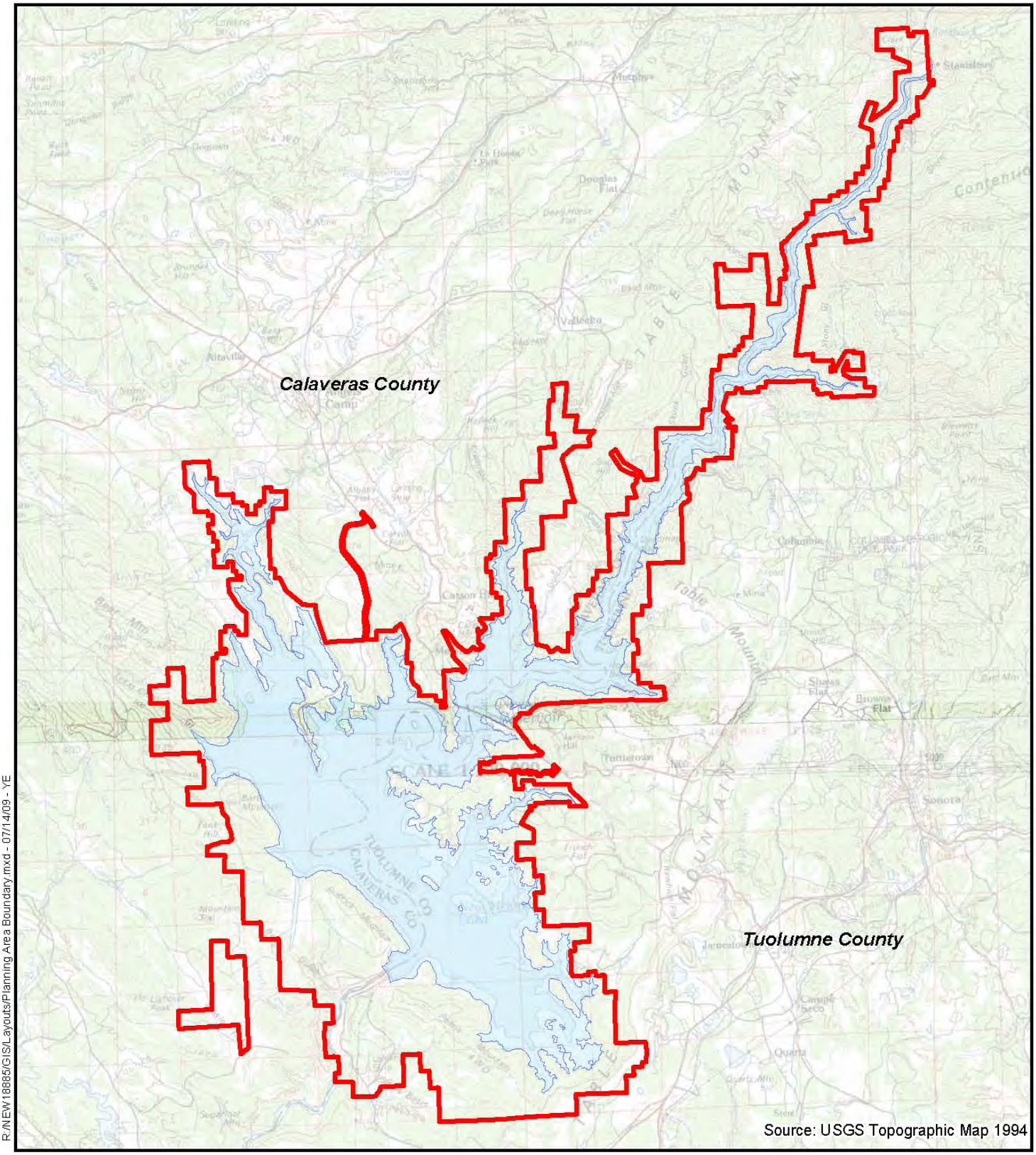
General Land Use

Reclamation administers approximately 15,168 acres (6,140 hectares) of land above the gross pool reservoir level (1,088 feet [330 meters] above mean sea level) surrounding the New Melones Lake Area (Figure 5-6). Approximately 5,405 acres (2,190 hectares) of the surrounding lands are designated for recreation and wildlife purposes, and 4,065 acres (1,650 hectares) are held as operations or open space lands.

Included in the 5,405 acres (2,190 hectares) of land designated for recreation and wildlife purposes, 2,520 acres (1,020 hectares) encompass the PWMA. The USACE acquired the PWMA to partially mitigate for loss of approximately 10,000 acres (4,050 hectares) of fish and wildlife habitat associated with expanding New Melones Lake.

Within Reclamation resource area lands, both Reclamation and adjacent landowners manage easements. Pacific Gas and Electric (PG&E) maintains a transmission line easement along the southwestern edge of the Reclamation boundary at the base of Table Mountain. Also, PG&E operates and has an easement for an afterbay dam that is related to the Stanislaus Powerhouse near Camp Nine. Also in the Camp Nine Management Area, Northern California Power Agency and Calaveras County Water District jointly operate the Collierville Powerhouse, which is also partially located on Reclamation lands near Clarks Flat. Tuolumne County Irrigation District (TCID) also maintains a permanent easement for a water intake structure, pumping plant, switchyard, 100,000-gallon (380,000-liter) storage tank, 16-inch (40-centimeter) pipeline, and roadway access to the pump station. The TCID easement is off of Old Abbeys Ferry Road, approximately two miles north of Parrotts Ferry Bridge.

Adjacent Land Management and Uses. Lands adjacent to the project boundary are mostly undeveloped and are used primarily for grazing and for open space values. The largest adjacent landowners are the BLM and USFS (Figure 5-7). Adjacent BLM lands are managed primarily for watershed protection and for preserving and improving forage and wildlife habitat. Six grazing allotments and twenty-two mining claims are held on BLM lands that adjoin Reclamation lands. The grazing allotments are categorized as custodial allotments with a year-round season of use. Of the 22 mining claims adjacent to the New Melones Lake Area, only one is actively mined near French Flat on the southeastern side of New Melones Lake.



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Planning Area Boundary

New Melones Lake Area, California
Central California Area Office

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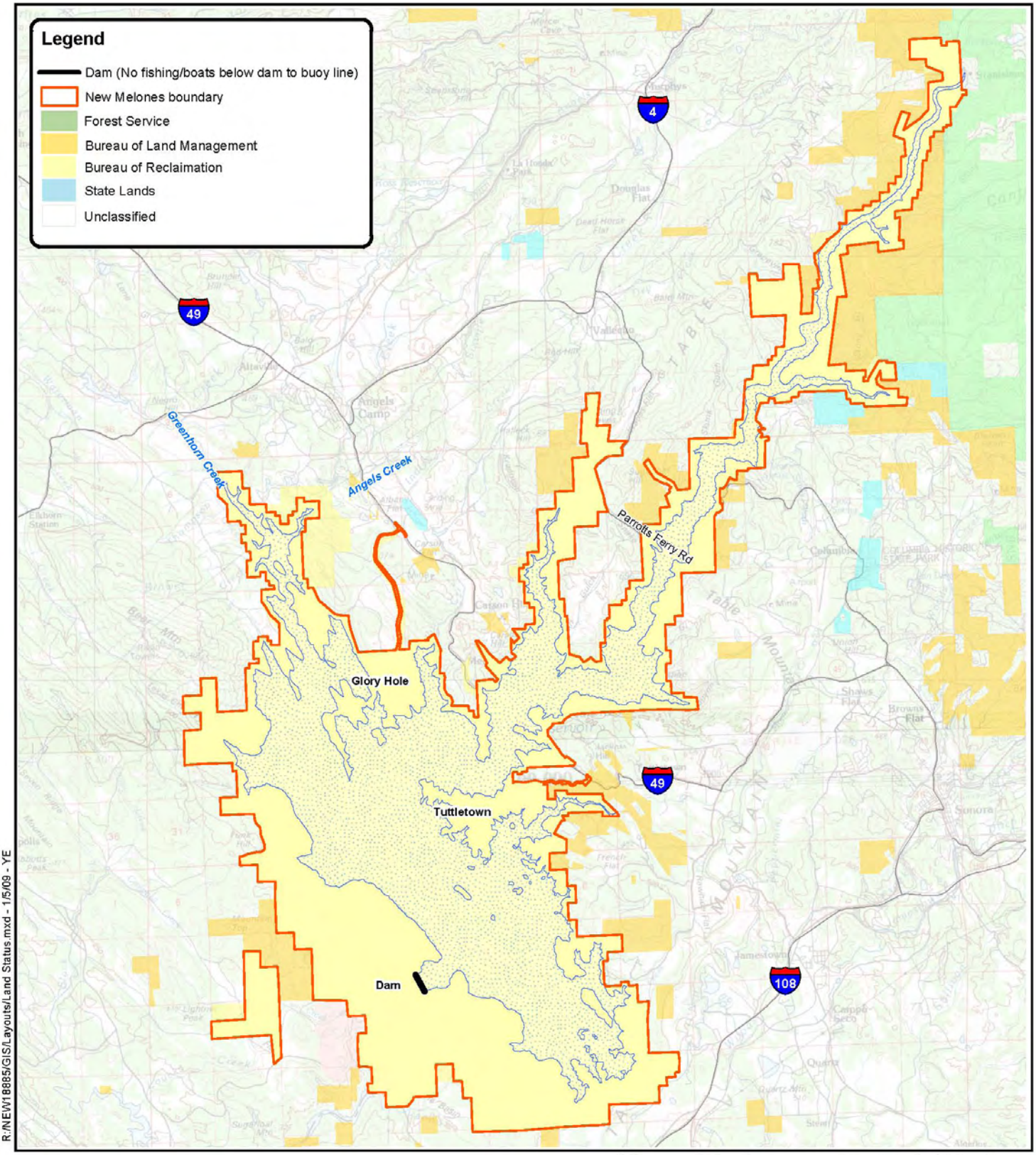
Figure 5-6



New Melones Land Status

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New Melones Lake Area, California
Central California Area Office

Figure 5-7

The Stanislaus National Forest adjoins Reclamation lands at Clarks Flat and near the South Fork area of the New Melones Lake Area. The USFS has one grazing allotment adjacent to Reclamation lands in Clarks Flat. The 480-acre (190 hectare) allotment has a season of use from May 1 through September 15.

Residential development continues to encroach on Reclamation lands as population in the area increases, causing increased trespass and land management issues. Rural residential development has expanded around existing clusters, such as areas along Jackass Hill and French Flat Road.

Trespass

Certain activities are prohibited on federal land without a special use permit. These activities include grazing or watering livestock, trespass into areas specified as off limits to public access (e.g., operations facilities and areas with sensitive ecological or cultural resources), using motorized vehicles in any areas other than on paved or specified roads, and constructing, placing, or maintaining any kind of road, trail, structure, fence, enclosure, communication equipment, pump, well, or other improvements.

Trespassing, vandalism, illegal dumping, and illegal mining and mineral extraction are common problems within the New Melones Lake Area, especially in areas that are difficult to access or patrol. Adjacent grazing livestock often access Reclamation lands through poorly maintained fencing or areas where fencing has been taken out illegally.

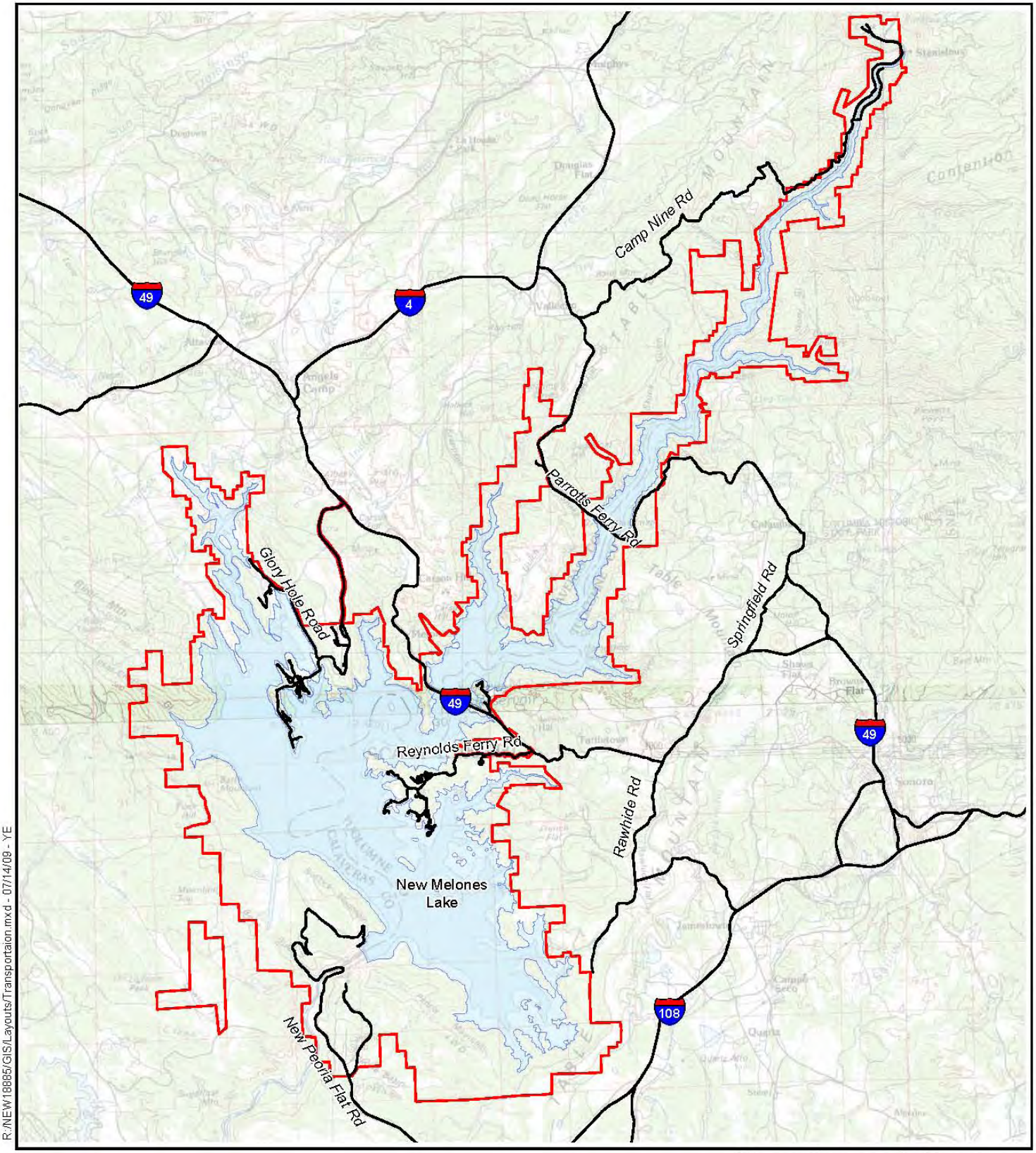
Several areas within the New Melones Lake Area have been closed as critical to infrastructure or due to public health and safety concerns. These closures are presented in the Current Closures Memorandum in Appendix E.

Reclamation will continue to enforce policies related to trespass onto or the unauthorized use of the land and water under its jurisdiction. Trespass and unauthorized use, when permitted to continue, deprive the public of its rightful use and enjoyment of the public lands. It is the general policy of Reclamation to facilitate and ensure the proper use of land resources. Benefits to the public as a whole resulting from nonexclusive uses of federal lands is the primary management emphasis.

5.2.12 Access and Transportation

Road Access. The road system serving the project area consists of the state highways, county roads, and private roads, as seen in Figure 5-8.

State Route (SR) 49. SR 49 provides access to the recreational areas of the New Melones Lake Area from Angels Camp in the north and Sonora in the south. Both commuters and tourists use the highway, as it is the primary access roadway between Tuolumne County and Calaveras County. The highway links communities in the Sierra foothills and acts as "Main Street" for the City of Angels (Angels Camp). SR 49 meets with SR 4 at the north end of Angels Camp. Both state routes are owned and maintained by Caltrans.



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Roads and Access

New Melones Lake Area, California
Central California Area Office

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Miles

Figure 5-8

Annual Average Daily Traffic (AADT) volume is defined as the total two-way traffic volume on a roadway over the year divided by 365 days. Caltrans traffic counts reflect an estimate of AADT by compensating for seasonal fluctuation, weekly variation, and other variables. Recording AADT is necessary for presenting a comprehensive picture of traffic flow, evaluating traffic trends, computing accident rates, and planning and designing highways. Roads surrounding the New Melones Lake Area include SR 49, Highway 108/120, O'Byrnes Ferry Road, Glory Hole Road, Rawhide Road, Tuttletown Road, Springfield Road, Parrotts Ferry Road, Camp Nine Road, New Peoria Flat Road, and Peoria Flat Road. The highest AADT volume in Calaveras County in 2006 was 17,200, observed on SR 49 in Angels Camp on Murphy's Grade Road. The highest AADT volume in Tuolumne County in 2006 was 25,500 on SR 49 in Sonora at the East Junction of SR 108 (Caltrans 2008). AADT data for 2004, 2005, and 2006 are presented in Table 5-10 for SR 49, Table 5-11 for SR 4, Table 5-12 for SR 108, and Table 5-13 for SR 120.

Whittle Ranch Road turnoff to Glory Hole Recreation Area. Reclamation owns and maintains Whittle Ranch Road, which consists of two lanes and is in good condition. Circulation and roadways within the campground areas are generally well positioned and adequately signed and maintained. Access to the marina from Whittle Ranch Road is well marked, but the road leading down to the marina is somewhat hazardous due to its steep incline and composition of loose gravel material at lower lake levels. Access to the boat ramps is generally good.

Table 5-10: Annual Average Daily Traffic SR 49

SR 49	2004	2005	2006
Calaveras County			
Angels Camp, south junction Route 4, North	15,600	15,900	16,100
Angels Camp, Murphys Grade Road, south	16,700	17,000	17,200
Angels Camp, north junction Route 4, south	11,900	12,100	12,200
Tuolumne/Calaveras County Line	5,900	6,000	6,100
Tuolumne County			
Tuttletown, north	5,600	5,700	5,800
Rawhide Road, south	5,800	5,900	6,000
Sonora, Washington Street/Shaws Flat Road, north	16,200	16,500	16,700

Source: Caltrans 2008

Table 5-11: Calaveras County Annual Average Daily Traffic SR 4

SR 4	2004	2005	2006
O'Byrnes Ferry Road, west	5,100	5,200	5,200
Angels Camp, east junction, Rt. 49 East	6,800	6,900	7,000
Rolleri Bypass Road, south	6,500	6,600	6,700

Source: Caltrans 2008

Table 5-12: Tuolumne County Annual Average Daily Traffic SR 108

SR 108	2004	2005	2006
East Jct. Rte. 120, Yosemite junction	12,500	13,000	13,200
West Jct. Rte. 49, Montezuma Rd.	12,500	13,000	13,200
East jct. Rte 49, Sonora jct.	18,500	19,500	19,600

Source: Caltrans 2008

Table 5-13: Calaveras County Annual Average Daily Traffic SR 120

SR 120	2004	2005	2006
Keystone, La Grange Road	13,000	15,200	15,200
East jct. Rte. 108, Yosemite jct.	15,000	3,600	3,200
Chinese Camp, north jct. Rte 49, Montezuma Road	17,000	3,600	3,200

Source: Caltrans 2008

Reclamation lands and facilities are accessible from SR 49 at the locations described below.

Reynolds Ferry Road turnoff to Tuttletown Recreation Area. Reclamation owns and maintains Reynolds Ferry Road at about a mile from SR 49 to its terminus. This road is in excellent condition. Boat ramp access is generally good at the Tuttletown Recreation Area.

Minor paved road to Reclamation Headquarters and Mark Twain Unimproved Day Use Recreation Area. The two-lane paved road from SR 49 to the lake access/recreation area is the former SR 49, now called Melones Court, and is owned and maintained by Reclamation. It is in good condition to the park administration office and visitor center gate but deteriorates from the gate to the lake access/unimproved recreation area. In 2008, vehicle access has been limited to within 100 to 200 feet (30 to 60 meters) of the water's edge, and trailered boat launching is no longer permitted due to deteriorated road conditions and user conflicts in this narrow lake access corridor. The park administration office and visitor center are accessed by turning right from Melones Court onto

Studhorse Flat Road. The lands and facilities are approximately a quarter mile from the intersection on well-maintained roads.

Minor paved road to Old Town (Melones) Unimproved Day use Recreation Area. The two-lane paved road from SR 49 to the recreation area is gated approximately 0.1 mile (160 meters) from the SR 49 junction. However, there is nonmotorized public access to Old Town (Melones) Unimproved Day Use Recreation Area.

Rawhide Road (Tuolumne County Road E5) turnoff to Shell Road to Table Mountain and PWMA. Rawhide Road is a well-maintained, paved, two-lane county road that is accessible from two points along SR 49. Shell Road, a county road for the first 2.59 miles (4.2 kilometers) from its intersection at Rawhide Road, starts as a well-maintained two-lane then one-lane paved road. At the 1.6 mile (2.5 kilometer) mark, the pavement ends and the road becomes a poorly maintained, two-track dirt road through private property and across a county road easement. It is used for public vehicles, emergency vehicles, and Reclamation staff and contractors to access Reclamation's Table Mountain Trailhead staging area of the PWMA. After the 2.59 mile (4.2 kilometer) point, the road crosses onto Reclamation property, where it is gated to prevent public vehicle access. The road continues through the PWMA as a service road for authorized vehicles only. This road is open to public equestrian use, hiking, biking, and hunting. PWMA is closed to public vehicles, a change called for in the PWMA EA (Reclamation 2007a). Another way to access Bear Creek Management Area, an unimproved recreation area, would be to travel to the PWMA, as described, then to travel north and west of the public parking along Shell Road. No vehicle access into the Bear Creek Management Area is permitted.

Rawhide Road (Tuolumne County Road E5) turnoff to French Flat Road to French Flat Unimproved Day Use Recreation Area. Rawhide Road is a well-maintained, paved, two-lane county road that is accessible from two points along SR 49. French Flat Road, a county road, is a well-maintained two-lane paved road, which at two miles (3.2 kilometers) enters gated BLM land. This half-mile-long, unpaved road crosses BLM land, and connects with Reclamation property. No public vehicles are permitted on Reclamation property in French Flat.

Rawhide Road (Tuolumne County Road E5) turnoff to Old Melones Road to Bear Creek Unimproved Day Use Recreation Area. Rawhide Road is a well-maintained, paved, two-lane county road that is accessible from two points along SR 49. Old Melones Dam Road, a county road, is a well-maintained, two-lane paved road, which at approximately half a mile, is gated to restrict nonmotorized vehicle access to Bear Creek Recreation Area.

Parrotts Ferry Road. Reclamation lands and facilities are accessible from Parrotts Ferry Road at the locations described below.

The two-lane paved road from Parrotts Ferry Road to the recreation area is gated approximately 0.1 mile (160 meters) from the Parrotts Ferry Road junction. However, motorized vehicles are not allowed into the Old Parrotts Ferry Unimproved Day Use Recreation Area and New Melones Lake.

Camp Nine Unimproved Day Use Recreation Area. Approximately three miles of Camp Nine Road is on land owned by Reclamation, which also owns this portion of the road. However, this portion is maintained via a road maintenance agreement with the Collierville Power Plant, which the Calaveras County Water District owns and the Northern California Power Authority (NCPA) operates under a Federal Energy Regulatory Commission (FERC) licensing agreement. The remainder of Camp Nine Road is privately owned by 22 landowners, with easements to PG&E and NCPA. In exchange for access rights, the power companies are responsible for maintaining the road. Reclamation's access rights across the privately owned portion of Camp Nine Road are based on prescriptive easement. PG&E's Stanislaus Power Plant is across the New Camp Nine Bridge and at the end of the road, along the Tuolumne County side of the river. This road is on Reclamation property until it reaches land owned by PG&E for the power plant. PG&E has easement rights to access the power plant across Reclamation land, and Reclamation has easement rights to access across PG&E land. The road is in fair to poor condition, with numerous potholes, eroded shoulders, and deteriorated guardrails. It has two lanes, which in some places, have deteriorated to one lane. PG&E operates the power plant under a FERC licensing agreement.

Coyote Creek Nature Trail and Natural Bridges. Reclamation owns and maintains the paved two-lane turnoff and dead end public road from Parrotts Ferry Road to the trailhead. The road is in fair condition. Designated parking stalls are not available, and the Natural Bridges area has limited parking.

Peoria Flat Road. Reclamation lands and facilities are accessible from SR 108/ SR120 at the locations described below.

Minor paved road to Peoria Equestrian Staging Area to Peoria Wildlife Area. From SR108/SR120 to get to the Peoria Equestrian Staging Area, one turns west onto county road E15/O'Byrne's Ferry Road for approximately .2 mile (320 meters) and then turns north onto New Peoria Flat Road for approximately three miles (five kilometers), until the Baseline Conservation Camp entrance. At this point, a public parking lot is available to the right, approximately .2 mile (320 meters) down an access road. The parking lot provides access for nonmotorized vehicles to the PWMA and the radio-controlled flyers facility.

Minor paved road to Dam Overlook. From SR108/SR 120 to get to the Overlook, one turns west onto county road E15/O'Byrne's Ferry Road for approximately 0.2 mile (320 meters) and then turns north onto New Melones Dam Road/New Peoria Flat Road for approximately three miles. From this point, public motorized vehicle access to the Overlook is restricted, but nonmotorized access to the Overlook is possible by following the paved former Overlook access road on foot.

Lake Only Access. Public access to the Dam and Spillway Management Area, Westside Management Area, and Bowie Flat Management Area is only via New Melones Lake.

Boat and Personal Watercraft Use. Motorized boats are the principal means to access and enjoy many of the recreation opportunities at the New Melones Lake Area. However,

kayaks, canoes, and sailboats are also used to access the lake. Boat launch ramps with courtesy docks are located in the Glory Hole and Tuttletown Recreation Areas.

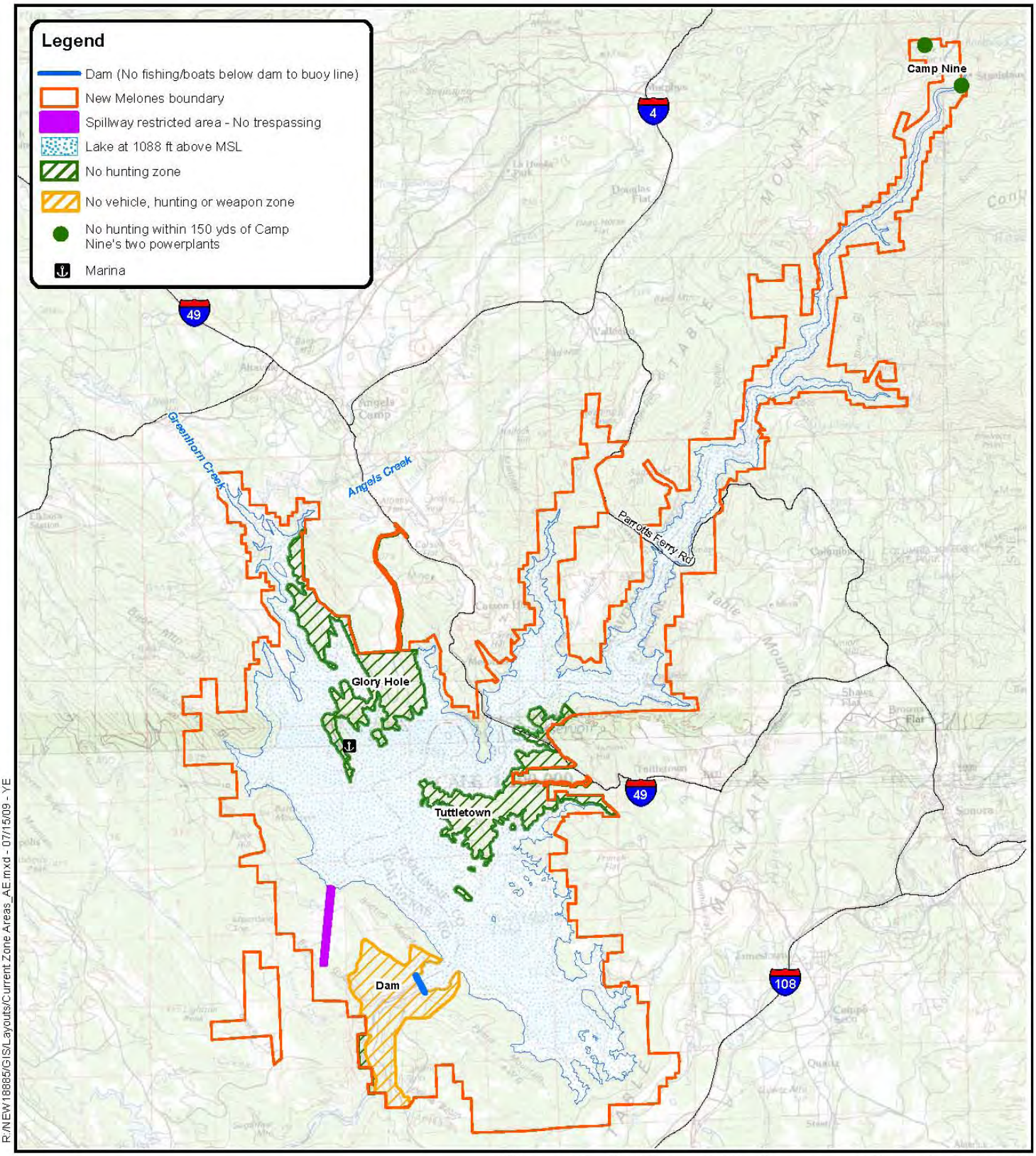
Projected increases in population will result in increased demand on roads within the project area; use of the New Melones Lake Area is expected to increase 20 percent over the planning period. The increase in travel demand on the roadway system will require increased costs for roadway maintenance and rehabilitation. Because the roadways and facilities were not designed to carry large amounts of traffic, roadway improvements will be required to keep up with this growth. Reclamation is working with county planning departments to ensure proposed development projects have legal access across Reclamation land before approving the projects.

5.2.13 Public Health and Safety

Reclamation provides that staff levels be commensurate with recreation visitation. This is to fully implement policies and management actions and to maintain the level and quality of safety and services expected by visitors to the New Melones Lake Area. All Reclamation employees take safety training to identify public safety hazards. Reclamation's employees provide interpretive programs and public contact to educate the public about safety issues relating to boating, firearms use, fire use, and natural hazards, such as poisonous snakes. There is also a visitor center to inform and educate the public about safety matters at the New Melones Lake Area. Additionally, campground hosts provide information to campers and report public safety issues to Reclamation staff (Laird 2007); campground hosts monitor the campgrounds three times a day.

Recreation. There are a number of recreation zones for regulating the type of and intensity of use to protect sensitive resources and maintain public safety (Reclamation 1995). The various zones include the following (Figures 5-9, 5-10, and 5-11):

- No Hunting Zones—
    - It is unlawful for any person, other than the owner, person in possession of the premises, or a person having the express permission of the owner or person in possession of the premises, to hunt or to discharge while hunting, any firearm or other deadly weapon within 150 yards (135 meters) of any occupied dwelling house, residence, or other building or any barn or other outbuilding used in connection therewith. The 150-yard (135-meter) area is a "safety zone";
    - It is unlawful for any person to intentionally discharge any firearm or release any arrow or crossbow bolt over or across any public road or way open to the public, in an unsafe manner (Fish and Game Code 3004);
- No hunting is permitted within 150 yards (135 meters) of other recreational uses;
- No hunting or weapons allowed within the restricted dam-spillway zone (Figure 5-10);



No hunting within 150 yds of any developed recreation area, campgrounds, or other facilities, boat ramp parking area, day use area, neighboring residences, or within 150 yds of Camp Nine's two power plants

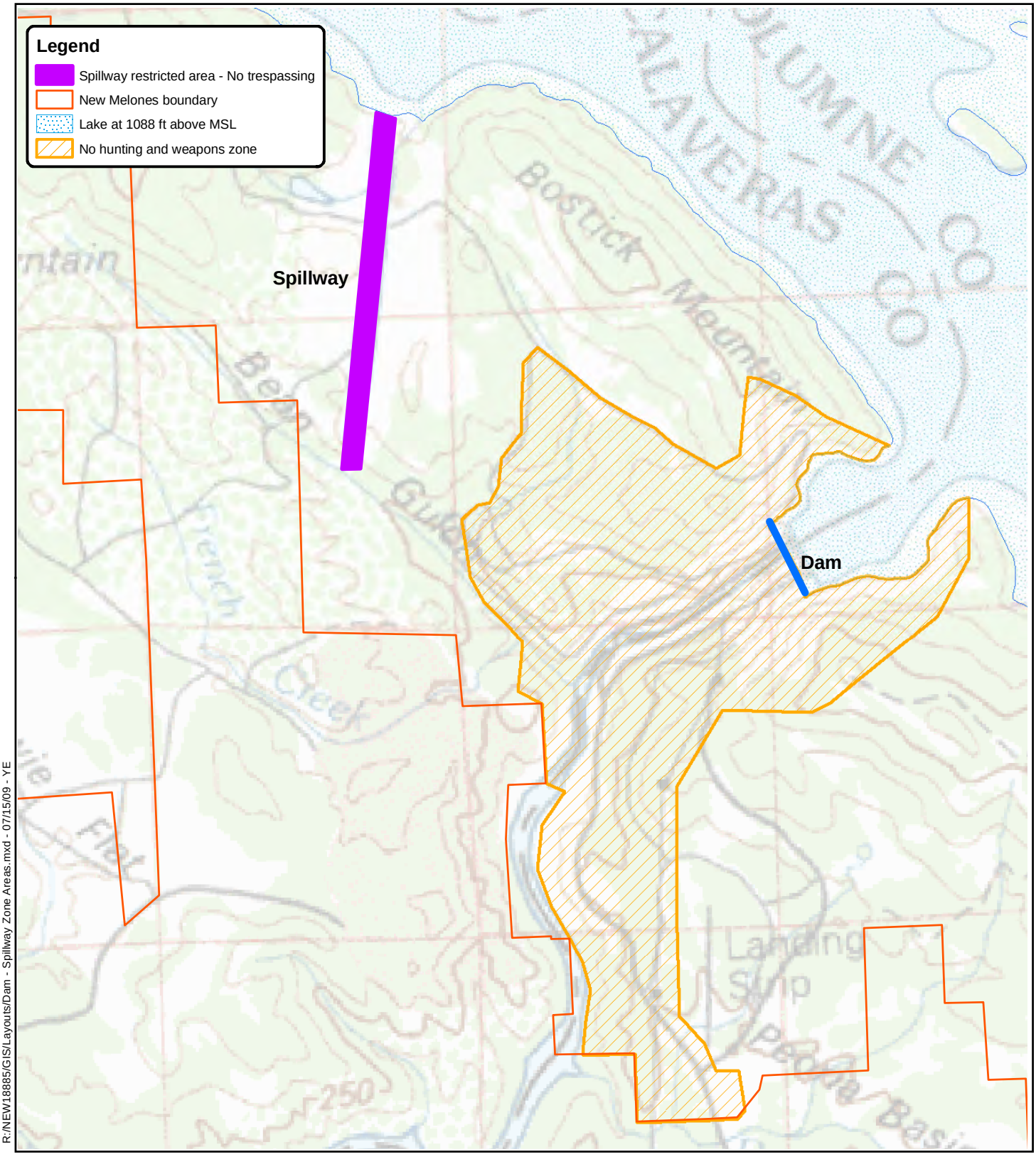
Dam zone - No vehicles, hunting or weapons

Current New Melones Restricted Land Use Zones

New Melones Lake Area, California
Central California Area Office

0 2
Miles

Figure 5-9



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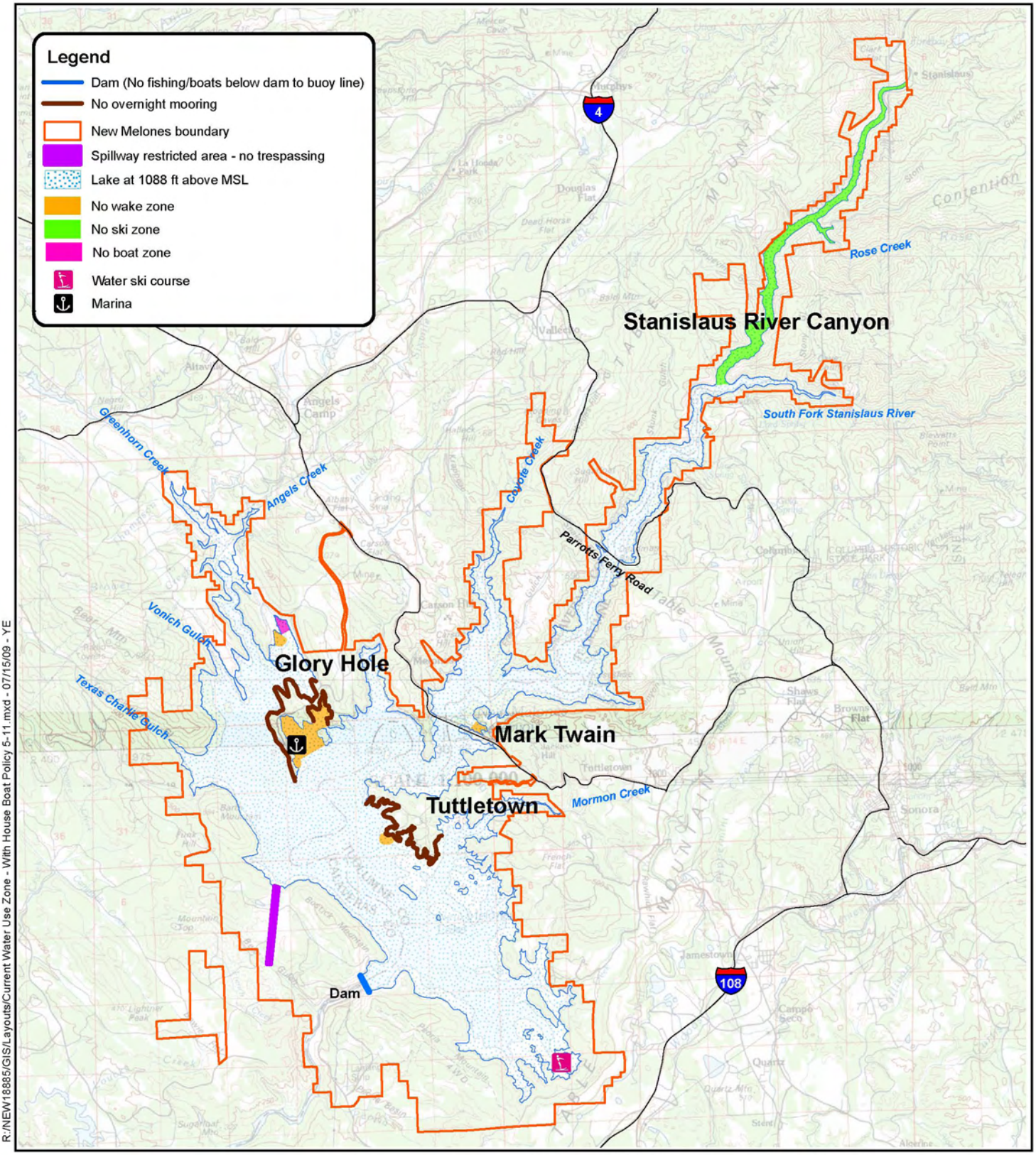
No hunting within 150 yds of any developed recreation area, campgrounds, or other facilities, boat ramp parking area, day use area, neighboring residences, or within 150 yds of Camp Nine's two power plants

Dam zone - No hunting and weapons zone

Current New Melones Restricted Land Use - Dam - Spillway Zone

New Melones Lake Area, California
Central California Area Office

Figure 5-10



No wake zone - 200 ft around marina, boat launches, and lake access

No ski zone - Areas where it has been determined that, due to the nature of the area, it is too dangerous to tow a person behind a vessel. No waterskiing, tubing, wakeboarding or kneeboarding is permitted.

No boat zone - No boats within designated area

Marina - No swimming within marina area

0 2

Miles

New Melones Water Use Zones
No Action Alternative

New Melones Lake Area, California
Central California Area Office

Figure 5-11

- No hunting is permitted within the boundaries of the Tuttletown and Glory Hole Recreation Areas;
- No fishing is permitted below the dam to the buoy line;
- No Swimming Zones—No swimming is allowed at marina and launch ramps;
- Reservoir Management Zone A—All boating uses are allowed;
- Reservoir Management Zone B—Five mph "no wake zone" provides for slow boating and fishing areas. This protects the health and safety of others in the marinas, docks, and boat launch areas and helps minimize shoreline erosion (Figure 5-11); and
- Reservoir Management Zone C— No boating is allowed in designated swimming areas and in areas off limits for operations, such as the dam and spillway areas.

Use Permits. Permits are issued to regulate the allocation and intensity of use for activities that are in high demand or that have significant safety or environmental concerns (Reclamation 1995). Reclamation regulates the following activities through special use permits, contracts, and other rights of use processes (Laird 2007):

- White-water rafting;
- Fishing derbies;
- Model aircraft use;
- Houseboat launching and retrieving;
- Mountain bike races;
- Triathlons;
- Search and rescue dog trials;
- CAL FIRE fire training;
- Large group camping events;
- Group events involving eight to twelve rented houseboats that are operated together;
- Horseback trail rides events;
- Slalom water ski course events (right-of-use permit);
- Commercial recreation gold panning access to private gold panning area (right-of-use permit); and
- Other uses not specified above.

Special Events. A special event permit is required for short-term special events or activities that are not inherently commercial activities conducted at the New Melones Lake Area. Special event permits are issued only for qualifying events, as described in

the Schedule of Fees for Special Events included in Appendix E. Fees for special event permits include expenses incurred for agency administration, processing, and monitoring of the event, as well as the fair market value or reasonable and customary use fees for like events, activities, or land uses charged by other agencies or entities in the market area. Special events or activities must comply with all requirements in 43 CFR, Part 429. Events that are within the normally occurring and approved range of activities authorized by concession contracts may not require a permit. Reclamation evaluates the concession sponsored event or activity and determines the need for permits. Additional guidance for special events and other activities not covered by the Schedule of Fees for Special Events is found in 43 CFR, Part 429.

Concessionaire Agreements. Concessionaire agreements are prepared with private entities that are permitted to operate businesses at the New Melones Lake Area. Reclamation uses these agreements to achieve needed recreational support services, programs, public safety features, and facilities and as a means for disseminating public use information (Reclamation 1995). Concessionaire agreements include adequate water quality protection measures, public safety requirements, medical and emergency response requirements, and environmental protection standards. New Melones has one concessionaire agreement at the New Melones Lake Marina, located in the Glory Hole Recreation Area.

Boating. Motorboats must be equipped with personal flotation devices, a backfire flame arrester, muffling and ventilation systems, a sound signaling device, navigation lights, and a fire extinguisher, as required by the US Coast Guard and California Department of Boating and Waterways (Reclamation 2007c). Kayaks, canoes, and sailboats used in public waters must be equipped with personal flotation devices, a sound signaling device, and navigation lights. Specific boating equipment requirements are outlined in the "ABCs of the California Boating Law" (California Department of Boating and Waterways 2007). Reclamation seeks to comply with boating laws and regulations, such as the California Boating Law of 2006 and the Harbors and Navigation Code.

Caves. Caves in the New Melones Lake Area are concentrated along the Stanislaus River near the South Fork confluence, in Coyote Creek, Grapevine Gulch, and Skunk Gulch, and in all areas of soluble limestone terrain (Reclamation 1995). The caves are important components of the natural and cultural systems, with an impressive range of resource values. Reclamation provides limited entry to caves through fencing and other means in the Stanislaus River canyon due to safety hazards, such as flooding.

According to the New Melones Lake Revised Cave Management Plan, caves can present a hazard to the untrained public (Reclamation 1996), such as falling or getting lost. Because many of the caves are on steep rock faces, access to them may be hazardous. Depending on a variety of factors, caves in the New Melones Lake Area may be gated, ungated, or partially or wholly submerged by water due to the reservoir.

Abandoned Mines. Reclamation closes unsafe or potentially hazardous areas in a manner compatible with ecological concerns (Reclamation 1995). These areas include caves, old mine shafts, exposed steep areas, and high fire hazard areas.

The exact number and location of abandoned mines is not centrally cataloged (Laird 2007). The USACE filled in some mines at the beginning of the New Melones project. In an effort to avoid attracting visitors to potentially hazardous abandoned mines, these features are not signed or identified on public materials.

Illegal Dumping and Drug Manufacturing. Municipal solid waste is more commonly known as trash or garbage and consists of everyday items requiring disposal. Municipal solid waste can include leftover household products that contain corrosive, toxic, ignitable, or reactive ingredients. This type of waste is known as household hazardous waste. Such products as paints, cleaners, oils, batteries, and pesticides that contain potentially hazardous ingredients require special care during disposal.

Illegal dumping of municipal solid waste is a problem at New Melones. This is especially true on Reclamation land in Tuolumne County (Laird 2007), where the public must pay to dispose of household hazardous waste, providing them with an incentive to dump household waste illegally. In Calaveras County, disposal of household hazardous waste is covered by landowners' taxes.

Illegal drug use, sales, and manufacturing present potential public health and safety hazards at the New Melones Lake Area. Drugs, such as methamphetamines, are manufactured and marijuana is grown in isolated areas on Reclamation lands (Laird 2007). As a result, illegal drug manufacturing material and hazardous waste is abandoned on New Melones lands, drug manufacturing areas are contaminated, and waste products may be dumped on the roadways. The presence of people involved in production, use, or sale of illegal drugs may present a hazard to other lake users who happen on such activities.

Public Services

Park Ranger services. Reclamation has a staff of both permanent and seasonal Park Rangers. Park Rangers' titles include Supervisory Park Ranger/Concession Specialist, Park Ranger, Park Ranger for Natural Resources, and Park Ranger Visitor Center Specialist. Examples of Park Ranger duties include traffic and crowd control, concession oversight, campground maintenance, special use permit issuance, natural resources maintenance and planning, volunteer management, education and outreach, interpretation, fee collection, and patrol. Reclamation Park Rangers are not authorized to perform law enforcement duties (see next section).

Reclamation Park Rangers perform safety inspections and encourage lake visitors to comply with state and federal safety laws and regulations. Reclamation Park Rangers also patrol recreational facilities, monitor compliance with permits and concessionaire agreements, and check on the condition of natural and cultural resources (Reclamation 1995).

Law enforcement services. Management of resources on Reclamation land emphasizes interagency coordination with federal, state, and local agencies, including the USFS, BLM, Tuolumne County, Calaveras County, USFWS, CAL FIRE, US Marshall's office, CDFG, and the City of Angels Camp.

State and local laws are enforced by the Sheriffs Department's of Tuolumne and Calaveras Counties in their respective areas of jurisdiction (Reclamation 1995). Reclamation contracts with Tuolumne and Calaveras County Sheriffs to provide enhanced law enforcement services. The Calaveras County contract provides a 40-hour per week, year-round deputy. The Tuolumne County contract provides additional law enforcement services on weekends through the summer recreation season. When needed, Reclamation Park Rangers contact the Sheriffs Departments by radios that are carried in all ranger vehicles and kept at Reclamation headquarters. The California Highway Patrol is responsible for enforcing the vehicle code. In general, the level of the sheriff patrols and presence at the New Melones Lake Area is limited, particularly given the size of New Melones Lake and its surrounding lands. Outside of the sheriff contracts, these agencies respond to the law enforcement needs at New Melones Lake on a case-by-case basis as their resources permit, with each case considered according to the nature of the particular violation and available resources. There have been incidents when county law enforcement officials have been unable to respond to Reclamation's law enforcement needs. Requests for law enforcement services are increasing because the number of visitors to New Melones is increasing (Laird 2007).

Tuolumne and Calaveras County Sheriff boat patrols share responsibility for enforcing boating laws at New Melones Lake and at Tulloch Reservoir, which is also on the Stanislaus River, just south of New Melones Lake (Reclamation 1995). Due to staffing limitations, it is difficult to provide effective patrols on New Melones Lake (Laird 2007).

Reclamation has three boats available for use on New Melones Lake most of the year and provides regular boating safety patrols on the lake during the summer (Reclamation 1995; Laird 2007). One of the boats is designated for patrolling the lake. The focus of this patrol is to advise boaters of unsafe acts, to inspect boating safety equipment, and to provide boaters with current safe boating regulations and safety information. In addition, Reclamation patrol boats are used to assist disabled boaters and to mark boating waterways and hazards (Appendix G).

The New Melones Lake Area is within the CDFG Sierra District and Tuolumne County Region (Reclamation 1995). The CDFG issues fishing and hunting permits and is empowered to enforce the State Fish and Game Code, including issuing violations and revoking sport fishing and hunting privileges at the New Melones Lake Area. The CDFG also regulates catch from fishing tournaments and issues dredging permits as needed.

The PWMA access road crosses approximately 1.8 miles (3 kilometers) of the PWMA (Reclamation 2007a). This section of road was temporarily closed to public vehicles on December 15, 2002, as a preventative measure to stop increasing damage to natural resources from illegal and inappropriate uses by both local and visiting recreationists. Illegal actions, including target shooting, poaching, off-road driving, fire building, littering, dumping large debris and hazardous materials, vandalizing, and illegal camping, have resulted in soil erosion, habitat degradation, and widespread damage to the natural resources. Illegal activities also have compromised the safety of the public and adjacent

landowners in the area. Closing the road to public vehicles has minimized further degradation of this area.

The animal control units of the respective counties are called approximately ten times a year, usually for a vicious dog, distressed animal, or livestock trespass (Laird 2007). However, the animal control units typically respond to only two of the ten calls.

Fire Protection Services. Reclamation evaluates and maps fire hazards throughout its lands, with a focus on current and proposed recreational facilities and adjacent residences and structures (Reclamation 1995). Hazard analysis is based on fire behavior, fuel load, slope, probable location and rate of ignition, potential loss of life and valuable property, and access restrictions.

As the underlying federal land manager, Reclamation has contracted fire suppression with the State of California. CAL FIRE is the primary agency responsible for wildland fire suppression at New Melones Lake (Reclamation 1995). The agency maintains a fire unit facility on Reclamation lands on Peoria Flat Road within the PWMA. Inmates from the minimum security facility Baseline Conservation Camp provide fire protection in exchange for housing its facility on Reclamation land. The Altaville Melones Fire District provides fire protection within the Glory Hole Recreation Area. The Altaville Melones Fire District provides fire protection for the New Melones Lake Marina through an MOU between Reclamation, the marina, and Altaville Melones Fire District. Columbia Fire District provides fire protection within the Tuttletown Recreation Area.

Reclamation provides limited initial fire response on its lands at New Melones Lake, which is subject to federal policy and guidelines of initial attack of wildland fire (Reclamation 1995). The primary firefighting equipment that Reclamation has access to consists of the following (Laird 2007):

- Hydrants in campgrounds and day use areas;
- Hydrant system around administration buildings;
- Visitor center and maintenance building with burglar alarms but no fire hydrant systems;
- A shaded fuel break on the visitors center side of SR 49;
- Marina with fire alarms in the store and covered area of docks, water storage tanks, and a Trimex 30 Fire Foam System;
- Marina with hand-held fire extinguishers on open docks;
- Marina fireboat;
- Fire hydrant system on land around the marina;
- Helitack base at Columbia airport;
- Two Park Ranger vehicles with slide in firefighting units; and

- Park Rangers carrying hand tools and five-gallon water backpacks to put out campfires in case of emergency.

Reclamation's responsibility for initial attack of wildland fire suppression is relinquished when a CAL FIRE fire unit or any fire unit having a mutual aid agreement with CAL FIRE arrives at the fire. Requests for fire protection services remain constant (Laird 2007). Reclamation is responsible for all wildland fire activities on Reclamation lands.

Reclamation takes a proactive approach to preventing fires by clearing vegetation along roads and clearing overgrown vegetation from campgrounds and other areas that people are likely to use (Reclamation 1995). A shaded fuel break is on the visitor center side of SR 49; another fuel break will be installed on the other side of SR 49 (Holsapple 2007). In addition, Reclamation participates in the Highway 108 Fire Safety Council, which prepares cooperative fire management strategies with other local fire control entities.

Vegetation is cleared by mechanical means (bulldozers, tractors), chemical application (herbicides), and by hand with the assistance of the California Department of Corrections (Sierra Conservation Corps inmate labor). Caltrans also carries out similar vegetation removal activities along SR 49.

Medical Services. Reclamation Park Rangers on permanent status are required to have first responder certification (Reclamation 1995). Temporary employees receive basic first aid and CPR training. Reclamation Park Rangers respond to most medical emergencies and provide emergency medical assistance commensurate with their training until an ambulance or the fire department arrives. In an emergency, Park Rangers call 911, which dispatches the fire department for assistance. The responding fire department is decided by the coordinated 911 system (Laird 2007). Requests for medical services are increasing because the number of visitors to New Melones is increasing (Laird 2007).

Reclamation's New Melones Park Ranger staff do not have the appropriate emergency medical response training necessary to carry out cave or cliff-face (rock climbing) rescues, nor do they have the authority to obtain this type of training (Reclamation 1995). Reclamation is responsible for managing the activities on lands under its jurisdiction and is thereby liable for the potential consequences of activities that occur on Reclamation lands.

Reclamation provides fliers to educate the public about rattlesnakes and removes rattlesnakes from campgrounds. Reclamation Park Rangers may provide first aid to snakebite victims, but more extensive treatment is required and must be provided by area hospitals. In 2006, there were three rattlesnake bites in the New Melones Lake Area (Laird 2007).

5.2.14 Invasive Species Control

Prescribed Fire

The draft Fire Management Plan (draft FMP) provides interim guidance for fire management in the New Melones Lake Area (Appendix D). This document recognizes fire as a resource to assist in managing for desired range conditions and proposes methods to incorporate prescribed fire into its range management program. The draft FMP incorporates several aspects of the National Fire Plan, including use of the fire regime condition class (FRCC) method. This method uses established reference conditions created by assessing ecological features and natural fire regimes in healthy rangelands. Features assessed in the field to determine the FRCC include vegetative and disturbance attributes, such as the extent of nonnative species invasion. These features can be used to determine the overall ecological health of a particular study area. Reclamation and partnering agencies use this data to determine range management priorities, including making decisions as to when and where prescribed fires may be appropriate.

Weed Control

Most of the grasslands found in the New Melones Lake Area have been converted from perennial native bunchgrasses to nonnative annual grasses. Tree and shrub communities show a greater incidence of native species. In the PWMA, which has extensive rangeland, 74 nonnative species have been recorded (Evens et al. 2004), most of which are ground layer species. While many of these species have substantially replaced the role of native grasses in terms of providing forage for wildlife and livestock, others such as cheatgrass (*Bromus tectorum*) are able to change the fire and hydrologic regimes and seriously alter range conditions.

Grazing

Six grazing allotments, totaling 3,746 acres (1,515 hectares), are on BLM lands adjacent to the project area. One grazing allotment is permitted on USFS land in the Clark's Flat area. The allotment encompasses 480 acres (190 hectares) and has a season of use from May 1 through September 15. Although historically allowed, no grazing is currently permitted on New Melones lands.

Reclamation previously leased 4,394 acres (1,780 hectares) of land in two areas (Bear Creek and Glory Hole Recreation Areas) for livestock grazing. Subject to a grazing suitability analysis, grazing may continue, but its purpose and intensity would be directed by water quality concerns, by vegetation management goals (usually related to invasive species control and wildfire prevention), and by policies and actions identified in current Reclamation guidance.

5.2.15 Fire Management

Wildland Fire

Fire is an integral part of California's Sierra Foothill landscape. Historically, frequent low- or mixed-severity fire was common at New Melones. Now, much of this area has transitioned to stand-replacing fire due to increased fuel loads and overstocking. Wildland fire fuels consist of live and dead vegetation, including branches (on the tree or on the ground), leaves, needles, seeds, and cones. Wildland fire fuels continue to accumulate due to successful fire suppression and a lack of prescribed fire and other fuel reduction strategies.

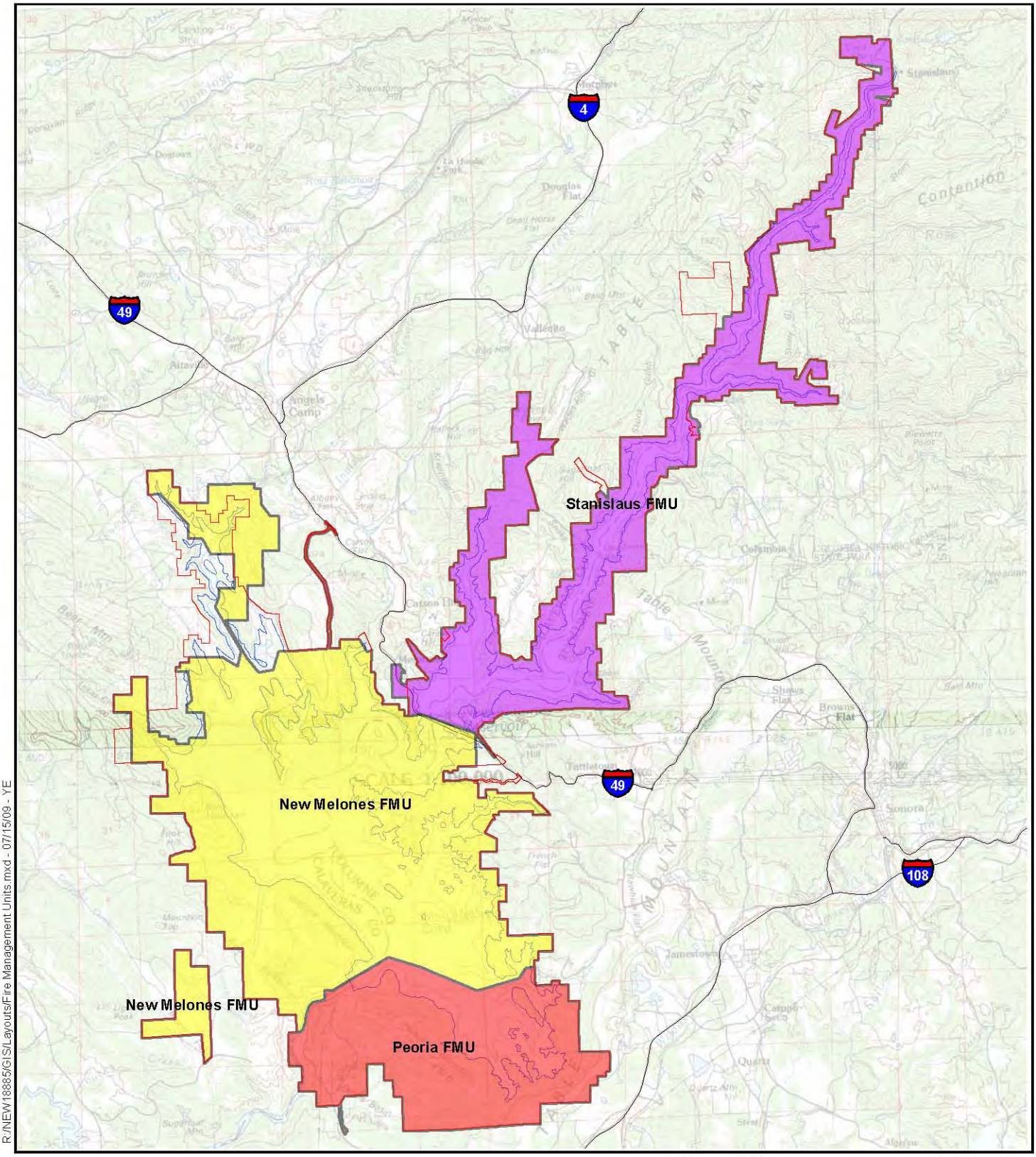
Fuel conditions have also been affected by an increase of nonnative invasive species, such as star thistle (*Centaurea solstitialis*). Burning tends to stimulate star thistle germination and may lead to more robust plants following fire due to reduced competition from native species. In addition, star thistle retains moisture longer and grows larger than native plants; thus, the fuel it creates is more concentrated and burns slower and hotter, increasing fire severity.

Deteriorating forest health creates fuel conditions that contribute to high-intensity fires. Tree density, dense patches of shrubs, and introduced weeds increase fuel loads and competition among species, promoting tree mortality and disease and resultant high-intensity fire.

Fire Management Units. Fire is managed in three distinct fire management units (FMU) on New Melones project lands (New Melones, Stanislaus, and Peoria; Figure 5-12). An FMU is any land management area definable by objectives, management constraints, topographic features, access, value to be protected, political boundaries, fuel types, and major FRCC groups that set it apart from the management characteristics of an adjacent FMU. The FMUs on New Melones project lands encompass both Reclamation and non-Reclamation lands. The New Melones unit's primary resource management strategy is to protect the wildland-urban interface (WUI) and high-value watersheds; the Stanislaus unit's primary strategy is to protect watersheds and the WUI; and the Peoria unit is primarily managed to protect high-value habitat and the WUI (Reclamation 2007b).

New Melones FMU consists of four fuel types, totaling 6,589 acres (2,670 hectares). The eight management areas in the FMU are Tuttletown French Flat, Bear Creek, Dam and Spillway, Westside, Greenhorn Creek, Glory Hole, and Carson. The northern half of Bear Creek and the eastern two-thirds of Carson are managed under different FMUs. Fire and fuels management in this unit are necessary to protect resource values, such as water quality, watershed values, private property, developed recreation sites, cultural resources, special status species, wildlife habitat, air quality, recreation, and visual resources. The following communities/WUI areas are at risk from wildland fire: Angels Camp, Stanislaus, Tuttletown, Jamestown, Carson Hill, Cloy House, Copperopolis, and Jackass Hill.

Wildland fires in the western US have become increasingly dangerous due to the proximity of structures and fuel buildup (invasive weeds or vegetation that would have



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Fire Management Units

New Melones Lake Area, California
Central California Area Office

Figure 5-12

burned more often, but due to successful fire suppression, continue to accumulate). In response to the risks wildland fires pose to firefighters and the impacts on communities, the National Fire Plan was initiated by a partnership of government land management agencies in 2000. This coordinated effort to protect communities and natural resources from increasingly severe wildfire resulted in the 10-Year Comprehensive Strategy and specific goals and objectives to guide fire management planning (Reclamation 2007b). In addition to the guidance provided by the National Fire Plan, the FRCC method was established. FRCC is an interagency standardized tool for determining the degree of departure from reference condition vegetation, fuels, and disturbance regimes. Assessing FRCC can help guide management objectives and set priorities for treatments. Reference conditions are vegetation and disturbance attributes that can sustain current native ecological systems and natural fire regimes. Reference conditions are determined by experts through professional judgment, published literature, and historical information using standardized computer models. This quantitative method links landscape-scale assessments and stand-level classifications (Hann et al. 2003). The objective of this method is to target those areas exhibiting the greatest departure from reference condition as priority for fuel treatment.

Development around the New Melones Lake Area and surrounding areas continues to increase as demand for recreation and housing in the area increases. Greater numbers of people, homes, and structures within the WUI, coupled with accumulating hazardous fuels due to fire suppression and the lack of fuel management measures, creates a dangerous situation. Many of Reclamation's lands are not easily accessible, further increasing the fire hazard. The three FMUs in the decision area list WUI as a major decision factor (Reclamation 2007b). As the WUI continues to grow, it will become more of a driving factor on fire suppression and fuels management in the future. A draft Fire Management Plan is included in Appendix D.

The CAL FIRE-Tuolumne/Calaveras Unit is the principal agency responsible for fire suppression in the project area. On adjacent BLM lands the levels of resources available have not allowed for ideal fire management (BLM 2006). Competition among agencies for CAL FIRE staff and equipment could lead to a lack of personnel and equipment to accomplish fuel treatment goals, resulting in a backlog of high priority fuels management projects.

Smoke management and associated air quality concerns may increase as resource users and residences increase in and around the project area, potentially limiting prescribed burning activity.

Noxious and invasive weed species will continue to colonize disturbed sites. This trend will likely increase if fire severity and size increases and if fuels continue to build up as a result of fire suppression.

5.2.16 Cultural Resources

The *New Melones Reservoir Cultural Resource Overview, Calaveras and Tuolumne Counties, California* (Pacific Legacy 2008) was completed for this project and provides a

detailed account of cultural resources and research orientations within the New Melones Lake Area. The following discussions are taken from that document.

Compliance for Reclamation Undertakings

Reclamation is responsible for compliance with Section 106 and 110 of the NRHP. Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and can afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment while Section 110 of the NHPA sets out the broad historic preservation responsibilities of the federal agency and is intended to ensure that historic preservation is fully integrated into ongoing programs.

For project specific compliance, Reclamation must take into account the effects its undertakings will have on historic properties as defined in 36 CFR, Part 800.16 (1). When the effects of an undertaking are not fully known or the project extends over a period of years, Reclamation may elect to follow an alternative process following procedures found in 36 CFR, Part 800.14 which allows for the development of a programmatic agreement between consulting parties. Under NEPA (42 USC, Sections 4321-4327), Reclamation is required to consider potential environmental impacts and appropriate mitigation measures for projects with federal involvement.

Projects undertaken by Reclamation must follow directives and guidelines found in Reclamation Manual Policy and Directives and Standards. LND P01, LND 02-01, and LND 07-01. LND P01 establishes policy and authority for cultural resource identification, evaluation, and management of cultural resources. LND 02-01 provides directives and standards and clarifies the role of Reclamation regarding implementation of its cultural resources management responsibilities. LND 07-01 provides procedures protocols for inadvertent discoveries on Reclamation land for cultural items which fall under the authority protection of the Native American Graves Protection and Repatriation Act (NAGPRA).

For federal undertakings and administration, which require compliance with Section 106 or Section 110 of the NHPA, federal significance or criteria apply. Cultural resources significance is evaluated in terms of eligibility for listing on the NRHP. NRHP criteria for evaluation are defined as follows:

The quality of significance in American history archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling and association and that:

- Criterion A: are associated with events that have made a contribution to the broad pattern of our history;
- Criterion B: are associated with lives of significant people in our past;
- Criterion C: embody the distinct characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic

values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or,

- Criterion D: have yielded, or are likely to yield, information important in prehistory or history (36 CFR, Part 60.4).

The analysis of potential impacts to historic properties employs the Criteria of Adverse Effect as developed by the ACHP in its regulations for the "protection of Historic Properties (36 CFR, Part 800). Adverse effects can occur when and undertaking may alter any of the characteristics of a historic property that qualify it for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, or association. Examples of adverse effects include:

- physical destruction or alteration of the property;
- isolation of the property from or alteration of the property's setting when that character contributes to the property's qualification for the NRHP;
- introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting;
- neglect of a property resulting in its deterioration or destruction; and,
- transfer, lease, or sale of the property (36 CFR, Part 800.5(a)(2)).

To be considered as a historic property, a cultural resource must retain the quality of integrity. Integrity is defined as the degree to which a property retains or is able to convey the essential characteristics defined under one of the four eligibility criteria, listed above. These characteristics may be expressed through integrity of location, design, setting, materials, workmanship, feeling, and association of a property. An archaeological property may retain sufficient integrity to qualify it for the NRHP if the property retains the ability to yield information important to an understanding of history or prehistory. It must be demonstrated to have the potential to yield, or have previously yielded, data that can be used to address important research questions.

Reclamation will complete this process for site-specific activities as they are designed and a decision is made to fund them.

Summary of Cultural Resources in the New Melones Lake Area

A total of 23,265 acres has been surveyed, leaving 6,735 acres of the New Melones Lake Area unsurveyed. Of the unsurveyed area, only 4,672 acres are above the current maximum pool. A total of 643 cultural resources have been recorded within the New Melones Lake Area and another 82 cultural resources have been recorded within a quarter mile. Of the 643 cultural resources within the New Melones Lake Area, four have been determined to be noncultural in nature; however, the four sites remain on the record and are therefore included here. Based on ethnographically available information and location data, portions of five Central Sierra Miwok settlements may exist within the New Melones Lake Area. An additional six ethnographically documented settlements are

within a quarter mile of the New Melones Lake Area. Three general site categories have been identified: prehistoric (which includes a multiple prehistoric site type), historic (which includes a multiple historic site type), and multi-component. Within these categories, more specific site types for the New Melones Lake Area have been identified: bedrock mortar, midden, cave, and rock art. Historic site types are mining, homestead/ranching, water/power systems, transportation, cemetery, and, historic feature. Some of the multiple prehistoric site types also contain other site constituents that were never recorded in isolation and, therefore, did not warrant their own site type designation (for example, lithic scatters, human remains, house depressions, shell scatters). In addition to these site categories, there is a multi-component site type, which is defined by the presence of both historic and prehistoric remains (Pacific Legacy 2008). Estimates of the potential for each management area to yield undiscovered resources are provided in Table 5-14. Note that management areas Middle Bay, North Bay, and South Bay are under the maximum pool and are therefore inaccessible to a new survey for undiscovered resources. Bowie Flat, Dam and Spillway, and Mark Twain Management Areas have been completely inventoried, making discovery of previously unidentified resources unlikely.

Table 5-14: Potential for Undiscovered Resources By Management Area

Management Area	Site Density[1]	Sites Recorded	Acres Above Maximum Pool Unsurveyed[2]	Potential for Surface Survey to Yield New Resources
Stanislaus River Canyon	0.162	47	1,487	Very High
Parrotts Ferry	0.070	91	593	Very High
Coyote Creek	0.036	21	473	High
Westside	0.015	25	815	High
Tuttletown	0.035	20	286	High
French Flat	0.061	17	119	Moderate to High
Peoria Wildlife Area	0.017	43	269	Moderate
Bear Creek	0.030	38	132	Moderate
Camp Nine	0.061	21	151	Moderate to High
Carson	0.045	103	81	Moderate
Greenhorn Creek	0.010	8	86	Low to Moderate
Glory Hole	0.017	16	45	Low to Moderate
Middle Bay	0.020	52	0	Low
North Bay	0.026	59	0	Low
South Bay	0.027	23	0	Low
Bowie Flat	0.017	8	0	Low
Dam and Spillway	0.015	39	0	Low
Mark Twain	0.089	12	0	Low

Source: Pacific Legacy 2008

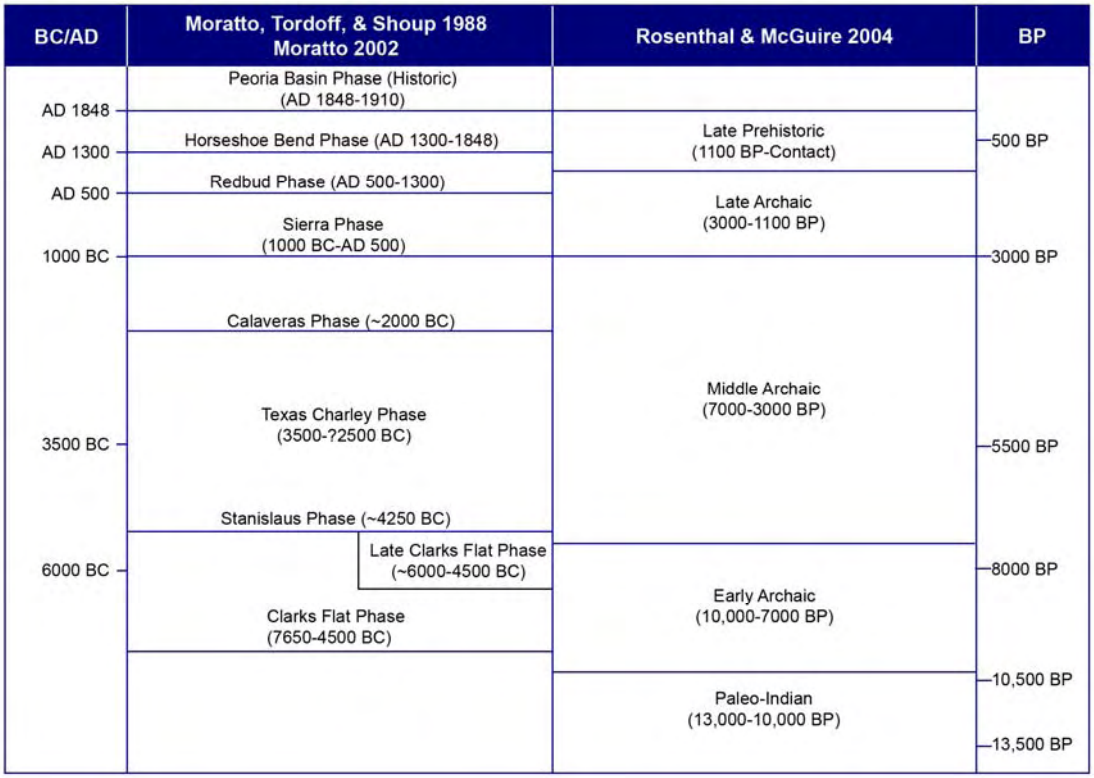
[1]Based on number of resources that have been previously recorded in the management area.

[2]"Unsurveyed" in this table refers to areas that have not previously been surveyed for cultural resources.

Archaeological Setting

The New Melones Lake Area has been the subject of numerous cultural resource studies beginning in the 1940s (Fredrickson 1949) and continuing to the present day. The data generated from cultural resource management projects have formed the basis on which the cultural history of the area has been constructed and provides evidence for a cultural occupation of the area as early as 8000 BC. Moratto and colleagues (Moratto, Tordoff, and Shoup 1988; Moratto 2002) have proposed a prehistoric (Indian) cultural sequence for the area that includes at least eight defined phases in six temporal periods. Phases are formal cultural units with continuity over a geographical area within a given temporal period. In their recent reappraisal of the central Sierra Nevada, Rosenthal and McGuire (2004:12-22, 129-148) provide a useful critique of the earlier New Melones sequence and offer an alternate temporal sequence. In an effort to simplify the sequence, they employ a more general periodization. Both chronological sequences are provided in Table 5-15.

Table 5-15: Cultural Chronologies for the New Melones Lake Area



Source: Pacific Legacy 2008

Although evidence for occupation of the area before 6000 BC is scant, what evidence does exist suggests that people inhabited the area in highly mobile hunting and gathering bands. This occupation is evidenced by large lanceolate-stemmed and square-stemmed bifaces manufactured of chert. The oldest documented cultural phase during this time is the Clarks Flat Phase (7650to 4500 BC). The phase is included in Rosenthal and

McGuire's Early Archaic, but it is suggested that the identification of the Clarks Flat Phase may need to be reexamined.

The period from 6000 to 3500 BC is poorly known archaeologically in the New Melones Lake Area. However, based on available data it has been argued that the period retains some cultural continuity from the previous one (Peak and Crew 1990:229; Moratto 2002:37-38). The period includes a Late Clarks Flat Phase (circa 6000 to 4500 BC), which retains many characteristics of the earlier Clarks Flat manifestations, but with a broader subsistence base, and a Stanislaus Phase (circa 4250 BC), defined on the basis of the Stanislaus broad-stemmed projectile point (Peak and Crew 1990) and a broadening of the resource base. The Late Clarks Flat Phase falls within Rosenthal and McGuire's Early Archaic (8000 to 5000 BC), while the Stanislaus Phase falls at the transition between their Early Archaic and Middle Archaic (5000 to 1000 BC).

Two cultural phases with a possible intervening hiatus are encompassed by the 3000 to 1000 BC timeframe: the Texas Charley Phase and the Calaveras Phase, provisionally distinguished by differences in projectile point type. The Texas Charley Phase (circa 3500 to 2500 BC) is defined by large lanceolate bifaces, a well-developed percussion-flaked chert and greenstone industry, and stone tools distinguished by heat treatment and the masterful use of exotic chert. While the Calaveras Phase (circa 2000 BC) is not well defined, it is characterized by Humboldt and Pinto series points and very minimal occupation at several sites. Both phases fall within Rosenthal and McGuire's Middle Archaic.

Occupation of the New Melones Lake Area during the 1000 BC to AD 500 period is characterized by middens with housepits, indicating intensive occupation by large populations. Cemeteries also begin to appear in the archaeological record during this period, along with mortuary caves. This period was during the Sierra Phase, characterized by shell beads and ornaments, Elko series projectile points, and exotic obsidians, suggesting a sophisticated long-distance trade network between the New Melones Lake Area and both the coast and areas to the east. The Sierra Phase falls within Rosenthal and McGuire's Late Archaic (1000 BC to 900 AD).

Another remarkable shift in use of the area took place between AD 500 and 1300. Archaeological sites occupied intensively during the preceding period lack evidence of use during this period, which includes the Redbud Phase. This is characterized by sites with poorly developed deposits and based largely on an analysis of organic remains (teleological examination) of what is absent relative to the previous and subsequent phases. Thus, the Redbud Phase is still quite poorly understood. However, one debate engendered by the Redbud Phase concerns the introduction of new artifact types, most importantly the Rosegate arrow point. Whether this represents population replacement by the bow and arrow wielding Miwok or the continuation of a gradual shift toward bow and arrow technology remains a question. The Redbud Phase falls within transition between Rosenthal and McGuire's Late Archaic and Late Prehistoric (900 AD to Contact).

Ethnographic Setting

The period from AD 1300 to 1848 is characterized by a shift toward the ethnographic cultural pattern of the Central Sierra Miwok. This period represents the most intensive occupation of the New Melones Lake Area and is also the most widespread. One cultural phase is identified within this period: the Horseshoe Bend Phase. Settlements associated with this phase are spaced more closely together and individual sites are highly organized internally. During this phase, several new technologies replace older ones and an intensive acorn-based economy is evident in all facets of the archaeological record. Trade connections with the Great Basin to the east are clearly demonstrated by the presence of desert side-notched and cottonwood triangular projectile points and by the predominance of Bodie Hills obsidian. The Horseshoe Bend Phase falls within Rosenthal and McGuire's Late Prehistoric.

Most of what researchers know about Central Sierra Miwok lifeways derives from ethnographic data (Pacific Legacy 2008). Traditionally, Miwok social organization was rooted in the *nena*, the place of origin of the patrilineal family. Each nena comprised a semiautonomous political unit. The Miwok preferred to settle on flat, south-facing slopes or near small drainages. The later Central Sierra Miwok made permanent settlements within their territory, their hunter-gatherer mode of subsistence appears to have depended on seasonal travel to higher and lower elevations to obtain food not found in the vicinity of their permanent settlements. The Miwok also participated in an extensive trade network, connected by trails, which facilitated trade with their neighbors.

The New Melones Lake Area encompasses lands traditionally used by the Central Sierra Miwok, who still maintain a strong local presence in the surrounding communities. There are three federally recognized bands of Miwok who have reservation lands in Calaveras and Tuolumne Counties. Contact with Gold Rush-era settlers was devastating to the Miwok and other native populations. In addition to exposure to introduced diseases, they were the victims of much violence and discrimination. However, even as they lost most of their land base, they continued the traditions of cultural and sacred use of lands and natural resources.

Ethnographers have documented 46 Central Sierra Miwok settlements and villages in and around the New Melones Lake Area, derived from interviews conducted well after the devastation of the Gold Rush. During archaeological studies conducted before the dam was constructed and the lake was filled, ceremonial structures, a mourning site, petroglyphs, cemeteries, isolated burials, and mortuary caves were recorded. In conjunction with archaeological mitigations, the Miwok entered into a burial agreement with the National Park Service (NPS) before the NAGPRA was passed.

The Tuolumne Rancheria was established in 1910 and quickly became a refuge for displaced Indians, including some of the remaining Central Sierra Miwok and their Native neighbors (Levy 1978). The Chicken Ranch Rancheria of Me-wuk Indians, who currently hold trust land in Jamestown, are also descendants of the Central Sierra Miwok in Tuolumne County. In Calaveras County, the Calaveras Band of Miwok Indians and the Calaveras County Mountain Miwok Indian Council, near West Point, maintain communities and traditions. Several individual Miwok families also reside in and around

the New Melones Lake Area in Jamestown, Columbia, Sonora, Murphy's, Vallecito, Carson Hill, and elsewhere.

While the devastation of the Gold Rush and its aftermath disrupted many traditional practices and lifeways, the descendents of the Central Sierra Miwok flourish today as their culture, language, and traditions continue to be passed down through the generations. Celebrations, or "big times," are regularly held, and many traditional crafts, including baskets, are still produced. The Tuolomne Rancheria has developed a Cultural and Historic Preservation Committee to represent their interests and those of other Sierra Miwok (Fuller 1996).

Post-Contact Historic Setting

Great turmoil and rapid change in the area characterized the period from AD 1848 to 1910. During the California Gold Rush, the traditional lifeways of the native inhabitants of the New Melones Lake Area were disrupted by large numbers of Euro-American gold seekers, merchants, and other fortune seekers. The population expansion in the area was rapid and overwhelming, with the Central Sierra absorbing the vast influx of California's gold mining economy. The impact on the area's native populations was profound. While these changes are charted in historical documents, archival records, and oral histories, the archaeological record provides the time depth to study changes in the material culture and lifeways of the Central Sierra Miwok that are either inaccessible or unremarked in traditional histories. This period is dubbed the Peoria Basin Phase and is quite widespread in the New Melones Lake Area. However, Peoria Basin components are often sparse, leaving only minimal traces of the fundamental reorganization of Native American tradition that was taking place. Peoria Basin Phase material evidence indicates the maintenance of tradition, the adoption of new materials to manufacture traditional items, the acceptance of Euro-American material items, and the abandonment and disintegration of long-held economic and trade networks (Moratto, Tordoff, and Shoup 1988; Moratto 2002). This period does not correspond to any of Rosenthal and McGuire's proposed periods for the New Melones Lake Area.

Euro-American history in the area is divided into three periods: the Spanish Era (AD 1769-1821), the Mexican Era (AD 1821-1848), and the American Era (AD 1848-1950).

The expansion of the Spanish frontiers northward from Mexico into Alta California began in the eighteenth century. The California interior was not settled by the Spanish pioneers, although a number of Spanish expeditions explored portions of the San Joaquin and Central Valleys beginning in the 1770s. In 1806, an expedition headed by Gabriel Moraga followed the San Joaquin River to the Merced River and discovered the Tuolumne and Stanislaus Rivers (Hoover et al. 1990:487; Jackson et al. 1976:2). Two years later, Moraga returned to the Stanislaus River area in search of a suitable interior mission site but deemed the area undesirable (Jackson et al. 1976:4-5).

In 1821, Mexico rebelled against Spain and gained its independence. The Mexican government sent several military expeditions in 1828 and 1829 to capture a renegade missionized Native American named Estanislao, who had escaped the mission system

with a band of neophytes and returned to the Stanislaus River region. Mariano Vallejo succeeded in driving Estanislao away from the Stanislaus and Tuolumne River region by burning the river banks. Vallejo was rewarded with a land grant in 1843 for the 49,000-acre Rancheria del Rio Estanislao, which included portions of San Joaquin, Calaveras, and Stanislaus Counties (Jackson et al. 1976:7). The rancho was just southwest of the New Melones Lake Area and included what is now Tulloch Lake (United States District Court 1857).

Also during the Mexican era, three American parties crossed the Sierra Nevada, through the Stanislaus River region, although it is not known if they entered the New Melones Lake Area. Jedediah Smith crossed the Sierra eastward in May 1827, somewhere between Lake Tahoe and Kings River. According to Jackson et al. (1976:12), current historical research appears to support the theory that Smith followed the Stanislaus River route into the Sierra. The John Bidwell party crossed the Sierra in 1841 en route to California from Nevada and may have followed the Stanislaus River forks as the party found its way down out of the mountains (Jackson et al. 1976:15). In AD 1844, John C. Fremont's Second Expedition entered California at Carson Pass and stayed at Sutter's Fort for several weeks. From there, the party traveled south to the Stanislaus River near Ripon, approximately 35 miles west of the New Melones Lake Area (Jackson et al. 1976:17).

Following the Mexican-American War from 1846 to 1848 and the signing of the Treaty of Guadalupe Hidalgo, Alta California became part of the United States, beginning the American Era. The area surrounding New Melones Lake was first settled by Euro-Americans following the discovery of gold at Coloma in 1848. This discovery led to an influx of miners, who sought rich placer deposits along the Stanislaus River and its tributaries. As new deposits were discovered, camps and towns were established near the discoveries and these quickly developed into communities to provide for the needs of an expanding population. These circa 1848-1850 mining communities included Angels Camp, Mokelumne Hill, Chili Gulch, Carson Hill, Robinson's Ferry, Melones, Pine Log Mining Camp, Columbia, Sonora, and Murphys (Costello and Cunningham 1985; Hoover et al. 1990; Jackson et al. 1976; Shoup and Greenwood 1984). These communities reflected a diverse ethnic population, including Mexicans in Melones, Italians along Angels Creek, Italians and Chinese at Robinson's Ferry, Chileans in Chili Gulch, Austrians and Yugoslavians at the later New Melones mines, and other northern Europeans, such as English, German, and Swedes, throughout the area (Greenwood and Shoup 1983). Numerous mines and mine claims are located within the New Melones Lake Area, many of which are clustered in the Carson Hill-Melones region that was traversed by the Morgan-Melones vein (Jackson et al. 1976:44). Mines within the Calaveras County portion of the New Melones Lake Area include the Garibaldi Mine, the Carson Creek Mine, part of the Carson Hill Mine complex (which includes the Adelaide Quartz Mine, Bright Star Lode, Calaveras Quartz Mine, Santa Cruz Lode, and Stanislaus Quartz Mine), and the Vonich Mine. Mines within the Tuolumne County portion of the New Melones Lake Area include Bell Mine, Densmore Mine, Punchbowl Mine, Horseshoe Bend Mine, and Norwegian Mine (Jackson et al. 1976; Moratto, Tordoff, and Shoup 1988:393).

In addition to these communities and mines, other industries developed to support the needs of the Gold Rush, including agriculture, ranching, a water system, and transportation systems.

Cattle ranching boomed from 1850 to 1860 in response to the Gold Rush population influx. By the 1860s and 1870s, many lands had been cleared of trees, and agriculture had become increasingly important due to the high costs of importing food from Hawaii and Chile. In the 1870s and 1880s, fruit orchards became an expanding agricultural industry. In the New Melones Lake vicinity, the mountainous landscape limited homesteads and ranches to raising livestock and agriculture on the scale of truck farms, fruit orchards, and vineyards. Based on the historic records and survey results, most of the ranches and homesteads were established in the 1850s through 1890s along the creek banks of the Stanislaus River drainage system by settlers who arrived during the Gold Rush (Greenwood and Shoup 1983:251; Jackson et al. 1976). Early ranching and farming in the area were devoted to cattle, small gardens, and truck farms to supply the needs of the influx of miners. As settlements became more stable, the farms and ranches supplied such towns as Robinson's Ferry and Columbia. During the later nineteenth century and early twentieth century, the trend was toward consolidating smaller farms and ranches to create larger cattle ranches. As was common elsewhere in the United States, families often chose homesteads near each other to pool resources.

As hard rock and hydraulic mining became common in the 1850s, the need for large amounts of water led to the construction of numerous dams, ditches, and flumes throughout the region. Between 1851 and the late 1860s, more than 34 water and ditch companies were established in Tuolumne and Calaveras Counties (Jackson et al. 1976:83-84). As mining waned, the resulting water system was used to supply domestic and agricultural needs. Several large water companies emerged during the later nineteenth century. Tuolumne County Water Company eventually became one of the largest water companies in the area and was later reincorporated as the Tuolumne County Water and Electric Power Company. However, shortly thereafter however it was acquired by the Sierra and San Francisco Power Company in 1909. The original water company ditches and reservoirs remained in use until at least 1947 as part of the Pacific Gas and Electric Company water system (Tuolumne Utilities District 1947:2).

In the 1880s and 1890s, electric power became the new technology. With the demand for electric power and the increasing demand for water came plans for dams and hydroelectric power. In 1899, Charles Tulloch and Mrs. A. G. Lane established the San Joaquin Water Company, which built a concrete dam across the Stanislaus River above Knight's Ferry that sent irrigation water to the Escalon and Oakdale areas, as well as electric power to Angels Camp, Copperopolis, Oakdale, and Modesto (Jackson et al. 1976:207). In 1918, the Oakdale Irrigation District and the South San Joaquin Irrigation District began plans for the original Melones Dam, reservoir, and power plant near the current Melones Dam location (Jackson et al. 1976:210). After a hiatus of several years, dam construction was begun in 1925 and was completed in 1927. Melones Dam rose 210 feet above the bedrock and retained 112,500-acre-feet of water. Pacific Gas and Electric Company built a powerhouse below the dam to provide electricity for the area (Costello

1986:3; Jackson et al. 1976:212). In addition to the Melones Dam project, a second hydroelectric project, the Stanislaus Powerhouse or Camp Nine Project, was completed within the New Melones Lake Area. The Camp Nine Project was conceived to provide water and electricity for hydraulic mining and San Francisco street railways.

Transportation networks formed to provide access to the mining areas, to provide communication, and to provide delivery systems for living staples, equipment, and gold shipment. Initially, these networks were composed of pack trains of mules that followed trails between the communities. By the early 1850s, as the trails began to widen and become roads, freight wagons and stagecoaches were able to move along the system.

Crossing the Stanislaus River was accomplished using a series of ferries that included Robinson's Ferry, Parrotts Ferry, Central Ferry, Reynold's Ferry, Abbey's Ferry, and McLean's Ferry (a.k.a. Murphy's Ferry). Although the origins of many of these ferries are uncertain, Robinson's Ferry and McLean's Ferry were established around 1849. The rest of the ferries were operating by the 1860s (Jackson et al. 1976), and all remained in use through the nineteenth century. In the early twentieth century, many of the ferry crossings were replaced by bridges, such as the 1903 bridge at Parrott's Ferry and the 1910 bridge at Robinson's Ferry (Jackson et al. 1976:74; Shoup and Greenwood 1984:86). By the 1870s, railroads were extending into Calaveras, Tuolumne, and Stanislaus Counties but had not yet reached the current New Melones Lake Area. In 1897, the Sierra Railway proposed plans for the Angels Branch rail line from Jamestown to Angels Camp across the current New Melones Lake Area. The Angels Branch was completed in 1902 and included a rail bridge across the Stanislaus River at Melones (Costello 1983:53; Jackson et al. 1976). The Angels Branch was used until 1936, when the branch service was terminated (Jackson et al. 1976:180).

New Melones Archaeological District

Archaeological study of the New Melones Lake Area began in 1948 with an initial reconnaissance by Fredrickson (1949). However, the New Melones Archaeological Project (NMAP) had its formal inception with a survey conducted in 1968 (Payen et al. 1969), which is considered to be Phase I of the NMAP. Activities associated with the NMAP, which included an archaeological survey, testing, mitigation work, ethnographic research, and historic research, continued for nine more field seasons, or phases, concluding with Phase X data recovery excavations in 1981. As a part of Phase X, final archaeological reports provided a cultural resource inventory and a synthesis of the results from all ten phases of research (Moratto et al. 1986). In 1988, Moratto et al. compiled and submitted a nomination for the New Melones Lake Area cultural resources to the National Register of Historic Places as an archaeological district (Moratto et al. 1988).

The district included over 627 cultural resource sites identified during the NMAP, including archaeological sites, bedrock mortars, and historic homestead sites. The NPS returned the nomination submission in April of 1991, requesting clarifications and the submission of additional information. A final formal nomination, addressing Townsend's comments, has never been prepared, but the comments received from NPS indicate that

there is consensus that the district is significant and can be formally nominated to the NRHP if the identified problems with the nomination are addressed. The SHPO has concurred that the district is eligible for inclusion on the NRHP, so there is a consensus determination as to its eligibility.

Suggestions for resubmitting the NRHP nomination are provided in the New Melones Reservoir Cultural Resources Overview (Pacific Legacy 2008). This includes removing 90 sites from the historic district's list. The reasons for this are varied and include because the sites were destroyed or disturbed, they are not sites, they cannot be relocated, and they are outside of the New Melones Lake Area. Seventeen sites left out of the original nomination but within the New Melones Lake Area are suggested to be added to the nomination.

5.2.17 Indian Trust Assets

There are no known Indian Trust Assets or treaty rights exercised by tribes in the New Melones Lake Area, and no reservation or trust lands border on New Melones Lake. Although some treaties were made with California tribes in the Sierra Nevada in the nineteenth century, these were not ratified by the US Congress, which left native groups largely landless and without rights.

There are three tribal groups recognized by the federal government in Calaveras and Tuolumne Counties. The California Valley Miwok Tribe (formerly Sheep Ranch Rancheria) has a very small reservation (0.92 acre [0.37 hectare]) in Calaveras County. This land was purchased in 1916 as a reservation for landless Native Americans. There are two reservations in Tuolumne County. The Tuolumne Band of Me-Wuk Indians governs the 356-acre (145-hectare) Tuolumne Rancheria. The original 177 acres (70 hectares) of land for the reservation was purchased in 1910 and additional lands were subsequently acquired. The Chicken Ranch Rancheria occupies 2.85 (1.15 hectares) acres near Jamestown. Federal recognition of the Chicken Ranch Rancheria was restored as the result of a lawsuit in 1985. Both the Tuolumne Rancheria and the Chicken Ranch Rancheria have gaming operations.

There are no trends affecting Indian Trust Assets that are known to specifically involve the New Melones Lake Area. Overall trends in California and elsewhere include the assertion of tribal sovereignty, aboriginal rights and federal recognition. Many tribes were parties to unratified treaties or dispute the legal basis for the past loss of land and resources. Tribal groups, such as the Calaveras County Band of Miwok Indians, are seeking federal recognition. As these tribes become recognized, they will be sovereign nations under federal law. There have been attempts by other tribes to assert the Winters Doctrine, named for a Supreme Court decision in 1908 that held that when a reservation is established under treaty, it is implicit that sufficient water be reserved for the tribe's present and future use. Tribes in many places have also sought and succeeded in acquiring federal land in trust through transfer, exchange, or legislation. Tribes are also purchasing land for economic development. The Tuolumne Rancheria has expressed an interest in acquiring BLM-managed lands that adjoin the reservation (BLM 2006). As

individuals and tribes continue to pursue and assert rights, local communities and state and federal land and resource management practices will be affected.

5.2.18 Socioeconomic and Environmental Justice

Socioeconomic Conditions

Population. Table 5-16 presents population figures for California, Calaveras, and Tuolumne Counties and the communities closest to the New Melones Lake Area. Between 1990 and 2000, the population of all of these areas increased, and the rate of population growth was greater than the state average of 14.3 percent in Calaveras County (25.9 percent), Angels Camp (25.7 percent), and Murphys (35.9 percent). The population of Tuolumne County increased by less than the state average (12.8 percent), and Sonora's population increased by substantially less (6.5 percent) than that of the other localities in the New Melones Lake Area (US Census Bureau 1990, 2000a; California Department of Finance 2004).

Between 2000 and 2006, Angels Camp experienced the greatest population percentage increase (19.0 percent), and Sonora's population also increased by 8.6 percent, which is greater than the county average of 6.0 percent (US Census Bureau 2000a; California Department of Finance 2006c). Population increases for both counties were the result of predominantly domestic net migration (California Department of Finance 2006a).

Table 5-16: County Population Estimates 1990-2000

Location	1990	2000	Percent Change 1990-2000	2006	Percent Change 2000-2006
California[1]	29,828,473	34,098,744	14.3%	37,172,015	9.0%
Calaveras County[1]	32,470	40,890	25.9%	45,711	11.8%
Angels Camp[2]	2,409	3,004	24.7%	3,576	19.0%
Copperopolis[2]	NA	2,363	NA	NA	NA
Murphys[2]	1,517	2,061	35.9%	NA	NA
Tuolumne County[1]	48,719	54,946	12.8%	58,231	6.0%
Jamestown[2]	2,178	3,017	38.5%	NA	NA
Sonora[2]	4,153	4,423	6.5%	4,804	8.6%

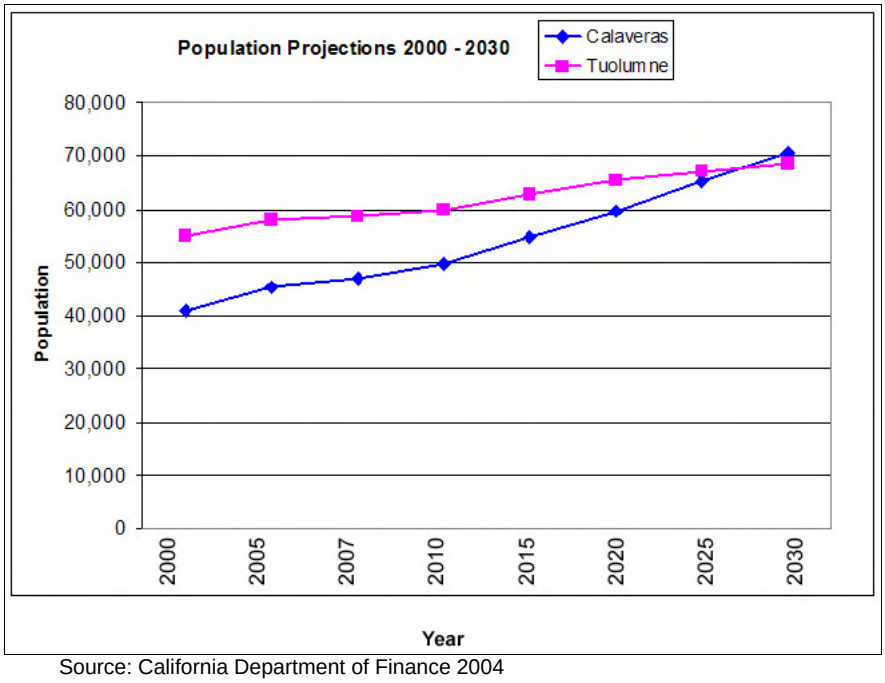
Notes: NA = Not available
Sources: [1]California Department of Finance 2004; [2]California Department of Finance 2006c; [3]US Census Bureau 1990 and 2000a

The scenic and recreational attributes of Calaveras County make the tourism and recreation industries an extremely valuable part of the economy (Calaveras County 1996). In fact, the county's 28.23 percent vacancy rate is attributed to the high number of second homes and seasonal vacation houses. This pattern is mainly visible near the county's lakes, winter sports areas, and golf courses. According to the Calaveras County General Plan estimates, in 2000, 96.2 percent of Calaveras County residents lived in the unincorporated portion of the county, and 66.1 percent of that population lived in small towns (Calaveras County 1996). Approximately 21.5 percent of Tuolumne County is privately owned, and the population density on private land is about 104 people per square mile. The population tends to be dispersed throughout small towns of mixed use

surrounded by large expanses of open space consisting of agriculture, native vegetation, and low-density development. It is Tuolumne County's policy to preserve open space between these communities. Almost 10 percent of Tuolumne County's population is in such facilities as assisted living and long-term care. The largest portion of the institutionalized population, more than 4,000 men, is in the state prison outside of Jamestown (Tuolumne County 2005).

Chart 5-1 shows projected population growth from 2000 to 2030. Chart 5-1 indicates that although the 2000 population of Calaveras County is smaller than that of Tuolumne County, by 2030 it is projected to exceed Tuolumne County's population by 2,030 (Chart 5-1). Also, as presented in Table 5-17, between 2000 and 2030, the population growth in Calaveras County (72.6 percent) is expected to exceed the state average (41.3 percent); in Tuolumne County (24.8 percent) population growth is expected to be below the state average.

Chart 5-1: Population Projections 2000-2030



Source: California Department of Finance 2004

Table 5-17: County Population Projections 2000 and 2030

County	2000	2030	2000-2030 Change	2000-2030 Percent Change
California	34,043,198	48,110,671	14,067,473	41.3
Calaveras	40,890	70,577	29,687	72.6
Tuolumne	54,946	68,566	13,620	24.8

Source: California Department of Finance 2004

Housing. Table 5-18 presents 1990, 2000, and 2006 housing data for Calaveras and Tuolumne Counties, Angels Camp, and Sonora, as well as for California. Between 1990 and 2000, the total number of housing units and the number of occupied units in Calaveras and Tuolumne Counties and Angels Camp increased by more than the state averages of 9.2 percent total and 10.8 percent occupied. In Sonora, between 1990 and 2000, the total number of housing units increased by more than occupancy, resulting in a vacancy increase of from 6.5 to 6.6 percent; both values increased by less than the state average. Between 2000 and 2006 the total number of housing units and the number of occupied units increased by a percentage similar to or above the state average. Angels Camp experienced the greatest percentage increase, with a 22.9 percent rise in the number of units and a 22.8 percent rise in the number of occupied units. Of the two cities in the New Melones area, Sonora had the lower vacancy rate at 6.6 percent, and of the two counties in the New Melones area, Tuolumne County had the lower vacancy rate at 25.9 percent. All vacancy rates shown for the New Melones area were higher than the state average of 5.9 percent in 2006 (California Department of Finance 2000b, 2006c).

Table 5-18: County Housing Estimates 1990, 2000, and 2006

Location	Year	Total	Occupied	Percent Vacant
California	1990	11,182,513	10,380,856	7.2
	2000	12,214,550	11,502,871	5.8
	Percent change 1990-2000	9.2	10.8	
	2006	13,138,670	12,367,468	5.9
	Percent change 2000-2006	7.6	7.5	
	Percent change 1990-2006	17.5	19.1	
Calaveras County				
	1990	19,153	12,649	34.0
	2000	22,946	16,469	28.2
	Percent change 1990-2000	19.8	30.2	
	2006	26,685	19,171	28.2
	Percent change 2000-2006	16.3	16.4	
	Percent change 1990-2006	39.3	51.6	
Angels Camp				
	1990	1,229	1,107	9.9
	2000	1,422	1,286	9.6
	Percent change 1990-2000	15.7	16.2	
	2006	1,747	1,579	9.6
	Percent change 2000-2006	22.9	22.8	
	Percent change 1990-2006	42.1	42.6	
Tuolumne County				
	1990	25,175	17,959	28.7
	2000	28,336	21,004	25.9
	Percent change 1990-2000	12.6	17.0	
	2006	30,071	22,298	25.9
	Percent change 2000-2006	6.1	6.2	
	Percent change 1990-2006	19.4	24.2	
Sonora				
	1990	2,084	1,949	6.5
	2000	2,197	2,051	6.6
	Percent change 1990-2000	5.4	5.2	
	2006	2,365	2,208	6.6

Table 5-18: County Housing Estimates 1990, 2000, and 2006

Location	Year	Total	Occupied	Percent Vacant
	Percent change 2000-2006	7.6	7.7	
	Percent change 1990-2006	13.5	13.3	

Sources: California Department of Finance 2000b, 2006c

As shown in Table 5-19, since 2000, housing values in Calaveras and Tuolumne Counties increased by less than the state average. The median value in Tuolumne County went up by more than that in Calaveras County, resulting in similar current median values ($221,731 and $219,990). Median housing values for the state and both counties were higher than the national average of $136,625 (US Census Bureau 2000b; Reply.com 2007a, 2007b).

Table 5-19: Median Housing Value

Location	Year	Median (dollars)
	2000	$211,500
	2007	$346,606
California	% change	63.9%
	2000	$156,900
	2007	$219,990
Calaveras County	% change	40.2%
	2000	$149,800
	2007	$221,731
Tuolumne County	% change	48.0%

Sources: US Census Bureau 2000b; Reply.com 2007a, 2007b

The 2001-2009 Housing Element of the General Plan for unincorporated Calaveras County identifies the typical residence as a single-family structure, built in 1981. Based on 2003 and 2004 actual housing costs and 2003 income limits for a family of three or four, the availability of affordable typical housing is limited. In addition, in 2003, 4.4 percent of the housing in unincorporated Calaveras County was overcrowded, whereas, 2.2 percent of housing in Angels Camp was overcrowded. Approximately 65 percent of overcrowded units were owner occupied (Calaveras County 2005).

Angels Camp is the only incorporated city in Calaveras County. The typical Angels Camp residence in 2003 was a rented single-family structure built in 1968. The city estimates that an additional 282 housing units will be needed between 2001 and 2009 to accommodate growth resulting from newly created, mainly minimum wage commercial and service jobs. Approximately 38 percent would be affordable housing for very low- and low-income families. The primary constraints to new housing development are limitations in water and wastewater infrastructure (City of Angels Camp 2006).

According to the Tuolumne County General Plan Housing Element Update, housing affordability is the primary concern of residents, particularly since the average Tuolumne

County family of four at the median income level is able to afford the purchase of a $190,000 home. The median price of a home in Tuolumne County was $220,000 in 2003, and the average price was $245,000 (Tuolumne County 2003).

Schools. In the 2005 to 2006 school year there were 29 active public schools in Calaveras County, with a total enrollment of 6,861 and student-to-teacher ratio of 21.1 (Education Data Partnership 2007a). Of these schools, six were in Angels Camp, two were in Copperopolis, and one was in Murphys (NCES 2007). The average class size in these schools was 25.4, which is lower than the state average of 27.3. A total of 7,733 students were enrolled in 44 public schools in Tuolumne County during the 2005 to 2006 school year (Education Data Partnership 2007b), 17 of which were in Sonora (NCES 2007). The student-to-teacher ratio was 18.9, and the average class size was 24.0, which was below the state average. The student-to-teacher ratio in each of the two New Melones Area counties was below the state average of 21.4 (Education Data Partnership 2007c). By 2015, enrollment in Calaveras County is projected to increase by 6.2 percent to 7,290, and in Tuolumne County enrollment is forecast to decline by 3.4 percent to 7,467 (California Department of Finance 2006b).

Employment and Income. Unemployment rates are a key indicator of the health of local economies. They reflect the ability of employers to provide the numbers and types of jobs needed by the labor force and the ability of the labor force to supply the skills and availability needed by employers (Tuolumne County 2005). Table 5-20 provides labor force and employment data in Calaveras and Tuolumne Counties and California. The unemployment rate in both Calaveras and Tuolumne Counties (5.9 and 6.1 percent) is above the state average (5.4 percent), despite increased economic diversity in these two counties (California Employment Development Department 2006; Calaveras County 1996; Tuolumne County 2005).

Table 5-20: County Employment Statistics (2005)

County	Civilian Labor Force	Employed	Unemployed	Unemployment Rate
California	17,695,600	16,746,900	948,700	5.4%
Calaveras County	20,620	19,410	1,210	5.9%
Tuolumne County	26,080	24,480	1,600	6.1%

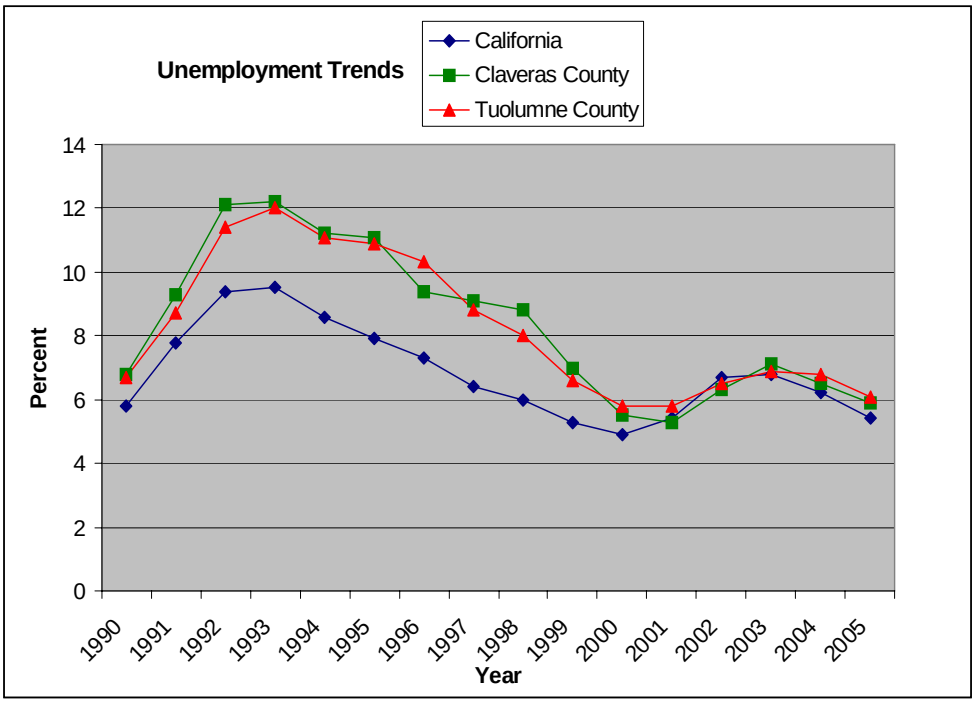
Source: California Employment Development Department 2006

As shown on Chart 5-2, since hitting a high point in 1992, unemployment in the two study area counties and in the state has been declining in general, except during the recession in 2001 through the recovery in 2004. It is during a portion of this period that the unemployment rate in the two project area counties fell below that of the state, probably due to the differing industry mix in the project area counties, as compared with the state as a whole (California Employment Development Department 2006). In addition, unemployment in the study area has increased as of the date of this RMP/EIS due to the current recession. Unemployment in Calaveras County climbed to 14.4 percent

in August 2009, and in Tuolumne County it reached 12.9 percent (California Employment Development Department 2009).

Calaveras and Tuolumne Counties are part of the Mother Lode region, which includes El Dorado, Amador, and Mariposa Counties. This area has been known historically for its minerals and timber industries, but these industries have been declining as sources of employment and income, as government, tourism and recreation, services, and construction have become increasingly important. Increases in tourism and recreation have generated additional employment in the leisure and hospitality sector and in construction. Newly created jobs in the leisure and hospitality sector are often entry-level, low-wage commercial and service positions, which may provide income to local families insufficient to afford adequate housing (City of Angels Camp 2006; Tuolumne County 2005). Increases in construction have helped to boost employment in the timber industry in the project area counties. In Tuolumne County, recent job losses have occurred in manufacturing, a sector that typically contributes more to the economy than growing sectors of government, services, and construction (Tuolumne County 2005).

Chart 5-2: Unemployment Trends



Source: California Employment Development Department 2006

Table 5-21 provides a breakdown of the project area counties' percentage employment by sector and average sector growth between 1990 and 2000 and between 2000 and 2005. In 2005 most employment in the project area counties and the state was in the services industries (80.1 percent in Calaveras County, 86.4 percent in Tuolumne County, and 81.4 percent in California); however, unlike the state, where most jobs in this group are in professional and business services, hospitality and leisure is the largest private services

sector in Calaveras and Tuolumne Counties (13.0 and 12.9 percent). The education and health services sector employs a similar number of Tuolumne County residents (12.1 percent). Government is the largest services sector in the project area counties and the state (80.1 in Calaveras County, 8.4 percent in Tuolumne County, and 81.6 percent in California). Between 1990 and 2000, the largest decline in employment in Calaveras County was in farm employment (-70.0 percent), which had been a historically stable industry in the county, with field crops, vineyards, orchards, livestock, and poultry contributing most to total gross value of production (Calaveras County 1996). However, this sector also experienced the greatest increase in employment between 2000 and 2005 at 133.3 percent, which was still below the 1990 level. The most substantial increases between 1990 and 2000 were in other services, professional and business services, and manufacturing. Between 2000 and 2005, the greatest losses in employment in Calaveras County were seen in the federal and state government sectors; and transportation/warehousing/utilities was the other major growth sector, besides farming (California Employment Development Department 2006).

Table 5-21: Employment by Sector and Growth

	California			Calaveras County			Tuolumne County		
	Percent Change 1990-2000	2005 (percent of total)	Percent Change 2000-2005	Percent Change 1990-2000	2005 (percent of total)	Percent Change 2000-2005	Percent Change 1990-2000	2005	Percent Change 2000-2005
Total, All Industries (number employed)	15.8%	15,161,100	1.8%	17.8%	9,100	12.5%	12.4%	17,870	12.0%
Total Farm	12.3%	2.5%	-8.0%	-70.0%	0.8%	133.3%	100.0%	0.5%	-50.0%
Total Nonfarm	15.9%	97.5%	2.0%	19.1%	99.3%	12.2%	11.8%	99.5%	12.8%
Total Private	16.7%	81.6%	1.7%	25.1%	72.0%	14.1%	10.1%	69.1%	10.0%
Goods Producing	-1.1%	16.1%	-7.0%	10.2%	19.1%	23.4%	-3.0%	13.1%	4.0%
Natural Resources, Mining and Construction	11.4%	6.1%	22.0%	-1.9%	14.6%	31.7%	-24.3%	7.7%	23.2%
Manufacturing	-5.4%	10.0%	-18.7%	60.0%	4.5%	2.5%	32.9%	5.4%	-15.0%
Service Providing	20.5%	81.4%	4.0%	21.1%	80.1%	9.6%	14.7%	86.4%	14.3%
Private Servicing Producing	22.8%	65.5%	4.0%	30.5%	52.7%	11.1%	14.0%	56.0%	11.6%
Trade, Transportation and Utilities	12.5%	18.6%	3.4%	8.9%	17.5%	17.8%	19.3%	16.5%	3.5%
Wholesale Trade	17.2%	4.4%	4.4%	20.0%	1.3%	0.0%	-21.1%	1.1%	33.3%
Retail Trade	8.0%	10.9%	6.0%	5.9%	12.9%	8.3%	23.3%	13.9%	-0.4%
Transportation, Warehousing, and Utilities	21.6%	3.2%	-5.8%	15.4%	3.3%	100.0%	17.6%	1.5%	35.0%
Information	47.3%	3.1%	-17.4%	7.7%	1.3%	-14.3%	15.0%	1.6%	26.1%
Financial Activities	-3.3%	6.1%	16.6%	6.9%	3.2%	-6.5%	-30.4%	3.3%	7.3%
Professional and Business Services	48.5%	14.2%	-4.1%	86.7%	6.4%	3.6%	1.1%	5.8%	16.9%
Educational and Health Services	25.2%	10.5%	13.3%	31.0%	7.5%	23.6%	51.8%	12.1%	27.6%
Leisure and Hospitality	20.7%	9.7%	10.6%	35.1%	13.0%	13.5%	8.7%	12.9%	8.5%
Other Services	17.1%	3.4%	4.9%	123.5%	4.0%	-5.3%	14.5%	3.7%	6.3%
Government	11.7%	15.9%	4.1%	6.9%	27.4%	6.9%	16.1%	30.4%	19.6%

Table 5-21: Employment by Sector and Growth

	California			Calaveras County			Tuolumne County		
	Percent Change 1990-2000	2005 (percent of total)	Percent Change 2000-2005	Percent Change 1990-2000	2005 (percent of total)	Percent Change 2000-2005	Percent Change 1990-2000	2005	Percent Change 2000-2005
Federal Government	-24.6%	1.6%	-8.7%	0.0%	1.4%	-18.8%	-33.9%	2.0%	-2.7%
State and Local Government	19.4%	14.3%	5.8%	7.4%	25.9%	8.8%	24.5%	28.4%	21.6%
State Government	16.1%	3.1%	4.4%	-22.6%	2.2%	-16.7%	-4.3%	6.1%	-1.8%
Local Government	20.4%	11.2%	6.2%	13.5%	23.7%	11.3%	39.7%	22.3%	30.1%

Source: California Employment Development Department 2006

In contrast with Calaveras County, in Tuolumne County between 1990 and 2000 total farm employment experienced the greatest increase, and between 2000 and 2005 this sector experienced the greatest decrease in employment. Educational and health services, local government, and manufacturing also experienced substantial growth (51.8, 39.7, and 32.9 percent). Between 2000 and 2005, transportation/warehousing/utilities experienced the greatest percentage growth (California Employment Development Department 2006).

The greatest absolute increase in the number of employed in Calaveras County between 2000 and 2005 occurred in government (160 workers), leisure and hospitality (150 workers), and transportation/warehousing/utilities (140 workers). In Tuolumne County the greatest absolute increases occurred in government (890 workers), educational and health services (470 workers), leisure and hospitality (180 workers), and professional and business services (150 workers) (California Employment Development Department 2006).

Table 5-22 shows the major employers in Calaveras and Tuolumne Counties. Five of the major employers in Calaveras County are in Angels Camp and one is in Murphys. Fifteen of Tuolumne County's major employers are in Sonora and two are in Jamestown. Four of the largest employers in Calaveras County are in the hospitality sector (Bear Valley Ski Area Main Office, Resort at Greenhorn Creek, Saddle Creek Lodge Resort, and Sequoia Woods Country Club), and four of Tuolumne County's largest employers are in the hospitality sector (Black Oak Casino, Dodge Ridge Ski Resort, Chicken Ranch Bingo and Casino, and Lair of the Bear).

According to employment projections, between 2002 and 2012, total nonfarm wage and salary employment in the Mother Lode region is expected to grow by about 1.5 percent annually (about 9,000 jobs) between 2002 and 2012, slightly less than the statewide growth rate of 1.8 percent. Approximately 64 percent of new nonfarm wage and salary jobs are forecast to occur in government (32 percent), leisure and hospitality (19 percent), and construction (13 percent). Construction is expected to be the fastest growing major industry sector (at an annual growth rate of 3.0 percent), and information, educational and health services, and professional and business services are also forecast to grow at a

Table 5-22: Major Employers in Calaveras and Tuolumne Counties

Calaveras County				Tuolumne County			
Employer Name	**Location**	**Industry**	**Number of Employees**	**Employer Name**	**Location**	**Industry**	**Number of Employees**
Bear Valley Ski Area Main Office	Bear Valley	Skiing Centers and Resorts	250-499	Corrections Department	Jamestown	State Government-Correctional Institutions	1,000-4,999
Forestry and Fire Protection	San Andreas	Government-Forestry Services	250-499	Black Oak Casino	Tuolumne	Casinos	500-999
Mark Twain St. Joseph's Hospital	San Andreas	Hospitals	250-499	Sonora Regional Medical Center	Sonora	Emergency Medical and Surgery Service	500-999
Mountain Machining	Angels Camp	Machine Shops	250-499	Dodge Ridge Ski Resort	Pinecrest	Skiing Centers and Resorts	250-499
Human Resources Council	San Andreas	Social Service and Welfare Organizations	100-249	MRL Industries, Inc.	Sonora	Semiconductor-Manufacturers Equipment/Supplies (Wholesale)	250-499
Ironstone Vineyards	Murphys	Wineries	100-249	National Audubon Society	Sonora	Environmental Conservation/ Ecological Organization	250-499
Mark Twain Convalescent Hospital	San Andreas	Hospitals	100-249	Tuolumne General Hospital	Sonora	Hospitals	250-499
Rite of Passage ATCS	San Andreas	Schools	100-249	Tuolumne General Hospital SNF	Sonora	Nursing and Convalescent Homes	250-499
Big Trees Market	Arnold	Grocers-Retail	50-99	Wal-Mart	Sonora	Department Stores	250-499
Bret Harte High School	Altaville	Schools	50-99	Avalon Care Center	Sonora	Nursing and Convalescent Homes	100-249

Table 5-22: Major Employers in Calaveras and Tuolumne Counties

Calaveras County				Tuolumne County			
Employer Name	**Location**	**Industry**	**Number of Employees**	**Employer Name**	**Location**	**Industry**	**Number of Employees**
Calaveras County Human Services	San Andreas	County Government-Social/Human Resources	50-99	Chicken Ranch Bingo and Casino	Jamestown	Bingo Games	100-249
Calaveras County Road Department	San Andreas	Grading Contractors	50-99	Columbia College	Sonora	Schools-Universities and Colleges Academic	100-249
Calaveras County Sheriff	San Andreas	Sheriff	50-99	Diestel Turkey Ranch	Chinese Camp	Poultry Processing Plants	100-249
Calaveras County Water	San Andreas	Water and Sewage Companies-Utility	50-99	Hetch Hetchy Water and Power	Moccasin	Water and Sewage Companies-Utility	100-249
Calaveras Lumber	Angels Camp	Lumber-Retail	50-99	Lair of the Bear	Pinecrest	Camps	100-249
Calaveras Public Works Department	San Andreas	Grading Contractors	50-99	Pak 'N Save Foods	Sonora	Grocers-Retail	100-249
Calaveras Works and Human Services	San Andreas	Government Offices-County	50-99	Pine Mountain Lake Association	Groveland	Associations	100-249
Foot Hill Village Lodge and Inn	Angels Camp	Retirement Communities and Homes	50-99	Sierra Pacific	Sonora	Lumber Manufacturers	100-249
Jenny Lind Elementary School	Valley Springs	Schools	50-99	Sierra Pacific Industries	Chinese Camp	Sawmills	100-249
Longs Drugs	Valley Springs	Pharmacies	50-99	Sonora School District	Sonora	Schools	100-249

Table 5-22: Major Employers in Calaveras and Tuolumne Counties

Calaveras County				Tuolumne County			
Employer Name	**Location**	**Industry**	**Number of Employees**	**Employer Name**	**Location**	**Industry**	**Number of Employees**
Mark Twain Elementary School	Angels Camp	Schools	50-99	Sonora Union High School	Sonora	Schools	100-249
Mar-Val Food Stores	Valley Springs	Grocers-Retail	50-99	Tuolumne County Human Services Agency	Sonora	County Government-Social/Human Resources	100-249
Resort at Greenhorn Creek	Angels Camp	Resorts	50-99	Tuolumne County Sheriff	Sonora	Sheriff	100-249
Saddle Creek Lodge Resort	Copperopolis	Hotels and Motels	50-99	Tuolumne County Social Services	Sonora	County Government-Social/Human Resources	100-249
Sequoia Woods Country Club	Arnold	Restaurants	50-99	USFS	Groveland	Government-Forestry Services	100-249

Sources: California Employment Development Department 2007a, 2007b

faster rate than the county average (California Employment Development Department 2007c).

Both counties' general plans indicated that low-income levels and low-paying local jobs have resulted in residents commuting outside the area for employment and have led to a decline in the affordability of housing to local residents. In 2004, per capita personal income in Calaveras and Tuolumne Counties was $27,480 and $26,578. The state average of $35,219 was about 22 percent higher than income in Calaveras County and 24 percent higher than in Tuolumne County (BEA 2006). Income is also depressed in this region due to the high population of retirees that reside in the area. Retirees on fixed incomes have limited funds to spend (in the form of tax increases) for infrastructure improvements or other community benefits (Holsapple 2009).

Taxes and Payments in Lieu of Taxes (PILT). Recreation at New Melones Lake contributes to tax revenues in Calaveras and Tuolumne Counties and the communities surrounding it by drawing visitors who pay sales and use taxes and transient occupancy taxes. Those attracted to the area for recreation or employment who also purchase property would contribute to the counties' property tax revenues. The US Department of the Interior provides PILT to local governments to help offset losses in property taxes due to nontaxable federal lands. Taxes, including PILT, are the primary revenue support for local police and fire protection, roads, and other infrastructure.

The sales and use tax rate in Tuolumne and Calaveras Counties is 7.250 percent. The property tax rate in Calaveras County in the area surrounding New Melones Lake is an average of 1.0264 percent (Calaveras County 2007a). Sales tax revenue for Calaveras County during the 2005 to 2006 fiscal year totaled $2,587,619 (Calaveras County 2007b), and property tax revenues were $71,622,000 for unincorporated Calaveras County (Calaveras County 2007c). The property tax rate in Tuolumne County is roughly 1.04182 percent. Sales tax revenue in Tuolumne County for the 2005 to 2006 fiscal year was $3,156,000, and $13,839,000 in property tax revenue went to Tuolumne County's General Fund over this period (Robertson 2007).

Transient occupancy taxes are one way local governments collect revenues from visitors. They are a good indicator of travel activity because almost all of these sales are made to travelers. In 2005, transient occupancy tax revenue in Tuolumne County totaled $1,271,273 and in Sonora $202,790 (Robertson 2007). Transient occupancy taxes accounted for $288,222 in revenue in Calaveras County (Calaveras County 2007a) and $739,177 in Angels Camp for the 2005 to 2006 fiscal year (City of Angels Camp 2007).

The formula used to compute the payments is based on population, receipt sharing payments, and the amount of federal land within an affected county. PILT payments in 2006 in Calaveras County totaled $70,775, and in Tuolumne County total PILT payments were $739,215. In Calaveras County these payments covered 140,127 acres of federal land, 13 percent of which (18,213 acres) was Reclamation land. In Tuolumne County, federal lands totaled 1,091,844 acres, 0.8 percent of which (8,260 acres) was Reclamation land. Approximately 0.6 percent of federal land statewide was Reclamation land. Between 2000 and 2006, PILT payments in Calaveras County declined by 18.2 percent

despite a 2.8 percent increase in federal lands; whereas, in Tuolumne County and the state, PILT payments increased by 5.2 and 47.4 percent. Over this period the federal acreage in Tuolumne County did not change, but the state average increased by 1.3 percent. The acreage of Reclamation lands increased in Calaveras County by 87 acres, remained unchanged in Tuolumne County, and increased by 213 acres statewide between 2000 and 2006 (US Department of the Interior 2007).

Recreational Revenues of the New Melones Reservoir. The projected annual benefits presented in the economic impact study prepared in 1978 for the New Melones Reservoir were $20,300,000 (based on 1975 price levels). This would be equivalent to the 2007 dollar value of $74,907,749. The study estimated that 10 percent of this annual benefit would be from general recreation and fishery enhancement. The average revenue generated, between 2005 and 2007, from recreational use fees and marina franchise fees is $341,675 (Laird 2009a). The recreation uses fees account for approximately 75 percent of the total recreational revenue fees.

Environmental Justice

In order to comply with EO 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations, data was compiled concerning the ethnic composition and income and poverty levels of the two New Melones Lake Area counties. At the time of the 2000 Census, the percentage of minorities in the census tracts surrounding New Melones Lake was 11.9 percent, and the percentage of any race that was considered Hispanic was 8.3 percent (US Census Bureau 2000a).

Table 5-23 presents ethnicity data for Calaveras County, and Table 5-24 presents ethnicity data for Tuolumne County. The minority population constitutes approximately 14.3 percent of the population of Calaveras County. Similar to Tuolumne County, the Hispanic population forms the greatest percentage of the minority population (7.0 percent). The percentage of minorities in Calaveras County has increased since 2000 and is projected to continue to increase, as is the percentage of minorities that is made up of Hispanics (California Department of Finance 2004). Based on Census data, the percentage of minorities in the area closest to New Melones Lake is lower than the Calaveras County average.

Table 5-23: Population Ethnicity Estimates for Calaveras County

Year	White	Hispanic	Asian	Pacific Islander	Black	Native American	Multi-Race	% Non-White	Total
2000	35,685	2,879	367	41	360	652	906	12.7%	40,890
Percent	(87.3%)	(7.0%)	(0.9%)	(0.1%)	(0.9%)	(1.6%)	(2.2%)		
2006	39,555	3,651	433	41	499	1,002	985	14.3%	46,166
Percent	(85.7%)	(7.9%)	(0.9%)	(0.1%)	1.1%	(2.2%)	(2.1%)		

Table 5-23: Population Ethnicity Estimates for Calaveras County

Year	White	Hispanic	Asian	Pacific Islander	Black	Native American	Multi-Race	% Non-White	Total
2030	55,981	7,954	1,076	41	1,226	3,042	1,257	20.7%	70,577
Percent	(79.3%)	(11.3%)	(1.5%)	(0.1%)	1.7%	(4.3%)	(1.8%)		

Source: California Department of Finance 2004

As shown in Table 5-24, ethnic minorities are estimated to make up 16.3 percent of the current population of Tuolumne County, which is a slightly higher percentage than in Calaveras County. As for Calaveras County, the Hispanic population forms the greatest percentage of the minority population (8.5 percent of the total population). The percentage of minorities has increased since 2000 and is projected to continue to increase, as is the percentage of minorities that is made up of Hispanics (California Department of Finance 2004). Based on census data, the percentage of minorities in the area closest to New Melones Lake is lower than the Tuolumne County average.

Table 5-24: Population Ethnicity Estimates for Tuolumne County

Year	White	Hispanic	Asian	Pacific Islander	Black	Native American	Multi-Race	Percent Non-White	Total
2000	46,674	4,540	421	93	1,159	948	1,111	15.1%	54,946
Percent	(84.9%)	(8.3%)	(0.8%)	(0.2%)	2.1%	(1.7%)	(2.0%)		
2006	48,867	4,952	518	93	1,191	1,476	1,265	16.3%	58,362
Percent	(83.7%)	(8.5%)	(0.9%)	(0.2%)	2.0%	(92.5%)	(2.2%)		
2030	54,191	6,526	863	93	1,269	3,909	1,715	21.0%	68,566
Percent	(79.0%)	(9.5%)	(1.3%)	(0.1%)	1.9%	(5.7%)	(2.5%)		

Source: California Department of Finance 2004

This trend toward a larger percentage minority population, with Hispanics being the largest minority, reflects the state trend; however, the proportion of minorities in the New Melones Lake Area counties is much lower than the state average, which has been above 50 percent since 2000. In 2000, approximately 52.9 percent of the state population was minority, with 32.6 percent Hispanic; and in 2006 about 57.8 percent of California's population was minority, with 36.4 percent Hispanic. By 2030 the state is projected to have a 70.5 percent minority population, and 46.8 percent of the population is forecast to be Hispanic (California Department of Finance 2004).

The US Census Bureau uses a set of income thresholds that vary by family size and composition to determine which families are living in poverty. If a family's total income is less than its threshold, then that family, and every individual in it, is considered to be

living in poverty. Poverty thresholds do not vary geographically, but they are updated annually for inflation using the Consumer Price Index. For individuals who do not live with family members, their own income is compared with the appropriate threshold (US Census Bureau 2004). According to the US Census Bureau, the poverty threshold in 2004 was $9,973 for an individual and $19,971 for a family of four. Table 5-25 shows estimated median household income and poverty levels for Calaveras and Tuolumne Counties and for the state. According to the US Census Bureau, the percentage of the populations of Calaveras and Tuolumne Counties at income levels below the poverty threshold was lower than the state average of 13.2 percent, with 9.3 and 11.6 percent, respectively. The median household income for these two counties was also below the state average (US Census Bureau 2006).

Table 5-25: Median Household Income and Poverty, 2004

State/County	Median Household Income	Number in Poverty	Percent in Poverty
California	49,894	4,681,645	13.2
Calaveras County	46,052	4,323	9.3
Tuolumne County	41,067	6,069	11.6

Source: US Census Bureau 2006

According to the 2000 Census, within the census tracts surrounding the New Melones Lake Area, the percentage of families below the poverty line averaged approximately 9.3 percent, higher than the Calaveras County average of 8.7 percent and the Tuolumne County average of 8.1 percent. The average percentage of individuals below the poverty line in the census tracts surrounding the New Melones Lake Area was 12.8 percent, which was higher than the Calaveras County average of 11.8 percent and the Tuolumne County average of 11.4 percent (US Census Bureau 2000b).

5.2.19 General Recreation

The New Melones Lake Area receives approximately 800,000 visitors a year (Reclamation 2007d). Most visitor use occurs within the designated developed recreation areas of Glory Hole and Tuttletown. Both areas have been developed and managed in conformance with the Master Plan (1976). In addition to its magnificent scenery, the lake offers an array of activities, such as camping, hiking, wildlife viewing, rock climbing, mountain biking, horseback riding, fishing, boating, water skiing, wake boarding, using personal watercraft, sailing, swimming, kayaking, canoeing, picnicking, spelunking, and operating floatplanes and radio-controlled aircraft. Boat ramps, RV dump stations, a visitor center, and trails are other recreation amenities.

A 2007 telephone and on-site survey of residents in the New Melones Lake Area yielded data on visitor use trends. Most recreationists visiting the New Melones Lake Area come from Tuolumne (20.2%), Santa Clara (11.6%), and Stanislaus (10.1%) counties. Based in part on this information, the telephone survey of users was stratified as follows (Reclamation 2008):

- Tuolumne County – 30%

- Santa Clara – 16%
- Stanislaus – 15%
- Calaveras County – 13%
- Contra Costa County – 13%
- San Joaquin – 13%

During the onsite survey, users were asked how many times they visited the New Melones Lake Area in the past 12 months. The mean number of visits was 13, while the median number was only 6. This suggests a wide distribution in use patterns. Nearly one quarter of the respondents visiting the area had more than 15 visits in the past year. A large number of users (44%), however, had visited the area less than 4 times in the past year (Reclamation 2008).

The number of days spent visiting the area is as follows:

Less than 1 day – 30.5%

1 day – 28.6%

2 to 4 Days – 37.1%

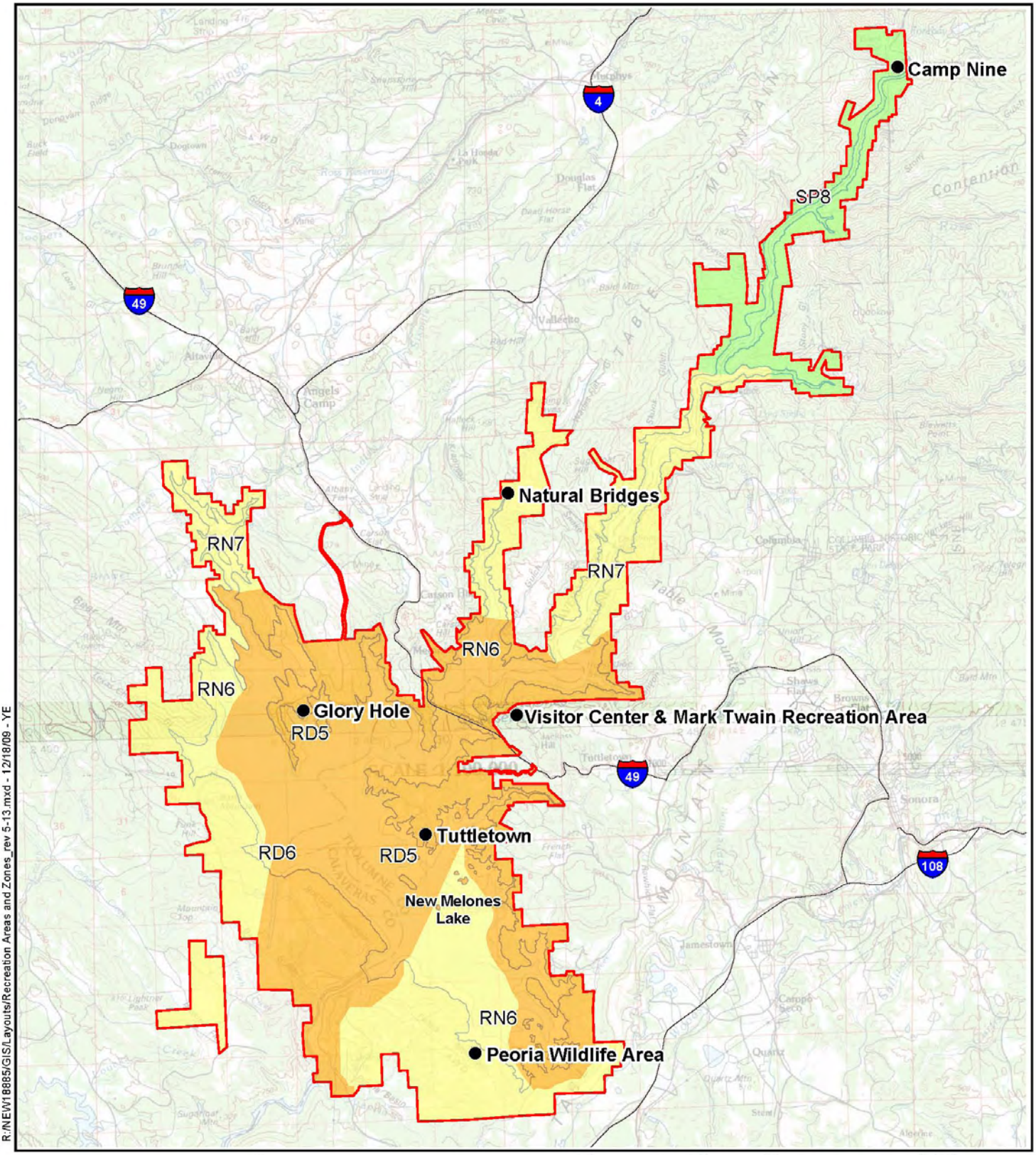
5+ Days – 3.8%

The mean time spent at New Melones was 1.5 days and the median was 1 day (Reclamation 2008).

Figure 5-13 shows recreation areas at New Melones Lake. Within the developed recreation areas, Reclamation manages five fee campgrounds. Campsites are available for reservation through the National Recreation Reservation Service. Camping is permitted only in the designated campgrounds; no shoreline camping is allowed. Each campground also has its own self-registration/self-pay station. The current capacity is 305 developed camping sites for the primary use season, two group campgrounds, 470 parking spaces year-round, 125 picnic sites, and a group picnic area. Each camping site contains a picnic table, fire pit, and grill. Each campground has water spigots, restroom facilities, and hot showers. Most of the camping and picnicking infrastructure on the lake is aging. Historically, recreation occurred on a seasonal basis, with significantly fewer visitors during colder months. With visitation in the non-peak seasons increasing, pressure on facilities and infrastructure is also increasing. Three sites in the campground have been updated to meet the Americans with Disabilities Act standards. Almost all sites are available by reservation and are otherwise available on a first come, first served basis.

Concessions

Reclamation uses concessionaire agreements to achieve needed recreational support services, programs, and facilities and as a means for disseminating public use information. The primary concessionaire at the New Melones Lake Area runs the New Melones Lake Marina at the Glory Hole Management Area. The marina provides rentals



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WROS INVENTORY SCALE

1	2	3	4	5	6	7	8	9	10	11
U		S		RD		RN		SP		P

U - Urban Recreation
S - Suburban Recreation
RN - Rural Natural Recreation
RD - Rural Developed Recreation
SP - Semi Primitive Recreation
P - Primitive Recreation

WROS Categories

U
S
RD
RN
SP
P

Recreation Areas and Zones

N

0 2
Miles

New Melones Lake, California
Central California Area Office

Figure 5-13

of houseboats, patio boats, fishing boats, and personal watercraft. There are 20 rental houseboats and 38 private houseboats docked at the marina, and an additional 50 private houseboats are docked at mooring balls in the cove. The marina also rents boat slips and runs a store offering food, beverages, and fishing tackle. The marina also has such amenities as a boat fueling station, sewage pump-out service, propane sales, and baggage cart service.

Reclamation supports concessionaire agreements with private enterprises to achieve needed recreational support services, programs, and facilities and to disseminate Reclamation information (Reclamation 1995). All concessionaire contracts include explicit measures related to the notice and dissemination of public information, communications equipment necessary in the event of emergencies, medical emergency provisions, and spill emergency response measures.

The marina concessionaire at the New Melones Lake Area holds a County Non-Community Water Permit for the marina's water system and a Calaveras County Store Permit for the convenience store at the marina (Reclamation 1995). The concessionaire also holds a fuel permit for the convenience store and a State of California license for selling beer and wine, which includes a federal tax stamp from the Federal Bureau of Investigation.

White-water boating has occurred during ideal lake conditions. The Stanislaus River, when it is not inundated by New Melones Lake, offers generally forgiving to fairly difficult rafting runs. Depending on seasonal water fluctuations, commercial rafting companies may offer organized guided raft trips down the river. Most of the white-water boating consists of organized permittees that provide day-long, guided raft trips; however, several individuals also kayak and raft the lake and river.

Recreational gold panning is an unregulated activity and is allowed throughout the area.

Unpermitted fishing guide services and an unpermitted float plane school are also found in the area. Reclamation is seeking voluntary compliance of these unpermitted commercial services with 43 CFR, Parts 423 and 429, and other directives. Per 43 CFR, Part 429, those staging commercial activities and events and occupying or using federal land must obtain a land use authorization, such as a right of use permit. Permitted uses are listed in Section 6-10.

Licensees. Reclamation licenses the Sonora Radio-Controlled Flyers and New Melones Water Skiers, Inc., to operate in the New Melones Lake Area. The licenses allow these nonprofit organizations to operate on Reclamation land with the understanding that they operate the water ski course (located in the South Bay Planning Area) and radio-controlled airplane strip (located downstream of the dam) in a way that is fully open to the public.

CAL FIRE has a lease agreement to run Baseline Conservation Camp on approximately 66 acres (25 hectares) of Reclamation land. The facility is self contained and has its own water treatment plant and power source. In this case, CAL FIRE uses Baseline

Conservation Camp inmates to provide New Melones with such services as fire fuels reduction in exchange for housing its facility on Reclamation land. The benefits of this agreement to the New Melones Lake Area include fire suppression, recreation area maintenance, and wildlife habitat enhancement.

5.2.20 Facilities, Land Use, and Management Areas

Facilities

The New Melones Lake Area is in a rural area among the foothills of the west slope of the Sierra Nevada. Altaville, Angels Camp, Columbia, Springfield, Sonora, Copperopolis, and Jamestown are the closest towns.

Each year, approximately 800,000 visitors take advantage of the various recreational opportunities at the New Melones Lake Area (Reclamation 2007d). Facilities at New Melones Lake are found at Glory Hole and Tuttletown Recreation Areas, the visitor center, and undeveloped areas. The types of facilities include access and parking facilities, day use facilities, overnight facilities, and support facilities. There are other miscellaneous facilities, such as amphitheater, trailhead parking areas, and playgrounds. The types and number of facilities at the New Melones Lake Area are identified in Appendix I.

Developed Recreation Areas. Reclamation designates developed recreation areas for recreational use and has developed them in conformance with the Master Plan (Reclamation 1995). Glory Hole Recreation Area is in Calaveras County in the mid-basin area and is accessed from Highway 49 via Whittle Ranch Road. The recreation area is composed of the main portion (which includes the large peninsula extending into the reservoir), the New Melones Lake Marina, and Angels Creek (which is north of the main area).

The Tuttletown Recreation Area is in Tuolumne County in the mid-basin area and is accessed from Highway 49 via Reynolds Ferry Road (Reclamation 1995). The recreation area is on a large peninsula extending into the reservoir.

The Mark Twain Recreation Area includes the administration area and visitor center, which is in Tuolumne County near the Highway 49 Stevenot Stanislaus River Bridge (Reclamation 1995). It is accessed from Highway 49 along and adjacent to the old Highway 49 road via Melones Court and Studhorse Flat Road. The area is on the gradual incline of the north-facing side of Jackass Hill. In addition to housing Reclamation's administration and maintenance operations facilities, the area also has a visitor center and restrooms and informal lake access.

The Dam Overlook is in Tuolumne County and is accessed via Peoria Flat Road from Highway 108/120 (Reclamation 1995). The area contains viewing shelters, a restroom, and a parking lot. The view from the overlook is on the west side of New Melones Dam, the powerhouse, and the Stanislaus River. The overlook facility was built to enable

public viewing for the dam and powerhouse construction. Once dam construction was completed, the Dam Overlook became obsolete and was closed to the public.

Reclamation constructed playgrounds in camping areas shortly after the lake was filled. The playgrounds will be removed because of safety concerns.

Undeveloped Recreation Areas. Undeveloped recreation areas are sites that were planned for future development in the Master Plan but remained undeveloped or with minimum basic facilities. These areas are presently used, Reclamation having designated them for dispersed recreational use and other uses, such as wildlife management. Various facilities are found in the nine undeveloped recreation areas identified in Appendix I. Vehicles with car-top boats have access to the lake at the Mark Twain undeveloped lake access, which is the old Highway 49 route. In this area, canoes, kayaks, and small boats with a maximum of ten horsepower motors are allowed to be hand launched; trailered launching is not permitting. Parrotts Ferry undeveloped lake access, also a former roadway, was at one time open to trailered boat launching/vehicle access but is now open only for foot traffic and hand launching. Both former roadways have deteriorated and are in disrepair because of shoreline erosion undercutting the road and hillside. The Old Melones area is now closed.

Most of the facilities in the developed areas meet current recreation demands from the public, except when the water level is high and during peak visitor periods. Parking areas are inundated when the water level is high, reducing parking space. During peak visitor periods, there is a lack of ADA-accessible facilities, reservable group picnic spots, fish-cleaning stations, pay phones, and showers at the campgrounds. High water level, day use parking, parking at the marina, and overflow parking for campers is also lacking.

The undeveloped areas do not have facilities to support current or future levels of visitor activities. Undeveloped areas have limited parking, restroom, and refuse facilities and lack vehicle barriers, fencing, signs, and visitor information boards.

WROS Classification

Reclamation recognizes that water recreation management involves a thorough understanding of the potential of water resources, current and future visitor uses, the types of experiences that visitors seek, current recreation demand and supply, land management activities, and other potential uses of the reservoir area environment.

Research has shown that recreationists not only seek to participate in recreation activities, but also seek specific recreation settings in order to enjoy a special kind of recreation experience and subsequent benefits. These four components (i.e. activities, settings, experiences, benefits) constitute a recreation opportunity (Reclamation 2004).

Recreation settings are characterized and organized into categories called a Water Recreation Opportunity Spectrum (WROS), which is a tool used to understand the type and locations of six types of water-related recreation opportunities, otherwise known as WROS classes (Reclamation 2004). The six WROS classes range across the following

categories, in order, from the most developed recreational setting to the least developed: Urban, Suburban, Rural Developed, Rural Natural, Semi Primitive and Primitive (Reclamation 2004). Table 5-26 describes the attributes that determine the different categories.

Table 5-26 WROS Attributes

Physical Attributes	Managerial Attributes	Social Attributes
Degree of development	Degree of management presence	Degree of visitor presence
Sense of closeness	Degree of public access facilities	Degree of non-recreational use
Degree of resource modification	Degree of developed recreation facilities	Degree of diverse recreation
Distance to development on or adjacent to a water resource	Degree of visitor services and conveniences	Degree of visitor comforts
Degree of natural ambience		Degree of solitude/remoteness

Source: Reclamation 2004

Within the eighteen New Melones Lake Area management areas there are three WROS classes: Rural Developed, Rural Natural, and Semi Primitive. The primary characteristics of these three WROS classes are:

- **Rural Developed:** A Rural Developed WROS area is beyond a metropolitan area and the suburban ring of development. Rural Developed areas may serve as "bedroom" communities for urban areas and may contain working farms and ranches. Towns and primary road networks are common. Development will be prevalent and common, yet the setting has a pastoral sense because of an interspersing of forests, water resources, hills, valleys, canyons, wetlands, open spaces, and agricultural land uses. Natural appearing shoreline edges are common, although various water controls or other structures are also common. Recreation management is prevalent and common but not as extensive as in an urban setting (e.g., personnel, rules, facilities, signs, services, conveniences, security). Recreation use, diversity, socialization, concentration, sense of security, and conveniences are common but less so than in a developed suburban or urban setting. The sights, sounds, and smells of recreation and non-recreation use are common, yet interspersed with locations and times when a sense of tranquility and escape from everyday challenges may be experienced by the urbanized visitor. Examples of Rural Developed areas may include areas with country estates, second homes and cabins, dams, power stations, primary and secondary roads, communication lines, resorts, marinas, small communities, full-service campgrounds, county and state parks, farms, ranches, and small commercial and industrial establishments (Reclamation 2004).
- **Rural Natural:** A Rural Natural WROS area is a considerable distance from metropolitan areas and communities. Natural features are predominant on the landscape, and the presence of development is occasional or infrequent. Agriculture, tourism, and outdoor recreation are often primary industries. Rural

Natural areas are often large enclaves of public lands and waters. Natural resources dominate the landscape. The sights, sounds, and smells of development are infrequent. The water resources are bordered by natural appearing settings. Water controls or other structures are occasional along the shoreline. Management is occasionally noticeable in the form of patrols, facilities, signage, conveniences, and full services. Visitors desire a sense of tranquility and escape from their daily routine. Opportunity for visitors to see, hear, and smell nature is prevalent and common, as are occasions to enjoy periods of solitude. Recreation use, diversity, socialization, concentration, sense of security, and conveniences are periodic and occasional. Examples of a Rural Natural area might include unincorporated rural areas with occasional secondary and unpaved roads, small cabins, single residences, farms and ranches, rustic campgrounds, rural county and state parks, power lines, small stores and fuel services, and areas often bordering or surrounded by large expanses of public lands and waters (Reclamation 2004).

- **Semi Primitive:** A Semi Primitive WROS area is a large expanse of natural resources that is far from any city or metropolitan area and a considerable distance from small communities, subdivisions, or developments. Natural resources dominate the landscape. Development is minor and the sights and sounds of human activity are few, but may include such evidence of human activity as distant farming operations, power lines, livestock, small buildings, old roadways, historic structures, and historic logging or mining. These water resources are often within large expanses of public lands and waters. Management, in the form of patrols, facilities, and signage, is seldom noticeable and the visitors are expected to have the equipment and skills to be able to navigate and enjoy this setting. Visitors desire a sense of tranquility and escape from their daily routine. Facilities are rustic and blend well into the setting. Resource protection is very important. Opportunity for visitors to see, hear, and smell nature is wide-spread. Visitors sense solitude and remoteness. Examples of Semi Primitive settings are large expanses of state and federal lands and waters that are commonly designated as a wild and scenic river, wilderness, backcountry lake, headwater, marine reserve, roadless area, or other type of state, federal, or international protected area (Reclamation 2004).

Of the three WROS classes present at the New Melones Lake Area, rural developed areas offer the most developed setting where man-made conveniences are common, while semi-primitive areas offer the least developed setting where visitors experience few sights and sounds of human activity and opportunities for remoteness and solitude. Rural natural areas allow visitors to experience a natural landscape with some opportunities to experience both solitude and man-made conveniences.

At the New Melones Lake Area, there are 17,372.87 acres classified as Rural Developed, 10,686.58 acres classified as Rural Natural, and 413.55 acres are classified as semi-primitive. Rural developed settings dominate and opportunities to recreate in semi-primitive settings are rare.

Management Areas

Camp Nine Management Area (WROS description is Semi Primitive). This area is in Calaveras and Tuolumne Counties and is the northernmost of the planning areas and recreation areas along the upper Stanislaus arm. Although it is the most remote and is farthest from the campgrounds, marina, and boat launches, the Camp Nine Management Area experiences intensive use because it is a favorite recreation area for white-water rafters, kayakers, and swimmers. Before the dam was completed in 1979, the Old Camp Nine Bridge was the launch site for rafters, who would travel nine miles to Parrotts Ferry Bridge, where they would take out their boats. This area was once thought of as the best run for intermediate-skill rafters in California. After the dam was constructed, the general assumption was that the Old Camp Nine bridge would be inundated and many of the aquatic opportunities would be lost. However, due to drought and low water levels, the bridge is often exposed. Bridge jumping is also a popular activity, but recently a gate has been put up to restrict access to the Old Camp Nine Bridge, and signs warning against bridge jumping have been posted. Due to safety and public health concerns, the Old Camp Nine Bridge is planned for deconstruction in 2008/2009.

Access to the Camp Nine Management Area is limited, with the only practical route being the unimproved Camp Nine Road, which originates near the town of Vallecito. Development is minor, consisting of an informal parking area, footbridge, hiking trails, and one vault restroom. Opportunities in this area are for more adventurous visitors. Recreation opportunities and development is minor, consisting of a hiking trail to the cultural sites at Clarks Flat. Low-impact activities, such as wildlife viewing, hiking, and stream fishing, are encouraged.

Stanislaus River Canyon Management Area (WROS description is Semi Primitive) is in Tuolumne and Calaveras Counties, just south of the Camp Nine Planning Area. Power boat users regularly visit the area, although the area upstream of the confluence of the upper Stanislaus fork and the south fork of the Stanislaus is a designated no wake zone. During years of extreme drought when the lake level is low, white-water rafters visit this area. As such, this planning area is subject to intensive use. This area is a significant cave resource area, with numerous caves on both sides of the river. Developed recreation opportunities in this planning area are limited, and management is primarily focused on preserving sensitive resources. However, spelunkers explore many of the caves, an activity that is difficult to manage and for which little official data regarding use levels exists. To protect sensitive resources, such as rare or listed animal species and cultural resources, some caves have been gated. No facilities have been developed in this area.

Parrotts Ferry Management Area (WROS description is Rural Natural) is in Tuolumne County, adjacent to Parrotts Ferry Road. The area is very steep, except for two small flat areas along the road. Before the dam was constructed, Parrotts Ferry was the take-out location for rafters who started nine miles upstream at the Old Camp Nine Bridge. The old road was heavily used as lake access for boat launching, but the road and retaining wall were deemed safety hazards and vandalism was a problem. As a result, the road was closed to public access several years ago. Recreationists use the area for fishing, boating, and suction dredge gold mining. No facilities have been developed.

Carson Management Area (WROS description is Rural Developed) is in both Tuolumne and Calaveras Counties on the eastern shoreline of the lake. Low slopes in the western part of this planning area make this area particularly susceptible to variable water levels, while steep slopes on the eastern side make access to the lake from land difficult. Horseshoe Bend, on the eastern side of this planning area, is a well-known fishing cove. This area was not identified in the Master Plan (1976) and has no facility development. It is heavily transited by boaters traveling between the main body of the lake and the Stanislaus River Canyon area of the lake.

Mark Twain Management Area (WROS description is Rural Developed) is in Tuolumne County, on the northeastern portion of New Melones Lake, adjacent to SR 49. Recreation opportunities in this planning area include sheltered cove swimming and fishing. Despite its high use, there has been minimum facility development. Reclamation's headquarters and visitor center are in this planning unit (see Section 5.2.21., Interpretive Services and Visitor Information). Boat launching that had occurred near the intersection of Studhorse Flat Road and Highway 49 is no longer allowed. As of April 2008, only car-top boats may be launched in this area.

Tuttletown Management Area (WROS description is Rural Developed) is the largest of the public use areas on the Tuolumne County side and the second most highly developed recreation area on the lake. The area consists of approximately 1,115 acres (450 hectares) and is accessed by Reynolds Ferry Road, off SR 49. This area is popular for overnight camping, group camping, day use picnicking, and boat launching. Recreational activities include hiking, biking, and fishing. To help alleviate vandalism, the Tuttletown Recreation Area entrance gate is closed at night and is reopened in the morning.

The Tuttletown Recreation Area has three campgrounds, Acorn, Manzanita, and Chamise, with a total of 161 campsites. There are no electrical hookups at any of the campground sites, and one RV dump station is available. All campgrounds have restrooms, showers, water taps, and barbeque/fire pits. Campsites at Tuttletown may be reserved through the National Recreation Reservation Service. When they have not been reserved, campsites are available on a first come, first served basis.

- *Acorn Campground*, with 69 sites, is on the north side of the Reynolds Ferry Road and is the largest of the three campgrounds in the Tuttletown Recreation Area. Acorn sits at the highest elevation and therefore is the campground farthest from the water. Shade is limited, so this campground is most popular in the winter. The Heron Point Trail can be accessed from the campground and connects users to the Heron Point day use area.
- *Manzanita Campground* is in the southeastern portion of the recreation area and has 56 sites. Two campsites have been updated for ADA compliance. This campground was established for lower access to the water; however, in 2006 one loop of this campground was inundated.
- *Chamise Campground* is on the southwestern portion of the recreation area. It is the smallest of the three campgrounds in the Tuttletown Recreation Area with

only 36 sites. This campground has walk-in and standard sites only, and trailers are not permitted.

In addition to the three campgrounds described above, the Tuttletown Recreation Area also contains two group camps, Fiddleneck and Oak Knoll. Fiddleneck Group Camp has six group sites that can accommodate 40 to 60 people. Oak Knoll has 10 group sites that can accommodate 20 to 50 people. Camp hosts volunteer to regulate the sites year round. Several campsites have been redesigned to accommodate users with special needs. Improvements include ensuring that the sites are very flat and that wheelchair-accessible restrooms and wheelchair-friendly picnic tables are provided. Fiddleneck has an accessible flush toilet but no showers, while Oak Knoll has an accessible vault toilet. Both sites are available by reservation through the National Recreation Reservation Service.

Tuttletown has three day use areas (Heron Point, Lupine, and Eagle Point), one fish cleaning station, one RV dump station, and hiking and biking trails. Three seven-lane boat ramps, for use at various reservoir levels, are at the end of the Reynolds Ferry Road. The Heron Point Trail can be accessed at the Heron Point Day Use Area, and more trails are planned for development.

French Flat Management Area (WROS description is Rural Developed) lies between the highly developed Tuttletown planning area and the more rural Bear Creek Planning Area. This area has no developed recreational facilities but is popular for inappropriate uses such as late-night parties, target shooting, and ORV use. Access to this area is via a BLM parcel, and there is no vehicle access through Reclamation lands or private easements.

Bear Creek Management Area (WROS description is Rural Developed) is in Tuolumne County on the eastern shoreline of New Melones Lake. This area is popular with boaters because it provides a natural setting with many coves, bays, and islands. The shoreline has no developed recreational facilities. Popular activities include fishing and houseboating, and waterskiing is popular in the main body of open water. Additional recreation includes hiking, hunting, bird watching, and any other activities that do not require vehicle access. This planning area is accessible via Shell Road; Old Melones Dam Road also provides access but is fenced and gated and vehicular access is restricted.

Peoria Wildlife Management Area (WROS description is Rural Natural) is in Tuolumne County and was set aside as an area dedicated to wildlife habitat protection and enhancement. Management objectives focus on wildlife enhancement measures and habitat mitigation, with dispersed recreation permitted. However, activities such as hunting, horseback riding, hiking, wildlife viewing, and mountain biking occur here, and the area offers opportunity for grazing leases in the future. Campfires, camping, target shooting, and vehicles are prohibited from this area past the gates.

Table Mountain Planning Area is within the PWMA, just inland from the Bear Creek Management Area at the end of Shell Road. This is one of the most sensitive ecological areas within Reclamation lands, and Reclamation manages it to protect sensitive habitats

and species. This area has minor facility development, including a parking area at the trailhead and one vault toilet.

The Peoria Flat Planning Area is also within the PWMA. It includes the RC Flyers landing strip, Baseline Conservation Camp, the powerhouse warehouse (including equipment and materials storage), the New Melones Archaeological Storage Facility, an equestrian area, hiking trails, wastewater and water treatment facilities (both associated with Baseline Conservation Camp), power transmission lines, a closed overlook with facilities (such as parking, restroom, picnic area, and displays), trails, a wastewater evaporation pond, and fencing.

Rock climbing is the most notable recreation, predominately at two locations, the Grotto and the White Room, both situated on the west-facing side of Table Mountain. Other prominent activities in this area include hiking, mountain biking, wildlife viewing, and hunting. From the trailhead, hikers can follow a trail that leads to the top of Table Mountain. In fall, winter, and spring, Reclamation park rangers offer guided hikes along this same route. From the top, visitors have panoramic views of New Melones Lake and surrounding lands. Table Mountain also provides extensive northern basalt flow vernal pool habitat. Mastiff bat, golden eagle, and great horned owl sightings are common. Hunting for such species as deer, quail, and mourning dove is a popular activity at Table Mountain.

Dam and Spillway Management Area (WROS description is Rural Developed) is in Tuolumne and Calaveras Counties and consists of the area south of the dam and north of the lake spillway. This area is not subject to development for recreation. Public vehicles, hunting, and fishing below the dam to the buoy line are not permitted within the restricted area around the dam and powerhouse. No public access is permitted within the spillway.

Bowie Flat Management Area (WROS description is Rural Natural) became part of the New Melones Lake Area to provide a borrow area for construction of the dam. The area is suited for dispersed recreation, and there is no overland access.

Westside Management Area (WROS description is Rural Natural) is in Calaveras County and contains an extensive collection of cultural resources, particularly in Texas Charley Gulch. This area is suited for dispersed recreation, and there is no overland access.

Greenhorn Creek Management Area (WROS description is Rural Natural) in Calaveras County is well known as a fishing cove and is used by houseboats. It offers no recreational development and there is no overland access.

Glory Hole Management Area (WROS description is Rural Developed) is in Calaveras County in the midbasin vicinity of the New Melones Lake Area. It can be accessed from SR 49 via Whittle Ranch Road. This management area is composed of the main portion, which includes the large peninsula extending into the lake, and is the location of the New Melones Lake Marina. Within Glory Hole Water Management Unit is the Angels Creek

Recreation Area. This is the most highly developed recreation area on the lake and provides an array of recreation opportunities, ranging from day use picnicking to boat launching and take-out. This area is a major boat launch, parking, and transportation corridor for boaters traveling to the main body of the lake. The only public beach on the lake is located here and has picnic tables and barbeque grills, although there is no lifeguard. Other facilities within the Glory Hole Management Area include boat ramps, parking lots, picnic shelters, and fish cleaning stations. Trails are available for hiking and mountain biking. Equestrian use and hunting are not permitted.

The Glory Hole Recreation Area has two campgrounds, Ironhorse and Big Oak, with a total of 144 campsites. Campsites can be reserved through the National Recreation Reservation Service. Trailhead parking and facilities are available.

- *Ironhorse Campground* is on the west side of the Glory Hole Access Road and has water taps, barbeque/fire pits, and full-service restrooms with showers. Updates have been made to one campsite to comply with ADA, and a park host site has been added.
- *Big Oak Campground* is on the east side of the Glory Hole Access Road and has restrooms, showers, water taps, and barbeque/fire pits. Two campsites have been updated to comply with ADA, and a park host site has been added.

Glory Hole Recreation Area gate is closed at night to help alleviate vandalism. Day use areas are Buckbrush, Angels Creek, Black Bart, and Osprey Point. There are hiking and biking trails, in addition to the only concessionaire-operated marina on New Melones Lake. Four boat ramps are used for high, medium, and low water levels. Three of the four boat ramps have seven lanes, while the lowest ramp has two lanes.

Coyote Creek Management Area (WROS description is Rural Natural) is in Calaveras County off Parrotts Ferry Road. This historically significant area is freely accessible to the public and provides the only access to the Natural Bridges caves. Minor facility development at this site includes a parking area at the Natural Bridges trailhead and one vault toilet. The trail, rated as moderately difficult, leads 0.7 mile (one kilometer) to the Natural Bridges caves on Coyote Creek. The Natural Bridges day use area is popular for hiking, spelunking, swimming (wading or floating), and picnicking. Many people enjoy floating through the caves on inner tubes or inflatable mattresses. During fall, winter, and spring, Reclamation's park rangers lead interpretive hikes in this area to teach visitors about the unique geologic history.

North Bay Management Areas (WROS description is Rural Developed/Rural Natural) is most associated with boaters and lake users coming from the Glory Hole boat ramps and marina. Boaters transit this area on the way to other parts of the lake or use the area for waterskiing or fishing.

Middle Bay Management Area (WROS description is Rural Developed) is most associated with lake users coming from the Tuttletown boat ramps and campgrounds. As

with the North Bay Management Area, boaters transit this area or use it for waterskiing. Floatplanes also land in this area on occasion.

South Bay Management Area (WROS description is Rural Developed/Rural Natural) is used extensively by water skiers due to the presence of a water ski park at the south end of the main body of the lake.

5.2.21 Aquatic Recreation

The New Melones Lake Area is most popular with visitors for its aquatic recreation opportunities. At full capacity, there are approximately 12,500 surface acres (5,000 hectares) of water available for aquatic recreation. Activities such as fishing, swimming, boating, kayaking, white-water rafting, houseboating, and water skiing all occur on the lake.

New Melones Lake accounts for about 12,500 surface acres (5,000 hectares) of the approximately 27,000 acres (10,900 hectares) of Reclamation-administered lands in the study area and holds up to 2.4 million acre-feet (2.9 million megaliters) of water. The lake is surrounded by approximately 100 miles (160 kilometers) of shoreline.

A 2007 telephone and on-site survey of residents in the New Melones Lake Area yielded data on visitor use trends (Reclamation 2008).

Aquatic recreation was identified as the most common recreation activities:

Swimming – 59.0%

Motor Boating – 57.2%

Fishing (shoreline/boating) – 41.9%

Water Skiing/Wakeboarding – 41.7%

Camping – 37.4%

Beach Activities – 35.0%

Using Open Spaces – 31.8%

Wildlife Viewing – 30.7%

Table 5-27 lists a summary of aquatic recreation activities, by primary management areas, in the New Melones Lake Area.

Table 5-27: Summary of Aquatic Recreation by Management Area

Aquatic Activity	Primary Management Areas	Description
Raft launching and takeout	Camp Nine, Parrotts Ferry	Camp Nine is the only designated launch site for rafters. Parrotts Ferry is one of the main takeout sites for rafters.
Boat launch and retrieval	Parrotts Ferry, Mark Twain, Tuttletown, Glory Hole	Parrotts Ferry has a one-lane walk in hand launch area that lacks any

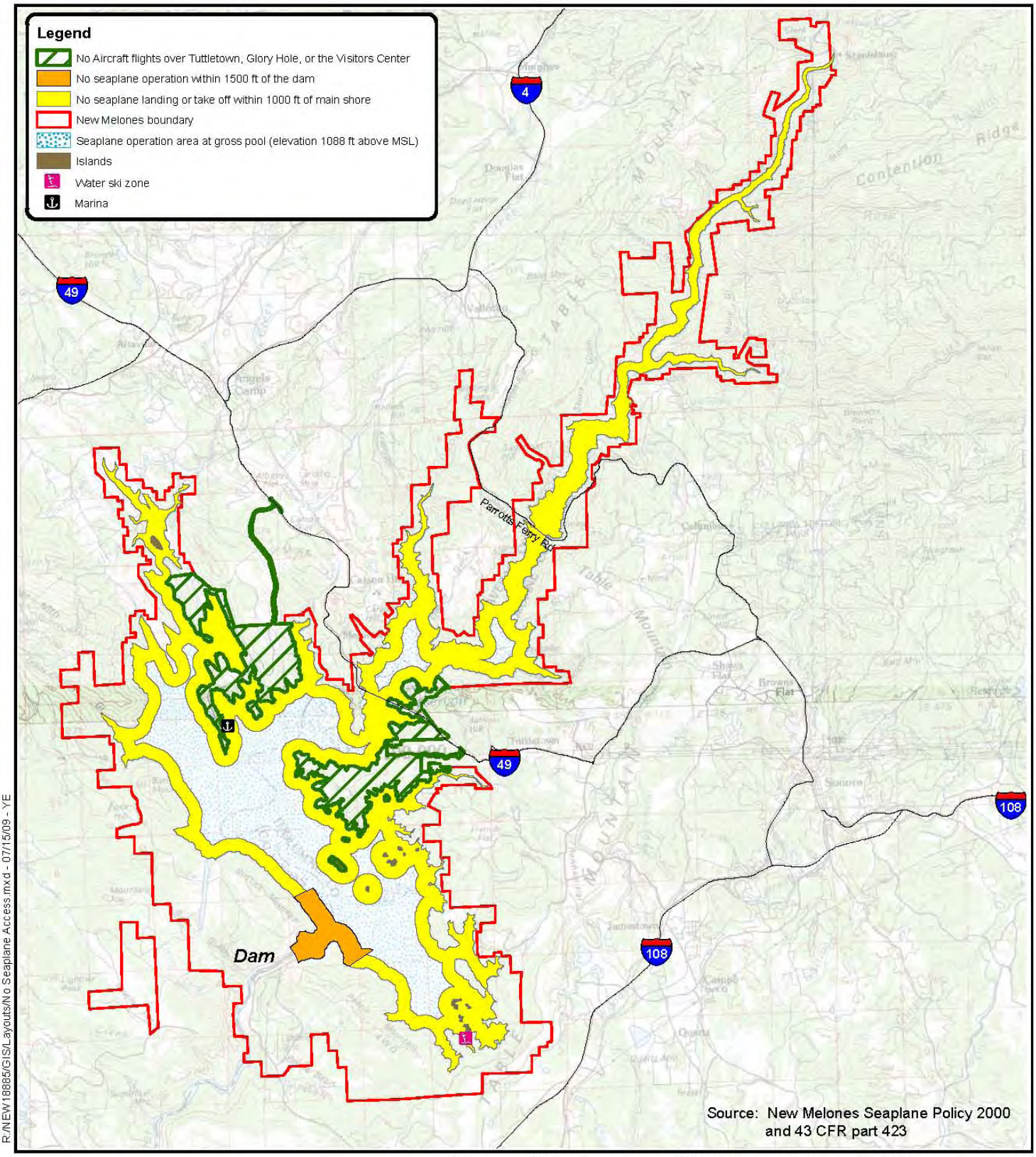
Table 5-27: Summary of Aquatic Recreation by Management Area

Aquatic Activity	Primary Management Areas	Description
		docks, buoys, signs, or other facilities. Mark Twain has a one-lane car-top boat ramp that is in poor condition. This management area also lacks docks, signs or other facilities, such as parking. Tuttletown has a three-level boat launching facility, and Glory Hole has a four-level boat launch facility.
Water skiing	North, Middle, and South Bays, south portion of Stanislaus River Canyon	The middle portion of the lake offers relatively uncrowded conditions for water skiing, compared to more enclosed areas. South Bay contains a popular water-skiing course.
Swimming	Glory Hole, Mark Twain, Tuttletown, Coyote Creek, Camp Nine, Parrotts Ferry	The Natural Bridges day use area is popular for wading in streams. Glory Hole has a swimming beach.
Boat rental	Glory Hole	Glory Hole is the only area where houseboats are available for rent. Houseboats, along with patio boats, fishing boats, water skis, personal watercraft, and boat slips, are available for rent from the marina.
Fishing	Fishing occurs in all management areas except Bowie Flat.	Though fishing occurs in most management areas, Stanislaus River Canyon, Spillway and Dam, Horseshoe Bend, and Greenhorn Creek are particularly known for their fishing.
Floatplane landing	North, Middle, and South Bays	Floatplanes may land in specified zones within the North, Middle, and South Bays, in accordance with Reclamation guidelines (Figure 5-14).
Radio-controlled airplanes	Dam and Spillway, PWMA	A model airplane club is allowed use of an abandoned airstrip to fly radio-controlled model aircraft. The airstrip in the PWMA is shared with CAL FIRE.

Source: Reclamation 1995

Swimming is a popular activity but is most often enjoyed from a boat, due to limited access and inadequate shoreline conditions (such as steep slopes and lack of beaches or grassy areas). Glory Hole provides the only designated swimming area on the lake, but no lifeguard services are offered, and swimming is not allowed within 100 feet (30 meters) of launch ramps and public docks, including the marina docks.

Motorized boats are abundant on New Melones Lake as a means to enjoy recreation opportunities, such as waterskiing, swimming and fishing, and sightseeing. Houseboats and personal watercraft also are used on the lake. The only location in the New Melones Lake Area that has boat rentals or boat mooring facilities is at the New Melones Marina. There are no speed limits on the water, except those required under the State of



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New Melones Current and Proposed Seaplane and Aircraft Operation Policy

New Melones Lake Area, California
Central California Area Office

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Miles

Figure 5-14

California Department of Boating and Waterways regulations. That is, the maximum speed is five miles an hour for motorboats within 100 feet (30 meters) of a bather (but not a water skier) and within 200 feet (60 meters) of a beach, swimming float, diving platform or life line, passenger landing being used, or a landing where boats are tied up (California Department of Boating and Waterways 2007).

The number of houseboats allowed on the lake at one time is limited, but there is no limit to the number of other motorized boats allowed. The current capacity is 50 private houseboats on mooring balls, 38 private houseboats in houseboat slips, and 20 rental houseboats. Reclamation maintains a total of 17 boat ramp lanes at Glory Hole, Angels Creek, and Tuttletown (Haas 2003). When the water drops below certain levels, some of these lanes cannot be used. Reclamation does not maintain the unimproved boat ramps at Mark Twain and Parrotts Ferry (Laird 2009b). Table 5-28 provides a list of the available boat ramps, along with their elevation range.

Table 5-28: Available Boat Ramps at New Melones Lake

Location	Number of Lanes	Elevation Range (feet)
Glory Hole: Lowest Ramp	6	860-900
Low Ramp		899-943
Medium Ramp		940-1,028
High Ramp		1,025-1,088
Angels Creek Ramp	4	975-1,088
Tuttletown Ramp: Low Ramp	7	900-962
Medium Ramp		962-1,036
High Ramp		1,031-1,088
Mark Twain Unimproved Lake Access	1	760+ (car-top loading only)
Parrotts Ferry Unimproved Lake Access	1	760+ (car-top loading only)

Source: Glory Hole Sports 2006

Fishing is one the most popular water-based recreation activities on New Melones Lake. It occurs throughout the lake, as the preferred fishing locations vary according to the type of fish species sought and also with the seasons. The CDFG issues permits, regulates fishing activities at New Melones, and ensures compliance with CDFG regulations. Since 1992, Reclamation has sponsored a Kids Day Fishing Derby to celebrate and support National Fishing Week. As many as 75 fishing tournaments are also held and range from those sponsored by local clubs with a small participation size to regional events with over one hundred participants. Reclamation and CDFG issue permits for these tournaments.

White-water kayaking and rafting is also enjoyed in Camp Nine sections, subject to appropriate water levels. Flatwater paddling, such as in canoes or touring kayaks, has expanded in popularity in recent years. These activities occur almost exclusively during periods of low lake water levels. Most of the white-water rafting consists of organized concessionaires that provide day-long, guided raft trips. However, individuals may also kayak and raft the lake/river. Depending on water levels, the white-water trip can be up

to nine miles long. In some parts of the New Melones Lake Area, water flows, controlled upstream by PG&E's hydro facilities, provide Class II to Class III rapids.

Not as popular as the activities listed above but still present on the lake are sailing and windsurfing. The low popularity of these pastimes may be attributed to the steep hills that enclose the lake and create a wind-protected environment throughout much of the year.

Suction and dredge recreational gold mining takes place in the flowing water of tributaries to the lake and is accessed by motorboat. This type of mining involves vacuuming sediment, sifting it for gold particles, and then discharging most of the sediment back into the water. It is permitted and regulated by the CDFG. CDFG regulations concerning suction dredging are outlined in Sections 228 and 228.5, Title 14, California Code of Regulations.

Floatplanes/seaplanes use the lake for landing in specified zones within the north, middle, and south bay areas. Reclamation seaplane use policy on the lake allows seaplane operation for recreation only. The policy is authorized in accordance with applicable Federal Aviation Administration rules and regulations, as well as other conditions stipulated in the policy (Figure 5-14).

5.2.22 Land-Based Recreation

Of the approximately 27,000 acres (10,900 hectares) managed by Reclamation on and surrounding the New Melones Lake Area, about 15,000 acres (6,000 hectares) are on land. Camping and day use facilities are readily available on the lake, but many areas are not accessible for recreation largely due to topography. Surrounding the lake, there are about 27 miles (45 kilometers) of trails available for hiking and biking, and some of these are suitable for horseback riding.

Camping is a popular land-based recreation and is restricted to two developed recreation areas, Glory Hole and Tuttletown. Glory Hole has two campgrounds and a total of 144 campsites. Tuttletown Recreation Area has three campgrounds with 161 campsites.

Tuttletown also has two group camps, with a total of 16 group sites that can accommodate up to 110 people in total. Camping is restricted to a maximum of 14 days within a 30-day period. Standard campsites are limited to eight people, and walk-in campsites are limited to four people. For more details on recreation areas and camping at New Melones Lake, see Section 5.2.20, Facilities, Land Use, and Management Areas; and Appendix E, New Melones Lake Policy.

Both Glory Hole and Tuttletown Recreation Areas also have day use facilities. Glory Hole has four day use areas with 61 picnic sites, the only concessionaire-operated marina on New Melones Lake, and other facilities. Tuttletown has three day use areas with 52 picnic sites, and other facilities such as a fish cleaning station and RV dump station.

Hunting is open on all of Reclamation's lands surrounding the lake, with the exception of Tuttletown, Glory Hole, and Mark Twain, but takes place mostly within or near the

PWMA. The CDFG issues hunting licenses and regulates this activity on Reclamation lands.

Bank fishing and gold panning occur along the shoreline.

There are many caves throughout the study area, and many visitors are involved in spelunking, or caving. This activity is restricted to a handful of caves, with the most frequented caves being the two Natural Bridges located within the Coyote Creek tributary.

Hiking, bicycling, and horseback riding all occur at New Melones Lake. There are approximately 25 miles (40 kilometers) of trails, which is considered to be a very small amount compared to the acreage of the planning area. Table 5-29 summarizes land-based recreation opportunities, by management area, available at the New Melones Lake Area.

Table 5-29: Summary of Land-Based Recreation by Management Area

Activity	Primary Management Area	Description
Biking	Glory Hole, PWMA, Tuttletown	Approximately 25 miles (40 kilometers) of multiple-use trails exist in the planning area.
Camping	Tuttletown (3), Glory Hole (2)	Camping is allowed only in these two management areas.
Day use (designated)	Tuttletown (2), Glory Hole (4), Coyote Creek, Mark Twain, French Flat, Bear Creek	Day use facilities include parking areas, picnic areas, and lake access.
Day use (undesignated)	Rose Creek area of Stanislaus River Canyon, Mark Twain, Table Mountain, PWMA	Though this is not designated as a day use area, Rose Creek in the northern part of this management area is informally used by white-water rafters and motor boaters and is subject to intensive use. Mark Twain is also used informally as a day use area.
Hiking	PWMA, Glory Hole, Mark Twain, Coyote Creek, Tuttletown	Approximately 25 miles (40 kilometers) of multiple-use trails exist in the planning area.
Horseback riding	PWMA	Approximately 10 miles (16 kilometers) of multiple-use trails exist in the planning area. Horseback riding is allowed on certain trails.
Hunting	Primary hunting area is PWMA	Hunting is allowed at all areas except for Tuttletown, Glory Hole, and Mark Twain.
Picnicking	Glory Hole, Tuttletown, Coyote Creek, Mark Twain	Developed day use areas offer picnicking at Glory Hole and Tuttletown, while a more informal setting is found at Mark Twain and Coyote Creek.

Table 5-29: Summary of Land-Based Recreation by Management Area

Activity	Primary Management Area	Description
Rock climbing	PWMA	Rock climbing occurs at the Grotto and the White Room, both located on Table Mountain.
Spelunking	Coyote Creek, Stanislaus River Canyon	Easy spelunking is offered at Natural Bridges. More advanced cave exploration occurs in the limestone caverns in the Stanislaus River Canyon.
Visitor center, interpretive services	Mark Twain, Glory Hole	Glory Hole contains an amphitheater used for interpretive programs, while the visitor center at Mark Twain has informative displays, interpretive programs, picnic tables, flush toilets, and drinking water.*

Notes: *For more information, see Section 5.2.20.
Source: Reclamation 1995

5.2.23 Interpretive Services and Visitor Information

The New Melones Lake Visitor Center is accessible from SR 49, midway between the towns of Sonora and Angels Camp in the Mark Twain Planning Area. General information, directions, and maps are available at the center. In addition, the visitor center showcases a variety of displays and exhibits, including the area's geologic past, Miwok Indian and early human history, the California Gold Rush, natural history, and the New Melones Dam and Reservoir Project. Visitors can also see displays of some of the wildlife that inhabits the New Melones Lake Area.

The New Melones Lake Visitor Center hosts various events, including a fall and spring lecture series, throughout the year. This lecture series takes place on Thursday evenings which, in the past, has focused on the area's cultural and natural history. Several times a year public stargazing programs are offered at the visitor center.

During the fall, winter, and spring, park rangers at New Melones Lake schedule interpretive walks and hikes to explain the area's cultural and natural history. Park rangers provide formal campfire programs and children's programs throughout the summer recreation season. Most of these programs are held at the Glory Hole amphitheater located in the Ironhorse Campground.

5.2.24 Utilities

Recent and planned upgrades to the utilities infrastructure have provided water and improved its reliability (Brooks 2007). The need to provide additional wastewater and solid waste services continues to change as recreation demands change, such as new types of recreation in new areas and fluctuating user levels.

Electrical Services. PG&E provides electrical service to the headquarters, visitor center, maintenance building in the Mark Twain Management Area, a private concessionaire at Glory Hole Management Area marina, and the southern end of the reservoir for dam operations and the New Melones Archaeological Storage Facility and Baseline Camp (Brooks 2007). An emergency generator has been installed to service the administration/visitor center complex. The Western Area Power Authority provides electrical service to Glory Hole and Tuttletown Management Areas. With few exceptions, all of the electrical lines are aboveground. Some electrical lines are owned by Reclamation and are maintained by Western Area Power Authority, which may contract out maintenance work to PG&E occasionally. Both PG&E and WAPA are required to coordinate all electrical line maintenance with Reclamation to ensure protection of cultural and natural resources. Solar panels on top of the maintenance building provide electricity to the immediate buildings.

Water. A needs assessment identifies water system demands at the New Melones Lake Area (Reclamation 2001). The assessment was based on planned recreation facilities identified in the Master Plan (USACE 1976). Table 5-30 is a summary of projected system demands.

Table 5-30: Estimated Peak-Day (Gallons) Water Demand for 2040

Recreation Area	Day Use	Campers	Total Demand
Tuttletown	48,405	36,225	84,630
Glory Hole	48,750	56,700	105,450
Angels Arm	19,905	17,500	37,405
	Visitors	**Staff**	**Total Demand**
Visitors Center	6,600	150	6,750
Administration Offices	1,200	0	1,200
Total	**123,660**	**111,775**	**235,435**

Source: Reclamation 2001

Reclamation maintains one 50,000-gallon (190,000-liter) water storage tank and one 80,000-gallon (300,000-liter) tank at Tuttletown Recreation Area, one 36,000-gallon (135,000-liter) tank at Angels Arm, and one 50,000-gallon (190,000-liter) tank at Glory Hole Recreation Area (Brooks 2007). There are also two 16,000-gallon (60,500-liter) tanks at the Glory Hole Recreation Area marina. One of these, installed in 2005, is owned by Reclamation and is used for water storage and fire supply; the other is owned by the marina operator.

Glory Hole Recreation Area has two wells that provide water for public uses, including for the restrooms and for water spigots (Brooks 2007). A third well at the marina is used by staff and for concessionaire operations, such as cleaning houseboats and filling houseboat water tanks and hot tubs. Water from the reservoir at Glory Hole Recreation Area is no longer treated.

Angels Arm has a new water treatment plant, installed in 2006, that treats water from the lake to provide potable water for the Angels Arm launch ramp restroom and fish cleaning station for the and Buckbrush Day use area (Brooks 2008). An additional well is required in the Angels Arm area because the current water source is unreliable. A new well has been developed in the Tuttletown Recreation Area to provide increased water supply and to improve the water supply; the former well is now used as a backup (Brooks 2008). The treatment plant is still used to treat the well water for odor and taste.

Approximately 25 people at the headquarters, maintenance building, and visitor center are served by a well. There is no potable water available at any of the undeveloped recreation areas.

Wastewater. A needs assessment identifies wastewater systems demands at New Melones Lake (Reclamation 2001), based on planned recreation facilities identified in the Master Plan (USACE 1976). Table 5-31 is a summary of projected system demands.

Table 5-31: Estimated Maximum Wastewater Production Rates (Gallons per Day) for 2004

Recreation Area	Day Use and Campers
Tuttletown	60,766
Glory Hole	43,741
Visitors Center and Administration Offices	1,070
Total	**51,721**

Source: Reclamation 2001

Glory Hole and Tuttletown Recreation Areas and the Baseline Conservation Camp generate wastewater that is piped to evaporation ponds and then to polishing ponds (Brooks 2007). Some of the wastewater is then applied to spray fields.

The Glory Hole Recreation Area generates wastewater from the campground restrooms, the day use areas, boat launches, RV dump station, fish cleaning stations, houseboats, and floating restrooms (Brooks 2007). It is either piped to or trucked to wastewater lagoons, or it is taken off-site by private commercial services.

Tuttletown Recreation Area generates wastewater at the restrooms and RV dump station (Brooks 2007). The wastewater at the RV dump station is trucked to the wastewater lagoons. The wastewater at the restrooms is either piped to the wastewater lagoons or is taken off-site by private commercial services.

The headquarters, maintenance building, and visitors center generate wastewater that is piped to a nearby leach field (Brooks 2007). Visitors and approximately 25 staff members generate wastewater in this area.

The Baseline Conservation Camp at the southern end of the reservoir has a California Department of Corrections Facility and CAL FIRE facility (Brooks 2007). The wastewater from these facilities and from spray fields is piped to the evaporation ponds.

Wastewater from the Reclamation power plant at the southern end of the lake is kept in a holding tank for off-site removal by private commercial services.

Waste from portable toilets at all of the recreation areas (Brooks 2007) is taken off-site by private commercial services or to the wastewater lagoons.

Solid Waste. Private commercial services remove solid waste (Brooks 2007). The closest transfer stations to the lake in Calaveras County are in Vallecito and Copperopolis (Calaveras County 2007d). The closest transfer station to New Melones Lake in Tuolumne County is the Cal Sierra Transfer Station in Sonora (Roberston 2007).

Communications. A microwave tower on top of Peoria Mountain, which is in the southern portion of Reclamation lands, is used for communications between headquarters and the dam (Brooks 2007). Tuttletown Recreation Area has a radio repeater that Reclamation uses for staff communication.

6. Environmental Consequences

6.1 Introduction

Chapter 6 contains the direct and indirect effects on the human and natural environment in terms of environmental, social, and economic consequences that are projected to occur from implementing the alternatives presented in Chapter 3. It also discusses the cumulative effects that are projected to occur from implementing the alternatives, as well as describes irretrievable or irreversible commitment of resources and unavoidable adverse impacts.

Impacts are presented for 16 topics in Sections 6.2 through 6.17: air quality, noise, geological resources, hydrology and water quality, visual resources, vegetation, fish and wildlife, special status species, general land management, access and transportation, public health and safety, fire management, cultural resources, Indian Trust Assets, socioeconomic and environmental justice, and recreation. Effects on each topic are grouped into the following categories for each alternative: Physical Resources; Natural Resources; Lands, Transportation, and Access; Cultural and Social Resources; and Recreation. These categories contain discussions pertaining to the following subcategories:

- Physical Resources – effects from management actions for air quality, noise, geology, caves, hydrology and water quality, and visual resources;
- Natural Resources – effects from management actions for vegetation, fish and wildlife (including fisheries), invasive species, and special status species;
- Lands, Transportation, and Access – effects from management actions for general land management, access and transportation, public health and safety, and fire management;
- Cultural and Social Resources – effects from management actions for cultural resources, socioeconomic and environmental justice, and Indian trust assets; and
- Recreation – effects from management actions for general recreation, aquatic recreation, land-based recreation, interpretive and visitor services.

Before presentation of the effects on each of the 16 topics, the method of analysis is described. This contains a discussion of the methods and assumptions used to reach impact conclusions. For each resource topic, effects common to all alternatives are presented, followed by additional effects that would result from each individual alternative (A, B, C, and D).

Cumulative effects on the 16 topics are in Section 6.18, Cumulative Effects. Unavoidable adverse impacts are presented in Section 6.19, Unavoidable Adverse Impacts.

Irretrievable or irreversible commitment of resources is discussed in Section 6.20, Irretrievable or Irreversible Commitment of Resources.

Impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and planning area, information provided by experts in Reclamation and Tetra Tech or in other agencies, and information contained in pertinent literature. The baseline used for the impact analysis is the current condition or situation, as described in Chapter 5 (Affected Environment). Analysis assumptions have also been developed to help guide the determination of effects (see Section 6.1.1, Analytical Assumptions). Because the RMP/EIS provides a broad management framework, the analysis in this chapter represents best estimates of effects, because exact locations of development or management are often unknown. Effects are quantified to the extent practical with available data. In the absence of quantitative data, best professional judgment provides the basis for the impact analysis.

The land use planning-level decisions that Reclamation will make regarding this RMP are programmatic decisions based on analysis that can only be conducted on a broad scale. Because of the broad scope, impact analysis of planning-level decisions is speculative with respect to projecting specific activities. Subsequent documents tiered to this RMP would generally contain a greater level of detail and would be subject to NEPA analysis and compliance. Subsequent tiered activity- and project-level plans are more definitive than plans found in an RMP. An activity-level plan typically describes projects in detail that will lead to on-the-ground action and traditionally focuses on single resource programs. Activity plans (such as travel management plans) are generally more site specific and less speculative than the RMP analyses. Activity plans may contain information that is as detailed or specific at a project level. A project-specific plan is typically prepared for an individual project or several related projects. Project-level plans (such as stream restoration) contain specific proposed actions, and site- or area-specific analysis is conducted.

6.1.1 Analytical Assumptions

Several assumptions were made to facilitate the estimation of the effects of the alternatives. These assumptions are made only for the purpose of analysis and do not represent potential RMP decisions. The assumptions do provide reasonably foreseeable, projected levels of development that could occur within the planning area. These assumptions should not be interpreted as constraining or redefining the management objectives and actions proposed for each alternative described in Chapter 3. Following are the general assumptions applicable to all resource categories. Any specific resource assumptions are provided in the Methods of Analysis subheading for that resource.

- Sufficient funding and Reclamation personnel would be available for implementing the final decision;
- Implementing actions from any of the RMP alternatives would comply with all valid existing rights, federal regulations, Reclamation policies, and other requirements;

- Local climate patterns of historic record and related conditions for plant growth would continue;
- The functional capability of all developments would be maintained;
- The discussion of impacts is based on the best available data. Knowledge of the planning area and professional judgment, based on observation and analysis of conditions and responses in similar areas, are used to infer environmental impacts where data are limited;
- Acreage figures and other numbers used in the analyses are approximate projections for comparative and analytic purposes only. Readers should not infer that they reflect exact measurements or precise calculations; and
- Acreages were calculated using GIS technology, and there may be slight variations in total acres between resources. These variations are negligible and will not affect analysis.

6.1.2 Types of Effects (Direct, Indirect, and Cumulative)

Direct, indirect, and cumulative effects are considered in this effects analysis, consistent with the direction in 40 CFR, Part 1502.16. Direct effects are caused by an action or implementation of an alternative and occur at the same time and place. Indirect effects result from implementing an action or alternative but are usually later in time or removed in distance and are reasonably certain to occur. Cumulative effects are defined as the direct and indirect effects of a proposed project alternative's incremental impacts when they are added to other past, present, and reasonably foreseeable actions, regardless of who carries out the action.

Effects are quantified where possible, primarily by using GIS applications. In the absence of quantitative data, best professional judgment prevailed; impacts are sometimes described using ranges of potential impacts or in qualitative terms. Only management programs with impacts are discussed. The standard definitions for terms referring to impact duration that are used in the effects analysis are as follows, unless otherwise stated:

Short-Term Effect: The effect occurs only during or immediately after implementation of the alternative. For the purposes of this RMP, short-term effects would occur during the first five years.

Long-Term Effect: The effect could occur for an extended period after implementing the alternative. The effect could last several years or more and could be beneficial or adverse. For the purposes of this RMP, long-term effects would occur beyond the first five years and perhaps over the life of the RMP.

6.1.3 Incomplete or Unavailable Information

The CEQ established implementing regulations for NEPA requiring that a federal agency identify relevant information that may be incomplete or unavailable for an evaluation of reasonably foreseeable significant adverse effects in an EIS (40 CFR, Part 1502.22). If the information is essential to a reasoned choice among alternatives, it must be included

or addressed in an EIS. Knowledge and information is and will always be incomplete, particularly with infinitely complex ecosystems considered at various scales.

The best available information, pertinent to the decisions to be made, was used in developing the RMP. Certain site-specific information was unavailable for use in developing this plan, usually because inventories have either not been conducted or are not complete. Reclamation has information to support planning level decisions, although the data is incomplete for specific areas. Ongoing data collection and analysis provide a general understanding of the resources trends that were used in developing the alternatives and assessing impacts. Reclamation will continue monitoring and taking inventory, as needed, and this information will be used to assess the effectiveness of management measures.

The RMP sets objectives for broad level management of project lands, while implementation level planning requires subsequent site specific-analysis. During the implementation phase, additional surveys and data could be required to analyze site-specific decisions made in implementation level planning.

This RMP is also based on the concept of adaptive management, so it is dynamic enough to account for changes in resource conditions (such as large-scale wildfire), new information and science, and changes in regulation and policies. The RMP may be amended to respond to these factors. No incomplete or unavailable information was deemed essential to a reasoned choice among the alternatives analyzed in this EIS.

6.2 Air Quality

6.2.1 Introduction

Background air quality conditions in the New Melones Lake Area are affected primarily by pollutant transport from the Central Valley. The air pollutants of greatest concern are ozone and suspended particulate matter. The major sources of air pollutant emissions at or near the New Melones Lake Area include boating and personal watercraft use at New Melones Lake, wildland fires, agricultural burns on private lands, vehicle traffic on paved and unpaved roads, campfires and camp stoves used in campgrounds at New Melones Lake, internal combustion engine equipment (such as portable generators) used in campgrounds at New Melones Lake, and mining and mineral development activities in areas near New Melones Lake. Local sources of air pollutant emissions typically are not the dominant contributor to local air quality conditions. The major exceptions to this involve smoke from nearby wildfires, or smoke from campfires in campground areas.

The region of influence for air quality covers Calaveras and Tuolumne Counties.

6.2.2 Methods of Analysis

6.2.2.1 Methods and Assumptions

Available information was insufficient to develop quantitative emission estimates for activities addressed by the RMP alternatives. Potential air quality effects of the

management actions under Alternatives A through D were evaluated by a qualitative consideration of how RMP policies and actions would affect sources of air pollutant emissions in the New Melones Lake Area.

6.2.3 Effects on Air Quality Common to All Alternatives

6.2.3.1 Effects from Physical Resources Management

Air quality management actions under all alternatives would focus on compliance with state and county regulations concerning naturally occurring asbestos, and compliance with state and county smoke management programs. Naturally occurring asbestos is found primarily in association with serpentine rock formations. Disturbance of soils and rock materials in these areas can release asbestos fibers into the air, creating localized health hazards. State and county regulations restrict the asbestos content of gravel used for roadway and facility construction purposes. State and county smoke management programs restrict the use of prescribed burns and agricultural burns during periods when weather conditions would limit the dispersal of smoke generated the burns. Other smoke management programs might restrict the use of wood fires in campgrounds during episodes of high air pollution levels.

Geologic resource management actions under all alternatives would limit mining and material excavation in the New Melones Lake Area, and thus would limit fugitive dust and equipment exhaust emissions associated with mining and excavation activities. Water resource management actions under all alternatives include actions to minimize soil erosion and to minimize development activities on serpentine areas. Those actions would minimize generation of fugitive dust, including dust containing hazardous asbestos particles.

6.2.3.2 Effects from Natural Resources Management

Natural resource management programs and actions common to all alternatives would have no air quality effects. Vegetation management programs to protect native plant communities would be consistent with other programs and actions to minimize disturbance of serpentine areas, and thus reduce the generation of fugitive dust that could contain hazardous asbestos fibers.

6.2.3.3 Effects from Lands, Transportation, and Access Management

There were no identified effects common to all alternatives from lands management. Actions to prevent unauthorized OHV use would minimize the potential for fugitive dust and OHV engine emissions on Reclamation lands in the New Melones Lake Area.

6.2.3.4 Effects from Cultural and Social Resources Management

There were no identified effects common to all alternatives from cultural and social resources management.

6.2.3.5 Effects from Recreation Management

There were no identified effects common to all alternatives from recreation management.

6.2.4 Effects on Air Quality under Alternative A

6.2.4.1 Effects from Physical Resources Management

Air quality effects from physical resource management programs and actions under Alternative A would be the same as those discussed in Effects Common to All Alternatives from Physical Resources Management.

6.2.4.2 Effects from Natural Resources Management

Vehicle traffic from visitors to the New Melones Lake Area generates air pollutant and greenhouse gas emissions. Alternative A includes programs and actions to maintain existing facilities, but does not include actions for construction of new, large facilities. Consequently, Alternative A would have limited air quality effects from construction activities. Emissions from visitor traffic would be expected to remain relatively stable, since federal and state vehicle emission control requirements are likely to offset increases in visitor traffic volumes associated with regional population growth.

6.2.4.3 Effects from Lands, Transportation, and Access Management

Air quality effects from natural resource management programs and actions under Alternative A would be the same as those discussed in Effects Common to All Alternatives from Lands, Transportation, and Access Management.

Fire management actions under Alternative A would allow the use of prescribed burns. While the extent of prescribed fire use under Alternative A remains uncertain, the use of prescribed fire would likely be less under Alternative A than under Alternatives B, C, and D. Alternative A would be a continuation of existing effects on air quality from pollutant and greenhouse gas emissions associated with prescribed fire use.

6.2.4.4 Effects from Cultural and Social Resources Management

There were no identified effects from cultural and social resources management under Alternative A.

6.2.4.5 Effects from Recreation Management

Boating activities and campground activities (campfires, camp stove use, portable generator use, etc.) would generate air pollutant and greenhouse gas emissions in the New Melones Lake Area. Recreation management programs and actions under Alternative A would not construct any new large recreation facilities, or change existing recreation use designations. Recreational use levels and resulting air pollutant emissions would be expected to increase in proportion to regional population growth. Alternative A would be expected to have lower recreation-related emissions of air pollutants than Alternatives B, C, or D.

6.2.5 Effects on Air Quality under Alternative B

6.2.5.1 Effects from Physical Resources Management

Air quality effects from physical resource management programs and actions under Alternative B would be the same as those discussed in Effects Common to All Alternatives from Physical Resources Management.

6.2.5.2 Effects from Natural Resources Management

Air quality effects from natural resource management programs and actions under Alternative B would be the same as those discussed in Effects Common to All Alternatives from Natural Resources Management.

6.2.5.3 Effects from Lands, Transportation, and Access Management

Alternative B includes programs and policies for construction of new roads, trails, campgrounds, parking areas, and other facilities. Alternative B would consider relocation of the Baseline Conservation Camp. Alternative B also includes programs and actions that could result in development of an OHV Park facility. Construction activities for such new facilities would be temporary sources of additional criteria pollutant and greenhouse gas emissions. Increased visitor traffic related to the availability of new facilities would be an ongoing source of additional air pollutant and greenhouse gas emissions.

Fire management programs and actions under Alternative B would allow the use of prescribed burns. While the extent of prescribed fire use or wildland fire use under Alternative B remains uncertain, there likely would be an increase in air pollutant and greenhouse gas emissions under Alternative B compared to Alternative A.

6.2.5.4 Effects from Cultural and Social Resources Management

Alternative B includes actions to construct a new archeological storage facility. Construction of this facility would result in temporary air pollutant and greenhouse gas emissions.

6.2.5.5 Effects from Recreation Management

Alternative B includes actions to construct various new recreational facilities, including an OHV park, new campgrounds, marina facilities, wave attenuators, and floating campsites. Construction activities for these facilities would result in temporary air pollutant and greenhouse gas emissions. Increased visitor levels related to the availability of these new facilities would be an ongoing source of additional air pollutant and greenhouse gas emissions.

OHV use at a new OHV Park facility would be a new source of air pollutant and greenhouse gas emissions in the New Melones Lake Area. Although use projections for such a facility are not currently available, it should be noted that OHV engines have limited emission controls and typically use gasoline fuels.

6.2.6 Effects on Air Quality under Alternative C

6.2.6.1 Effects from Physical Resources Management

Air quality effects from physical resource management programs and actions under Alternative C would be the same as those discussed in Effects Common to All Alternatives from Physical Resources Management.

6.2.6.2 Effects from Natural Resources Management

Air quality effects from natural resource management programs and actions under Alternative C would be the same as those discussed in Effects Common to All Alternatives from Natural Resources Management.

6.2.6.3 Effects from Lands, Transportation, and Access Management

Alternative C includes programs and actions to maintain existing facilities, with limited construction of new facilities. Alternative C would also consider relocation of the Baseline Conservation Camp. Consequently, Alternative C would have limited air quality effects from construction activities. As noted below, Alternative C also includes programs and actions to reduce the level of boating activity at New Melones Lake. Consequently, emissions from visitor traffic would be expected to decline somewhat in the future.

Fire management programs and actions under Alternative C would allow the use of prescribed burns. While the extent of prescribed fire use or wildland fire use under Alternative C remains uncertain, there likely would be an increase in air pollutant and greenhouse gas emissions under Alternative C compared to Alternative A.

6.2.6.4 Effects from Cultural and Social Resources Management

Effects on air quality from cultural and social resources management would be the same as those described under Alternative B.

6.2.6.5 Effects from Recreation Management

Alternative C includes management programs and actions to reduce the level of boating activity and to restrict seaplane operations at New Melones Lake. These actions could reduce overall visitor levels to the New Melones Lake Area and to reduce recreation-related air pollutant and greenhouse gas emissions compared to Alternatives A, B, and D.

6.2.7 Effects on Air Quality under Alternative D

6.2.7.1 Effects from Physical Resources Management

Air quality effects from physical resource management programs and actions under Alternative D would be the same as those discussed in Effects Common to All Alternatives from Physical Resources Management.

6.2.7.2 Effects from Natural Resources Management

Air quality effects from natural resource management programs and actions under Alternative D would be the same as those discussed in Effects Common to All Alternatives from Natural Resources Management.

6.2.7.3 Effects from Lands, Transportation, and Access Management

Alternative D includes programs and policies for construction of new roads, trails, campgrounds, parking areas, and other facilities. The extent of new construction activity generally would be somewhat less than under Alternative B. Alternative D would also consider relocation of the Baseline Conservation Camp. Construction activities for such new facilities would be temporary sources of additional criteria pollutant and greenhouse gas emissions. Increased visitor traffic related to the availability of new facilities would be an ongoing source of additional air pollutant and greenhouse gas emissions.

Fire management programs and actions under Alternative D would allow the use of prescribed burns. While the extent of prescribed fire use or wildland fire use under

Alternative D remains uncertain, there likely would be an increase in air pollutant and greenhouse gas emissions under Alternative D compared to Alternative A.

6.2.7.4 Effects from Cultural and Social Resources Management

Effects on air quality from cultural and social resources management would be the same as those described under Alternative B.

6.2.7.5 Effects from Recreation Management

Alternative D includes actions to construct various new roads, trails, and other recreational facilities, but with fewer new facilities than under Alternative B. Construction activities for these facilities would result in temporary air pollutant and greenhouse gas emissions. Increased visitor levels related to the availability of these new facilities would be an ongoing source of additional air pollutant and greenhouse gas emissions.

6.3 Noise

6.3.1 Introduction

In general, background noise levels vary with wind conditions and relative location (on the lake, along the shoreline, or inland). As discussed in the affected environment section of this document, typical background noise levels are expected to vary from 35 A-weighted decibels (dBA) to 50 dBA, depending on wind conditions. Aircraft overflights represent an intermittent contributor to overall background noise levels. Noise levels are often somewhat higher near such sources as highway traffic, occupied campgrounds, and areas of the lake with boat and personal watercraft use.

The highest overall noise levels are expected to be in the vicinity of campgrounds, the marina, boat launching facilities, and occupied day use areas. In general, noise conditions in the New Melones Lake area would not interfere with recreational activities and experiences. Boats and personal watercraft with underwater engine exhaust, and at full throttle, generally produce noise levels of 75 to 85 dBA at a distance of 50 feet (15 meters) (Lanpheer 2000).

The level of noise heard depends on the distance of the noise source, in relation to others, and is based on noise attenuation. There are many factors that effect sound transmission over distance. Absorption, reflection, presence of vegetation, and whether sound is travelling over land or water play a part in how sound attenuates, or gets less loud, as a function of distance. As a general rule, if you double the distance from the source, the overall noise level will decrease by 6 dBA.

6.3.2 Methods of Analysis

6.3.2.1 Methods and Assumptions

Potential effects of the management actions under the alternatives on noise were evaluated by examining the typical noise generation of noise sources occurring within the New Melones Lake Area, and the existing regulations and public health and safety guidance regarding noise exposure.

Factors considered in determining whether an alternative would have a significant impact include the extent or degree to which its implementation would cause or result in the following:

- Generate new sources of substantial noise,
- Increase the intensity or duration of noise levels to sensitive receptors, or
- Result in exposure of more people to high levels of noise.

Noise impact criteria are based partly on land use compatibility guidelines, and partly on factors related to the duration and magnitude of noise level changes. Annoyance effects are the primary consideration for most noise impact assessments. Because the reaction to noise level changes involves both physiological and psychological factors, the magnitude of a noise change can be as important as the resulting overall noise level. A readily noticeable increase in noise levels often would be considered a significant effect by local residents, even if the overall noise level were still within land use compatibility guidelines. On the other hand, noise level increases that are not noticeable to most people are not considered a significant change, even if the overall noise level is somewhat above land use compatibility guidelines.

Most people cannot distinguish between noise levels that differ by less than 1.5 to 2 dBA. A 3 dBA increase in noise levels represents a 23 percent increase in apparent loudness, while a 10 dBA increase represents a doubling of apparent loudness. It takes a doubling of noise sources (number of portable generators, hourly traffic volume, etc.) to generate a noise level increase of 3 dBA.

6.3.3 Effects on Noise Common to All Alternatives

6.3.3.1 Effects from Physical Resources Management

Management actions, under all alternatives, to reduce mining activities would directly affect noise levels by limiting noise producing activities, which would likely reduce the amount of overall man-made noise associated with the New Melones Lake Area. Effects on noise levels from restrictions of mining activities in the New Melones Lake Area would help to protect the natural setting of the area, and not increase noise levels above baseline levels that result from geologic resource management in the area.

Management actions, under all alternatives, to reduce erosion potential would directly affect noise levels by confining all public vehicles to existing roadways, and enforcing the ban on Off Highway Vehicles (OHV), which would likely reduce the amount of overall man-made noise that is associated with the New Melones Lake Area. Effects on noise levels from restrictions of OHV use in the New Melones Lake Area would help to protect the natural setting of the area, and not increase noise levels above baseline levels that result from hydrology and water quality management in the area.

6.3.3.2 Effects from Natural Resources Management

There were no identified effects on noise, common to all alternatives, from natural resources management.

6.3.3.3 Effects from Lands, Transportation, and Access Management
There were no identified effects on noise, common to all alternatives, from lands, transportation, and access management.

6.3.3.4 Effects from Cultural and Social Resources Management
There were no identified effects on noise, common to all alternatives, from cultural and social resources management.

6.3.3.5 Effects from Recreation Management
There were no identified effects on noise, common to all alternatives, from recreation management.

6.3.4 Effects on Noise under Alternative A

6.3.4.1 Effects from Physical Resources Management
Under Alternative A, visitors would voluntarily comply with boat noise regulations and visitor noise regulations. Visitors are currently asked to voluntarily comply with noise regulations both in campgrounds and on the lake, however many noise complaints are still filed from boating activities on the lake as well as from campground activities. Over time, noise complaints would continue without any change in management of noise regulations, and could possibly increase from increased visitor use.

6.3.4.2 Effects from Natural Resources Management
There were no identified effects on noise from natural resources management under Alternative A.

6.3.4.3 Effects from Lands, Transportation, and Access Management
Continued enforcement of off-road vehicle policy would limit the amount of prohibited vehicle noise in recreation areas.

6.3.4.4 Effects from Cultural and Social Resources Management
There were no identified effects on noise from cultural and social resources management under Alternative A.

6.3.4.5 Effects from Recreation Management
No wake zones, established under management actions for aquatic recreation, would decrease the amount of boat noise that is allowed in areas adjacent to the shore. Noise from motorized boats and personal watercraft increases with engine load and vessel speed. Boats and personal watercraft would have to operate at slow speeds to comply with the requirements of no wake zones. Reduced operating speed would result in lower noise levels in the no wake zones, and adjacent shoreline areas.

6.3.5 Effects on Noise under Alternative B

6.3.5.1 Effects from Physical Resources Management
Effects on noise from physical resources management would be similar to those described under Alternative A.

6.3.5.2 Effects from Natural Resources Management

There were no identified effects on noise from natural resources management under Alternative B.

6.3.5.3 Effects from Lands, Transportation, and Access Management

Alternative B proposes construction of an OHV park, which would increase noise levels from the short-term period of construction, and the use of the park. OHV use is currently prohibited in the New Melones Lake Area, and allowing use of these vehicles would create a new noise source in the area, increasing noise levels to higher than baseline levels.

In addition to noise from construction of an OHV park, construction of any type of roads and other facilities proposed under Alternative B would have effects on baseline noise levels during construction. Vehicle traffic on new or improved roads would add a localized noise source along the roadway corridor. However, unless the new or improved roads resulted in a substantial increase in traffic volumes, or a significant increase in traffic speeds, resulting traffic noise levels would be unlikely to affect visitor enjoyment of the New Melones Lake Area.

6.3.5.4 Effects from Cultural and Social Resources Management

Alternative B includes actions to construct a new archaeological storage facility. During construction, which would be limited to daytime hours, there would be effects on noise levels in the area.

6.3.5.5 Effects from Recreation Management

Alternative B proposes multiple actions to construct various facilities and recreational services such as wave attenuators, additional marinas, floating campsites, overnight lodging facilities, and mountain biking courses. Construction of all of these facilities would have effects on noise levels in the area during periods of construction, which would be limited to daytime hours. Construction of smaller projects would be of shorter duration, would result in less of an increase in noise levels, and would have a lesser effect than larger projects, such as the construction of new OHV courses, mountain biking courses, or construction of new recreational facilities in day-use areas. Increased visitor levels related to the availability of these new facilities would be an ongoing source of additional noise.

The development of additional water-sports courses, such as jet ski courses and high speed boat racing courses, as well as increased watercraft use, would increase noise levels from aquatic recreational activities that are not currently zoned for in the New Melones Lake Area. Boats and personal watercraft with underwater engine exhaust and at full throttle generally produce noise levels of 75 to 85 dBA at a distance of 50 feet (15 meters) (Lanpheer 2000). Boats and watercraft used on high speed racing courses may produce higher noise levels. In addition, boats and personal watercraft used in sanctioned racing events are exempt from the noise limits established in California Harbors and Navigation Code, section 654. According to the EPA, (Lanpheer 2000) intermittent noise from boat traffic that exceeds 75 dBA can cause annoyance to shoreline residents and

recreational users. Many of the complaints to the New Melones Lake Area staff come from noise due to boating activities on the lake.

6.3.6 Effects on Noise under Alternative C

6.3.6.1 Effects from Physical Resources Management

Under Alternative C, management actions for reducing erosion would directly affect noise levels by reducing the number of overall vehicles allowed in certain areas of the New Melones Lake Area, including on roadways in Semi-Primitive Areas, by reducing vehicle operation on unimproved roadways. A reduction in the overall number of vehicles would decrease the amount of noise associated with public vehicle use in the New Melones Lake Area.

Effects on noise from noise management regulations under Alternative C would be greater than under Alternative A, as Alternative C calls for enforceable noise management regulations for boating activities and other recreational activities. Seeking mandatory compliance with noise regulations would make visitors less likely to deviate from posted noise regulations, as they would become enforceable by law. This mandatory compliance would likely result in a decrease in overall noise levels from recreational activities, such as boating activities on the lake, as well as after-hours campground noise.

6.3.6.2 Effects from Natural Resources Management

There were no identified effects on noise from physical resources management under Alternative C.

6.3.6.3 Effects from Lands, Transportation, and Access Management

Alternative C includes programs and actions to maintain existing facilities, with limited construction of new facilities. Alternative C would also consider relocation of the Baseline Conservation Camp. Consequently, Alternative C would have limited effects on noise from construction activities.

Restricting access to New Melones Lake Area for seaplane and other aircraft overflight activities would result in decreased noise levels in the area, and would reduce the amount of recreational noise that is experienced by visitors in the area.

6.3.6.4 Effects from Cultural and Social Resources Management

Effects on noise from cultural and social resources management would be the same as those described under Alternative B.

6.3.6.5 Effects from Recreation Management

No wake zones proposed under Alternative C would have the same effects on noise as under Alternative A. Noise would be reduced additionally under Alternative C from designating Environmental Sensitive Areas, which would include restricting noise and overnight use. Other management actions under Alternative C that restrict watercraft use in certain areas, and propose a decrease in the level of watercraft use, would decrease the amount of overall noise that is created from water-based recreation activities. This decrease in noise levels would reduce the potential for annoyance and displeasure of the land-based recreational visitors at the New Melones Lake Area.

6.3.7 Effects on Noise under Alternative D

6.3.7.1 Effects from Physical Resources Management
Effects on noise from physical resources management would be the same as those described under Alternative A.

6.3.7.2 Effects from Natural Resources Management
There were no identified effects on noise from natural resources management under Alternative D.

6.3.7.3 Effects from Lands, Transportation, and Access Management
Under Alternative D, effects on noise from construction of new facilities would be similar to those described under Alternative B, but somewhat less since fewer new facilities are proposed under Alternative D than under Alternative B.

6.3.7.4 Effects from Cultural and Social Resources Management
Effects on noise from cultural and social resources management would be the same as those described under Alternative B.

6.3.7.5 Effects from Recreation Management
Under Alternative D, effects on noise from construction of recreational facilities and increased visitor use related to the availability of new facilities would be similar to those described under Alternative B, but somewhat less since fewer new facilities are proposed under Alternative D than under Alternative B.

Effects from noise resulting from water-based recreation activities would be similar to those described under Alternative C; however, noise levels would be decreased somewhat less than under Alternative C, because Alternative D includes fewer restrictions on these activities than Alternative C. Noise reduction from designating Environmentally Sensitive Areas would be less than under Alternative C because fewer areas would be given this designation under Alternative D.

6.4 Geologic Resources

6.4.1 Introduction
This section is a discussion of the potential impacts of the alternatives on the geology, soils, and unique geologic resources, including caves, in the New Melones Lake Area. Unique geologic resources and caves are affected by large-scale surface disturbance, such as mining, erosion, off-road vehicle uses, excavation, and vandalism. Damage and vandalism by visitors are usually concentrated near roads, trails, and the accessible shoreline. Impacts to soils are also due to disturbance, or conversion of productive soils (prime farmlands) to nonproductive uses. Impacts to biological crusts can result from disturbance, compaction, burial under sediments, and intense fire.

6.4.2 Methods of Analysis

6.4.2.1 Methods and Assumptions

The difference in effects of the management actions, among the alternatives, to geologic resources are determined by assessing the relative degree to which the actions would result in: disturbance of or damage to unique geologic features or caves; disturbance of soils, increase in the potential for erosion of soils, or cause areas with productive soils to be converted to nonproductive use; or decrease in the amount of habitat associated with special soils (e.g., serpentine soils, biological crusts).

Physical disturbance (e.g., road building, mining activities) of the geologic feature or soil are considered direct impacts. Indirect impacts are associated with actions that would increase the likelihood or ultimately result in disturbance (e.g., new roads would increase access to, and potential for vandalism of geologic features, or chemical treatment of weeds on slopes could result in increased erosion).

The assessment of impacts to minerals resources involves the consideration of how management actions to protect other resources may restrict the availability of land to mining or drilling, the limitations to mining operations, and the mitigations and reclamation procedures that may be required. The effects of the management actions among the alternatives are discussed in terms of the amount of land closed or open to mining, and limitations to operations that would increase operational costs.

Specific effects on geologic and soil resources are not always readily identifiable, because some effects on geology are difficult to separate from effects on other resources that geologic and soil resources support. Thus, the effects on geology are often discussed, either implicitly or explicitly, in the effects section of other resources, such as scenic quality (visual resources), or the preservation of vegetation endemic to serpentine soils. Effects are quantified where possible; in the absence of quantitative data, best professional judgment was used.

The following assumptions regarding the resource base and management practices were considered in the analysis:

- Potential for effects would be greatest from direct, large-scale disturbance activities;
- Vandalism can destroy a feature or reduce its resource value (e.g., scientific value, visual resources); and
- Education of the public increases support for protection of geologic resources, but also increases visitation.

6.4.3 Effects on Geologic Resources Common to All Alternatives

6.4.3.1 Effects from Physical Resources Management

Mining restrictions would directly protect geologic resources and soils from disturbance in localized areas. The closure and reclamation of old mines, and the participation of

Reclamation in review of mining and reclamation plans within the New Melones watershed would further reduce ongoing disturbance to soils and erosion.

Inclusion of erosion prevention measures in the design and operation of facilities and roads, avoidance of activities in areas vulnerable to erosion, confining public vehicle use to existing roadways, stabilizing unpaved roads, and incorporating stormwater runoff control features into areas with impermeable surfaces would indirectly provide for more stable soils, while protection of vegetation in serpentine areas would indirectly prevent disturbance of serpentine soils.

6.4.3.2 Effects from Natural Resources Management

Vegetation and fish and wildlife management actions, implemented under all alternatives, to protect, improve, restore, and enhance native and sensitive vegetation, would protect soils by reducing soil compaction and increasing soil stability. The areas with serpentine soils would be avoided whenever practicable to avoid compaction and erosion. Public education efforts would be undertaken to raise awareness of the sensitivity of these soils and the associated plant communities to further reduce the amount of disturbance.

6.4.3.3 Effects from Lands, Transportation, and Access Management

Use and construction of roads and trails, as well as motorized vehicle use, would result in increased soil compaction and erosion. Authorized motorized vehicle use in the New Melones Lake Area is limited to established roads, which limits direct effects on soils. Areas closed to vehicular travel would have the fewest effects on soils. Indirect effects from livestock grazing include soil compaction. In riparian areas, livestock grazing erodes banks.

Wildland fire would cause a range of effects to soils, including removal of vegetation and subsequent increase in erosion. Wildland fires might burn with enough heat to kill soil organisms and biological crusts.

Access to caves in the Camp Nine, Coyote Creek, and Stanislaus River Canyon Management Areas would be managed to minimize disturbance of sensitive cave microclimates and resources. The access control would reduce the amount of disturbance within caves, and the potential for damage by vandalism. These actions, as well as closing unsafe or potentially hazardous old mine shafts and caves, would reduce the potential for injury and death among visitors.

Coordination with other agencies and entities to develop mitigation measures regarding access, preservation, and recreation, would increase the protection of areas with unique geologic features, caves, and special soils. In addition coordination would be sought for monitoring of ongoing and reclaimed mining operations.

6.4.3.4 Effects from Cultural and Social Resources Management

Where unique geologic features, soils, and caves are part of, or are included in, the area of limited access for cultural resources, the access limitations would protect these resources as well.

Increasing public awareness of selected cultural sites would potentially increase effects to nearby unique geologic features, caves, and soils, since more recreational users would increase the likelihood for disturbance. The education of the public, through materials discussing the ongoing degradation of these sites, could reduce the amount of human impact. The minimization of publicity and access to sensitive cave locations (e.g., requiring permits for research activities), would reduce the number of visitors and indirectly reduce the effects resulting from disturbance and vandalism.

6.4.3.5 Effects from Recreation Management

Recreational users affect soils directly by disturbance of unstable soils and soil compaction. These affects lead indirectly to increased erosion and reduced quality of biological crusts. Groups of horses may also create soil disturbance in areas where they are tethered. Riparian areas are popular with recreationists, and are particularly sensitive to these changes, as the banks and soils may be directly disturbed as well as indirectly suffer from actions that reduce vegetation. Reclamation would implement management actions to minimize effects on soils from recreation, such as restricting activities in areas with instable soils and riparian areas, and designating trails to concentrate effects in certain locations. These actions indirectly prevent lands from unauthorized uses and associated disturbance.

Under all of the alternatives, spelunking would continue to be allowed as a recreation activity at New Melones. Protection plans would be implemented for caves with significant resource value (e.g., scientific value, fragile formations, cultural importance, or sensitive species), or with potential hazards.

The design of recreation facilities would include measures to minimize erosion due to surface water runoff.

Interpretive activities would help to increase appreciation for unique geologic features, caves, and sensitive serpentine soils, and would potentially minimize effects in the long term.

6.4.4 Effects on Geologic Resources under Alternative A

6.4.4.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative A would be the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.4.4.2 Effects from Natural Resources Management

Effects from natural resources management under Alternative A would be the same as those described in Effects Common to All Alternatives from Natural Resources Management.

6.4.4.3 Effects from Lands, Transportation, and Access Management

Effects from lands, transportation, and access management would be the same as those described for all alternatives in Effects Common to All Alternatives from Lands, Transportation, and Access Management.

6.4.4.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative A would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.4.4.5 Effects from Recreation Management

Access to caves would be managed per federal law and health and safety requirements to reduce the impact to the public from injury and exposure to hazards.

6.4.5 Effects on Geologic Resources under Alternative B

6.4.5.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative B would be the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.4.5.2 Effects from Natural Resources Management

Under Alternatives B, C, and D, the design of fuel breaks and firebreaks would take soil stabilization into consideration, indirectly decreasing the potential for subsequent erosion. This would reduce the amount erosion would increase in burn areas after the fire.

6.4.5.3 Effects from Lands, Transportation, and Access Management

In addition to the effects discussed in Effects Common to All Alternatives from Lands, Transportation, and Access Management, Alternatives B, C, and D would include requirements that the design of fuel breaks and firebreaks would take soil stabilization into consideration indirectly decreasing the potential for subsequent erosion. Also burned areas would be rehabilitated to stabilize soils and reduce erosion.

6.4.5.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative B would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.4.5.5 Effects from Recreation Management

Access to caves would be expanded over that allowed under Alternatives A and C, but would still be managed per federal law and health and safety requirements.

Under Alternative B, concessions and facilities at New Melones would potentially increase. Additional concessions and facilities would foster increases in recreation and effects associated with this, such as those described in Effects Common to All Alternatives from Recreation Management.

6.4.6 Effects on Geologic Resources under Alternative C

6.4.6.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative C would be the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.4.6.2 Effects from Natural Resources Management

Implementing the fire management plan would have effects similar to those described under Alternative B. However, Alternative C would be the most effective in re-establishing native vegetation by requiring rehabilitation of all burn areas, protecting sensitive sites from damage by heavy equipment, retaining vegetation within fuel breaks, and using buffer zones to protect riparian and wetland areas.

6.4.6.3 Effects from Lands, Transportation, and Access Management

In addition to the effects discussed in Effects Common to All Alternatives from Lands, Transportation, and Access Management, Alternatives B, C, and D would include requirements that the design of fuel breaks and firebreaks would take soil stabilization into consideration indirectly decreasing the potential for subsequent erosion. Also burned areas would be rehabilitated to stabilize soils and reduce erosion.

Alternative C would also require that fire suppression strategies take into account areas of soil instability to reduce potential for erosion.

6.4.6.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative C would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.4.6.5 Effects from Recreation Management

Access to caves would be controlled to reduce disturbance and vandalism. The restrictions would be greater than those under Alternatives A, B, and D. As part of the protection of sensitive bat species, climbing would be managed near these species habitat. This would indirectly reduce the amount of access and visitation to any caves that house these bat species.

As part of the Interpretive Services Master Plan, the ecological importance of caves would be emphasized, and access to certain caves would be allowed at low-water as part of the program.

There would be some increase in concessions and facilities under Alternative C. Effects would be similar to those described under Alternative B, but effects would be reduced because Alternative C would focus on low-impact, conservation-oriented activities and fewer developments would be proposed.

6.4.7 Effects on Geologic Resources under Alternative D

6.4.7.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative D would be the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.4.7.2 Effects from Natural Resources Management

Implementing the fire management plan would have effects similar to those described for under Alternative B. Alternative D would be more effective than Alternative B in

maintaining and reestablishing native vegetation because Reclamation would revegetate moderate to large areas that have been affected by fire, and would retain mature oaks during fire management activities.

6.4.7.3 Effects from Lands, Transportation, and Access Management

In addition to the effects discussed in Effects Common to All Alternatives from Lands, Transportation, and Access Management, Alternatives B, C, and D would include requirements that the design of fuel breaks and firebreaks would take soil stabilization into consideration indirectly decreasing the potential for subsequent erosion. Also burned areas would be rehabilitated to stabilize soils and reduce erosion.

6.4.7.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative D would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.4.7.5 Effects from Recreation Management

Access to caves would be expanded over that allowed in Alternatives A and C, but would still be managed per federal law and health and safety requirements.

Under Alternative D, concessions and facilities at New Melones would potentially increase, causing effects similar to those described for Alternative B, Recreation. Effects would be less under Alternative D because fewer developments would be proposed, but greater than under Alternative C.

6.5 Water Resources (Hydrology and Water Quality)

6.5.1 Introduction

This section describes potential effects on water resources and water quality in the New Melones Lake Area, from management actions and other resource uses. This analysis focuses on direct and indirect effects from management actions and other resource uses that would improve or worsen water resources and water quality.

6.5.2 Methods of Analysis

6.5.2.1 Methods and Assumptions

Effects on water resources and water quality are determined by analyzing how management actions and other resource can change groundwater, drainage patterns, flooding, and pollutant or contaminant levels. Effects are determined to be adverse if actions degrade water resources and water quality in the New Melones Lake Area.

The analysis is based on the following assumptions:

- Proposed activities that could not be mitigated would not be authorized;
- BMPs and SOPs would be implemented when necessary to protect water resources and water quality;

- Proposed actions would comply with applicable laws and regulations governing water quality and water resources; and
- Reclamation retaining water rights, protecting riparian zones and wetlands, and ensuring adequate sewage facilities to ensure no water pollution from visitors occurs, have been identified by adjacent, affected communities as important values on public lands (Bureau of Reclamation 2007d).

6.5.3 Effects on Water Resources Common to All Alternatives

6.5.3.1 Effects from Physical Resources Management

Reclamation would continue to review and comment on all proposed mining plans and reclamation plans that may affect the New Melones watershed. By informing mining operations about water contamination concerns from mining activity, Reclamation would continue to minimize the degradation of water quality. There would be no new effects.

Reclamation would continue to update minimum basic facilities; coordinate watershed management; coordinate water quality monitoring; review and comment on environmental documents for projects within the watershed; design, operate, and maintain recreation area facilities to minimize water contamination, minimize the loss of soils due to surface runoff, maximize water conservation; and minimize the number, extent, and adverse effect of stream crossings. This would continue to minimize contaminants reaching water bodies by, minimizing surface disturbances. There would continue be no new effects.

With respect to the Sanitation topic in Hydrology and Water Quality management actions, Reclamation would continue to manage waste at New Melones. This includes, requiring waste treatment systems to comply with applicable waste discharge requirements, and prohibiting dumping of any kind on Reclamation lands and water. Properly managing waste would continue to minimize contaminants reaching water bodies. There would be no new effects.

With respect to the Erosion topic in Hydrology and Water Quality management actions, Reclamation would continue to minimize erosion. This includes, for example, locating and designing roads, trails, and access easements to follow the natural topography and promoting stream bank and reservoir shoreline stability. This would continue to minimize water turbidity by minimizing erosion. There would be no new effects.

With respect to the Contaminants topic in Hydrology and Water Quality management actions, Reclamation would continue to manage contaminants. This includes, complying with applicable hazard waste and materials regulations, and minimizing development and disturbance on serpentine outcrops to control movement of asbestos fibers into water bodies. This would continue to minimize water quality degradation by managing contaminants. There would be no new effects.

With respect to the Wetlands topic in Hydrology and Water Quality management actions, Reclamation would continue to manage contaminants and preserve water resources. This includes, avoiding wetland communities when practical and ensuring no net loss of

wetlands. This would continue to minimize contaminants from reaching water bodies by minimizing surface disturbances, and preserving wetlands from being converted in to other uses or habitats. There would be no new effects.

6.5.3.2 Effects from Natural Resources Management

Reclamation would continue to limit disturbance and intensive visitor use along perennial stream corridors and reservoir coves that maintain prime spawning, rearing, and adult residence area fisheries. Also, Reclamation would minimize disturbance of habitat in perennial streams that support native fish. Minimizing disturbances would minimize the potential for erosion to occur, thereby minimizing the potential for sediment to create turbid water. There would be no new effects.

6.5.3.3 Effects from Lands, Transportation, and Access Management

Reclamation would continue to encourage and support cooperative planning within the Stanislaus watershed, continue to review and participate in the development of regional plans on adjacent lands, and continue to coordinate with applicable agencies and entities. These coordination actions would continue to manage activities capable of contributing contaminants to water bodies, and continue to manage activities capable of altering the availability of water. There would be no new effects.

Reclamation would continue to enforce regulations related to trespass onto, or the unauthorized use of, the land and water under Reclamation's jurisdiction; implement a program to periodically patrol areas where unpermitted grazing or water access occurs, as well as areas where off-road vehicles are known to be used; pursue cooperation aimed at preventing unauthorized use and trespass by continuing to implement a program of public information, education, and contact; and resolve land ownership and jurisdictional uncertainties with other agencies when discrepancies are identified. These activities would continue to minimize unauthorized uses that result in, turbid water from erosion and water quality degradation from livestock waste deposition. There would be no new effects.

Reclamation would continue to update minimum basic facilities, such as parking and sanitation facilities. Providing facilities and receptacles for waste would continue to keep wastes from entering water bodies and degrading water quality. There would be no new effects.

6.5.3.4 Effects from Cultural and Social Resources Management

There were no identified effects on water resources from cultural and social resources management.

6.5.3.5 Effects from Recreation Management

Reclamation would continue to design roads, trails, and access easements to follow the natural topography, provide and maintain land and water-based toilets, and provide and maintain appropriate storage, transfer, containment, and disposal facilities for liquids, such as oil, solvents, antifreeze, and paints, at Reclamation and lessee facilities. Recycling of these materials would continue to be encouraged. This would continue to minimize water turbidity by minimizing surface disturbances, and minimize water quality degradation by properly managing hazardous liquids. There would be no new effects.

Reclamation would continue to limit disturbance and intensive visitor use along perennial stream corridors and reservoir coves that maintain prime spawning, rearing, and adult residence area fisheries. Also, Reclamation would minimize disturbance of habitat in perennial streams that support native fish. Minimizing disturbances would minimize the potential for erosion to occur, thereby minimizing the potential for sediment to create turbid water. There would be no new effects.

Reclamation would continue to design recreation area facilities to minimize water contamination and loss of soils due to surface runoff. This would, minimize water turbidity by minimizing erosion. There would be no new effects.

Reclamation would continue to design roads, trails, and access easements to follow the natural topography, minimizing steep slopes, and limiting the number of stream crossings. This would continue to minimize surface disturbances, which can be sources of sediments that create turbid water. There would be no new effects.

Reclamation would continue to interpret the natural, cultural, and recreation resources at New Melones, and stress the importance of water resource management and conservation activities to Reclamation, its water users, and other agencies. Also, Reclamation would continue to encourage recreational user groups and neighbors to assist with the stewardship and management of project lands. These actions would continue to inform the public about the importance of water quality and water resources, and promote the protection of water quality and water resources. There would be no new effects.

6.5.4 Effects on Water Resources under Alternative A

6.5.4.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative A are the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.5.4.2 Effects from Natural Resources Management

Reclamation would continue to implement wildlife management requirements included in the Baseline Conservation Camp lease by having the lessee implement an annual operating plan that includes erosion control projects, and maintaining and constructing water impoundments. This would occur in the PWMA. Controlling erosion would continue to keep sediment out of water bodies, and constructing water impoundments would continue to provide water resources for wildlife. There would be no new effects.

Reclamation would continue to implement an integrated pest management plan that describes appropriate techniques for invasive species control (i.e., quagga and zebra mussels, yellow star thistle, New Zealand mud snail). These techniques include pesticide and herbicide application, grazing, fire, mechanical techniques, and biological control. This action would continue to use pesticides and herbicides capable of contaminating water. There would be no new effects.

6.5.4.3 Effects from Lands, Transportation, and Access Management

Reclamation would continue efforts to eliminate unpermitted grazing, and water access on lands under its jurisdiction. This would continue to minimize erosion, which can

create turbid water, and the deposition of livestock waste, which can degrade water quality. There would be no new effects.

Reclamation would continue to enforce its OHV policy and regulation, which states that all Reclamation lands are closed to off-road vehicles, except for those areas specifically designated for such use (43 CFR, Part 420). This would continue to minimize erosion, which can create turbid water. There would be no effects.

All grazing leases for New Melones lands are now expired and have not been renewed. Continuance of grazing could be allowed with the development of approved grazing plans. It is assumed the grazing plan would not allow grazing activities to directly or indirectly degrade surface water and groundwater quality, and would not allow grazing activities to alter the quantity of water resources to levels harmful to Reclamation flora and fauna. There would be no new effects.

Reclamation would not make use of appropriate fire and nonfire fuel treatments to meet watershed management goals and objectives. It is assumed, however, the goals and objectives are met by other means. Therefore, there would no new effects on meeting watershed management goals and objectives.

6.5.4.4 Effects from Cultural and Social Resources Management

There were no identified effects on water resources from cultural and social resources management.

6.5.4.5 Effects from Recreation Management

With respect to the Commercial Services and Concessions topic in General Recreation, Reclamation would continue to maintain identified facilities, continue to provide identified services, and continue to prohibit identified activities. This includes, continuing to provide the marina concession services in its present location and the RC flying facility in the PWMA, Peoria Flat subarea. There would be no change in facilities, structures, or activities capable of altering water quality or water resources. There would be no new effects.

Reclamation would continue to maintain existing floating vault toilets at various locations on New Melones Lake, when lake level and weather conditions permit. Providing facilities for waste would continue to keep wastes from entering water bodies and degrading water quality. There would be no new effects.

6.5.5 Effects on Water Resources under Alternative B

6.5.5.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative B are the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.5.5.2 Effects from Natural Resources Management

Effects on water quality and water resources from Baseline Conservation Camp actions in the PWMA would be the same as under Alternative A.

Effects on water quality and water resources from integrated pest management would be the same as under Alternative A.

6.5.5.3 Effects from Lands, Transportation, and Access Management

Reclamation would continue efforts to eliminate unpermitted grazing and water access on lands under its jurisdiction. In appropriate areas, and with an approved permit and grazing plan, Reclamation may allow grazing and stock watering as a means to control invasive plant species and to reduce fire danger. Reclamation would implement industry-recommended, standard BMPs to protect water quality. It is assumed the grazing plan would not allow grazing activities to directly or indirectly degrade surface water and groundwater quality, and would not allow grazing activities to alter the quantity of water resources to levels harmful to Reclamation flora and fauna. Consequently, effects on water quality and water resources from eliminating unpermitted grazing and allowing grazing in appropriate areas would be the same as under Alternative A.

Reclamation would continue to enforce its OHV policy and regulation, which states that all Reclamation lands are closed to off-road vehicles, except for those areas specifically designated for such use (43 CFR, Part 420). Also, Reclamation would enter into a managing partner or concession agreement to construct facilities and operate an OHV park. Locations to be considered may include PWMA, Westside, Bowie Flat, Greenhorn Creek, French Flat, and Bear Creek Management Areas. It is assumed the OHV park would not allow OHV activities to directly or indirectly degrade surface water and groundwater quality, and would not allow OHV activities to alter the quantity of water resources to levels harmful to Reclamation flora and fauna. Consequently, effects on water quality and water resources from off-road vehicles would be the same as under Alternative A.

Reclamation would meet watershed management goals and objectives through the appropriate use of fire and nonfire fuel treatments. In prescriptions for burns, fire lines would be constructed on contour, or stabilized with water bars or other appropriate techniques to control erosion, protect water quality, and prevent rolling fire brands. Reclamation would prevent runoff from directly entering water bodies. These actions would allow Reclamation to use additional tools (fire and nonfire fuel treatments) to meet watershed management goals and objectives. Implementing these tools would add to the number of options at Reclamation's disposal to accomplish watershed management goals and objectives.

6.5.5.4 Effects from Cultural and Social Resources Management

There were no identified effects on water resources from cultural and social resources management.

6.5.5.5 Effects from Recreation Management

With respect to the Commercial Services and Concessions topic in General Recreation, Reclamation would construct additional facilities, provide additional services, and allow additional activities under Alternatives B, C, and D. Examples are constructing a wave attenuator in the current marina location to minimize storm damage, constructing lodging facilities, developing a new RV park within Tuttletown or Glory Hole (or both), and

developing a mountain bike course. Some of the facilities, services, and activities would be in undeveloped areas, and would increase the amount of impervious surface. This would change erosion and drainage patterns, resulting in changes in water turbidity and groundwater infiltration. As the incidental use of developing areas increases, the potential degradation of water quality would increase. Conversely, providing facilities and receptacles for proper disposal of waste would preserve water quality. Alternative B would have more new facilities, services, and activities than Alternatives C and D, and therefore the greatest effects would be expected under this alternative. Because the specific locations and feasibility of some of the proposed facilities, services, and activities have not been identified, the potential effects on water quality and water resources could vary in intensity.

Reclamation would install additional floating vault toilets at various locations on New Melones Lake, when lake level and weather conditions permit. Providing additional facilities for waste would increase the potential for keeping wastes from entering water bodies and degrading water quality.

6.5.6 Effects on Water Resources under Alternative C

6.5.6.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative C are the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.5.6.2 Effects from Natural Resources Management

Effects on water quality and water resources from Baseline Conservation Camp actions in the PWMA would be the same as under Alternative A. Additionally, the lessee would provide at least 40 hours of dozer and operator time each year to help develop water impoundments and maintain fire roads. This would provide even greater water resources for wildlife.

Reclamation would continue to implement a portion of an integrated pest management plan that describes appropriate techniques for invasive species control (i.e. quagga and zebra mussels, yellow star thistle, New Zealand mud snail). These techniques include grazing, fire, mechanical techniques, target-specific herbicides, and biological control. Under Alternative C, Reclamation would use target-specific herbicides, so the assumption is that the use of chemicals capable of contaminating water would decrease.

6.5.6.3 Effects from Lands, Transportation, and Access Management

Effects on water quality and water resources from eliminating unpermitted grazing and allowing grazing in appropriate areas would be the same as under Alternative B.

Effects on water quality and water resources from OHV use would be the same as under Alternative A.

Reclamation would carefully plan burning to consider weather and fuel conditions that would help achieve the desired results, while minimizing water quality impacts. This action would allow Reclamation to use another tool (planned burning) to meet desired results, while also minimizing water quality impacts. Implementing this tool would add to

the number of options at Reclamation's disposal to accomplish watershed management goals and objectives.

6.5.6.4 Effects from Cultural and Social Resources Management

There were no identified effects on water resources from cultural and social resources management.

6.5.6.5 Effects from Recreation Management

With respect to the Commercial Services and Concessions topic in General Recreation, Reclamation would construct additional facilities, provide additional services, and allow additional activities under Alternatives B, C, and D. Examples are relocating the marina within Glory Hole Recreation Area but with a smaller footprint and/or seasonal operation to minimize storm damage and constructing eco-friendly lodging. Some of the facilities, services, and activities would be in undeveloped areas, and would increase the amount of impervious surface. This would change, erosion and drainage patterns, resulting in changes in water turbidity and groundwater infiltration. As the incidental use of developing areas increases, the potential degradation of water quality would increase. Conversely, providing facilities and receptacles for proper disposal of waste would preserve water quality. Alternative C would have fewer new facilities, services, and activities than Alternatives B and D, and therefore effects would be less under Alternative C than under B and D. Because the specific locations and feasibility of some of the proposed facilities, services, and activities have not been identified, the potential impacts on water quality and water resources could vary in intensity.

Effects on water quality from adding floating vault toilets would be the same as under Alternative B.

6.5.7 Effects on Water Resources under Alternative D

6.5.7.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative D are the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.5.7.2 Effects from Natural Resources Management

Effects on water quality and water resources from Baseline Conservation Camp actions in the PWMA would be the same as under Alternative A, until such time as the new lease is signed and in effect. Therefore, the effects on water quality and water resources may change, depending on the terms of the new lease.

Effects on water quality and water resources from integrated pest management would be the same as under Alternative A

6.5.7.3 Effects from Lands, Transportation, and Access Management

Effects on water quality and water resources from eliminating unpermitted grazing and allowing grazing in appropriate areas would be the same as under Alternative B.

The impacts on water quality and water resources from OHV use would be the same as Alternative A.

Reclamation would meet watershed management goals and objectives through the appropriate use of fire and nonfire fuel treatments. This action would allow Reclamation to use additional tools (fire and nonfire fuel treatments) to meet watershed management goals and objectives. Implementing these tools would add to the number of options at Reclamation's disposal to accomplish watershed management goals and objectives.

6.5.7.4 Effects from Cultural and Social Resources Management

There were no identified effects on water resources from cultural and social resources management.

6.5.7.5 Effects from Recreation Management

With respect to the Commercial Services and Concessions topic in General Recreation, Reclamation would construct additional facilities, provide additional services, and allow additional activities. Examples are relocating the marina within Glory Hole Recreation Area, with separate areas for private moorage and public rentals and services, constructing lodging facilities, developing a new RV park within Tuttletown or Glory Hole (or both), and developing a mountain bike course. Some of the facilities, services, and activities would be in undeveloped areas and would increase the amount of impervious surface. This would change erosion and drainage patterns, resulting in changes in water turbidity and groundwater infiltration. As the incidental use of developing areas increases, the potential degradation of water quality would increase. Conversely, providing facilities and receptacles for proper disposal of waste would preserve water quality. Alternative D would have more facilities, services, and activities than Alternative C and fewer than Alternative B. Because the specific locations and feasibility of some of the proposed facilities, services, and activities have not been identified, the potential impacts on water quality and water resources could vary in intensity.

Effects on water quality from adding floating vault toilets would be the same as under Alternative B.

6.6 Visual Resources

6.6.1 Introduction

Visual resources, including aesthetics and scenic resources, are the visible physical features on a landscape (e.g., land, water, vegetation, animals, structures, and other features). This section describes potential effects on visual resources from management actions and other resource uses. This analysis focuses on direct and indirect effects from actions that would change the visual resources by either introducing intrusions into the landscape or, conversely, protecting the landscape from such visual intrusions.

6.6.2 Methods of Analysis

6.6.2.1 Methods and Assumptions

Effects on visual resources are determined through the consistency of proposed management actions with Reclamation's mission to manage, develop, and protect water and related resources in an environmentally and economically sound manner, in the

interest of the American public. Effects are determined to be adverse if actions diminish visual resources.

The analysis is based on the following assumptions:

- Those activities proposed that could not be mitigated would not be authorized;
- The greater the size and/or severity of surface disturbance, and/or degree of air quality degradation, the greater the effect there would be to scenic quality;
- All resources with management actions that permit surface disturbances or degrade air quality would have adverse effects on visual resources to some degree. Surface disturbances would introduce new visual elements onto the landscape or intensify existing visual elements, altering the attributes that characterize the existing landscape. Changes in air quality, either from smoke, dust, haze, or other pollutants, could potentially reduce or degrade scenic quality by obscuring distant views in the short-term and long-term; and
- Preserving undeveloped areas, restoring some areas, and preserving viewing of wildlife have been identified by adjacent, affected communities as important values on public lands (Bureau of Reclamation 2007d). The importance of scenic values, natural appearing landscapes, and unaltered open space are expected to increase in value to residents and visitors over the life of the RMP.

6.6.3 Effects on Visual Resources Common to All Alternatives

6.6.3.1 Effects from Physical Resources Management

Reclamation would continue to restrict mining and material excavation within the study area, and coordinate with adjacent landowners and managers to prevent degradation of Reclamation lands. This would continue to prevent mining activities from altering the natural landscape. There would be no new effects.

As needed, Reclamation would continue to manage recreation use to preserve and minimize impacts on cave resources, such as scenic qualities, fragile formations, cultural resources, and sensitive species. This would continue to minimize the degradation and destruction of visual resources associated with caves. There would be no new effects.

Actions would continue to be taken by Reclamation to minimize erosion, which can lead to sedimentation and result in water quality degradation. This would continue to preserve the scenic qualities of the landscape by promoting clear water in the lake and streams. There would be no new impacts.

Under all alternatives, Reclamation would continue to do the following:

- Educate agencies and landowners on the negative impacts on the visual quality of the study area from certain land use activities;

- Manage recreation impacts in Rural Natural Management Areas to preserve sensitive resources in their natural state, and to maintain scenic qualities associated with these areas;
- Design all facilities to blend in to the natural landscape through careful siting (for example, behind terrain, away from ridgelines, within vegetated areas), screening with appropriate native plant species, use of architectural design (including style, scale, texture, and colors) compatible with the applicable surroundings, and avoiding the use of unpainted, metallic surfaces, such as roof materials;
- Ensure concession signs comply with the Reclamation sign manual;
- Comment on plans and environmental documents for new major projects within the watershed to prevent potential adverse visual effects on Reclamation lands;
- Implement and update the project-wide sign management plan; and
- Design fuel breaks and firebreaks in a manner that minimizes impacts on aesthetic, visual, and scenic resources.

These actions are designed to preserve visual resources by managing intrusions on the natural landscape, promoting the value of visual resources, and managing recreation so activities do not impair visual resources. Intrusions on the natural landscape include roads and shelters. The impairment of visual resources from recreation activities includes scarred terrain, trampled vegetation, and littering. These management actions would minimize effects from these activities and facilities. There would be no new effects compared to existing conditions.

6.6.3.2 Effects from Natural Resources Management

Reclamation would continue to protect and promote native and unique plant communities for long-term sustainability and viability. These communities include oak woodlands, native perennial grasslands, wetlands, vernal pools, and plants associated with serpentine soils. Reclamation would continue to minimize human activities that clear or convert native plant communities. This would continue to preserve the setting of the natural landscape by protecting native plant communities. There would be no new effects.

Vegetation and fish and wildlife management actions implemented under all alternatives would protect, improve, restore, and minimize disturbance of native and sensitive vegetation and wetland communities. Reclamation would also provide for public education on the ecology of native plant communities, such as oak woodland, native perennial grasslands, vernal pools, riparian areas and wetlands. These actions would continue to preserve the setting of the natural landscape by protecting native plant communities. There would be no new effects.

Reclamation would continue to limit disturbance and intensive visitor use along perennial stream corridors, and reservoir coves that maintain prime spawning, rearing, and adult residence area fisheries. Reclamation would continue to minimize disturbance of habitat in perennial streams that support native fish. These actions would continue to preserve the setting of the natural landscape by minimizing disturbances to riverine habitat. There would be no new effects.

6.6.3.3 Effects from Lands, Transportation, and Access Management

Reclamation would continue the designation of the New Melones Lake Project as a Special Use Area, pursuant to 43 CFR, Part 423, for the protection of public health and safety, the protection and preservation of cultural and natural resources, the protection of environmental and scenic values, scientific research, the security of Reclamation facilities and the avoidance of conflict among visitor use activities. There would be no new impacts on visual resources.

Land management actions to prevent unauthorized use and trespass (from activities such as grazing and OHV use), enforce regulations related to unauthorized use and trespass, and resolve land ownership and jurisdictional uncertainties with other agencies when discrepancies are identified, would continue to preserve the setting of the natural landscape by minimizing unauthorized activities that alter the natural setting in unexpected ways. These alterations include the disposal of refuse and trampling of vegetation. There would be no new effects.

6.6.3.4 Effects from Cultural and Social Resources Management

There would be no identified effects on visual resources from cultural and social resources management.

6.6.3.5 Effects from Recreation Management

Land use activities would continue to be limited within wetland and riparian buffer zones to prevent significant deterioration of wetland habitats. Reclamation would continue to promote wildlife viewing and appropriate dispersed recreation, such as hiking, horseback riding, climbing, bicycling, hunting, and fishing throughout New Melones, but especially in the Peoria Wildlife Management Area. Also, roads, trails, and access easements would continue to be designed to follow the natural topography, minimizing steep slopes, and limiting the number of stream crossings. These actions would continue to preserve visual resources by minimizing recreation activities and infrastructure capable of impairing visual resources, and maintaining healthy landscapes in order to promote the presence of wildlife. There would be no new effects.

To preserve cave resources such as scenic qualities, fragile formations, cultural resources, and sensitive species, recreation use would continue to be managed to minimize impacts as needed. There would be no new effects on visual resources.

6.6.4 Effects on Visual Resources under Alternative A

6.6.4.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative A would be the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.6.4.2 Effects from Natural Resources Management

Reclamation would continue to implement BMPs and SOPs to reduce fire danger and respond to wildland fires. This would not make use of minimal prescribed fire techniques, which can be used to promote the health of the native landscape.

Consequently, a nonnative landscape could become more prevalent. There would be no new effect.

6.6.4.3 Effects from Lands, Transportation, and Access Management

Reclamation would continue to implement project-wide BMPs to reduce fire danger and respond to wildland fires. During fire management activities, there would continue to be no effort to retain mature oaks for their wildlife benefits and scenic qualities. There would be no new effects.

6.6.4.4 Effects from Cultural and Social Resources Management

There would be no identified effects on visual resources from cultural and social resources management.

6.6.4.5 Effects from Recreation Management

With respect to the Commercial Services and Concessions topic in General Recreation, Reclamation would continue to maintain identified facilities, provide identified services, and prohibit identified activities. This includes, for example, continuing to provide the marina concession services in its present location, and the RC flying facility in the PWMA, Peoria Flat subarea. Because these services, facilities, and activities would not change, there would be no change to the natural landscape. There would be no new effects.

Reclamation would continue to maintain existing floating vault toilets, at various locations on New Melones Lake, when lake level and weather conditions permit. This action would not add highly visible structures to areas with minimal cover for shielding views. There would be no new effects.

6.6.5 Effects on Visual Resources under Alternative B

6.6.5.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative B would be the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.6.5.2 Effects from Natural Resources Management

Reclamation would implement the Fire Management Plan for the New Melones Management Area (Appendix D), which includes using prescribed burning. This would promote the vigor of the native landscape that relies on fire to promote natural processes, and minimize the presence of nonnative flora in the landscape.

6.6.5.3 Effects from Lands, Transportation, and Access Management

Reclamation would implement the Fire Management Plan (Appendix D). During fire management activities, there would continue to be no effort to retain mature oaks for their wildlife benefits and scenic qualities. There would be no new effects.

6.6.5.4 Effects from Cultural and Social Resources Management

There would be no identified effects on visual resources from cultural and social resources management.

6.6.5.5 Effects from Recreation Management

With respect to the Commercial Services and Concessions topic in General Recreation, Reclamation would construct additional facilities, provide additional services, and allow additional activities under Alternatives B, C, and D. This includes, for example, constructing a wave attenuator in the current marina location to minimize storm damage, and developing additional RC flying facilities in locations such as Westside, Bowie Flat, Greenhorn Creek, French Flat, and Bear Creek Management Areas. Some of the facilities, services, and activities would be in undeveloped areas, resulting in loss of the natural landscape and open space, and the creation of nighttime light and glare. Alternative B would have more new facilities, services, and activities than Alternatives C and D, therefore the greatest effects would be expected under this alternative. Because the specific locations and feasibility of some of the proposed facilities, services, and activities have not been identified, the potential impacts on visual resources could vary in intensity.

Reclamation would install additional floating vault toilets at various locations on New Melones Lake when lake level and weather conditions permit. This action would add highly visible structures to areas with minimal cover for shielding views.

6.6.6 Effects on Visual Resources under Alternative C

6.6.6.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative C would be the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.6.6.2 Effects from Natural Resources Management

Reclamation would implement the Fire Management Plan (Appendix D). This would include retaining mature oaks for their wildlife benefits and scenic qualities during fire management activities. This would preserve landscape diversity and would have long-term effects.

6.6.6.3 Effects from Lands, Transportation, and Access Management

Effects from lands, transportation, and access management under Alternative C would be the same as those described under natural resources management for Alternative C.

6.6.6.4 Effects from Cultural and Social Resources Management

There would be no identified effects on visual resources from cultural and social resources management.

6.6.6.5 Effects from Recreation Management

With respect to the Commercial Services and Concessions topic in General Recreation, Reclamation would construct additional facilities, provide additional services, and allow additional activities under Alternatives B, C, and D. This includes, for example, relocating the marina within Glory Hole Recreation Area, but with a smaller footprint or seasonal operation to minimize storm damage, and continuing to operate and maintain the existing RC flying facility in the PWMA, Peoria Flat subarea. Some of the facilities, services, and activities would be in undeveloped areas, resulting in the loss of the natural

landscape and open space, and the creation of nighttime light and glare. Alternative C would have fewer new facilities, services, and activities than Alternatives B and D, therefore effects would be less under Alternative C as compared to B and D. Because the specific locations and feasibility of some of the proposed facilities, services, and activities have not been identified, the potential impacts on visual resources could vary in intensity.

The impacts on the visual landscape from adding floating vault toilets would be the same as Alternative B.

6.6.7 Effects on Visual Resources under Alternative D

6.6.7.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative D would be the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.6.7.2 Effects from Natural Resources Management

The impacts on the visual landscape from implementing the Fire Management Plan would be the same as Alternative C.

6.6.7.3 Effects from Lands, Transportation, and Access Management

The impacts on the visual landscape from implementing the Fire Management Plan would be the same as those under Alternative C.

6.6.7.4 Effects from Cultural and Social Resources Management

There would be no identified effects on visual resources from cultural and social resources management.

6.6.7.5 Effects from Recreation Management

With respect to the Commercial Services and Concessions topic in General Recreation, Reclamation would construct additional facilities, provide additional services, and allow additional activities under Alternatives B, C, and D. This includes, for example, relocating the marina within Glory Hole Recreation Area, with separate areas for private moorage and public rentals and services, and continuing to operate and maintain the existing RC flying facility in the PWMA, Peoria Flat subarea. Some of the facilities, services, and activities would be in undeveloped areas, resulting in the loss of the natural landscape and open space, and the creation of nighttime light and glare. Alternative D would have more facilities, services, and activities than Alternative C, and fewer than Alternative B. Because the specific locations and feasibility of some of the proposed facilities, services, and activities have not been identified, the potential impacts on visual resources could vary in intensity.

The impacts on the visual landscape from adding floating vault toilets would be the same as Alternative B.

6.7 Vegetation

6.7.1 Introduction

The effects of management actions on vegetative communities may vary widely, depending on factors such as the type of soils, topography, and plant reproductive characteristics. Surface disturbance removes existing vegetation, and can increase opportunities for noxious weeds and invasive species establishment, which reduces vegetation diversity, production, and desirable plant cover. Indirectly, this could reduce the ecological health of vegetative communities by decreasing plant vigor and making vegetation more susceptible to disease and mortality. Increasing surface disturbance could increase erosion rates, and decrease vegetative health and riparian and wetland functioning conditions. Further, surface disturbance would increase dust, which could affect vegetation health and vigor by disrupting plant respiratory and photosynthetic functions. Effects on vegetation resources also vary depending on the age and composition of vegetation communities, described in Chapter 5.

6.7.2 Methods of Analysis

6.7.2.1 Methods and Assumptions

Effects are determined by assessing which actions, if any, would change vegetation structure or composition, decrease the extent of native vegetation, allow for increased dominance of invasive weeds, or affect habitat value for wildlife. In the absence of quantitative data, best professional judgment based on scientific reasoning was used, and effects are described in qualitative terms, sometimes using ranges of potential effects.

Some effects are direct, while others are indirect, and affect vegetation through a change in another resource. Direct effects on vegetation are disrupting, trampling, or removing rooted vegetation, thereby reducing areas of native vegetation. Other direct effects on rangeland vegetation are mortality from toxic chemicals, and actions that unequivocally reduce total numbers of plant species, or reduce, or cause the loss of total area, diversity, vigor, structure, or function of wildlife habitat.

Potential indirect effects are loss of habitat suitable for colonization by native plants due to surface disturbance, changes in hydrology or water availability, introduction of invasive weeds by various vectors or conditions that enhance the spread of weeds, and general loss of habitat due to development or surface compaction. Indirect effects are those that cannot be absolutely linked to one action, such as decreased plant vigor or health.

The following assumptions were made for the purpose of this analysis:

- All plant communities would be managed toward achieving a mix of species composition, cover, and age classes across the landscape.
- Invasive weeds would continue to be introduced and spread as a result of ongoing vehicle traffic, recreational activities, wildlife movements, and maintenance activities.

- Weeds often exploit disturbed areas and are adept at outcompeting many native species.
- Most actions that disturb soils or vegetation will increase the potential for weed infestation.
- Weed infestation will often follow transportation routes, making transmission corridors, roadsides, and trails prime habitat for weeds, and making people and vehicles prime vectors for the spread of weeds.

6.7.3 Effects on Vegetation Common to All Alternatives

6.7.3.1 Effects from Physical Resources Management

Mining restrictions would directly protect vegetation from disturbance or removal in localized areas. Riparian vegetation would be protected from disturbance or removal by minimizing stream crossings, while water quality protections would indirectly foster riparian vegetative health, as riparian plants rely on the adjacent waterways for their water source. Erosion prevention measures would provide a stable substrate for all vegetation, and protection of serpentine areas would directly prevent removal or disturbance of serpentine-dependent vegetation, a sensitive natural community.

6.7.3.2 Effects from Natural Resources Management

Vegetation and fish and wildlife management actions would be implemented under all alternatives. These would protect, improve, restore, and enhance native and sensitive vegetation while removing invasive weeds. Seeding and improving native vegetative cover would reduce soil compaction and increase infiltration, which would indirectly improve vegetation health, productivity, and diversity. Other effects include increased plant diversity, improved structure and composition of plant communities, variety in age classes, weed control, soil stability, and a more natural fire regime.

Under all alternatives, approved biological controls would be specific to target species so there would be no direct effect on non-target species. Chemical treatments would be applied according to label directions, following established guidelines, BMPs, and SOPs for application. Chemical applications would be designed to avoid effects on non-target species.

Special status species management actions would protect lands where they support special status species, and often have effects similar to those from wildlife management actions. Further, special status species management would prevent activities that would lead to listing of species. Those protections, as well as encouraging dispersed recreation, would help prevent fragmentation of native vegetative communities and disturbance to native vegetation and would lower the likelihood of weed introduction and spread.

Under all alternatives, Reclamation would continue to use the Baseline Conservation Camp lessee for erosion control projects, tree planting, and fire protection. This would help foster healthy, native vegetation, and prevent catastrophic fires that could destroy vegetation.

6.7.3.3 Effects from Lands, Transportation, and Access Management

Management of the New Melones Lake Area as a special use area would indirectly protect vegetation by establishing public use limits, special uses and other conditions, and restrictions and prohibitions on particular uses or activities. This would help to minimize direct disturbance to vegetation. Prohibiting OHV use on Reclamation lands, except in designated areas, would minimize vegetation removal and disturbance, as well as weed introduction and spread.

Use and construction of roads and trails, as well as motorized vehicle use, would result in effects on vegetation, such as reduced vegetative cover and density, as well as soil compaction, erosion, sedimentation, and increased dust. Motorized vehicle users would introduce and spread invasive weed seeds from their vehicles, shoes, clothing, and recreational equipment, such as bikes. Motorized activities in undisturbed and remote areas could distribute weed seeds into weed-free areas. These effects could decrease plant vigor and productivity, alter community plant composition, and cause plant mortality. In riparian areas, weed infestation can be sufficient to cause poor function by reducing vegetative and canopy diversity and structure, and by altering fire regimes and water retention rates. Motorized vehicle use in the New Melones Lake Area is limited to established roads, which limits direct effects on vegetation. Areas closed to vehicular travel would have the least effect on vegetation.

Wildland fire would cause a range of effects to vegetation and weeds, depending on how actively certain areas are managed. Vegetation response to fire depends on the size, location, intensity, season, timing, amount of precipitation, the preexisting plant community conditions, and the abundance of invasive weeds in the area. Fires have direct effects by changing the composition of the plant community, delaying plant succession, and removing woody vegetation and plant litter. Wildland fires might burn with enough heat to kill soil organisms and root systems, resulting in diminished plant recruitment and growth rates, particularly for fire-sensitive species.

Indirectly, wildland fires create an opportunity for the establishment or spread of invasive weeds. This is because fires remove aboveground vegetation, leaving burned areas more susceptible to invasion. Some species of invasive weeds respond well to post-fire conditions and outcompete native species. In areas where invasive weeds occur or are in close proximity, wildland fire increases the likelihood of weeds spreading. Firefighters and their equipment might also introduce or spread invasive weeds. Some mechanical control activities disturb the soil surface and remove vegetation, creating an opportunity for the establishment or spread of invasive weeds.

Further, since fire retardants are composed largely of nitrogen and phosphorus fertilizers, they may encourage growth of some species, particularly weeds, at the expense of others, indirectly resulting in changes in community composition and species diversity. Differential growth may also influence herbivorous behavior; both insect and vertebrate herbivores tend to favor new, rapidly growing shoots.

However, wildfire suppression and creation of fuel breaks would prevent catastrophic destruction of native vegetation and would indirectly preserve native vegetation and

diversity in these areas over the long term. Fuels management actions would help to reestablish native vegetative communities, and provide for healthy, diverse vegetation over the long term.

Eliminating and preventing trespass and unauthorized uses on New Melones lands would protect vegetation, since unauthorized uses are more likely to damage or remove vegetation and introduce weeds. Informing the public and working with others to prevent unauthorized use would add to the effectiveness of this action.

Rights-of-way remove vegetation on the footprint of authorized facilities. Most of the footprints are localized and cover a small area, but rights-of-way tend to be linear and may stretch for miles. If disturbed areas are not properly reseeded with native vegetation, weeds could be introduced and spread over a large area. Anyone intending to alter vegetation near rights-of-way would be required to coordinate with Reclamation beforehand, which would help reduce weed spread and effects on vegetation.

Livestock grazing could be permitted in the future under all alternatives. If applied properly, grazing can be used to reduce fuel loads and invasive species, and increase desired plant populations. However, grazing can disturb vegetation through direct vegetation removal, disturbance, or trampling, which would reduce vegetation health or, in the most extreme cases, kill plants. Indirect effects from livestock grazing include soil compaction and increased potential for weed invasion and spread, which could subsequently reduce vegetative health and vigor and alter the natural fire regime. In riparian areas, livestock grazing deteriorates stabilizing vegetation, erodes banks, and causes declines in water storage capacity and quality. To minimize effects, grazing plans would be required to ensure appropriate grazing management.

6.7.3.4 Effects from Cultural and Social Resources Management

In general, protections to cultural resources would prevent disturbance and fragmentation of vegetation and limit weed spread in these areas. Areas with cultural resources are generally small-scale and localized, thus limiting effects.

Promoting tourism to the New Melones Lake Area could increase effects to vegetation, since more recreational users would increase the likelihood for vegetation disturbance, as described below in Effects Common to All Alternatives from Recreation Management.

6.7.3.5 Effects from Recreation Management

Recreational users affect vegetation directly by removal and mechanical damage to plants. Indirect effects of recreation include soil compaction, erosion, sedimentation, and weed introduction and spread. Horses, in particular, have a high capacity for introducing weed seeds from manure into previously unaffected areas. Groups of horses may also create soil and vegetation disturbance in areas where they are tethered, increasing the weed potential in confined areas. Together, these effects could lead to reduced vegetative health and vigor, reduced plant cover, lower plant diversity, habitat fragmentation, and altered fire regime. Riparian areas are popular with recreationists, and are particularly sensitive to these changes, as they depend on vegetation to stabilize banks and soils, and

sufficient water supply and quality to maintain vegetation. As the number of users increases, so do the magnitude of the effects.

Under all alternatives, roads, trails, and access easements would be designed to minimize steep slopes and stream crossings. This would help to maintain stable vegetation, and would minimize the likelihood of weed spread.

Interpretive activities would help to increase appreciation for native vegetation and sensitive natural communities, and could minimize effects in the long term.

Reclamation would implement management actions to minimize effects on vegetation from recreation, such as creating recreation management areas, restricting activities in wetland and riparian areas, and designating trails to concentrate effects in certain locations. These actions indirectly prevent lands from unauthorized uses and widespread, uncontrolled damage, and thus reduce habitat fragmentation within the New Melones Lake Area. Further, Reclamation would work to directly protect vegetation, the soils that support plants, and sensitive vegetative communities.

6.7.4 Effects on Vegetation under Alternative A

6.7.4.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative A would be the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.7.4.2 Effects from Natural Resources Management

Implementing BMPs and SOPs during fire management would reduce effects on plants by giving some consideration to vegetation during fire management activities. This includes designing fuel breaks to consider resource objectives for vegetation management, minimizing disturbance to high erosion areas, and maintaining adequate grass and brush clearance near roads. A fire management plan would not be implemented under Alternative A. Compared with the other alternatives, Alternative A would be the least effective in protecting and maintaining native plant communities during fire management activities.

Re-seeding degraded areas with native seed would be the most effective in re-establishing native plant communities while minimizing soil erosion. Further, severe invasions of exotic plant species would be prevented under Alternative A.

No new data on plant communities associated with serpentine soils would be collected, which could limit the effectiveness of long-term planning in those areas by using outdated and/or incomplete information.

Implementing the Interim Peoria Management Plan would largely minimize vegetation disturbance in this area by limiting vehicular and human traffic, and by closing unauthorized trails. Reclamation would actively restore affected areas and would conduct environmental interpretation activities to increase awareness and appreciation of the natural resources. In all, these activities would lower vegetation disturbance, and increase

the quantity and health of native plants, thus helping to achieve Reclamation's goal of maintaining and enhancing native and unique plant communities.

Under Alternative A, Reclamation would protect federally-listed species and their habitats. This would prevent disturbance to vegetation in these areas, which are generally small-scale and localized.

Under Alternative A, Reclamation would consider permitting grazing in certain areas. Effects would be as described in Effects Common to All Alternatives from Lands, Transportation, and Access Management.

6.7.4.3 Effects from Lands, Transportation, and Access Management

Allowing right-of-way utility crossings would have effects as described in Effects Common to All Alternatives from Lands, Transportation, and Access Management. Weed control measures in the right-of-way terms and conditions could offset some effects if fully implemented.

Using the outdated information and previous use trends in the allocation map of the Master Plan could lead to effects on vegetation because past conditions and management areas are different from current conditions.

Maintaining public vehicle closures in certain areas would minimize effects on vegetation caused by grazing and motorized vehicles, as described in Effects Common to All Alternatives from Lands, Transportation, and Access Management.

Managing the Westside and Bowie Flat Management Areas under Alternative A for conservation and maintaining existing trails and roads in place of developing new roads and trails would keep vegetation disturbance low in these areas. This would limit weed introduction and maintain a healthy native plant community in these areas.

Under Alternative A, Reclamation would maintain existing trail systems and would not optimize their connectivity. As a result, no additional vegetation would be removed to create new trails. However, this could allow for disturbance where trail users go off-trail to access other trails and management areas.

Fire management and grazing management would have effects as described in Alternative A, Effects from Natural Resources Management.

6.7.4.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative A would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.7.4.5 Effects from Recreation Management

Keeping existing concessions would minimize future permanent removal of vegetation compared with the other alternatives that call for increased concessions and facilities. By complying with 43 CFR, Part 423, Reclamation would not allow certain activities, such as primitive camping or RV camping in Rural Natural Management Areas. This would

minimize disturbance caused by recreation activities, such as those described in Effects Common to All Alternatives from Recreation Management. Further, prohibition of OHV use would prevent soil compaction, weed introduction or spread, and vegetation removal or trampling.

Operating and maintaining existing facilities in Rural Natural Management Areas, promoting the use of existing trails and unpaved roads, and maintaining existing trails would maintain the current level of vegetation disturbance caused by activities in these areas. Effects would be similar to those caused by recreation activities described in Effects Common to All Alternatives from Recreation Management.

Alternative A would not allow for a white-water rafting operation at Camp Nine. This would protect vegetation in this area, which has a WROS designation of Semi Primitive, and is thus one of the most undisturbed areas within the New Melones Lake Area.

Alternative A would relocate the equestrian staging area. This would introduce effects from horses in a potentially undisturbed area, causing permanent vegetation removal, soil compaction, vegetation trampling, and weed introduction and spread.

Promoting the use of existing trails and unpaved roads, as well as maintaining existing trails, in place of developing new roads and trails, would minimize additional vegetation disturbance and would concentrate effects in designated areas.

Interpretive services under Alternative A would increase visitor awareness of vegetation issues and would help prevent vegetation effects from human use, including trampling, vegetation removal, and weed introduction and spread.

6.7.5 Effects on Vegetation under Alternative B

6.7.5.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative B would be the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.7.5.2 Effects from Natural Resources Management

Implementing the Fire Management Plan would provide a clear direction for fire management at New Melones, and would be the most effective way to manage fire while protecting vegetation. Measures under Alternative B that include consideration of vegetation, include designing fuel breaks, Burned Area Stabilization and Emergency Response planning, using fire to meet vegetation goals, and maintaining adequate grass and brush clearance near roadsides. If achieved, these would improve native plant community composition, structure, and diversity, such as within chaparral and oak woodland communities, reduce weeds, and protect native plant communities from a catastrophic fire that could cause long term and large scale destruction of native vegetation.

Under Alternative B, Reclamation would not require re-seeding degraded areas with native seed. This could allow for the introduction of invasive weeds, which could

outcompete native vegetation. Further, invasive species prevention would occur only where inexpensive opportunities exist. This would be the most limiting to effective invasive species control, and outbreaks would be detrimental to maintaining healthy native vegetative communities.

Using existing data on serpentine plant communities for long term planning would have effects as described under Alternative A.

If implemented, creation of a 66-acre oak tree mitigation area would further increase native plants in the New Melones Lake Area.

Under Alternative B, Reclamation would be the least restrictive of activities within the PWMA by allowing seasonal vehicular use, enhancing wildlife watching opportunities, and allowing nonequestrian camping by certain organizations. Although protections would be similar to those described under Alternative A, Alternative B would disturb some vegetation by allowing seasonal vehicular use and increased recreational opportunities, as described in Effects Common to All Alternatives from Recreation Management.

Depending on the location chosen, allowing Baseline Conservation Camp to expand its footprint could cause the greatest effects to vegetation compared with the other alternatives, by permanently removing vegetation in areas where facilities would be relocated or expanded.

Special status species protections under Alternative B would have effects as described under Alternative A.

Reclamation would consider permitting grazing in certain areas. Effects would be similar to those described in Effects Common to All Alternatives from Lands, Transportation, and Access Management.

6.7.5.3 Effects from Lands, Transportation, and Access Management

Allowing right-of-way utility crossings would have effects as described under Alternative A.

Using a new land allocation map would use up-to-date information and current trends in land use to manage the New Melones Lake Area. This would be the most effective approach, since it could help to prioritize areas for protection, restoration, and weed control.

Closing areas to public vehicles would cause effects similar to those described under Alternative A. However, by opening the PWMA and other previously closed areas to vehicles, Alternative B would cause more effects to vegetation.

New roads could be constructed under Alternative B to obtain access to land-locked Reclamation property. Similarly, a road could be constructed to the Westside Management Area. This would cause permanent vegetation removal and increase the likelihood for weed introduction and spread. Where new roads would be built, vegetation

would be permanently removed and effects would be as described in Effects Common to All Alternatives from Lands, Transportation, and Access Management.

Optimizing trail connectivity and trailhead development would permanently remove vegetation and introduce weeds where new trails are created. Further, it could compact soil and disturb native vegetation, if off-trail activities were to occur. Trails may be closed in certain areas, allowing for restoration and revegetation with native plants. However, by providing more trail connections, Alternative B could prevent off-trail disturbance by users who want to access other trails and management areas.

Fire management, grazing management, and allowing an expanded Baseline Conservation Camp footprint would have effects as described under Alternative B, Effects from Natural Resources Management.

6.7.5.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative B would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.7.5.5 Effects from Recreation Management

Under Alternative B, concessions and facilities at New Melones could increase. Potential changes to the current concessions and facilities that could affect vegetation include:

- Construction of additional marina(s) and associated amenities in Rural Natural Management Areas;
- Construction of overnight lodging facilities, food services, and facilities for staging large events;
- Construction and operation of a mountain bike course in Rural Developed and/or Rural Natural Management Areas;
- Issuance of permits for increased uses in Rural Natural Management Areas, such as an equestrian trail riding business and outdoor adventure schools;
- Construction of primitive campgrounds and RV campgrounds in Rural Natural Management Areas; and
- Construction and operation of an OHV park in Rural Natural Management Areas.

Such increases in land-based concessions would cause permanent removal of vegetation in certain areas. Additional concessions and facilities would foster increases in recreation and effects associated with this, such as those described in Effects Common to All Alternatives from Recreation Management. Effects would be greater in Rural Natural Management Areas, where the amount of disturbance is currently lower than in Rural Developed Management Areas. Proposed actions and effects are contingent upon the results of the Commercial Services Plan and financial feasibility evaluation.

If permitted, a white-water rafting operation could affect vegetation in areas where rafts are put in and taken out. Effects include vegetation trampling or removal, soil

compaction, and weed introduction or spread. The operation would occur in a Semi Primitive Management Area, which could cause noticeable changes to native vegetation in localized areas.

Alternative B would relocate the equestrian staging area, as well as develop additional trails. This would have effects similar to those described under Alternative A, but effects under Alternative B would be greater due to effects from trail creation, such as permanent removal of vegetation and soil compaction.

Promoting the use of existing trails and unpaved roads, as well as preparing a trail management plan that focuses on trail development and connectivity, would minimize additional disturbance to vegetation and would concentrate effects in designated areas. Alternative B would create the most trails of all alternatives, causing the greatest permanent effects to vegetation.

Interpretive services under Alternative B would be expanded compared with Alternative A. Development of an Interpretive Master Plan would effectively and efficiently educate visitors regarding native and sensitive vegetation communities in the New Melones Lake Area, and would minimize effects caused by visitation, recreation, and human uses.

6.7.6 Effects on Vegetation under Alternative C

6.7.6.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative C would be the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.7.6.2 Effects from Natural Resources Management

Implementing the Fire Management Plan would have effects similar to those described under Alternative B. However, Alternative C would be the most effective in re-establishing native vegetation by requiring rehabilitation of all burn areas, protecting sensitive sites from damage by heavy equipment, retaining vegetation within fuel breaks, retaining mature oaks during fire management activities, and using buffer zones to protect riparian and wetland areas.

Native seed would be required for re-seeding under Alternative C, causing effects as described under Alternative A. Further, only target-specific herbicides would be used, and only at the appropriate times of the year. This would minimize unintended mortality of native or desirable vegetation, and would kill invasive species at the most effective time of the year. Thirdly, Alternative C would restrict activities in certain areas that are susceptible to weed invasion. Together, these actions make Alternative C the most effective in preventing and treating invasive weed outbreaks.

Developing a full baseline survey for serpentine-dependent special status plants would give Reclamation a complete and updated data set for managing vegetation. As such, it would be more accurate and effective than the current data, which would be used in Alternatives A and B.

Creation of a 66-acre oak mitigation area would have effects as described under Alternative B.

The Interim Peoria Management Plan under Alternative C would be the most restrictive to public use of the area, closing it to both vehicular traffic and camping. This alternative would be the most effective in preventing human disturbance to, or alteration of, the native vegetation within the PWMA.

Reducing the Baseline Conservation Camp footprint would have the greatest reduction of vegetation disturbance of all alternatives. This would allow native vegetation to reestablish in areas where the footprint was reduced.

Special status species actions under Alternative C would be the most protective to native and sensitive vegetation by protecting not only federally-listed species, as under Alternatives A and B, but also other sensitive wildlife habitats, which would cover a greater land area. Further, Reclamation would consider seasonal use restrictions to avoid effects on special status species, which would protect vegetation during this time.

Alternative C would consider permitting grazing in certain areas. Effects would be similar to those described in Effects Common to All Alternatives from Lands, Transportation, and Access Management, although under Alternative C BMPs would be implemented to protect water quality, which would also protect riparian vegetation from degradation resulting from grazing use.

6.7.6.3 Effects from Lands, Transportation, and Access Management

Alternative C would minimize future easements and rights-of-way over Reclamation lands. This would protect native vegetation over the long term from permanent removal, fragmentation, and invasive species introduction and spread. When projects are approved, applicable guidelines would be used to minimize effects on native vegetation.

Using a new land allocation map would have effects as described under Alternative B.

Closing areas to public vehicles would have effects as described under Alternative A.

Access to the Westside Management Area would focus on conservation, which would reduce effects to vegetation. However, allowing access via hiking and adding hiking trails in certain areas could increase vegetation removal and weed introduction and spread. Trails may be closed in certain areas, allowing for restoration and revegetation with native plants.

Optimizing trail connectivity would have effects similar to those described under Alternative B. However, under Alternative C, Reclamation would not develop new trailheads, thus minimizing permanent removal of vegetation in these areas.

Use of Bowie Flat for hiking and equestrian uses would cause some effects from recreation as described in Effects Common to All Alternatives from Recreation Management. Effects would be less than those caused by motorized vehicle use.

Fire management, grazing management, and reducing the Baseline Conservation Camp footprint would have effects as described under Alternative C, Effects from Natural Resources Management.

6.7.6.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative C would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.7.6.5 Effects from Recreation Management

There would be some increase in concessions and facilities under Alternative C. Effects would be similar to those described under Alternative B, but effects would be reduced because Alternative C would focus on low-impact, conservation-oriented activities and fewer developments would be proposed. Potential concessions and facilities with the greatest likelihood to cause effects on vegetation include:

- Construction of additional marina(s);
- Construction of overnight lodging; and
- Issuance of permits for increased uses, such as an equestrian trail riding business and outdoor adventure schools, in Rural Natural Management Area(s).

Alternative C would aim to minimize future development in Rural Natural Management Areas, which would help to maintain undisturbed vegetation and minimize disturbance caused by increased recreation, such as those effects described in Effects Common to All Alternatives from Recreation Management. Proposed actions and effects are contingent upon the results of the Commercial Services Plan and financial feasibility evaluation.

By not allowing a white-water rafting operation at Camp Nine, Reclamation would protect vegetation from effects as described under Alternative A.

Under Alternative C, Reclamation would not develop additional trails, and would prepare a trails management plan focusing on resource protection. These actions would have the greatest effect in protecting vegetation from disturbance from trails management compared with the other alternatives.

Interpretive services under Alternative C would have effects similar to those described under Alternative B.

6.7.7 Effects on Vegetation under Alternative D

6.7.7.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative D would be the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.7.7.2 Natural Resources

Implementing the Fire Management Plan would have effects similar to those described under Alternative B. Alternative D would be more effective than Alternative B in maintaining and reestablishing native vegetation because Reclamation would revegetate moderate to large areas that have been affected by fire, and would retain mature oaks during fire management activities.

Re-seeding with native seed and preventing infestations of exotic species would have effects as described under Alternative A. Use of target-specific herbicides at the appropriate time of year would have effects as described under Alternative C.

Developing a full baseline survey of serpentine-dependent special status plants would have effects as described under Alternative C.

Creation of a 66-acre oak mitigation area would have effects as described under Alternative B.

Implementing the Interim Peoria Management Plan would have effects as described under Alternative A.

If Reclamation allows Baseline Conservation Camp to expand its footprint, effects would be as described under Alternative B.

Special status species actions would have effects as described under Alternative C.

Alternative D would consider permitting grazing in certain areas. Effects would be similar to those described in Effects Common to All Alternatives from Lands, Transportation, and Access Management, but Alternative D would consider allowing grazing of recreation areas in certain circumstances. This could increase effects on vegetation in those areas.

6.7.7.3 Effects from Lands, Transportation, and Access Management

Minimizing future easements and rights-of-way over Reclamation lands would have effects as described under Alternative C.

Using a new land allocation map would have effects as described under Alternative B.

Closing areas to public vehicles would have effects similar to those described under Alternative A, Lands, Transportation, and Access. However, Alternative D would have more effects by reopening previously closed areas, causing effects from vehicles, such as vegetation trampling and soil compaction.

Obtaining access to landlocked Reclamation property would have effects as described under Alternative B.

Allowing access to the Westside Management Area by hiking, biking, and horseback could lead to permanent removal of vegetation if new trails are created. It would also potentially increase weed introduction and spread, or off-trail trampling of plants and soil

compaction. Under Alternative D, Reclamation may consider a transportation route to allow vehicle access to Westside; an access road to Westside would have effects as described under Alternative B.

Optimizing trail connectivity and developing new trailheads would have effects as described under Alternative B.

Fire management, grazing management, and expanding the Baseline Conservation Camp footprint would have effects as described under Alternative D, Effects from Natural Resources Management.

6.7.7.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative D would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.7.7.5 Effects from Recreation Management

Under Alternative D, concessions and facilities at New Melones could increase, causing effects similar to those described under Alternative B. Effects would be less under Alternative D because fewer developments would be proposed, but greater than under Alternative C. Potential changes to the current concessions and facilities that could affect vegetation include:

- Construction of additional marina(s) and associated amenities in Rural Natural Management Areas;
- Construction of overnight lodging facilities, food services, and facilities for staging large events; and
- Issuance of permits for increased uses in Rural Natural Management Areas, such as an equestrian trail riding business, outdoor adventure schools, and primitive camping.

Such increases in land-based concessions would cause permanent removal of vegetation in certain areas. Additional concessions and facilities would foster increases in recreation and effects associated with this, such as those described in Effects Common to All Alternatives from Recreation Management. Effects would be greater in Rural Natural Management Areas, where the amount of disturbance is currently lower than in Rural Developed Management Areas. Proposed actions and effects are contingent upon the results of the Commercial Services Plan and financial feasibility evaluation.

Alternative D would consider additional development to Rural Natural Management Areas, but not to the extent proposed in Alternative B, where the WROS designation would be changed. Increased recreation and visitors would cause effects as described in Effects Common to All Alternatives from Recreation Management.

If permitted, a white-water rafting operation would have effects similar to those described under Alternative B.

Relocating the equestrian area, as well as trails management actions, would have effects similar to those described under Alternative B.

Interpretive activities would have effects as described under Alternative B.

6.8 Fish and Wildlife (Including Fisheries)

6.8.1 Introduction

This section contains the discussion on the potential effects on the fish and wildlife resources that occur within the New Melones Lake Area. Impacts on the fish and wildlife resources in the New Melones Lake Area from other management programs include the loss or alteration of native habitats, decreased food and water availability and quality, increased habitat fragmentation, changes in habitat and species composition, and disruption or alteration of species behavior, leading to reduced reproductive fitness or increased susceptibility to predation, and direct mortality. Surface-disturbing activities that alter vegetation characteristics (e.g. structure, composition, and production) can affect habitat suitability for fish and wildlife, particularly where the disturbance removes or reduces cover and food resources. Even minor changes to vegetation communities can affect resident wildlife populations.

The effects of management actions on fish and wildlife resources may vary widely, depending on a variety of factors, such as the dynamics of the habitat (e.g. community type, size, shape, complexity, seral state, and condition), season, intensity, duration, frequency, and extent of the disturbance, rate and composition of vegetation recovery, change in vegetation structure, type of soils, topography and microsites, animal species present, and the ability of fish or wildlife species to leave or recolonize a site after a disturbance.

6.8.2 Methods of Analysis

6.8.2.1 Methods and Assumptions

Fish and wildlife health within the New Melones Lake Area is directly related to the overall ecosystem health, habitat abundance, habitat fragmentation, and wildlife security provided. Most of the resource management decisions have at least an indirect affect on fish and wildlife in the project lands. Impact analysis on fish and wildlife resources includes an assessment on whether each action would result in the possible destruction, degradation or modification of habitat as well as disturbance to wildlife populations or individuals. Beneficial effects resulting from the implementation of the actions were also analyzed.

Some effects are direct, while others are indirect and affect fish and wildlife species through a change in another resource. Direct effects on fish and wildlife are considered to include disruption or disturbance, substantial impedance to the movement or migration of fish or wildlife, direct mortality such that there would be substantial loss to the population of any native fish or wildlife (for the purpose of this analysis, substantial is considered a change in a population or habitat that is detectable over natural variability

for a period of 5 years or more), or substantial loss in overall diversity of the ecosystem. Potential indirect effects could occur when the activity causes other actions that affect biological resources and include, for example, loss of suitable habitat.

The degree of the effect attributed to any one management action or series of actions is influenced by the timing and degree of the action and existing conditions. Quantification of the impacts is difficult due to the lack of monitoring data for most species. In the absence of quantifiable data, best professional judgment was used to determine the effects.

Assumptions used to analyze the effects on fish and wildlife resources include:

- Success of mitigation depends on specific protective measures, past results, and the assumption that proper implementation would take place;
- Implementation-level actions will be further assessed at an appropriate spatial and temporal scale and level of detail;
- Additional field inventories could be needed to support implementation-level decisions, which may be subject to additional NEPA analysis;
- Reclamation would continue to manage fish and wildlife habitat in coordination with the California Department of Fish and Game;
- The health of fisheries in the New Melones Lake Area is directly related to the overall health and functional capabilities of riparian and wetland resources, which in turn are a reflection of watershed health. Any activities that affect the ecological condition of the watershed and its vegetative cover would directly or indirectly affect the aquatic environment. The degree of effect attributed to any one disturbance or series of disturbances is influenced by location within the watershed, time and degree of disturbance, and existing vegetation. As riparian systems adjust in response to the removal of vegetation or changes in hydrologic conditions, the availability of habitats required to fulfill the life history requirements of fish populations might be affected; and
- Many of the actions and subsequent effects are interrelated, and altering one aspect of the environment can alter other resources.

Effects on fish and wildlife include actions that result in habitat alteration, fragmentation, or loss; wildlife displacement; and habitat maintenance and enhancement. Habitat alteration occurs when decisions change the existing habitat character. Surface-disturbing activities, development, or other activities that degrade habitat lead to habitat alteration, fragmentation, or loss. Habitat alteration, fragmentation, and loss affect the usable ranges and routes for wildlife movement. Wildlife displacement occurs when land use activities result in the movement of wildlife into other habitats, increasing stress on individual animals and increasing competition for habitat resources. Impacts on fish and wildlife from displacement depend on the location, extent, timing, or the intensity of the disruptive activity or human presence. Occurrence of these disruptive activities in areas adjacent to fish and wildlife habitat could cause displacement of wildlife. Impacts from

displacement would be greater for wildlife species that have limited existing habitat or a low tolerance for disturbance. Habitat maintenance and enhancement can maintain or improve the condition of vegetation and levels of forage species or reduce soil loss through vegetation treatments and restrictions on surface-disturbing activities. Thus, most management actions have at least an indirect impact on fish and wildlife.

Some species of fish and wildlife are considered special status species. Only impacts on fish and wildlife that do not have special status are discussed in this section. Impacts on special status species are addressed in Section 6.9.

6.8.3 Effects on Fish and Wildlife Common to All Alternatives

6.8.3.1 Effects from Physical Resources Management

Mining restrictions limiting wildlife disturbance prevent the potential loss or fragmentation of available habitat from mining activities. Cave protections would aid in preserving habitat and limiting disturbance for a variety of bat species and other wildlife that occur in these caves through limiting recreation.

Actions common to all alternatives for hydrology and water quality would limit the potential for erosion and sedimentation. This would be accomplished through designing new stream crossings and maintaining existing stream crossings to minimize disruption of riparian vegetation, continuing to restrict all public vehicles to existing roadways, continuing to enforce an OHV ban, and stabilizing and constructing water bars on all unpaved roads. Limiting erosion and sedimentation would protect the water quality in the project lands and therefore would protect the habitat of the fisheries that occur there. Actions taken to avoid erosion and soil loss would protect the vegetative resources and would result in less degradation to, and loss of habitat for terrestrial wildlife. Other actions common to all alternatives for hydrology and water quality would maintain or improve sanitation facilities and work towards preventing contaminates from being released into water bodies. As with the actions designed to limit erosion and sedimentation, these actions would protect the water quality and would prevent the degradation of fish habitat in the New Melones Lake Area.

Actions designed to protect water quality within the New Melones Lake Area would benefit wildlife that rely on these water sources. These include waterfowl, amphibians, and other species that occur in or around water bodies and riparian areas. Actions to control invasive species would also protect aquatic ecosystems.

Actions designed to protect the aesthetic, visual, and scenic resources at the New Melones Lake Area could protect habitat for species occurring in the area if vegetation and other components of habitat are protected from disturbance.

6.8.3.2 Effects from Natural Resources Management

Actions common to all alternatives for vegetation management would have the overall effect of protecting habitat for wildlife species and minimizing disturbance of wildlife populations. This would be accomplished through protecting and promoting native plant communities and minimizing the clearing or converting of native plant communities. In areas of native plant communities that have been degraded, restoration or enhancement

actions would be implemented that would improve these habitats. Numerous wildlife species rely on wetlands and riparian areas for all or part of their yearly needs (e.g. breeding, foraging, etc.). Actions designed to protect these sensitive areas would limit the potential loss of habitat for a variety of species. Wetlands also play a role in preventing sedimentation of water bodies by reducing erosion and controlling soil runoff. Therefore, protection of wetlands would benefit fish species through preventing or controlling sedimentation and could trap any contaminates from moving into water bodies.

Actions common to all alternatives directed specifically at fish and wildlife management are designed primarily to protect the habitat of the species that occur in the New Melones Lake Area. Specific actions to protect or enhance the habitat for wildlife species include: protecting, restoring, or enhancing wetlands and vernal pools and drainages, practicing oak silviculture for hard-wood dependent species, limiting disturbance along stream corridors, providing cover in shallow waters for fisheries, and providing snags and nesting areas for ospreys and cavity nesting birds. These actions would provide improved habitat for the species that use these areas.

No livestock grazing permits are currently in place on the project lands, but trespass grazing occasionally occurs. Grazing could result in degradation of habitat through loss of vegetation, which in turn can result in erosion and sedimentation, alteration of the vegetative species, and direct disturbance of wildlife species. Maintenance of boundary fences would minimize trespass grazing.

Feral species can cause habitat disturbance and directly compete with native species for various resources (food, cover, etc). Control of feral species would benefit native wildlife species by reducing or eliminating this competition.

In general, actions designed to protect special status species and their habitat in the project lands would also benefit other species of fish and wildlife. Further, special status species management would prevent activities that would lead to listing of species. Those protections, as well as encouraging dispersed recreation, would limit disturbance to fish and wildlife populations and their habitats.

6.8.3.3 Effects from Lands, Transportation, and Access Management

Unauthorized livestock grazing and OHV operation would continue to be prohibited throughout the project area. These actions are typically detrimental, both directly and indirectly, to wildlife and fish species by altering the quantity and quality of vegetation available to wildlife. Under all alternatives, actions designed to limit trespass and unauthorized use would limit the amount of disturbance to wildlife habitat and populations.

Use and construction of roads and trails could lead to direct mortality of wildlife through accidental or intentional kills by vehicles, stress-related mortality caused by human and motorized vehicle presences, and intentional harassment by humans. In addition, these actions would result in effects on potential habitats, such as reduced vegetative cover and density, fragmentation, soil compaction and increased dust. The actual area of habitat lost

to roads may be inconsequential; however, the fragmentation that results from roads and the effects on individual species may be substantial.

Motorized vehicle users would introduce and spread noxious and invasive weed seeds from their vehicles, shoes, clothing, and recreational equipment, thus degrading potential habitats. Use of motorized vehicles in undisturbed and remote areas could distribute weed seeds into weed-free areas. These effects could decrease plant vigor and productivity and alter community plant composition, affecting wildlife habitats. In addition, increased noise could disturb wildlife during biologically-sensitive periods. Localized disturbance to wildlife habitat adjacent to roads could occur in these areas. Areas closed to vehicular travel would have the fewest effects. Road closures would increase habitat connectivity, provide buffer areas from disturbance, and allow habitats to restore.

Public health and safety actions common to all alternatives would protect fish and wildlife resources in the New Melones Lake Area. Educational programs, developed to inform the public of various regulations, would increase visitor awareness of the regulations regarding fish and wildlife resources, and potentially limit the inadvertent disturbance of wildlife and habitat. Potentially hazardous areas (caves, old mine shafts, exposed steep areas, and high fire hazard areas) would be adequately closed under all alternatives. Closing these areas could limit human activity in those areas which in turn would limit disturbance to habitat and populations of wildlife in those areas. Improving law enforcement in the New Melones Lake Area could lead to fewer instances of poaching and fewer hazardous materials being introduced into the environment, thereby decreasing habitat degradation and the potential for direct mortality to individual fish or wildlife.

Wildland fire would cause a range of effects on species and habitats depending on how actively certain areas are managed. Vegetation response to fire depends on the size, location, intensity, season, timing, and amount of precipitation, the preexisting plant community conditions, and the abundance of invasive weeds in the area. Fires have direct effects by changing the composition of the plant community, delaying plant succession, removing woody vegetation and plant litter, and directly killing plant and wildlife species, particularly less mobile species. Wildland fires could burn with enough heat to kill soil organisms and root systems, resulting in diminished plant recruitment and growth rates, particularly for fire-sensitive species. This could reduce habitat value for wildlife in affected areas.

Indirectly, wildland fires create an opportunity for the establishment or spread of invasive weeds, contributing to habitat degradation, by removing aboveground vegetation, leaving burned areas more susceptible to invasive weeds. Some species of invasive weeds respond well to post-fire conditions and outcompete native species. In areas where invasive weeds occur or are in close proximity, wildland fire increases the likelihood of weed proliferation. Firefighters and their equipment might also introduce or spread invasive weeds. Some mechanical control activities disturb the soil surface and remove vegetation, creating an opportunity for the establishment or spread of invasive weeds.

Further, since fire retardants are composed largely of nitrogen and phosphorus fertilizers, they may encourage growth of some species, particularly weeds, at the expense of others, indirectly resulting in changes in community composition and species diversity. Differential growth may also influence herbivorous behavior; both insect and vertebrate herbivores tend to favor new, rapidly growing shoots.

However, wildfire suppression and creation of fuel breaks would prevent catastrophic wildfires that reduce vegetative cover across large expanses, destroying habitats and killing or permanently displacing species. Fuels management actions would help to reestablish native vegetative communities, providing for healthy, diverse habitats over the long term.

Rights-of-way remove vegetation from the footprint of the authorized facilities. Most of the footprints are localized and cover a small area, but rights-of-way tend to be linear and may stretch for miles. If disturbed areas are not properly reseeded with native vegetation, weeds could be introduced and spread over a large area. This would fragment potential or occupied wildlife habitats and potentially introduce noise and disruption in previously undisturbed areas.

Livestock grazing could be permitted in the future under all alternatives. If used appropriately, grazing can reduce fuel loads and invasive species, and increase desired plant populations to improve habitats. However, grazing can disturb habitats through direct vegetation removal, disturbance, or trampling, which would reduce vegetation health or, in the most extreme cases, kill plants. Indirect effects from livestock grazing include soil compaction and increased potential for weed invasion and spread, which could subsequently reduce vegetative health and vigor, and alter the natural fire regime. In riparian areas, livestock grazing deteriorates stabilizing vegetation, erodes banks, and causes declines in water storage capacity and quality. To minimize effects, grazing plans would be required to ensure appropriate grazing management.

6.8.3.4 Effects from Cultural and Social Resources Management

In general, protections to cultural resources would prevent disturbance and fragmentation of habitats, providing for a more healthy and resilient community. Areas with cultural resources are generally small-scale and localized, thus limiting effects.

Promoting tourism to the New Melones Lake Area could increase effects on fish and wildlife, since more recreational users would increase the likelihood for noise disturbance, vegetation trampling, harassment, and vegetation removal, as well as habitat degradation through soil compaction and introduction of invasive species.

6.8.3.5 Effects from Recreation Management

Recreation at the New Melones Lake Area would affect the fish and wildlife resources in the area. Human visitation can directly disturb wildlife by altering behavior patterns, causing direct mortality (e.g. vehicle collisions), or degrading habitat. Hunting and fishing would be managed to levels set by the CDFG. Coordination with other agencies would affect the fish and wildlife resources by providing greater protection from livestock trespass, poaching, OHV use, and contamination of habitat. Facilities in the

project area would be maintained to minimize environmental contamination. This would benefit the fish and wildlife resources by minimizing habitat degradation from contaminate spills. Under all alternatives, all public vehicles would be restricted to designated roads. This would limit the loss or alteration of vegetation and wildlife habitat, as well as limit disturbance to wildlife populations from off-road use. It would also protect the fisheries by minimizing the amount of erosion and sedimentation into water bodies.

Educational programs designed to increase visitor awareness of the fishery resources at the New Melones Lake Area could result in limiting the amount of contamination of the water, and thereby reduce the amount of contamination of fish habitat. This could prevent the introduction of aquatic invasive species, which would have an effect on the fisheries by limiting the degradation of the food supply for fish. Operating motorboats, including houseboats and overnight occupancy vessels, could affect the fisheries. Motorboat use can affect the water quality through increasing sediment suspension, introducing contaminates (such as fuel, oil, and sewage) in the water, causing shoreline erosion from wakes, destabilizing the reservoir bottom, causing direct mortality of fish through propeller strikes, and altering fish behavior. The majority of these effects occur in shallow waters (less than 10-feet deep) and along the shoreline (Asplund 2000). All alternatives allow for the continued use of motorboats on the reservoir so there would be some level of effect to the fisheries.

Recreation has the potential to disrupt the normal behavior pattern of wildlife as well and degrade the habitat from altering the vegetative or soil resources. The primary wildlife habitat effect from recreation occurs from changes to soil and vegetation characteristics. Soil characteristic changes could include loss of surface organic horizons, reduced soil porosity, altered soil chemistry, altered soil moisture and temperature, and altered soil microbiota. Vegetation characteristics can be altered by reducing plant density and cover, altering species composition, altering vertical structure, altering the spatial pattern of the vegetation, and altering individual plant characteristics (Knight and Gutzwiller 1995). To offset these potential effects from recreation, all alternatives would provide adequate signage on trails and roads, provide safe recreational opportunities compatible with the Wildlife Management Plan, and coordinate with the CDFG and local law enforcement agencies to ensure that all applicable laws and regulations relating to wildlife are being followed. Limiting the recreational activities in wetlands and riparian areas would protect these sensitive habitats and limit disturbance to wildlife species, and prevent erosion, sedimentation and vegetation loss. Construction of trails and pathways in heavily used recreation areas would protect habitat by concentrating human use to a specific area, protect vegetation, and limit the potential for erosion. Design of roads, trails and pathways would follow the natural topography and minimize placement on steep slopes and stream crossings. This would help to maintain stable vegetation and habitat for species, and minimize direct disturbance to fish and wildlife by vegetation removal, or in-stream work.

Interpretive activities would help to increase appreciation for fish and wildlife and their habitats, and could minimize effects in the long term.

Hunting occurs on all of the project lands except for the Tuttletown and Glory Hole Management Areas, with the majority of hunting in the PWMA. The primary species hunted within the New Melones Lake Area include deer, turkey, upland game, and quail. Outside of the direct effect that hunting has on the wildlife, human presence in an area could result in the disturbance of non-target species and potential habitat degradation from increased human use of the area.

Cave protections would have effects as described in Effects Common to All Alternatives from Physical Resources Management.

6.8.4 Effects on Fish and Wildlife under Alternative A

6.8.4.1 Effects from Physical Resources Management

Under Alternative A, noise would be monitored and Reclamation would seek voluntary compliance with noise regulations. Noise has the ability to disrupt wildlife behavior, such as breeding, feeding, or resting. Seeking voluntary compliance with noise regulations would aid in limiting noise levels, though not as much as mandatory compliance.

6.8.4.2 Effects from Natural Resources Management

Implementing BMPs and SOPs during fire management would reduce effects on fish and wildlife habitats by giving some consideration to vegetation during fire management activities. This includes designing fuel breaks to consider resource objectives for vegetation management, minimizing disturbance to high erosion areas, and maintaining adequate grass and brush clearance near roads. A fire management plan would not be implemented under Alternative A. Compared with the other alternatives, Alternative A would be the least effective in protecting fish and wildlife and maintaining healthy species habitats during fire management activities.

Reseeding degraded areas with native seed would be the most effective way to re-establish native plant communities while minimizing soil erosion. Further, severe invasions of exotic plant species would be prevented under Alternative A. These actions would help to improve fish and wildlife habitats.

Implementing the Interim Peoria Management Plan would protect wildlife habitat by prohibiting the use of public vehicles, restoring vegetation along unauthorized or closed roads and trails, and encourage low-impact recreation. These actions would minimize the degradation of wildlife habitat, limit disturbance to individuals from human activities and improve or enhance the existing habitat in the PWMA.

To protect fisheries, disturbance in known trout and warm water fish spawning areas would be restricted or minimized. Minimizing disturbance in these areas could result in a greater spawning success, which would increase the fish population over time, and increase the diversity of the fish resources, particularly those species sought by sport fishermen.

Alternative A would consider permitting grazing in certain areas. Effects would be as described in Effects Common to All Alternatives from Lands, Transportation, and Access Management.

6.8.4.3 Effects from Lands, Transportation, and Access Management

Allowing right-of-way utility crossings would have effects as described in Effects Common to All Alternatives from Lands, Transportation, and Access Management. Weed control measures in the right-of-way terms and conditions could offset some effects if fully implemented.

Using the outdated information and previous use trends in the allocation map of the Master Plan could lead to effects on wildlife or habitats because past conditions and management areas are different from current conditions.

Maintaining road closures in certain areas would reduce disturbance to wildlife and habitats caused by grazing, vehicles and human use, as described in Effects Common to All Alternatives from Lands, Transportation, and Access Management.

Allowing seaplane use at New Melones Lake could disturb wildlife due to noise. Seaplanes would continue to be allowed to use the New Melones Lake Area with the restriction of no landings or takeoffs within 1,000 feet of the shore. Restricting the operation of planes near shore would limit the potential for erosion or sedimentation and other disturbance to shallow water from the wake caused by such activities.

Managing the Westside and Bowie Flat Management Areas for conservation and existing trails and roads would minimize human presence and associated disturbances caused by human presence, such as those described in Effects Common to All Alternatives from Recreation Management.

Fire management and grazing management would have effects as described under Alternative A, Effects from Natural Resources Management.

6.8.4.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative A would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.8.4.5 Effects from Recreation Management

Keeping existing concessions would minimize future permanent removal of vegetation compared with the other alternatives that call for increased concessions and facilities. By complying with 43 CFR, Part 423, Reclamation would not allow certain activities, such as primitive camping or RV camping in Rural Natural Management Areas. This would minimize disturbance to fish and wildlife and their habitats caused by recreation activities, such as those described in Effects Common to All Alternatives from Recreation Management. Further, prohibition of OHV use would prevent noise disturbance, soil compaction, weed introduction or spread, and vegetation removal or trampling.

Aquatic recreation could affect fish resources in the New Melones Lake Area. Alternative A contains the least amount of no-wake zones. The wake from boats can cause direct disturbance to fisheries as well as speed up shoreline erosion, which may result in sedimentation and loss of vegetation. Alternative A would maintain the current number

of floating vault toilets. These toilets would encourage users not to dump waste directly into the water, thereby limiting the potential contamination of the water. Alternative A would manage aquatic recreation to minimize disturbance of warm water fish and trout spawning areas. This would protect these sensitive areas and allow for healthier fish populations. Watercraft use would be allowed to continue at current levels, and the effects on fisheries would be similar to those discussed in Effects Common to All Alternatives from Recreation Management.

Alternative A would seek to move the equestrian staging area to a new location that would allow day use and possible overnight camping. Moving the staging area would cause a loss of habitat at the new location as well as possibly increase the number of users, resulting in increased wildlife disturbance. Existing trails and fire roads would continue to be maintained under current guidelines. Future trails would be developed to use existing roads and trails as much as possible, limiting additional disturbance to habitat. Campsites and day use facilities would continue to be updated and modernized. These actions would affect fish and wildlife resources by limiting the contaminants that may be released into habitat as well as potentially increasing the number of visitors to these areas, resulting in more direct disturbance to individuals and habitat.

Continued seaplane use at New Melones Lake would have effects as described under Alternative A, Effects from Lands, Transportation, and Access Management.

6.8.5 Effects on Fish and Wildlife under Alternative B

6.8.5.1 Effects from Physical Resources Management

Seeking voluntary compliance for noise regulations would have effects as described under Alternative A.

6.8.5.2 Effects from Natural Resources Management

Implementing the Fire Management Plan would provide a clear direction for fire management at New Melones, and would be the most effective way to manage fire while protecting fish and wildlife and their habitats. Measures under Alternative B that include consideration of wildlife or habitats include designing fuel breaks to avoid sensitive habitats, Burned Area Stabilization and Emergency Response planning, using fire to meet vegetation goals, and maintaining adequate grass and brush clearance near roadsides. If achieved, these would improve habitats by improving native plant community composition, structure, and diversity, such as within chaparral and oak woodland communities; reduce weeds; and protect native plant communities from a catastrophic fire that could cause long term and large scale destruction of native vegetation and directly kill species.

Invasive species prevention and treatment would be least effective under this alternative by not requiring native seed for reseeding and by preventing invasive species infestations only when it is inexpensive to do so. This could result in incomplete treatment of infestations and unsuccessful reestablishment of native communities. This could lead to degraded potential or occupied habitats for species.

Alternative B would manage a 66-acre parcel for an oak tree mitigation area. This would increase the amount and connectivity of habitat available to oak-woodland-dependent species.

Using existing data for long term planning would have effects as described under Alternative A.

Alternative B would be the least restrictive of activities within the PWMA by allowing seasonal vehicular use, enhancing wildlife watching opportunities, and allowing nonequestrian camping by certain organizations. Although protections would be similar to those described under Alternative A, Alternative B would cause some vegetation and noise disturbance resulting from increased recreational opportunities, as described in Effects Common to All Alternatives from Recreation Management. In addition, allowing seasonal vehicular access could increase hunting pressure, illegal target shooting, and the potential for wildfire in portions of the PWMA that would be more easily accessed, which could directly and indirectly affect wildlife and their habitats.

Depending on the location chosen, allowing the Baseline Conservation Camp to expand its footprint could have the greatest effects on vegetation, compared with the other alternatives, by permanently removing vegetation in areas where facilities would be relocated or expanded.

Restricting and minimizing disturbance of fish spawning areas would have effects as described under Alternative A.

Alternative B would consider permitting grazing in certain areas. Effects would be similar to those described in Effects Common to All Alternatives from Lands, Transportation, and Access Management.

6.8.5.3 Effects from Lands, Transportation, and Access Management

Lack of restrictions of right-of-way crossings would have effects as described under Alternative A.

Using an updated version of the land use allocation map would reflect new information and current uses. This would allow for more effective management of lands within the New Melones Lake Area, and would protect and manage for wildlife and important habitats where they are known to occur.

Maintaining road closures in certain areas would have effects similar to those described under Alternative A. However, effects on wildlife would be greater under Alternative B because certain areas would be reopened to public vehicles, allowing effects as described in Effects Common to All Alternatives from Lands, Transportation, and Access Management.

New roads, to obtain access to land-locked Reclamation property, could be constructed under Alternative B. Similarly, a road would be constructed to the Westside Management Area. This would cause permanent removal of vegetation and introduce human presence and vehicles to previously undisturbed areas. Effects would be the greatest than in the

other alternatives and similar to those described in Effects Common to All Alternatives from Lands, Transportation, and Access Management. Further, recreation would increase, causing effects as described in Effects Common to All Alternatives from Recreation Management.

Allowing seaplane use would have effects as described under Alternative A.

Optimizing trail connectivity and trailhead development would permanently remove vegetation and introduce weeds. This could compact soil and disturb native vegetation, if there were off-trail activities, and would degrade potential or occupied wildlife habitat. Trails may be closed in certain areas, allowing for restoration and revegetation with native plants. However, by providing more trail connections, Alternative B could prevent off-trail disturbance by users who want to access other trails and management areas.

Increasing the use of Bowie Flat would increase effects from human use and disturbance, as described in Effects Common to All Alternatives from Recreation Management.

Fire management, grazing management, and expansion of the Baseline Conservation Camp footprint would have effects as described under Alternative B, Effects from Natural Resources Management.

Under Alternative B, Reclamation would enter into an agreement, with a managing partner or concessionaire, to construct and operate an OHV park in the PWMA, Westside, Bowie Flat, Greenhorn Creek, French Flat or Bear Creek Management Areas. If such a park is constructed there would be a loss of habitat available to wildlife, fragmentation of habitat, and disturbance to species from the increased noise and human presence in the area. The presence of OHVs in one or more of these management areas could result in increased erosion.

6.8.5.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative B would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.8.5.5 Effects from Recreation Management

Under Alternative B, the existing facilities would be maintained, and new facilities could be constructed in Rural Natural and Rural Developed Management Areas. If new facilities are constructed, wildlife would likely be disturbed in those areas. Additionally, if the construction takes place in previously undisturbed areas, habitat would be lost. More facilities would likely result in greater visitation to certain areas over the long-term, which would result in loss and degradation of habitat, and increased disturbance and alteration of behavior. Quantification of these effects would be dependent on the actual number and siting of the new facilities.

As Alternative B is designed to increase visitor use at the New Melones Lake Area, there would be the greatest increase of commercial services and concessions under this alternative compared to other alternatives. Examples of the actions that may affect fish and wildlife include constructing new facilities (stores, campsites, marinas and associated

buildings). Most of this construction would occur in the Glory Hole and Tuttletown areas where there is already the most development. These actions would likely increase the number of people in those areas so there would be an increased chance of human/wildlife interactions that would likely result in wildlife disturbance. Primitive camping and RV camping would be allowed in Rural Natural Management areas, resulting in a loss of habitat and degradation of remaining habitat around the areas from the construction of these facilities. It would also likely result in increased, direct disturbance to wildlife species from an increased human presence in those areas. Additional services on the water (floating campsites and restroom facilities, additional water sport courses), and allowing for a float plane school in the area, could result in degradation to fish habitat.

Alternative B would designate more areas as no-wake zones than Alternative A. This designation would protect more shoreline from potential erosion and sedimentation caused by wakes, as well as limit disturbance to the behavior of shallow water fish. Additional floating vault toilets would be installed which could limit the amount of contamination from visitors dumping waste overboard. Warm water fish and trout spawning areas would continue to have disturbance minimized as under Alternative A.

Alternative B would allow for an increased number of watercraft. This could result in greater disturbance to fish resources, particularly if it occurs in shallow water, where fish are more sensitive to disturbance.

Land-based recreation under Alternative B would also increase. The equestrian staging area in the PMWA would be relocated similar to Alternative A, but at the new site, there would be additional trails and facilities which may be operated by a concessionaire. This could result in a greater use of the area, and more effects on wildlife from loss or degradation of habitat, direct disturbance and alteration of behavior.

Promoting the use of existing trails and unpaved roads, as well as preparing a trail management plan that focuses on trail development and connectivity, would minimize additional disturbance to wildlife and potential and occupied habitats, and would concentrate effects in designated areas. Alternative B would create the most trails of all alternatives, causing the greatest permanent effects.

Limiting hunting to shotgun only could reduce the number of hunters on the project lands limiting the effects hunting has on wildlife.

6.8.6 Effects on Fish and Wildlife under Alternative C

6.8.6.1 Effects from Physical Resources Management

Seeking mandatory compliance with noise regulations would be most effective in minimizing noise disruption effects on wildlife, such as causing species to alter their behaviors or avoid certain areas.

6.8.6.2 Effects from Natural Resources Management

Implementing the Fire Management Plan would have effects as described under Alternative B. However, Alternative C would be the most effective in protecting fish and wildlife and restoring habitats by requiring rehabilitation of all burn areas, protecting

sensitive sites from damage by heavy equipment, retaining vegetation within fuel breaks, retaining mature oaks during fire management activities, and using buffer zones to protect riparian and wetland areas.

Invasive species prevention and treatment would be more effective under Alternative C by using herbicides during appropriate times, requiring reseeding with native seed, and by restricting activities in certain areas. This would reduce weeds and increase native plant cover, which would lead to improved wildlife habitats.

Managing a 66-acre parcel of land for an oak tree mitigation area would have effects as described under Alternative B.

Implementing the Interim Peoria Management Plan would have effects similar to those described under Alternative A. However, Alternative C would be more protective to wildlife and habitats by closing the area to vehicles and camping, thus eliminating disturbance from these sources.

Reducing the Baseline Conservation Camp footprint under Alternative C would have the greatest reduction of habitat and wildlife disturbance of all alternatives. This would allow native vegetation to reestablish in areas where the footprint has been reduced, and would provide more potential habitat.

Alternative C would impose greater restrictions to activities in fish spawning areas, and would include more areas than Alternatives A and B. This would provide the greatest protection to fish and aquatic wildlife of all alternatives.

Alternative C would consider permitting grazing in certain areas. Effects would be similar to those described in Effects Common to All Alternatives from Lands, Transportation, and Access Management, although under Alternative C, BMPs would be implemented to protect water quality, which would also protect riparian vegetation.

6.8.6.3 Effects from Lands, Transportation, and Access Management

Future easements and rights-of-way would be avoided and minimized under Alternative C. Further, effects would be avoided by implementing applicable guidelines. This would reduce effects described in Effects Common to All Alternatives from Lands, Transportation, and Access Management.

Using a new land allocation map would have effects as described under Alternative B.

Maintaining road closures in certain areas would have effects as described under Alternative A.

Restricting seaplane access to New Melones Lake would reduce noise disturbance to wildlife and result in fewer disturbances to the fisheries in the area than under the other alternatives.

Alternative C would allow access to the Westside Management Area by boat or hiking. This would keep effects on wildlife low, because access would be restricted, and land

uses would be low-impact and non-vehicular. Still, increased human presence would disturb wildlife as described in Effects Common to All Alternatives from Recreation Management.

Optimizing trail connectivity would have effects similar to those described under Alternative B. However, under Alternative C, Reclamation would not develop new trailheads, thus minimizing permanent removal of vegetation in these areas.

Use of Bowie Flat Management Area for hiking and equestrian uses would cause some effects from recreation as described in Effects Common to All Alternatives from Recreation Management. Effects would be less than those caused by motorized vehicle use.

Fire management, grazing management, and reduction of the Baseline Conservation Camp footprint would have effects as described under Alternative C, Effects from Natural Resources Management.

6.8.6.4 Effects from Cultural and Social Resources Management

Effects on the fish and wildlife resources from cultural and social resources management under Alternative C would be the same as those described under Effects Common to All Alternatives from Cultural and Social Resources Management.

6.8.6.5 Effects from Recreation Management

There would be some increase in concessions and facilities under Alternative C. Effects would be similar to those described under Alternative B, but effects would be reduced because Alternative C would focus on low-impact, conservation-oriented activities and fewer developments would be proposed.

Under Alternative C, Reclamation would aim to minimize future development in Rural Natural Management Areas, which would help to maintain undisturbed wildlife habitat, minimize disturbance caused by humans, and increased recreation, such as those effects described in Effects Common to All Alternatives from Recreation Management.

Effects from aquatic recreation would be similar to those described under Alternative B. Alternative C would designate more areas as no-wake zones and environmentally sensitive areas which would further limit the disturbance on fish, and limit shoreline erosion and sedimentation. Alternative C would also decrease the level of watercraft use so, overall, there would likely be less disturbance to fish and wildlife.

Under Alternative C, Reclamation would impose the greatest restrictions on fish spawning areas, which would afford the greatest protection to fish and aquatic wildlife that use these areas.

Restricting seaplane access would have effects as described under Alternative C, Effects from Lands, Transportation, and Access Management.

Land-based recreation under Alternative C would keep the equestrian staging area within the PMWA and impose limits on its use. These restrictions would limit the amount of

disturbance to wildlife species and habitats. Reclamation would not develop additional trails, and would prepare a trails management plan focusing on resource protection. These actions would have the greatest effect in protecting wildlife and habitats from disturbance compared with the other alternatives.

Campgrounds would continue to be updated and modernized, as in the other alternatives, but vehicle barriers would be installed as well. These barriers would limit the potential for unauthorized vehicle use and protect habitat from degradation.

Interpretive services under Alternative C would have effects similar to those described under Alternative B.

6.8.7 Effects on Fish and Wildlife under Alternative D

6.8.7.1 Effects from Physical Resources Management

Effects from seeking voluntary compliance with noise regulations would be the same as those described under Alternative A.

6.8.7.2 Effects from Natural Resources Management

Effects from implementing the Fire Management Plan would be the same as those described under Alternative B. However, Alternative D would consider wildlife and habitats during fire management activities. Further, Reclamation would revegetate moderate-to-large areas that have been affected by fire, and would retain mature oaks during fire management activities.

Reseeding with native seed and preventing infestations of exotic species would have effects as described under Alternative A. Use of target-specific herbicides at the appropriate time of year would have effects as described under Alternative C.

Effects from managing a 66-acre parcel of land for an oak tree mitigation area would be the same as those described under Alternative B.

Effects from implementing the Interim Peoria Management Plan would be the same as those described under Alternative A.

If Reclamation allows the Baseline Conservation Camp footprint to expand, effects would be as described under Alternative B.

Alternative D would protect and minimize disturbance to fish spawning areas, causing effects similar to those described under Alternative A. However, Alternative D would provide greater protection by minimizing disturbance in more areas.

Alternative D would consider permitting grazing in certain areas. Effects would be similar to those described in Effects Common to All Alternatives from Lands, Transportation, and Access Management, but Alternative D would consider allowing grazing of recreation areas in certain circumstances. This could increase effects on habitats in those areas.

6.8.7.3 Effects from Lands, Transportation, and Access Management

Avoiding or minimizing future easements and rights-of-way over Reclamation lands would have effects as described under Alternative C.

Using a new land allocation map would have effects as described under Alternative B.

Maintaining road closures would have effects similar to those described under Alternative A. There would be greater effects under Alternative D, since Reclamation would reopen previously closed areas, causing effects from vehicle use as described in Effects Common to All Alternatives from Lands, Transportation, and Access Management.

Creating new roads and access to land-locked Reclamation property would have effects as described under Alternative B.

Allowing seaplane access would have effects as described under Alternative A.

Alternative D would allow increased access to the Westside and Bowie Flat Management Areas similar to Alternative C. Effects from Alternative D could be greater due to additional recreational activities (biking and horseback riding) that would be allowed in these areas. This would attract more people to recreate in these areas, which would cause effects as described in Effects Common to All Alternatives from Recreation Management. Under Alternative D, Reclamation may consider a transportation route to allow vehicle access to Westside; an access road to Westside would have effects as described under Alternative B.

Optimizing trail connectivity and developing new trailheads would have effects as described under Alternative B.

Fire management, grazing management, and expanding the Baseline Conservation Camp footprint would have effects as described under Alternative D, Effects from Natural Resources Management.

6.8.7.4 Effects from Cultural and Social Resources Management

Effects on the fish and wildlife resources under Alternative D from cultural and social resources management would be the same as those described under Effects Common to All Alternatives from Cultural and Social Resources Management.

6.8.7.5 Effects from Recreation Management

Alternative D would allow some increase in concessions and facilities, causing effects similar to, but less than, those described under Alternative B, because Alternative D has fewer developments proposed. Effects would be greater than those under Alternatives A and C, since more developments would be proposed. Effects would be greater in Rural Natural Management Areas, where the amount of disturbance is currently lower than in Rural Developed Management Areas. Proposed actions and effects are contingent upon the results of the Commercial Services Plan and financial feasibility evaluation.

Under Alternative D, Reclamation would consider additional development to Rural Natural Management Areas, but not to the extent proposed in Alternative B, where the WROS designation would be changed. Increased recreation and visitors would cause effects as described in Effects Common to All Alternatives from Recreation Management.

Minimizing disturbance to fish spawning areas would have effects as described under Alternative A.

Alternative D would designate the same no-wake zones as Alternative C, but would not designate the Greenhorn Creek area as environmentally sensitive. This area would still have a no-wake restriction. Effects from increasing watercraft use would have effects as described under Alternative B.

Allowing seaplane use would have effects as described under Alternative D, Effects from Lands, Transportation, and Access Management.

Land-based recreation under Alternative D would relocate the equestrian staging area to a new location in the PMWA and improve the staging area and facilities. This could result in greater usage of this area, and therefore increase the amount of disturbance to wildlife habitat and populations. Trails management actions would have effects similar to those described under Alternative B.

Campgrounds and day use facilities would be updated and modernized while installing vehicle barriers. Updating the sites could lead to increased usage, resulting in increased disturbance to wildlife. The vehicle barriers would limit the amount of habitat degradation.

Developing a climbing management plan would have effects as described under Alternative D, Effects from Natural Resources Management.

Interpretive activities would have effects as described under Alternative B.

Management of hunting activities would have effects similar to Alternative B.

6.9 Special Status Species

6.9.1 Introduction

Impacts on special status fish, wildlife, and plant resources include loss or alteration of native habitats, increased habitat fragmentation, changes in habitat and species composition, disruption of species behavior leading to reduced reproductive fitness, and direct mortality. Surface-disturbing actions that alter vegetation characteristics (e.g., structure, composition, or production) have the potential to affect habitat suitability for special status fish, wildlife, and plants, particularly where the disturbance removes or reduces cover or food resources. Even minor changes to vegetation communities have the potential to affect resident special status species populations.

The direct and indirect impacts of management actions on fish, wildlife, and plant resources may vary widely, depending on a variety of factors such as the dynamics of the habitat (e.g., community type, size, shape, complexity, seral state, and condition); season, intensity, duration, frequency, and extent of the disturbance; rate and composition of vegetation recovery; change in vegetation structure; type of soils; topography and microsites; animal species present; and the mobility of fish or wildlife species (i.e., the ability to leave a site or recolonize a site after a disturbance).

6.9.2 Methods of Analysis

6.9.2.1 Methods and Assumptions

Special status fish, wildlife, and plant health in the New Melones Lake Area is directly related to the overall ecosystem health, habitat abundance, habitat fragmentation, and wildlife security provided, and thus, many resource management actions have an effect on special status species. Impact analysis on special status species included an assessment of whether each action would result in the possible destruction, degradation, or modification of habitat, as well as effects that could improve pollinator, wildlife, plant, and aquatic habitat. The evaluations are confined to the actions that have the most direct effects on the planning area, instead of identifying and evaluating all possible interactions and cause-effect relationships. In addition, special status species and potential special status habitat distributions over the landscape are patchy and localized, which limits potential effects from many resource management actions.

Some effects are direct, while others are indirect and affect special status species through a change in another resource. Direct effects on special status species are considered to include disruption, trampling, or removal of rooted vegetation, thereby reducing an area's potential habitat value; direct mortality of individual special status species; actions that influence special status species behaviors, such as causing them to abandon roost or nest sites; and actions that unequivocally reduce total numbers of a special status species or reduce or cause the loss of total area, diversity, vigor, structure, or function of potential or occupied habitat.

Potential indirect effects include loss of habitat suitable for colonization due to surface disturbance; introduction of invasive weeds, or conditions that enhance the spread of weeds; increased noise; changes in hydrology or water availability; habitat fragmentation; loss of pollinators or their habitats; and general loss of habitat due to development or surface compaction. Vegetation removal could indirectly alter food supplies and could affect fish and aquatic special status species through erosion and sedimentation into nearby streams and rivers. These alterations not only modify existing habitat, they also alter the use of adjacent habitats. Indirect effects include those that cannot be absolutely linked to one action, such as decreased plant vigor or health from reduced air or water quality.

The degree of effect attributed to any one management action, or series of actions, is influenced by the watershed, time and degree of action, and existing vegetation. Quantifying these effects is difficult due to the lack of monitoring data for many species.

In the absence of quantitative data, best professional judgment based on scientific reasoning was used according to the following assumptions:

- Ground disturbing activities could lead to modification (positive or negative) of habitat and/or loss or gain of individuals, depending on the amount of area disturbed, the species affected, and the location of the disturbance;
- Implementation-level actions will be further assessed at an appropriate spatial and temporal scale and level of detail;
- Additional field inventories could be needed to support implementation-level decisions, which may be subject to further analysis under NEPA; and
- The health of fisheries in the New Melones Lake Area is directly related to the overall health and functional capabilities of riparian and wetland resources, which in turn are a reflection of watershed health. Any activities that affect the ecological condition of the watershed and its vegetative cover would directly or indirectly affect the aquatic environment. The degree of effect attributed to any one disturbance or series of disturbances is influenced by location within the watershed, time and degree of disturbance, and existing vegetation. As riparian systems adjust in response to the removal of vegetation or changes in hydrologic conditions, the availability of habitats required to fulfill the life history requirements of special status fish populations might be affected.

6.9.3 Effects on Special Status Species Common to All Alternatives

6.9.3.1 Effects from Physical Resources Management

Mining restrictions and working with landowners to prevent land degradation would protect habitats for special status species by minimizing habitat disturbance in localized areas. Cave protections would minimize disturbance to cave-dependent species, such as special status bats and invertebrates. These areas are localized and small-scale.

Riparian habitats would be protected from vegetation disturbance or removal by minimizing stream crossings, while water quality protections would maintain clean water, which would indirectly foster riparian vegetative health. The protections would directly affect special status fish and species that depend on aquatic habitat by maintaining habitat quality.

Promoting stream bank and shoreline stability would encourage establishment of riparian vegetation, which would increase potential habitat for riparian-dependent species, and increase riparian habitat connectivity within the New Melones Lake Area.

6.9.3.2 Effects from Natural Resources Management

Vegetation and fish and wildlife management actions would protect and improve vegetation, increase native plant communities and habitat connectivity, and reduce weeds within the New Melones Lake Area. This would provide improved habitats through increased plant diversity, improved plant community structure and composition, variety in age classes, weed control, soil stability, and a more natural fire regime. Further, these

actions would create a greater area of potential habitat for special status species. Specific protections for serpentine-based species and wetland communities would benefit those special status species that rely on these habitats.

Under all alternatives, approved biological controls for invasive species would be specific to target species so there would be no direct effect on non-target species. Chemical weed treatments would be applied according to label directions and would follow established guidelines, BMPs, and SOPs for application. Chemical applications would also be designed to avoid effects on non-target species.

Special status species management actions would protect lands supporting special status species and often have effects similar to those from wildlife management actions. Further, special status species management would prevent activities that would lead to listing of species. Those protections, as well as encouraging dispersed recreation, would help prevent habitat fragmentation and disturbance to habitats, and would lower the likelihood of disturbing or harming special status species.

6.9.3.3 Effects from Lands, Transportation, and Access Management

Management of the New Melones Lake Area as a special use area would indirectly protect vegetation by establishing public use limits, special uses and other conditions, and restrictions and prohibitions on particular uses or activities. This would help to minimize direct disturbance to special status species or their habitats. Prohibiting OHV use on Reclamation lands, except in designated areas, would minimize vegetation removal and disturbance, as well as weed introduction and spread.

Use and construction of roads and trails could lead to direct mortality of special status plants and wildlife through accidental or intentional kills by vehicles, stress-related mortality caused by human and motorized vehicle presence, and intentional harassment by humans. In addition, these actions would result in effects on potential habitats, such as reduced vegetative cover and density, fragmentation, soil compaction and increased dust. The actual area of habitat lost to roads may be inconsequential, however, the fragmentation that results from roads, and the effects on individual species may be substantial.

Motorized vehicle users would introduce and spread noxious and invasive weed seeds from their vehicles, shoes, clothing, and recreational equipment, thus degrading potential habitats. Use of motorized vehicles in undisturbed and remote areas could distribute weed seeds into weed-free areas. These effects could decrease special status plant vigor and productivity and alter community plant composition. In addition, increased noise could disturb special status wildlife during biologically-sensitive periods. Localized disturbance to special status species habitat adjacent to roads could occur in these areas. Areas closed to vehicular travel would have the fewest effects. Road closures would increase habitat connectivity, provide buffer areas from disturbance, and allow habitats to restore.

Wildland fire would cause a range of effects to habitats and special status species depending on how actively certain areas are managed. Vegetation response to fire depends on the size, location, intensity, season, timing, and amount of precipitation, the

preexisting plant community conditions, and the abundance of invasive weeds in the area. Fires have direct effects by changing the composition of the plant community, delaying plant succession, removing woody vegetation and plant litter, and directly killing special status species, particularly less mobile species, such as plants and small wildlife. Wildland fires might burn with enough heat to kill soil organisms and root systems, resulting in diminished plant recruitment and growth rates, particularly for fire-sensitive species. This could reduce habitat value for special status species in affected areas.

Indirectly, wildland fires create an opportunity for the establishment or spread of invasive weeds. This is because fires remove aboveground vegetation, leaving burned areas more susceptible to invasive weeds. Some species of invasive weeds respond well to post-fire conditions and outcompete native species. In areas where invasive weeds occur or are in close proximity, wildland fire increases the likelihood of weed proliferation. Firefighters and their equipment might also introduce or spread invasive weeds. Some mechanical control activities disturb the soil surface and remove vegetation, creating an opportunity for the establishment or spread of invasive weeds.

Further, since fire retardants are composed largely of nitrogen and phosphorus fertilizers, they may encourage growth of some species, particularly weeds, at the expense of others, indirectly resulting in changes in community composition and species diversity. Differential growth may also influence herbivorous behavior; both insect and vertebrate herbivores tend to favor new, rapidly growing shoots.

However, wildfire suppression and creation of fuel breaks would prevent catastrophic wildfire that would reduce vegetation cover across large expanses, which could destroy habitats and kill or permanently displace special status species. Fuels management actions would help to reestablish native vegetative communities, thus providing for healthy, diverse habitats over the long term.

Eliminating and preventing trespass and unauthorized uses on New Melones lands would protect special status species' habitats, since unauthorized uses are more likely to damage or remove vegetation and introduce weeds. Further, unauthorized uses, such as OHV use, could disturb special status species through increased noise or harassment. Implementing controls would help to reduce disturbance to special status species and their habitats over large areas. Informing the public and working with others to prevent unauthorized uses would add to the effectiveness of this action. Together, these actions would protect special status species' habitats and minimize direct disturbance to species.

Rights-of-way remove vegetation on the footprint of the authorized facilities. Most of the footprints are localized and cover a small area, but rights-of-way tend to be linear and may stretch for miles. If disturbed areas are not properly reseeded with native vegetation, weeds could be introduced and spread over a large area. This would fragment potential or occupied special status species' habitats and potentially introduce noise and disruption in previously undisturbed areas.

Livestock grazing could be permitted in the future under all alternatives. If used properly, grazing can reduce fuel loads and invasive species, and increase desired plant populations

to improve habitats. However, grazing can disturb habitats through direct vegetation removal, disturbance, or trampling, which would reduce vegetation health or, in the most extreme cases, kill special status species plants. Indirect effects from livestock grazing include soil compaction and increased potential for weed invasion and spread, which could subsequently reduce vegetative health and vigor and alter the natural fire regime. In riparian areas, livestock grazing deteriorates stabilizing vegetation, erodes banks, and causes declines in water storage capacity and quality. To minimize effects, grazing plans would be required to ensure appropriate grazing management.

Under all alternatives, caves would be managed to minimize adverse effects on the special status species that rely on them, such as bats and invertebrates. Protecting these sensitive habitats would aid in the recovery of these species.

6.9.3.4 Effects from Cultural and Social Resources Management

In general, protections to cultural resources would prevent disturbance and fragmentation of habitats, providing for a more healthy and resilient community. Areas with cultural resources are generally small-scale and localized, thus limiting effects.

Promoting tourism to the New Melones Lake Area could increase effects to special status species, since more recreational users would increase the likelihood for noise disturbance, vegetation trampling, harassment, and vegetation removal, as well as habitat degradation through soil compaction and introduction of invasive species.

6.9.3.5 Effects from Recreation Management

Effects from recreation are likely to be widespread as activities are generally unsupervised and not well-monitored. Trails and other recreation areas concentrate effects from recreation, such as hiking, biking, and equestrian use, in certain areas, causing localized areas where habitats and species are affected by removal, noise, dust, displacement, disturbance, vegetation trampling, soil compaction, and increased potential for weed invasion and spread. Users could introduce noise or dust or could intentionally harass, disturb, or kill species. This could disturb species during biologically sensitive periods, which could indirectly affect reproduction or cause species to abandon areas containing key habitat components, important food sources, or suitable nesting areas. The stress inflicted on individual species may also deteriorate species health, which in turn could affect species reproduction and/or survivability. Areas closer to motorized vehicles, such as cars and motorboats, would experience more disturbance than those used for low-impact recreation, such as hiking and biking. However, trails and recreation areas indirectly prevent lands from unauthorized uses and widespread, uncontrolled damage and thus reduce habitat fragmentation within the New Melones Lake Area.

Under all alternatives, roads, trails, and access easements would be designed to minimize stream crossings and working on steep slopes. This would help to maintain stable vegetation and habitat for species, and minimize direct disturbance to special status species by vegetation removal or in-stream work.

Interpretive activities would help to increase appreciation for special status species and their habitats, and could minimize effects in the long term.

Reclamation would implement management actions to minimize effects on special status species from recreation, such as creating recreation management areas, managing according to the WROS, restricting activities in fish spawning areas, wetland and riparian areas, and designating trails to concentrate effects in certain locations. These actions indirectly prevent unauthorized uses and widespread, uncontrolled damage and disturbance to special status species and their habitats, and thus reduce habitat fragmentation within the New Melones Lake Area. Further, Reclamation would work to directly protect habitats and special status species.

Conducting bat surveys would maintain accurate information on special status bat population numbers and locations within the New Melones Lake Area. This would help to effectively manage for these species when making planning decisions. Cave protections would have effects as described in Effects Common to All Alternatives from Physical Resources Management.

6.9.4 Effects on Special Status Species under Alternative A

6.9.4.1 Effects from Physical Resources Management

Seeking voluntary compliance for boat and visitor noise regulations would be less effective than requiring mandatory compliance. Noise could disturb special status wildlife, such as bats and birds – nesting birds in particular. Effects from noise would be similar to those described in Effects Common to All Alternatives from Recreation Management.

Alternative A would not expand access or interpretive activities in caves. This would minimize disturbance to cave-dependant species, such as special status bats or invertebrates.

6.9.4.2 Effects from Natural Resources Management

Implementing BMPs and SOPs during fire management would reduce effects on special status species habitats by giving some consideration to vegetation during fire management activities. This includes designing fuel breaks to consider resource objectives for vegetation management, minimizing disturbance to high erosion areas, and maintaining adequate grass and brush clearance near roads. A fire management plan would not be implemented under Alternative A. Compared with the other alternatives, Alternative A would be the least effective in protecting special status species and maintaining healthy special status species habitats during fire management activities.

Reseeding degraded areas with native seed would be the most effective way to reestablish native plant communities while minimizing soil erosion. Further, severe invasions of exotic plant species would be prevented under Alternative A. These actions would help to improve special status species habitats.

Under Alternative A, no new data on plant communities associated with serpentine soils would be collected. This could limit the effectiveness of long-term planning in those areas, particularly for serpentine-dependent special status plants.

Implementing the Interim Peoria Management Plan would largely minimize vegetation and noise disturbance in this area by limiting vehicular and human traffic, and by closing unauthorized trails. Reclamation would actively restore affected areas and would conduct environmental interpretation activities to increase awareness and appreciation of the natural resources. In all, these activities would lower habitat and noise disturbance, and increase the number and health of native plants, thus helping to improve special status species' habitats.

Restricting and minimizing disturbance of fish spawning areas would protect special status fish and aquatic wildlife from disturbance in these areas.

Alternative A would protect federally-listed species and their habitats. This would help to prevent effects to federally-listed species within the New Melones Lake Area. Other special status species could receive protection where their habitats coincide with federally-listed species' habitats.

Conducting bird and bat inventories would maintain accurate information on special status species population numbers and locations. This would help to effectively manage for these species when making planning decisions, and could allow for species and habitat protection in the long-term.

A climbing management plan for the PWMA would be developed if effects on special status species are identified. This could allow for some effects on special status species, could mitigate effects and prevent some future effects.

Alternative A would consider permitting grazing in certain areas. Effects would be as described in Effects Common to All Alternatives from Lands, Transportation, and Access Management.

6.9.4.3 Effects from Lands, Transportation, and Access Management

Allowing right-of-way utility crossings would have effects as described in Effects Common to All Alternatives from Lands, Transportation, and Access Management. Weed control measures in the right-of-way terms and conditions could offset some effects, if fully implemented.

Using the outdated information and previous use trends in the allocation map of the Master Plan could lead to effects on special status species or their habitats because past conditions and management areas are different from current conditions.

Maintaining road closures in certain areas would reduce disturbance to special status species and their habitats caused by grazing, vehicles and human use, as described in Effects Common to All Alternatives from Lands, Transportation, and Access Management.

Allowing seaplane use at New Melones Lake could disturb special status species due to noise disturbance. Effects from noise would be similar to those described in Effects Common to All Alternatives from Recreation Management.

Managing the Westside and Bowie Flat Management Areas for conservation and existing trails and roads would minimize human presence and associated disturbances caused by human presence, such as those described in Effects Common to All Alternatives from Recreation Management.

Fire management and grazing management would have effects as described under Alternative A, Effects from Natural Resources Management.

6.9.4.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative A would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.9.4.5 Effects from Recreation Management

Keeping existing concessions would minimize future permanent removal of vegetation compared with the other alternatives that call for increased concessions and facilities. By complying with 43 CFR, Part 423, Reclamation would not allow certain activities, such as primitive camping or RV camping, in Rural Natural Management Areas. This would minimize disturbance to special status species and habitats caused by recreation activities, such as those described in Effects Common to All Alternatives from Recreation Management. Further, prohibition of OHV use would prevent noise disturbance, soil compaction, weed introduction or spread, and vegetation removal or trampling.

Minimizing disturbance of spawning areas would have effects as described under Alternative A, Effects from Natural Resources Management.

The current level of watercraft use would be maintained under Alternative A. This would cause disturbance to special status species where they occur in or near the water by changes in water turbidity and noise. Effects would be greater with motorized watercraft than with non-motorized watercraft.

Continued seaplane use at New Melones Lake would have effects as described under Alternative A, Effects from Lands, Transportation, and Access Management.

Management actions under Alternative A would promote the use of existing trails and unpaved roads for future trail systems. This would allow for some new trails to be developed, which would permanently remove vegetation and could disturb special status species or their habitats.

Development of a climbing management plan would have effects as described under Alternative A, Effects from Natural Resources Management.

Interpretive services under Alternative A would increase visitor awareness of special status species issues and would help prevent effects from human use, including noise, trampling of vegetation, small special status wildlife, and special status plants, vegetation removal, and weed introduction and spread.

6.9.5 Effects on Special Status Species under Alternative B

6.9.5.1 Effects from Physical Resources Management

Seeking voluntary compliance for noise regulations would have effects as described under Alternative A.

Expanding access to caves and providing additional interpretive activities in and/or near caves could disturb cave-dependent species, such as special status bats and invertebrates.

6.9.5.2 Effects from Natural Resources Management

Implementing the Fire Management Plan would provide a clear direction for fire management at New Melones and would be the most effective way to manage fire while protecting special status species and habitats. Measures under Alternative B that include consideration of special status species or habitats include designing fuel breaks to avoid sensitive habitats, Burned Area Stabilization and Emergency Response planning, using fire to meet vegetation goals, and maintaining adequate grass and brush clearance near roadsides. If achieved, these would improve special status species habitats by improving native plant community composition, structure, and diversity, such as within chaparral and oak woodland communities, reduce weeds, and protect native plant communities from a catastrophic fire that could cause long term and large scale destruction of native vegetation and directly kill special status species.

Invasive species prevention and treatment would be least effective under this alternative by not requiring native seed for reseeding and by preventing invasive species infestations only when it is inexpensive to do so. This could result in incomplete treatment of infestations and unsuccessful reestablishment of native communities. This could lead to degraded potential, or occupied, habitats for special status species.

Alternative B would manage a 66-acre parcel for an oak tree mitigation area. This would increase the amount and connectivity of habitat available to oak-woodland-dependent special status species.

Using existing data for long term planning would have effects as described under Alternative A.

Alternative B would be the least restrictive of activities within the PWMA by allowing seasonal vehicular use, enhancing wildlife watching opportunities, and allowing nonequestrian camping by certain organizations. Although protections would be similar to those described under Alternative A, Alternative B would cause some vegetation and noise disturbance resulting from increased recreational opportunities, as described in Effects Common to All Alternatives from Recreation Management. In addition, allowing seasonal vehicular access could increase hunting pressure, illegal target shooting, and the potential for wildfire in portions of the PWMA that would be more easily accessed, which could directly and indirectly affect special status species and their habitats.

Baseline Conservation Camp would have a larger footprint under Alternative B, which would cause permanent vegetation removal and would disturb a larger area of potential habitat for special status species.

Restricting and minimizing disturbance of fish spawning areas and protections for federally-listed special status species and their habitats would have effects as described under Alternative A.

Special status bird and bat inventories under Alternative B would have effects similar to those described under Alternative A. However, Alternative B would implement additional actions, such as maintaining, constructing, or modifying nesting structures, and collaborating with local organizations. These actions would help to improve special status species' habitats and would help to obtain more information on special status species at New Melones Lake for effective long-term planning.

Increased raptor interpretive activities under Alternative B could disturb those special status species that are very sensitive to human presence. This could alter species behavior and cause special status raptors to abandon roosts or nests.

Development of a climbing management plan in the PWMA would have effects as described under Alternative A.

Alternative B would consider permitting grazing in certain areas. Effects would be similar to those described in Effects Common to All Alternatives from Lands, Transportation, and Access Management.

6.9.5.3 Effects from Lands, Transportation, and Access Management

Lack of restrictions of right-of-way crossings would have effects as described under Alternative A.

Using an updated version of the land use allocation map would reflect new information and current uses. This would allow for more effective management of lands within the New Melones Lake Area, and would protect and manage for special status species and their habitats where they are known to occur.

Maintaining road closures in certain areas would have effects similar to those described under Alternative A. However, effects to special status species would be greater under Alternative B because certain areas would be reopened to public vehicles, allowing effects as described in Effects Common to All Alternatives from Lands, Transportation, and Access Management.

New roads could be constructed under Alternative B to obtain access to land-locked Reclamation property. Similarly, a road would be constructed to the Westside Management Area. This would cause permanent removal of vegetation and introduce human presence and vehicles where there were none previously. Effects would be the greatest of all alternatives and similar to those described in Effects Common to All Alternatives from Lands, Transportation, and Access Management. Further, recreation would increase, causing effects as described in Effects Common to All Alternatives from Recreation Management.

Allowing seaplane use would have effects as described under Alternative A.

Optimizing trail connectivity and trailhead development would permanently remove vegetation and introduce weeds. Further, it could compact soil and disturb native vegetation if off-trail activities were to occur. This would degrade potential or occupied habitat for special status species. Trails may be closed in certain areas, allowing for restoration and revegetation with native plants. However, by providing more trail connections, Alternative B could prevent off-trail disturbance by users who want to access other trails and management areas.

Increasing the use of Bowie Flat Management Area would increase effects from human use and disturbance, as described in Effects Common to All Alternatives from Recreation Management.

Fire management, grazing management, and expansion of the Baseline Conservation Camp footprint would have effects as described under Alternative B, Effects from Natural Resources Management.

6.9.5.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative B would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.9.5.5 Effects from Recreation Management

Alternative B would allow for the greatest increase in concessions and facilities of all alternatives. Effects from these actions would be the greatest of all alternatives, by causing permanent removal of vegetation where facilities, concessions, and access roads would be constructed, increasing the potential for weed introduction and spread, and causing effects associated with an increase in recreational activities, such as noise, harassment to species, trampling of vegetation, and possible mortality of small special status wildlife and plants. Effects would be greater in Rural Natural Management Areas, where the amount of disturbance is currently lower than in Rural Developed Management Areas. Potential concessions and facilities with the greatest likelihood to cause effects on special status species include:

- Additional marina(s) and associated amenities;
- Construction of overnight lodging, food services, and new facilities for staging large events;
- Construction of a mountain bike course in a Rural Developed and/or Rural Natural Management Area;
- Seaplane training school;
- Equestrian trail riding business, outdoor adventure schools, primitive camping, and an RV campground in Rural Natural Management Area(s);
- Construction and operation of an OHV park; and
- Additional RC flying activities.

Alternative B would consider allowing more development associated with recreation in Rural Natural Management Areas to the point of changing the WROS designation to Rural Developed. This would increase disturbance caused by people and recreation, as described in Effects Common to All Alternatives from Recreation Management. Potential actions and effects are contingent upon the results of the Commercial Services Plan and financial feasibility evaluation.

Minimizing disturbance of fish spawning areas would have effects as described under Alternative A.

Under Alternative B, Reclamation would allow an increased level of watercraft use, which would increase effects on special status species. Effects would be similar to, but greater than, those described under Alternative A.

Allowing continued seaplane use would have the same effects described under Alternative B, Effect from Lands, Transportation, and Access Management.

Promoting the use of existing trails and unpaved roads, as well as preparing a trail management plan that focuses on trail development and connectivity, would minimize additional disturbance to special status species, and their potential and occupied habitats, and would concentrate effects in designated areas. Alternative B would create the most trails of all alternatives, causing the greatest permanent effects to vegetation.

Development of a climbing management plan in the PWMA would have effects as described under Alternative A, Effects from Natural Resources Management.

Interpretive services under Alternative B would be expanded compared with Alternative A. Development of an Interpretive Master Plan would effectively and efficiently educate visitors regarding special status species and their habitats in the New Melones Lake Area, and would prevent effects as described under Alternative A.

6.9.6 Effects on Special Status Species under Alternative C

6.9.6.1 Effects from Physical Resources Management

Seeking mandatory compliance with noise regulations would be the most effective in minimizing effects to special status species from noise disruption, such as causing species to alter their behaviors or avoid certain areas.

Alternative C would provide the greatest protection to caves by controlling cave access and closing caves to interpretive activities. This would cause the least effects to cave-dependent special status species, compared to the other alternatives.

6.9.6.2 Effects from Natural Resources Management

Implementing the Fire Management Plan would have effects as described under Alternative B. However, Alternative C would be the most effective in protecting special status species and restoring habitats by requiring rehabilitation of all burn areas, protecting sensitive sites from damage by heavy equipment, retaining vegetation within

fuel breaks, retaining mature oaks during fire management activities, and using buffer zones to protect riparian and wetland areas.

Invasive species prevention and treatment would be more effective under Alternative C by using herbicides at appropriate times, requiring reseeding with native seed, and by restricting activities in certain areas. This would reduce weeds and increase native plant cover, which would lead to improved habitats for special status species.

Managing a 66-acre parcel of land for an oak tree mitigation area would have effects as described under Alternative B.

Alternative C would develop a full baseline survey for serpentine-dependent special status plants. This would allow for the most effective management for these species by having the most complete and up-to-date information available when making planning decisions.

Implementing the Interim Peoria Management Plan would have effects similar to those described under Alternative A. However, Alternative C would be more protective to special status species by closing the area to vehicles and camping, thus eliminating disturbance from these sources.

Reducing the Baseline Conservation Camp footprint would have the greatest reduction of habitat and special status species disturbance of all alternatives. This would allow native vegetation to reestablish in areas where the footprint has been reduced, and would provide more potential special status species habitat.

Alternative C would impose greater restrictions to activities in fish spawning areas, and would include more areas compared with Alternatives A and B. This would provide the greatest protection to special status fish and aquatic wildlife of all alternatives.

A greater number of special status species would be protected under Alternative C compared with Alternatives A and B, by conserving sensitive wildlife habitats and by restricting recreational uses during breeding periods. This would extend protection from federally-listed species to other sensitive species, such as state-listed species, birds of conservation concern, and CNPS-listed species. Further, Alternative C would implement the greatest protections and restrictions of all alternatives to minimize disturbance to special status raptors and bats. This alternative would be the most effective in conserving these species.

Development of a climbing management plan would be the most protective to special status species by preventing effects on special status species before they occur.

Alternative C would consider permitting grazing in certain areas. Effects would be similar to those described in Effects Common to All Alternatives from Lands, Transportation, and Access Management, although under Alternative C, BMPs would be implemented to protect water quality, which would also protect riparian vegetation.

6.9.6.3 Effects from Lands, Transportation, and Access Management

Future easements and rights-of-way would be avoided and minimized under Alternative C. Further, effects would be avoided by implementing applicable guidelines. This would reduce effects described in Effects Common to All Alternatives from Lands, Transportation, and Access Management.

Using a new land allocation map would have effects as described under Alternative B.

Maintaining road closures in certain areas would have effects as described under Alternative A.

Restricting seaplane access to New Melones Lake would reduce noise disturbance to special status species, and would minimize the effects from noise disturbance that are described in Effects Common to All Alternatives from Recreation Management.

Alternative C would allow access to the Westside Management Area by boat or hiking. This would keep effects on special status species low, because access would be restricted and land uses would be low-impact and non-vehicular. Still, increased human presence would disturb special status species as described in Effects Common to All Alternatives from Recreation Management.

Optimizing trail connectivity would have effects similar to those described under Alternative B. However, under Alternative C, Reclamation would not develop new trailheads, thus minimizing permanent removal of vegetation in these areas.

Use of Bowie Flat Management Area for hiking and equestrian uses would cause some effects from recreation as described in Effects Common to All Alternatives from Recreation Management. Effects would be less than those caused by motorized vehicle use.

Fire management, grazing management, and reduction of the Baseline Conservation Camp footprint would have effects as described under Alternative C, Effects from Natural Resources Management.

6.9.6.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative C would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.9.6.5 Effects from Recreation Management

There would be some increase in concessions and facilities under Alternative C. Effects would be similar to those described under Alternative B, but effects would be reduced because Alternative C would focus on low-impact, conservation-oriented activities, and fewer proposed developments. Potential concessions and facilities with the greatest likelihood to cause effects on special status species include:

- Additional marina(s),

- Construction of overnight lodging, and
- Equestrian trail riding business and outdoor adventure schools in Rural Natural Management Area(s).

Under Alternative C, Reclamation would aim to minimize future development in Rural Natural Management Areas, which would help to maintain undisturbed habitat for special status species, and minimize disturbance caused by humans and increased recreation, such as those effects described in Effects Common to All Alternatives from Recreation Management.

Under Alternative C, Reclamation would impose the greatest restrictions on fish spawning areas, which would afford the greatest protection to special status fish and aquatic wildlife found in these areas.

Alternative C would decrease the number of watercraft allowed at New Melones Lake. Effects would be similar to, but less than, those described under Alternative A.

Restricting seaplane access would have effects as described under Alternative C, Effects from Lands, Transportation, and Access Management.

Under Alternative C, Reclamation would not develop additional trails and would prepare a trails management plan focusing on resource protection. These actions would have the greatest effect in protecting special status species from disturbance, compared with the other alternatives.

Development of a climbing management plan would have effects as described under Alternative C, Effects from Natural Resources Management.

Interpretive services under Alternative C would have effects similar to those described under Alternative B.

6.9.7 Effects on Special Status Species under Alternative D

6.9.7.1 Effects from Physical Resources Management

Effects from seeking voluntary compliance with noise regulations would be the same as those described under Alternative A.

Managing cave access and allowing interpretive activities in or near caves could cause some disturbance to cave-dependent special status species. Effects would be less than those described for Alternative B because Alternative D would not increase access to caves. Effects would be greater than Alternatives A and C, however, since interpretive activities would be allowed in caves.

6.9.7.2 Effects from Natural Resources Management

Effects from implementing the Fire Management Plan would be the same as those described under Alternative B. However, Alternative D would account for sensitive species and habitats during fire management activities, which would minimize potential effects to special status species. Further, Reclamation would revegetate moderate to large

areas that have been affected by fire, and would retain mature oaks during fire management activities.

Reseeding with native seed, and preventing infestations of exotic species would have effects as described under Alternative A. Use of target-specific herbicides at the appropriate time of year would have effects as described under Alternative C.

Effects from managing a 66-acre parcel of land for an oak tree mitigation area would be the same as those described under Alternative B.

Effects from developing a full baseline survey of serpentine-dependent special status species would be the same as those described under Alternative C.

Effects from implementing the Interim Peoria Management Plan would be the same as those described under Alternative A.

If Reclamation allows the Baseline Conservation Camp footprint to expand, effects would be as described under Alternative B.

Alternative D would protect and minimize disturbance to fish spawning areas, causing effects similar to those described under Alternative A. However, Alternative D would provide greater protection by minimizing disturbance in more areas.

Effects from special status species and habitat protections would be the same as those described under Alternative C.

Management actions for special status raptor and bats would improve raptor habitats, and conduct inventories for special status bat species, which would have effects similar to those described under Alternative A.

Effects from the development of a climbing management plan would be the same as those described under Alternative A.

Alternative D would consider permitting grazing in certain areas. Effects would be similar to those described in Effects Common to All Alternatives from Lands, Transportation, and Access Management, but Alternative D would consider allowing grazing of recreation areas in certain circumstances. This could increase effects on vegetation in those areas.

6.9.7.3 Effects from Lands, Transportation, and Access Management

Avoiding or minimizing future easements and rights-of-way over Reclamation lands would have effects as described under Alternative C.

Using a new land allocation map would have effects as described under Alternative B.

Maintaining road closures would have effects similar to those described under Alternative A. There would be greater effects under Alternative D, since Reclamation would reopen previously closed areas, causing effects from vehicle use as described in

Effects Common to All Alternatives from Lands, Transportation, and Access Management.

Creating new roads and access to land-locked Reclamation property would have effects as described under Alternative B.

Allowing seaplane access would have effects as described under Alternative A.

Alternative D would allow increased access to the Westside and Bowie Flat Management Areas similar to Alternative C. Effects from Alternative D could be greater due to additional recreational activities (biking and horseback riding) that would be allowed in these areas. This would attract more people to recreate in these areas, which would cause effects as described in Effects Common to All Alternatives from Recreation Management. Under Alternative D, Reclamation may consider a transportation route to allow vehicle access to Westside; an access road to Westside would have effects as described under Alternative B.

Optimizing trail connectivity and developing new trailheads would have effects as described under Alternative B.

Fire management, grazing management, and expanding the Baseline Conservation Camp footprint would have effects as described under Alternative D, Effects from Natural Resources Management.

6.9.7.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative D would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.9.7.5 Effects from Recreation Management

Alternative D would allow some increase in concessions and facilities, causing effects similar to those described under Alternative B. Effects would be less under Alternative D because fewer developments would be proposed. Effects would be greater than those under Alternatives A and C, since more developments would be proposed. Effects would be greater in Rural Natural Management Areas, where the amount of disturbance is currently lower than in Rural Developed Management Areas. Proposed actions and effects are contingent upon the results of the Commercial Services Plan and financial feasibility evaluation. Potential concessions and facilities with the greatest likelihood to cause effects on special status species include:

- Additional marina(s) and associated amenities;
- Construction of overnight lodging, food services, and new facilities for staging large events; and
- Equestrian trail riding business, outdoor adventure schools, and primitive camping in Rural Natural Management Area(s).

Under Alternative D, Reclamation would consider additional development to Rural Natural Management Areas, but not to the extent as proposed in Alternative B, where the WROS designation would be changed. Increased recreation and visitors would cause effects as described in Effects Common to All Alternatives from Recreation Management.

Minimizing disturbance to fish spawning areas would have effects as described under Alternative A.

Effects from increasing watercraft use would have effects as described under Alternative B.

Allowing seaplane use would have effects as described under Alternative D, Effects from Lands, Transportation, and Access Management.

Trails management actions would have effects similar to those described under Alternative B.

Developing a climbing management plan would have effects as described under Alternative D, Effects from Natural Resources Management.

Interpretive activities would have effects as described under Alternative B.

6.10 General Land Management

6.10.1 Introduction

General land management involves coordination, rights of use; trespass and unauthorized use; facilities, land use, and management areas; and utilities. This section describes potential impacts on general land management from Reclamation management actions and other resource uses. This analysis focuses on direct and indirect effects from actions that would improve or worsen general land management.

6.10.2 Methods of Analysis

6.10.2.1 Methods and Assumptions

Effects on general land management are determined through the consistency of proposed management actions with Reclamation's mission to manage, develop, and protect water, and related resources, in an environmentally and economically sound manner, in the interest of the American public. Effects are determined to be adverse if actions result in incompatible land uses.

The analysis is based on the following assumptions:

- Proposed activities that could not be mitigated would not be authorized;
- BMPS and SOPs would be implemented when necessary to implement changes in general land management;

- Applicable laws and regulations governing general land management would be enforced;
- No land use changes would occur that do not meet Reclamation's mission; and
- Expanding and improving the marina, adding a second marina, preserving natural areas, recognizing land use practices on surrounding lands, and addressing trespassing onto private lands surrounding the lake have been identified by adjacent, affected communities as important topics involving public lands (Bureau of Reclamation 2007d).

6.10.3 Effects on General Land Management Common to All Alternatives

6.10.3.1 Effects from Physical Resources Management

Reclamation would continue to restrict mining and material excavation within the study area, and coordinate with adjacent landowners and managers, to prevent degradation of Reclamation lands. Coordination with adjacent landowners and managers would continue to reduce potential conflicts in land use by neighboring land users. There would be no new effects.

Reclamation would continue to coordinate management of shared watersheds with neighboring landowners and agencies to protect ecological health and water quality. Coordination with adjacent landowners and managers would continue to reduce potential conflicts in land use by neighboring land users. There would be no new effects.

Trespass grazing would continue to be minimized by maintaining fence lines and posting signs. When trespass occurs, Reclamation would coordinate with local landowners and law enforcement to remove the animals. Minimizing trespass grazing would continue to minimize land use conflicts. There would be no new effects.

6.10.3.2 Effects from Natural Resources Management

There were no identified effects on general land management from natural resources management.

6.10.3.3 Effects from Lands, Transportation, and Access Management

Reclamation would continue the designation of the New Melones Lake Project as a Special Use Area, pursuant to 43 CFR, Part 423, for the protection of public health and safety, the protection and preservation of cultural and natural resources, the protection of environmental and scenic values, scientific research, the security of Reclamation facilities and the avoidance of conflict among visitor use activities. Reclamation has established schedules of visiting hours, public use limits, special uses and other conditions, restrictions and prohibitions on particular uses or activities. Reclamation uses 43 CFR, Part 423 and subsequently established Special Use Area regulations to maintain law and order, and protect persons and property within the New Melones Lake Project. This would continue to ensure Reclamation-managed activities would be based on Reclamation's mission. There would be no new effects.

Land management actions pertaining to coordination and cooperative planning with applicable federal, state, and local agencies, private entities, and the public would

continue to coordinate Reclamation-managed activities with adjacent and nearby land managers, thereby continuing to minimize land use conflicts. There would be no new effects.

Reclamation would continue to prohibit certain activities on federal land without a permit, per 43 CFR, Part 423, such as livestock grazing, OHV operation, and construction. This action would continue to ensure the use of Reclamation lands complies with Reclamation's mission. There would be no new effects.

Land management actions to prevent unauthorized use and trespass, enforce regulations related to unauthorized use and trespass, and resolve land ownership and jurisdictional uncertainties with other agencies when discrepancies are identified, would continue to preserve Reclamation lands for Reclamation-managed activities by minimizing the occurrence of illegal activities. There would be no new effects.

Under all alternatives, Reclamation would continue to do the following:

- Perform repairs or alterations on existing facilities necessary to comply with accessibility and public health and safety standards, such as the accessibility action plan;
- Update minimum basic facilities, such as parking and sanitation facilities, which, among other standards, needed to protect public health and safety, and protect water quality in all management areas, both Rural Developed and Rural Natural Management Areas; and
- Continue to operate and maintain current facilities and continue existing uses in all management areas. Unless otherwise specified.

This would continue to maintain facilities at standards acceptable for their designated use. There would be no new effects.

Reclamation would continue to forecast and plan for updating systems to coincide with future demands and regulatory requirements. Also, Reclamation would continue to conduct periodic review of utilities, maintain a long-term plan for maintenance, replacement, and updating of systems, and seek funding to address deferred maintenance of utilities. This would continue to maintain utilities at standards acceptable for their designated use. There would be no new effects.

Under all alternatives, Reclamation's public health and safety management would include the following:

- Providing staff levels and funding levels commensurate with recreation visitation in order to maintain the level and quality of services expected by the visitors to New Melones;
- Formulating project specific safety plans by Reclamation, or its agent, for individual operations and maintenance projects;

- Supporting primary emergency services by having rangers provide first response for medical, hazardous materials, search and rescue, and other emergencies at New Melones Lake;
- Developing appropriate educational opportunities on water, boating safety, and general boating etiquette;
- Ensuring, where necessary, adequate closure of unsafe or potentially hazardous areas (e.g., caves, old mine shafts, exposed steep areas, and high fire hazards areas) in compliance with closure procedures in 43 CFR, Part 423;
- Marking the tops of intermittent islands, large rock outcroppings, or other aquatic hazards with warning buoys per the New Melones Lake Waterway Hazard Marking Plan;
- Coordinating response to health and safety issues with local, state, and federal entities; and
- Encouraging Tuolumne and Calaveras Counties, CDFG, and BLM to monitor ongoing and reclaimed mining operations for compliance with permitting criteria.

These actions would continue to allow Reclamation lands to be used for their designated purpose by creating a safe environment for the public. There would be no new effects.

In addition, management actions for law enforcement and management controls, as well as coordination with applicable federal, state, and local agencies regarding law enforcement needs and activities, would continue to allow Reclamation lands to be used for their designated purpose by creating a safe environment for the public. There would be no new effects.

6.10.3.4 Effects from Cultural and Social Resources Management

There were no identified effects on general land management from cultural and social resources management.

6.10.3.5 Effects from Recreation Management

Under all alternatives, recreation management would include the following:

- Developing a long-term strategy that maintains and, wherever appropriate, optimizes the diversity of recreation and level of service found at New Melones Lake;
- Meeting visitor demand for specific recreation opportunities within the constraints of the existing infrastructure, while complying with existing applicable regulations, policies, laws, and funding;
- Continuing to update recreation management, where it supports Reclamation's mission, to accommodate trends in demographics and recreation interests of the potential visitor to New Melones Lake;
- Varying recreation activities to accommodate the diversity of potential visitors to New Melones Lake;

- Permitting special events when they support Reclamation's mission; and
- Exploring and, where appropriate, supporting concessionaire agreements with private enterprises to achieve needed recreational support services, programs, and facilities, and to disseminate Reclamation information.

These actions would continue to not allow conflicting land uses to occur and would not conflict with Reclamation's mission. There would be no new effects.

Under all alternatives, Reclamation would continue to do the following:

- Provide a recreation maintenance program that includes such components as potable water, sanitation, refuse management, landscape maintenance, building and facility repairs, waterway and hazard marking, and pest control;
- Restrict all public vehicles to designated roads, except as authorized under permit;
- Design roads, trails, and access easements to follow the natural topography, minimizing steep slopes and the number of stream crossings;
- Provide and maintain land and water-based toilets to minimize visitor exposure to unsanitary conditions; and
- Provide and maintain appropriate storage, transfer, containment, and disposal facilities for liquids, such as oil, solvents, antifreeze, and paints, at Reclamation and lessee facilities. Recycling of these materials would be encouraged.

These actions would continue to provide facilities in support of designated land uses. There would be no new effects.

Reclamation would continue to develop appropriate educational opportunities on water and boating safety. This would continue to allow Reclamation lands to be used for their designated purpose by creating a safe environment for the public. There would be no new effects.

Limiting land use activities within wetland and riparian buffer zones to prevent significant deterioration of wetland habitats, and promoting wildlife viewing and appropriate dispersed recreation would continue to not allow conflicting land uses to occur, and would not conflict with Reclamation's mission. There would be no new effects.

6.10.4 Effects on General Land Management under Alternative A

6.10.4.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative A would be the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.10.4.2 Effects from Natural Resources Management

There were no identified effects on general land management from natural resources management.

6.10.4.3 Effects from Lands, Transportation, and Access Management

Implementing the wildlife management requirements included in the Baseline Conservation Camp lease would continue to coordinate Reclamation-managed activities with the Baseline Conservation Camp, thereby continuing to minimize land use conflicts. There would be no new effects.

Maintenance of right-of-way utility crossings would be coordinated with Reclamation before any land alterations. This action would continue to ensure the use of Reclamation lands complies with Reclamation's mission. There would be no new effects.

Reclamation would continue efforts to eliminate unpermitted grazing and water access on lands under its jurisdiction. This action would continue to ensure the use of Reclamation lands complies with Reclamation's mission. There would be no new effects.

Reclamation would continue to enforce Reclamation's OHV policy and regulation. This would continue to minimize land use conflicts. There would be no new effects.

Reclamation would continue using the existing land use allocation map in the Master Plan to manage land and water in the New Melones Lake Area. There would be no change to existing land use designations, which may result in user conflicts, given existing conditions. There would be no new effects.

Reclamation would continue to assess how lands contained within the New Melones Lake Area are being effectively used for project purposes. This would continue to inform Reclamation about the compatibility of designated and actual land uses. There would be no new effects.

6.10.4.4 Effects from Cultural and Social Resources Management

There were no identified effects on general land management from cultural and social resources management.

6.10.4.5 Effects from Recreation Management

With respect to the Commercial Services and Concessions topic in General Recreation, Reclamation would continue to maintain identified facilities, continue to provide identified services, and continue to prohibit identified activities. This includes, continuing to provide the marina concession services in its present location, and the RC flying facility in the PWMA, Peoria Flat subarea. Because these services, facilities, and activities would not change, there would be no change to the types of land use. There would be no new effects.

6.10.5 Effects on General Land Management under Alternative B

6.10.5.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative B would be the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.10.5.2 Effects from Natural Resources Management

There were no identified effects on general land management from natural resources management.

6.10.5.3 Effects from Lands, Transportation, and Access Management

Implementing the wildlife management requirements included in the Baseline Conservation Camp would have the same effects as under Alternative A.

If funding becomes available, the Baseline Conservation Camp would be moved to the existing Equestrian Area, away from the Stanislaus River area of the PWMA. Reclamation would restore open areas, formerly used by Baseline Conservation Camp, to natural habitat, leaving roads and specific facilities for future use. Reclamation would allow a larger or different footprint for Baseline Conservation Camp, if needed to accommodate updated facilities and uses. This action would continue to coordinate Reclamation-managed activities with Baseline Conservation Camp, thereby continuing to minimize land use conflicts. Also, it would consolidate Baseline Conservation Camp activities in one area, instead of being divided by the New Peoria Flat Road.

Continuing to assess how lands contained within the New Melones Lake Area are being effectively used for project purposes, and coordinating maintenance of right-of-way utility crossings before any land alterations, would have the same effects as under Alternative A.

Reclamation would continue efforts to eliminate unpermitted grazing and water access on lands under its jurisdiction. Also, in appropriate areas, and with an approved permit and grazing plan, Reclamation may allow grazing and stock watering as a means to control invasive plant species and to reduce fire danger. This action would continue to ensure the use of Reclamation lands complies with Reclamation's mission. Also, permitted and planned grazing would allow Reclamation to improve the management of its lands by using grazing activities to control invasive plant species and to reduce fire danger.

Reclamation would continue to enforce Reclamation's OHV policy and regulation, and could enter into a managing partner or concession agreement to construct facilities and operate an OHV park at PWMA, Westside, Bowie Flat, Greenhorn Creek, French Flat, and Bear Creek Management Areas. This would continue to minimize land use conflicts from unpermitted use, especially if a facility designated for OHV use is constructed. Also, Reclamation would convert land from its current use to an OHV park.

Reclamation would not use the existing land use allocation map in the Master Plan to manage land and water in the New Melones Lake Area. Reclamation would update land use allocation at New Melones Lake, as described in Table 2-1, Land Use, to reflect

updated information, currently used management areas, and potential management from such sources as the WROS, carrying capacity study, and commercial services plan. This would convert land from its current use to more appropriate uses based on recreation studies and planning. It would also increase and decrease land use activities in certain areas.

If lands no longer serve project purposes, Reclamation would update management of those lands, such as disposal or transfer of those lands. This may change the designation of Reclamation lands to more appropriate uses and result in the loss of Reclamation lands to other land managers.

6.10.5.4 Effects from Cultural and Social Resources Management

There were no identified effects on general land management from cultural and social resources management.

6.10.5.5 Effects from Recreation Management

With respect to the Commercial Services and Concessions topic in General Recreation, Reclamation would construct additional facilities, provide additional services, and allow additional activities under Alternatives B, C and D. Examples are constructing a wave attenuator in the marina location to minimize storm damage, constructing lodging facilities, developing a new RV park within Tuttletown or Glory Hole (or both), and developing a mountain bike course. Some of the facilities, services, and activities would be in undeveloped areas. Alternative B would have more new facilities, services, and activities than Alternatives C and D, and therefore the greatest effects would be expected under this alternative. Because the specific locations and feasibility of some of the proposed facilities, services, and activities have not been identified, the potential impacts on land use changes could vary in intensity. For example, land use designation may change, facilities and utilities infrastructure may increase, flora and fauna management plans may need revising, and recreation management areas may increase or decrease.

6.10.6 Effects on General Land Management under Alternative C

6.10.6.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative C would be the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.10.6.2 Effects from Natural Resources Management

There were no identified effects on general land management from natural resources management.

6.10.6.3 Effects from Lands, Transportation, and Access Management

Implementing the wildlife management requirements included in the Baseline Conservation Camp would have the same effects as under Alternative A.

If funding becomes available, the Baseline Conservation Camp would be moved to the existing Equestrian Area away from the Stanislaus River area of the PWMA. Reclamation would restore open areas formerly used by Baseline Conservation Camp to

natural habitat, leaving roads and specific facilities for future use. The Baseline Conservation Camp lease area would be removed from the PWMA, offsetting with equivalent or more acreage for wildlife mitigation adjacent to the PWMA in other areas. This action would continue to coordinate Reclamation-managed activities with the Baseline Conservation Camp, thereby continuing to minimize land use conflicts. Also, it would consolidate Baseline Conservation Camp activities in one area, instead of being divided by the New Peoria Flat Road.

Maintenance of right-of-way utility crossings would be coordinated with Reclamation before any land alterations. Also, Reclamation would avoid or minimize future easements and rights-of-way over Reclamation lands. As a condition of approval, new easements (e.g., roadways, electrical transmission lines, pipelines, structures, and facilities) must adhere to applicable guidelines to avoid potential operational and resource impacts. This action would continue to ensure the use of Reclamation lands complies with Reclamation's mission. Also, the condition of approval would hold new easement developers responsible for keeping Reclamation land in a condition appropriate for Reclamation's mission.

Effects from grazing management would be the same as under Alternative B.

Effects from enforcing Reclamation's off-road vehicles policy and regulation would be the same as under Alternative A.

Using an updated version of the land use allocation map would have the same effects as under Alternative B.

As under Alternative A, Reclamation would continue to assess how lands contained within the New Melones Lake Area are being effectively used for project purposes. This would continue to inform Reclamation about the compatibility of designated and actual land uses. There would be no new effects.

6.10.6.4 Effects from Cultural and Social Resources Management

There were no identified effects on general management from cultural and social resources management.

6.10.6.5 Effects from Recreation Management

With respect to the Commercial Services and Concessions topic in General Recreation, Reclamation would construct additional facilities, provide additional services, and allow additional activities under Alternatives B, C, and D. Examples include relocating the marina within the Glory Hole Recreation Area, but with a smaller footprint and/or seasonal operation to minimize storm damage, and constructing eco-friendly lodging. Some of the facilities, services, and activities would be in undeveloped areas. Alternative C would have fewer new facilities, services, and activities than Alternatives B and D, and therefore effects would be less under Alternative C as compared to B and D. Because the specific locations and feasibility of some of the proposed facilities, services, and activities have not been identified, the potential impacts on land use changes could vary in intensity. For example, land use designation may change, facilities and utilities

infrastructure may increase, flora and fauna management plans may need revising, and recreation management areas may increase or decrease.

6.10.7 Effects on General Land Management under Alternative D

6.10.7.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative D would be the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.10.7.2 Effects from Natural Resources Management

There were no identified effects on general land management from natural resources management.

6.10.7.3 Effects from Lands, Transportation, and Access Management

Implementing the wildlife management requirements included in the Baseline Conservation Camp would have the same effects as under Alternative A.

If funding becomes available, Baseline Conservation Camp would be moved to the existing Equestrian Area, away from the Stanislaus River area of the PWMA. Reclamation would restore open areas formerly used by Baseline Conservation Camp to natural habitat, leaving roads and specific facilities for future use. Reclamation would allow a larger or different footprint for Baseline Conservation Camp if needed to accommodate updated facilities and uses. The PWMA boundaries would be changed to exclude the Baseline Conservation Camp lease area, offsetting with equivalent or more acreage for wildlife mitigation adjacent to the PWMA in other areas. This action would continue to coordinate Reclamation-managed activities with Baseline Conservation Camp, thereby continuing to minimize land use conflicts. Also, it would consolidate Baseline Conservation Camp activities in one area, instead of being divided by the New Peoria Flat Road.

Management related to rights-of-way and easements would have the same effects as described under Alternative C.

Effects from grazing management would be the same as under Alternative B.

Effects from enforcing Reclamation's off-road vehicles policy and regulation would be the same as under Alternative A.

Using an updated version of the land use allocation map would have the same effects as under Alternative B.

As under Alternatives A and C, Reclamation would continue to assess how lands contained within the New Melones Lake Area are being effectively used for project purposes. This would continue to inform Reclamation about the compatibility of designated and actual land uses. There would be no new effects.

6.10.7.4 Effects from Cultural and Social Resources Management
There were no identified effects on general land management from cultural and social resources management.

6.10.7.5 Effects from Recreation Management
With respect to the Commercial Services and Concessions topic in General Recreation, Reclamation would construct additional facilities, provide additional services, and allow additional activities under Alternatives B, C, and D. Examples include relocating the marina within Glory Hole Recreation Area, with separate areas for private moorage and public rentals and services, constructing lodging, developing a new RV park within Tuttletown or Glory Hole (or both), and developing a mountain bike course. Some of the facilities, services, and activities would be in undeveloped areas. Alternative D would have more facilities, services, and activities than Alternative C, and fewer than Alternative B. Because the specific locations and feasibility of some of the proposed facilities, services, and activities have not been identified, the potential impacts on land use changes could vary in intensity. For example, land use designation may change, facilities and utilities infrastructure may increase, flora and fauna management plans may need revising, and recreation management areas may increase or decrease.

6.11 Access and Transportation

6.11.1 Introduction
The primary cause of effects on access and transportation at the New Melones Lake Area is from resource protection. The management actions that are implemented to protect natural resources such as wildlife, fisheries, water, public health and safety could result in permanent route restrictions or closures. The increase in land and aquatic recreation-based activities could expand the access and transportation.

6.11.2 Methods of Analysis

6.11.2.1 Methods and Assumptions
Potential effects on access and transportation from each alternative are based on interdisciplinary team knowledge of the resources and planning principles. Effects were identified using best professional judgment and were assessed according to the following assumptions:

- The demand for recreational use would continue to increase over the life of the plan;
- Recreational visits would continue to increase;
- The incidence of resource damage and conflicts among recreationists involved in mechanized, motorized, and non motorized activities would rise with the increasing use of project lands; and
- Anticipated increases would be concentrated in the activities of motorboating, fishing, swimming, hiking, mountain biking, camping and hunting.

6.11.3 Effects on Access and Transportation Common to All Alternatives

6.11.3.1 Effects from Physical Resources Management

Deterioration of the road and trail network from erosion would be minimized with the proper location and design of roads, trails and access easements to reduce impacts on steep slopes and minimize the number of stream crossings. This would minimize effects on the quality of access and transportation caused from the degradation of facilities.

The stabilization and construction of water bars on all unpaved roads and trails would minimize erosion that can lead to the deterioration of these facilities.

The confinement of all public vehicles to existing roadways, and continuing enforcement of the ban on OHVs would continue to limit motorized access to portions of the New Melones Lake Area.

Implementing a protection plan for caves with significant resource values or potential hazards would likely limit access to users.

6.11.3.2 Effects from Natural Resources Management

Measures implemented to protect vegetation, fish, wildlife, and special status species would affect transportation and access if routes were closed, or access was restricted, to protect sensitive resources. Avoiding or minimizing disturbance of native plant communities and sensitive habitats and species could affect planning of future roads and trails by influencing or prohibiting the location of routes.

6.11.3.3 Effects from Lands, Transportation, and Access Management

The confinement of all public vehicles to existing roadways and continuing enforcement of the ban on OHVs would continue to limit motorized access to portions of the New Melones Lake Area.

Reclamation would continue to restrict access to the New Melones Dam and Spillway Management Area. There would be no new effect.

Reclamation would continue to operate and maintain a system of recreation area access roads in the vicinity of the reservoir and maintain roads and parking facilities in compliance with appropriate regulations and guidelines. This would be a continuation of existing access conditions, and there would be no new effect.

6.11.3.4 Effects from Cultural and Social Resources Management

The location of new access routes could be affected by protective measures for cultural resources by limiting potential route corridors in order to avoid or minimize impacts on cultural resources.

6.11.3.5 Effects from Recreation Management

Designing new facilities and programs to incorporate universal design approach, and retrofitting existing facilities to provide access per ADA, would ensure adequate accessibility to these programs and facilities for all visitors.

6.11.4 Effects on Access and Transportation under Alternative A

6.11.4.1 Effects from Physical Resources Management

Continuing to close former roadways in Rural Developed Management Areas for public and resource protection could restrict access to portions of the New Melones Lake Area.

6.11.4.2 Effects from Natural Resources Management

Under, the Interim Management Plan for the PWMA, building trails in accordance with the trail plan would increase access to portions of the PWMA. Conversely, closing and restoring unauthorized trails could restrict access to portions of the PWMA. Vehicle access would remain closed year-round and there would be no new effect.

6.11.4.3 Effects from Lands, Transportation, and Access Management

Under Alternative A, the overlook facilities at Peoria Flat would remain closed, restricting access to this area. There would be no new effect.

Access to public vehicles would continue to be restricted by closing Old Parrotts Ferry Road, the PWMA, the Melones, French Flat, and Bear Creek Recreation Areas, and the Westside, Bowie Flat, Greenhorn Creek, Carson Hill, Dam and Spillway, and Stanislaus River Canyon Management Areas. There would be no new effect.

The operation and maintenance of the substandard lake access routes and associated facilities in Glory Hole, Tuttletown, Mark Twain, Camp Nine, Parrotts Ferry, Stanislaus River Canyon, and Coyote Creek Management Areas would continue to provide visitor access to these areas; however, access to substandard facilities may be restricted for public health and safety purposes.

The continued operation and maintenance of fire roads and the trail system in Glory Hole, Greenhorn Creek and the Westside Management Areas would maintain the existing levels of accessibility to these areas. There would be no new effect.

Continuing to implement the existing seaplane policy would maintain the current level of seaplane access to New Melones Lake.

6.11.4.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative A would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.11.4.5 Effects from Recreation Management

Under Alternative A, trails management would be designed to keep visitor traffic in existing high use areas and maintain existing trails to accommodate additional use. These measures would be designed to provide for existing use patterns. Development of new routes would be limited. The size and number of existing trails may not be adequate to accommodate expected future increases in visitation to the New Melones Lake Area and existing trails could become congested, affecting the quality of trail access within the New Melones Lake Area.

6.11.5 Effects on Access and Transportation under Alternative B

6.11.5.1 Effects from Physical Resources Management

Expanding access to caves under Alternative B could encourage increased visitor access to cave resources.

Updating and improving former roadways in Rural Developed Management Areas to be used as lake access, and constructing modern boat launch and support facilities, would improve access to these areas and increase access for aquatic recreation activities.

6.11.5.2 Effects from Natural Resources Management

Building trails within the PWMA would increase access to portions of this management area. In addition, vehicle access would only be restricted from December 1 to May 1, therefore, the PWMA would be more accessible to most visitors the remainder of the year.

6.11.5.3 Effects from Lands, Transportation, and Access Management

Under Alternative B, if public safety concerns can be addressed, the overlook facilities at Peoria Flat would be reopened, which would restore visitor access to this area.

The closure of French Flat and Bear Creek Recreation Area; and the Westside, Bowie Flat, Greenhorn Creek, Carson Hill, Dam and Spillway, and Stanislaus River Canyon Management Areas to public vehicles would have the same effect as under Alternative A. However, the reopening of the Old Parrotts Ferry Road and Melones Recreation Area, and allowing public vehicle access to the PWMA from May 2 to November 30, would expand visitor access within the New Melones Lake Area.

The operation and maintenance of lake access routes and associated facilities at Glory Hole and Tuttletown and the updating and modernizing of lake access routes and associated facilities in the Mark Twain, Camp Nine, Parrotts Ferry, and Coyote Creek Management Areas would provide more improved visitor access compared to Alternative A.

Obtaining access and constructing roads within landlocked Reclamation property areas (e.g. Bowie Flat, Skunk Gulch, Grapevine Gulch and Melones Recreation Area) would expand visitor access within the New Melones Lake Area.

Continuing to implement the existing seaplane policy would have the same effects as under Alternative A. Under Alternative B, airspace could be restricted over portions of the New Melones Lake Area to protect public safety and critical infrastructure.

Under Alternative B, Reclamation could develop an access road to the Westside Management Area, which would provide motorized access to this area.

Optimizing the connectivity between the existing fire road and trail system in the Glory Hole, Greenhorn Creek and Westside Management Areas, and developing new trailheads to access Greenhorn Creek and the Westside areas would enhance access for visitors and fire management personnel compared to Alternative A.

6.11.5.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative B would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.11.5.5 Effects from Recreation Management

Recreation use and new recreational facilities would be the greatest under Alternative B. Increased visitation due to new recreational facilities would increase the use of roads and trails and would increased the demand for new routes.

Redevelopment of trails, new trail development, and optimizing trails connectivity would be designed to expand and improve visitor access, provide for multi-use, and to accommodate additional use. This would increase the number of trails and potential uses of trails within the New Melones Lake Area, providing additional access opportunities for visitors.

6.11.6 Effects on Access and Transportation under Alternative C

6.11.6.1 Effects from Physical Resources Management

Restricting and, in some cases, eliminating access to caves under Alternative C would reduce visitor access to cave resources.

Continuing to close former roadways in Rural Developed Management Areas for public and resource protection would have the same effects as under Alternative A. In addition, restricting or reducing vehicle use within Semi-Primitive and Rural Natural Management Areas could limit visitor access to these areas.

6.11.6.2 Effects from Natural Resources Management

Under Alternative C, the PWMA would be closed to public vehicle use, eliminating visitor vehicle access to this area.

6.11.6.3 Effects from Lands, Transportation, and Access Management

As under Alternative A, the overlook facilities at Peoria Flat would remain closed, restricting access to this area. There would be no new effect.

The closure of Old Parrotts Ferry Road; the PWMA; the Melones, French Flat, and Bear Creek Recreation Areas; and the Westside, Bowie Flat, Greenhorn Creek, Carson Hill, Dam and Spillway, and Stanislaus River Canyon Management Areas to public vehicles would have the same effects as under Alternative A.

As under Alternative A, the operation and maintenance of the substandard lake access routes and associated facilities in Glory Hole, Tuttletown, Mark Twain, Camp Nine, Parrotts Ferry, and Stanislaus River Canyon Management Areas would continue to provide visitor access to these areas; however, access to substandard facilities may be restricted for public health and safety purposes.

Effects from the updating and modernizing of Camp Nine Road and Parrotts Ferry Road at Natural Bridges would be the same as under Alternative B.

Under Alternative C, seaplane access to New Melones Lake would be restricted. In addition, designated no-fly zones near critical infrastructure would be increased and enforced, except for fire-fighting, emergency, and military operations.

Under Alternative C, Reclamation would allow access to the Westside Management Area via hiking or boat; however, these may not be viable forms of access for all visitors.

Effects from optimizing the connectivity between the existing fire road and trail system in the Glory Hole, Greenhorn Creek and Westside Management Areas would be the same as under Alternative B.

6.11.6.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative C would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.11.6.5 Effects from Recreation Management

Recreation use and new recreational facilities would increase under Alternative C, but less than under Alternatives B and D. Effects from increased visitation due to new recreational facilities would be similar but somewhat less than under Alternatives B and D.

Only maintaining existing trails and not developing new trails would limit visitor access opportunities within the New Melones Lake Area. Considering multi-use in trail redevelopment and optimizing trail connectivity would make trails available to more uses and expand access within the New Melones Lake Area, but less than under Alternative B.

6.11.7 Effects on Access and Transportation under Alternative D

6.11.7.1 Effects from Physical Resources Management

Updating and improving former roadways in Rural Developed Management Areas would improve user access to Mark Twain, Parrott's Ferry, and Melones Recreation Areas which could allow for continued, and potentially expanded, visitor access to these areas. Effects from restricting or reducing vehicle use within Semi-Primitive and Rural Natural Management Areas would be the same as under Alternative C.

6.11.7.2 Effects from Natural Resources Management

Implementing the Interim Management Plan for the PWMA would have the same effects as described under Alternative A.

6.11.7.3 Effects from Lands, Transportation, and Access Management

Under Alternative D, the overlook facilities at Peoria Flat would remain closed, as under Alternatives A and C; however, public access to the overlook would be provided through guided tours.

The closure of the PWMA; Melones, French Flat, and Bear Creek Recreation Areas; as well as the Westside, Bowie Flat, Greenhorn Creek, Carson Hill, Dam and Spillway, and Stanislaus River Canyon Management Areas to public vehicles would have the same effect as under Alternative A. The reopening of the Old Parrotts Ferry Road would expand visitor access within the New Melones Lake Area; however, this would provide less expanded access than Alternative B.

Effects from the operation and maintenance of lake access routes and associated facilities at Glory Hole and Tuttletown and the updating and modernizing of lake access routes and associated facilities in the Mark Twain, Camp Nine, Parrotts Ferry, and Coyote Creek Management Areas would be the same as under Alternative B.

Continuing to implement the existing seaplane policy would have the same effects as under Alternative A. As under Alternative B, airspace could be restricted over portions of the New Melones Lake Area for public safety and to protect critical infrastructure.

Effects from obtaining access and constructing roads within landlocked Reclamation property areas (Bowie Flat, Skunk Gulch, Grapevine Gulch and Melones Recreation Area) would be the same as under Alternative B.

The effects on accessibility from optimizing the connectivity between the existing fire road and trail system in the Glory Hole, Greenhorn Creek and the Westside Management Areas and developing new trailheads to access Greenhorn Creek and the Westside areas would be similar to Alternative B.

Under Alternative D, Reclamation would allow access to the Westside Management Area via hiking, horseback, or boat; however, these may not be viable forms of access for all visitors. Under Alternative D, Reclamation may consider a transportation route to allow vehicle access to Westside.

6.11.7.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative D would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.11.7.5 Effects from Recreation Management

Recreation use and new recreational facilities would increase under Alternative D, but less than under Alternatives B. Effects from increased visitation due to new recreational facilities would be similar but somewhat less than under Alternative B.

Effects from trails management would be similar to Alternative B.

6.12 Public Health and Safety

6.12.1 Introduction

Public health and safety issues involve recreation activities, use permits, special events, concessionaire agreements, boating, caves, abandoned mines, illegal dumping and drug

manufacturing, and public services (Park Rangers, law enforcement, fire protection, and medical attention). This section describes potential effects on public health and safety from management actions and other resource uses. This analysis focuses on direct and indirect effects from actions that would improve or worsen public health and safety.

6.12.2 Methods of Analysis

6.12.2.1 Methods and Assumptions

Effects on public health and safety are determined through the consistency of proposed management actions with Reclamation's mission to manage, develop, and protect water and related resources in an environmentally and economically sound manner, in the interest of the American public. Effects are determined to be adverse if actions create situations that are unhealthy or unsafe for the public.

The analysis is based on the following assumptions:

- Proposed activities that could not be mitigated would not be authorized;
- BMPs and SOPs would be implemented when necessary to protect public health and safety;
- Proposed regulation of activities would be fully enforced;
- Reclamation provides that staff levels be commensurate with recreation visitation. This is to fully implement policies and management actions and to maintain the level and quality of safety and services expected by visitors to the New Melones Lake area.
- Compliance with applicable laws and regulations governing public health and safety would improve public health and safety; and
- Increasing law enforcement, increasing the presence of law enforcement personnel, improving safety around firearms, increasing safety around water, improving wildfire safety, and reducing illegal drug activity have been identified by adjacent, affected communities as important values on public lands (Bureau of Reclamation 2007d). The importance of public health and safety is expected to increase in value to residents and visitors over the life of the RMP.

6.12.3 Effects on Public Health and Safety Common to All Alternatives

6.12.3.1 Effects from Physical Resources Management

A protection plan for caves with significant resource value or potential hazards could continue to be implemented, as needed. This would continue to provide public protection by allowing cave visits to occur when conditions are safe. There would be no new effects.

In all Rural Developed and Rural Natural Management Areas, Reclamation would continue to update minimum basic facilities, such as parking and restrooms. This would continue to provide public protection by providing appropriate infrastructure for acceptable recreation in these areas. There would be no new effects.

Reclamation would continue to prohibit dumping of any kind on Reclamation lands or in water. This would continue to provide public protection by keeping the public from coming into contact with dumped material, which may contain dangerous substances. There would be no new effects.

Reclamation would continue to confine all public vehicles to existing roadways and continue to enforce bans on OHV operation. This would continue to provide public protection by keeping OHVs out of areas where the public is not expecting or prepared to encounter OHVs. There would be no new effects.

Reclamation would continue to respond immediately to any hazardous waste problems discovered on Reclamation lands to minimize water quality degradation, per RCRA and other applicable regulations. This would continue to provide public protection by minimizing the potential for the public to come into contact with hazardous waste. There would be no new effects.

6.12.3.2 Effects from Natural Resources Management

The CDFG would continue to be encouraged to monitor and enforce rules and regulations related to hunting and fishing. Enforcement of the rules and regulations would continue to provide public protection by minimizing illegal hunting activities. There would be no new effects.

Except when snags present a safety hazard, Reclamation would continue to leave dead trees in the reservoir to provide fish habitat. This would continue to provide public protection by minimizing the potential for dead trees to damage boats used during recreation. There would be no new effects.

6.12.3.3 Effects from Lands, Transportation, and Access Management

Reclamation would continue the designation of the New Melones Lake Project as a Special Use Area, pursuant to 43 CFR, Part 423, for the protection of public health and safety, the protection and preservation of cultural and natural resources, the protection of environmental and scenic values, scientific research, the security of Reclamation facilities and the avoidance of conflict among visitor use activities. Reclamation has established schedules of visiting hours, public use limits, special uses and other conditions, restrictions and prohibitions on particular uses or activities. 43 CFR, Part 423, and subsequently established Special Use Area regulations, are used to maintain law and order, and protect persons and property within the New Melones Lake Project. This would continue to provide public protection by ensuring appropriate use of Reclamation lands and facilities. There would be no new effects.

Reclamation would continue to coordinate with applicable entities (such as Pacific Gas and Electric, Calaveras County Water Agency, Calaveras County, BLM, USFWS, and CDFG), and appropriate private entities to develop measures to maintain effective management, and decrease negative activities along Camp Nine Road. Measures would address issues such as safety, access, recreational shooting, and the potential disturbance of vegetation, soils, and geologic features. This would continue to provide public

protection by increasing road and driving safety in this area. There would be no new effects.

Reclamation would continue to restrict access of inmates beyond the leased area at Baseline Conservation Camp. This would continue to provide public protection by maintaining a buffer between inmates and the recreating public. There would be no new effects.

Reclamation would continue to prohibit certain activities on federal land without a permit, per 43 CFR, Part 423, such as livestock grazing, OHV operation, and construction. This would continue to provide public protection by minimizing the potential for the public coming into contact with individuals conducting illegal activities. There would be no new effects.

Land management actions to prevent unauthorized use and trespass, enforce regulations related to unauthorized use and trespass, and resolve land ownership and jurisdictional uncertainties with other agencies, when discrepancies are identified, would continue to provide public protection by minimizing the potential for the public coming into contact with individuals conducting illegal activities. There would be no new effects.

Reclamation would continue to perform repairs and alterations on existing facilities necessary to comply with accessibility and public health and safety standards, such as the accessibility action plan. Also, in all management areas, both Rural Developed and Rural Natural Management Areas, Reclamation would continue to update minimum basic facilities, such as parking and sanitation facilities. This would continue to provide public protection by providing appropriate infrastructure for acceptable recreation in these areas. There would be no new effects.

Reclamation would continue to restrict public access to and enforce a no trespassing zone within the New Melones Dam and Spillway Management Area. The Spillway would continue to be a no trespassing area. The restricted access zone includes the New Melones power plant and outlet works, Stanislaus River downstream to the buoy line, the Visitor Overlook, and the area leased to the California Division of Forestry for Baseline Conservation Camp. To protect public health and safety, these areas are closed to public vehicles, hunting, and fishing. This would continue to provide public protection by restricting access to unsafe areas. There would be no new effects.

Under all alternatives, Reclamation would continue to do the following:

- Provide staff levels and funding levels commensurate with recreation visitation in order to maintain the level and quality of services expected by the visitors to New Melones;
- Formulate project specific safety plans, by Reclamation or its agent, for individual operations and maintenance projects;

- Support primary emergency services by having rangers provide first response for medical, hazardous materials, search and rescue, and other emergencies at New Melones Lake;
- Develop appropriate educational opportunities on water, boating safety, and general boating etiquette;
- Ensure adequate closure, where necessary, of unsafe or potentially hazardous areas (e.g., caves, old mine shafts, exposed steep areas, and high fire hazards areas) in compliance with closure procedures in 43 CFR, Part 423;
- Mark the tops of intermittent islands, large rock outcroppings, or other aquatic hazards with warning buoys per the New Melones Lake Waterway Hazard Marking Plan;
- Coordinate response to health and safety issues with local, state, and federal entities; and
- Encourage Tuolumne and Calaveras Counties, CDFG, and BLM to monitor ongoing and reclaimed mining operations for compliance with permitting criteria.

This would continue to provide public protection by fostering existing Reclamation public health and safety actions. There would be no new effects.

Reclamation would continue to do the following:

- Address illegal activities in all management areas through continued law enforcement presence, management controls such as gates and visiting hours, signs, and education;
- Implement a long-term strategy for effective law enforcement at New Melones Lake by cooperating with local, state, and federal agencies;
- Maintain working relationships and oversee contracts with Tuolumne and Calaveras Counties to provide law enforcement services. Work to increase law enforcement presence through patrols, public affairs, and other feasible means; and
- Develop a strong partnership with CDFG to increase communication, leading to more effective enforcement of the appropriate regulations under the Clean Water Act and the Fish and Game Code of California.

This would continue to provide public protection by keeping existing Reclamation law enforcement actions. There would be no new effects.

6.12.3.4 Effects from Cultural and Social Resources Management

There were no identified effects on public health and safety from cultural and social resources management.

6.12.3.5 Effects from Recreation Management

Reclamation, in coordination with the BLM, would continue to implement a strategy to prevent illegal activities and public trespass, in addition to a proper stock handling program, at the French Flat management area, and would continue to support and expand boating law enforcement services from Tuolumne and Calaveras counties. This would continue to provide public protection by minimizing the potential for the public coming into contact with individuals conducting illegal activities, and by ensuring boating activities do not create unsafe situations. There would be no new effects.

Reclamation would continue to provide a recreation maintenance program that includes such components as potable water, sanitation, refuse management, landscape maintenance, building and facility repairs, waterway and hazard marking, and pest control. Reclamation would continue to restrict all public vehicles to designated roads, except as authorized under permit. This would continue to provide public protection by keeping public vehicles and boats away from unsafe situations. There would be no new effects.

Reclamation would continue to provide first response for medical, hazardous materials, search and rescue, and other emergencies in support of primary emergency services at New Melones Lake, and would continue to provide public education on natural resources, cultural resources, public safety, invasive species, and Reclamation's mission. This would continue to provide public protection by providing services for responding to emergencies, and providing educational outreach to prevent emergency situations from occurring. There would be no new effects.

Reclamation would continue to develop appropriate educational opportunities on water and boating safety. This would continue to provide public protection by providing educational outreach to prevent emergency situations from occurring. There would be no new effects.

Except when snags present a safety hazard, Reclamation would continue to leave dead trees in the reservoir to provide fish habitat. This would continue to provide public protection by minimizing the potential for dead trees to damage boats used during recreation. There would be no new effects.

Reclamation would continue to mark the tops of intermittent islands, large rock outcroppings, or other aquatic hazards with warning buoys per the New Melones Lake Waterway Hazard Marking Plan. This would continue to provide public protection by minimizing the potential for aquatic hazards to damage boats. There would be no new effects.

Reclamation would provide information to visitors on hunting opportunities and restrictions through signs, maps, visitor contact, and other media. This would continue to provide public protection by educating hunters about safe hunting practices. There would be no new effects.

A protection plan for caves with significant resource value or potential hazards could continue to be implemented, as needed. This would continue to provide public protection by allowing cave visits to occur when conditions are safe. There would be no new effects.

6.12.4 Effects on Public Health and Safety under Alternative A

6.12.4.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative A would be the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.12.4.2 Effects from Natural Resources Management

Effects from natural resources management under Alternative A would be the same as those described in Effects Common to All Alternatives from Natural Resources Management.

6.12.4.3 Effects from Lands, Transportation, and Access Management

Implementing the wildlife management requirements included in the Baseline Conservation Camp lease would continue to coordinate Reclamation-managed activities with the Baseline Conservation Camp, thereby continuing to keep inmates and the public apart. There would be no new impacts.

Reclamation would continue to enforce Reclamation's OHV policy and regulation, which states that all Reclamation lands are closed to off-road vehicles, except for those areas specifically designated for such use (43 CFR, Part 420). No off-road vehicles are allowed at New Melones Lake; vehicles must remain on paved or other specified hard surface roads. In accordance with 43 CFR, Part 420, vehicular access is allowed for fire, emergency, or law enforcement vehicles, and for officially designated purposes. This would continue to provide public protection by minimizing the potential for the public coming into contact with individuals conducting unauthorized activities. There would be no new effects.

Reclamation would continue closure of overlook facilities (parking, restroom, picnic area) at Peoria Flat. This would continue to provide public protection by keeping the public from unsafe areas, such as the hazardous road at Peoria Flat. There would be no new effects.

Unless expressly prohibited, hunting would continue to be allowed on Reclamation lands or waters, except within 150 yards (135 meters) of any designated recreation area, facility, campground, day use area, boat ramp, parking area, neighboring residence, or Camp Nine's two power plants. This would continue to provide public protection by requiring hunting activities only in areas separate from non-hunting activities. Conflicts between hunters and non-hunters, however, would be expected to continue. There would be no new effects.

Reclamation would continue the existing working relationships and contracts with Tuolumne and Calaveras Counties to provide law enforcement services, which are based on patrols and dispatch from the respective county sheriff station. This would continue to

provide public protection by maintaining law enforcement services. Slow response times from Tuolumne and Calaveras Counties law enforcement, however, are expected to continue. There would be no new effects.

Reclamation would continue to implement project-wide BMPs to reduce fire danger and respond to wildland fires. This would continue to provide public protection by limiting the public's exposure to unsafe situations involving fire. There would be no new effects.

6.12.4.4 Effects from Cultural and Social Resources Management

There were no identified effects on public health and safety from cultural and social resources management.

6.12.4.5 Effects from Recreation Management

Reclamation would continue to address ongoing safety concerns, and prohibit specific uses of the water surface by continuing to require the following measures:

- No-ski zones in the Camp Nine, and Stanislaus River Canyon areas,
- No-wake zones 200 feet (60 meters) from the launch and marina,
- No boating in designated swimming areas,
- No-swimming zone within the marina,
- No-swimming zones within 100 feet (30 meters) of launch ramps or docks, and
- No fishing off of docks unless otherwise permitted.

This would continue to provide public protection by keeping incompatible activities apart. Other incompatible aquatic activities, however, would continue to occur. There would be no new effects.

Reclamation would continue to maintain designated swimming areas, which would be buoyed off and closed to incompatible uses. This would continue to provide public protection by keeping incompatible activities apart. Other incompatible aquatic activities involving swimming elsewhere, however, would continue to occur. There would be no new effects.

Pathways would continue to be three feet (one meter) wide, with a stabilized aggregate surface, and would generally follow the natural contours of the land. Due to the composition of the trails, this could continue to make certain trails unsafe for use by people with disabilities. There would be no new effects.

Unless expressly prohibited, hunting would continue to be allowed on Reclamation lands or waters, except within 150 yards (135 meters) of any designated recreation area, facility, campground, day use area, boat ramp, parking area, neighboring residence, or Camp Nine's two power plants. This would continue to provide public protection by requiring hunting activities in areas separate from non-hunting activities. Conflicts between hunters and non-hunters, however, are expected to continue. There would be no new impacts.

All concessionaires would continue to provide interpretation and public education to visitors such as water safety and boating rules. This would continue to provide public protection by educating visitors about safe recreation practices. There would be no new effects.

6.12.5 Effects on Public Health and Safety under Alternative B

6.12.5.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative B would be the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.12.5.2 Effects from Natural Resources Management

Effects from natural resources management under Alternative B would be the same as those described in Effects Common to All Alternatives from Natural Resources Management.

6.12.5.3 Effects from Lands, Transportation, and Access Management

Implementing the wildlife management requirements included in the Baseline Conservation Camp would have the same effects as under Alternative A.

If funding becomes available, the Baseline Conservation Camp would be moved to the existing Equestrian Area away from the Stanislaus River area of the PWMA. Reclamation would restore open areas formerly used by Baseline Conservation Camp to natural habitat, leaving roads and specific facilities for future use. Reclamation would allow a larger or different footprint for Baseline Conservation Camp, if needed to accommodate updated facilities and uses. This action would continue to coordinate Reclamation-managed activities with Baseline Conservation Camp, thereby continuing to keep inmates and the public apart. Also, it would consolidate Baseline Conservation Camp activities in one area, instead of being divided by the New Peoria Flat Road, allowing Corrections to fence the property or install other measures to secure the property without affecting Reclamation.

Reclamation would continue to enforce Reclamation's OHV policy and regulation, and would enter into a managing partner or concession agreement to construct facilities and operate an OHV park. Locations to be considered may include PWMA, Westside, Bowie Flat, Greenhorn Creek, French Flat, and Bear Creek Management Areas. This would continue to provide public protection by minimizing the potential for the public coming into contact with individuals conducting unauthorized activities. Also, Reclamation would provide unauthorized OHV activities a designated site for the lawful conduct of those activities.

If public health, safety and security concerns can be addressed, Reclamation would reopen the overlook facilities at Peoria Flat. Since the area would not be reopened until all public health, safety and security concerns are addressed, there would be no effects to public health and safety.

Effects from hunting management would be the same as described under Alternative A.

As part of the working relationships with Tuolumne and Calaveras Counties, Reclamation would explore the feasibility of siting a sheriff substation with lake access to each county, which would decrease the response time for a sheriff to respond to disturbances in the New Melones Lake Area. This would increase public protection by providing law enforcement services closer to New Melones.

Reclamation would implement the Fire Management Plan (Appendix D). This would increase public protection, as compared to Alternative A, by implementing more current fire management methods.

6.12.5.4 Effects from Cultural and Social Resources Management

There were no identified effects on public health and safety from cultural and social resources management.

6.12.5.5 Effects from Recreation Management

Reclamation would implement additional lake zones to protect public safety. For example, Reclamation would designate additional swimming areas, and areas appropriate for nonmotorized boating, houseboats, and seaplanes. Zones may include, but would not be limited to, designated areas of Greenhorn Creek, Glory Hole, Coyote Creek, Parrotts Ferry, Tuttletown, French Flat, Mark Twain, Stanislaus River Canyon, and Camp Nine Management Areas. Additional float docks (to be used for swimming and fishing), and floating campsites could also be constructed under this alternative. This would increase public protection by assessing growing, incompatible aquatic activities, and then establishing boundaries to keep the activities apart.

Reclamation would designate additional water play areas, which would be safe for swimming, and close those areas to incompatible uses. This would increase public protection by assessing growing, incompatible aquatic activities involving swimming, and then establishing boundaries to keep the activities apart.

Reclamation would prepare and implement a trails management plan that optimizes connectivity and multiple uses of trails, including ADA-compliant trails where appropriate. Reclamation would consider improvements for safety, sanitation, and better access, such as connection of the lower bridge at Natural Bridges to the rest of the trail system. This would increase public protection by making certain trails safer for use by people with disabilities.

Effects from hunting management would be the same as under Alternative A.

All concessionaires could provide expanded interpretation and public education as appropriate, and in conjunction with the Interpretive Master Plan. In addition, Reclamation would develop concessionaire contracts and partnerships specifically to provide interpretive services. These contracts could include a variety of programs ranging from activities based education, such as boating safety, to natural and cultural resource based education, such as the history, prehistory, and ecology of the New Melones Area. This would increase public protection by providing additional opportunities promoting safe recreation practices.

6.12.6 Effects on Public Health and Safety under Alternative C

6.12.6.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative C would be the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.12.6.2 Effects from Natural Resources Management

Effects from natural resources management under Alternative C would be the same as those described in Effects Common to All Alternatives from Natural Resources Management.

6.12.6.3 Effects from Lands, Transportation, and Access Management

Implementing the wildlife management requirements included in the Baseline Conservation Camp would have the same effects as under Alternative A.

If funding becomes available, Baseline Conservation Camp would be moved to the existing Equestrian Area, away from the Stanislaus River area of the PWMA. Reclamation would restore open areas, formerly used by Baseline Conservation Camp, to natural habitat, leaving roads and specific facilities for future use. The Baseline Conservation Camp lease area would be removed from the PWMA, offsetting with equivalent or more acreage for wildlife mitigation adjacent to the PWMA in other areas. This action would continue to coordinate Reclamation-managed activities with Baseline Conservation Camp, thereby continuing to keep inmates and the public apart. Also, it would consolidate Baseline Conservation Camp activities in one area, instead of being divided by the New Peoria Flat Road, allowing Corrections to fence the property or install other measures to secure the property without affecting Reclamation.

Effects from enforcing Reclamation's off-road vehicles policy and regulation would be the same as under Alternative A.

Effects on public health and safety associated with overlook facilities (parking, restroom, picnic area) at Peoria Flat would be the same as under Alternative A.

To protect health and safety, Reclamation would develop and implement a long-term strategy for managing hunting as visitation and urban development increase. This policy may include restrictions to meet management goals, such as compliance with California Fish and Game code, as well as other applicable regulations, such as EO 13443. Because this action is expected to address conflicts between hunters and non-hunters, public protection would increase, as compared to under Alternatives A and B.

Effects on public health and safety associated with working relationships with Tuolumne and Calaveras Counties' law enforcement would be the same as under Alternative A.

Effects on public health and safety associated with implementing the Fire Management Plan (Appendix D) would be the same as under Alternative B.

6.12.6.4 Effects from Cultural and Social Resources Management

There were no identified effects on public health and safety from cultural and social resources management.

6.12.6.5 Effects from Recreation Management

Reclamation would implement additional lake zones to protect public safety and natural resources. For example, Reclamation would designate additional swimming areas and areas appropriate for nonmotorized boating, houseboats, and seaplanes, and, designate no-wake zones to prevent shore erosion. Zones may include, but would not be limited to, designated areas of Greenhorn Creek, Westside, Glory Hole, Coyote Creek, Parrotts Ferry, Tuttletown, French Flat, Mark Twain, Stanislaus River Canyon, and Camp Nine Management Areas. This would increase public protection by assessing growing, incompatible aquatic activities, and then establishing boundaries to keep the activities apart. Similarly, designating Environmental Sensitive Areas would restrict certain activities, such as waterskiing and overnight use, in these areas, which would reduce visitor conflicts and increase public protection.

Reclamation would maintain existing water play areas and close those areas to incompatible uses. This would continue to provide for public protection by keeping incompatible activities apart. Other incompatible aquatic activities involving swimming elsewhere, however, would continue to occur. There would be no new effects.

Reclamation would prepare and implement a trails management plan that focuses on resource protection, including ADA-compliant trails, where appropriate. This would increase public protection by making certain trails safer for use by people with disabilities and would reduce conflicts among equestrians, mountain bikers, and hikers.

To protect health and safety, Reclamation would develop and implement a long-term strategy for managing hunting as visitation and urban development increase. This policy may include restrictions to meet management goals, such as compliance with California Fish and Game code, as well as other applicable regulations, such as EO 13443. Because this action is expected to address conflicts between hunters and non-hunters, public protection would increase, as compared to under Alternatives A and B.

Effects on public health and safety associated with concessionaires that could provide expanded interpretation and public education would be the same as under Alternative B.

6.12.7 Effects on Public Health and Safety under Alternative D

6.12.7.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative D would be the same as those described in Effects Common to All Alternatives from Physical Resources Management.

6.12.7.2 Effects from Natural Resources Management

Effects from natural resources management under Alternative D would be the same as those described in Effects Common to All Alternatives from Natural Resources Management.

6.12.7.3 Effects from Lands, Transportation, and Access Management

Implementing the wildlife management requirements included in the Baseline Conservation Camp would have the same effects as under Alternative A.

If funding becomes available, Baseline Conservation Camp would be moved to the existing Equestrian Area, away from the Stanislaus River area of the PWMA. Reclamation would restore open areas, formerly used by Baseline Conservation Camp, to natural habitat, leaving roads and specific facilities for future use. Reclamation would allow a larger or different footprint for Baseline Conservation Camp, if needed to accommodate updated facilities and uses. The PWMA boundaries would be changed to exclude the Baseline Conservation Camp lease area, offsetting with equivalent or more acreage for wildlife mitigation adjacent to the PWMA in other areas. This action would continue to coordinate Reclamation-managed activities with Baseline Conservation Camp, thereby continuing to keep inmates and the public apart. Also, it would consolidate Baseline Conservation Camp activities in one area, instead of being divided by the New Peoria Flat Road, allowing Corrections to fence the property or install other measures to secure the property without affecting Reclamation.

Effects from enforcing Reclamation's off-road vehicles policy and regulation would be the same as under Alternative A.

Reclamation would continue closure of overlook facilities as under Alternative A. Reclamation would allow public access to the overlook facilities at Peoria Flat through guided tours with Reclamation. Guided tours would not place the public in situations that involve public health, safety and security concerns. Consequently, there would be no effects on public health and safety.

Effects from hunting management would be similar to those under Alternative C. Under Alternative D, the public would be further protected by restricting hunting within 150 yards of the Reclamation boundary at French Flat and Bear Creek.

Effects on public health and safety associated with working relationships with Tuolumne and Calaveras Counties' law enforcement would be the same as under Alternative B.

Effects on public health and safety associated with implementing the project-wide fire management plan (Appendix D) would be the same as under Alternative B.

6.12.7.4 Effects from Cultural and Social Resources Management

There were no identified effects on public health and safety from cultural and social resources management.

6.12.7.5 Effects from Recreation Management

Reclamation would implement additional lake zones to protect public safety and natural resources. For example, Reclamation would designate additional swimming areas, and areas appropriate for nonmotorized boating, houseboats, and seaplanes, and, designate no-wake zones to prevent shore erosion. Zones may include, but would not be limited to, designated areas of Greenhorn Creek, Westside, Glory Hole, Coyote Creek, Parrotts Ferry, Tuttletown, French Flat, Mark Twain, Stanislaus River Canyon, and Camp Nine

Management Areas. This would increase public protection by assessing growing, incompatible aquatic activities, and then establishing boundaries to keep the activities apart. Public protection would increase less from designating Environmentally Sensitive Areas than under Alternative C because fewer areas would be given this designation under Alternative D.

Effects on public health and safety associated with designating additional water play areas would be the same as under Alternative B.

Effects on public health and safety associated with ADA-compliant trails would be the same as under Alternative B.

Effects from hunting management would be similar to those under Alternative C. Under Alternative D, the public would be further protected by restricting hunting within 150 yards of the Reclamation boundary at French Flat and Bear Creek.

Effects on public health and safety associated with concessionaires that could provide expanded interpretation and public education would be the same as under Alternative B.

6.13 Fire Management

6.13.1 Introduction

Information on fires in the New Melones Lake Area is largely contained in the draft Fire Management Plan (Appendix D). According to the Fire Management Plan, fires are started by human activity 80 percent of the time within the New Melones Lake Area (not including the three percent where no cause was determined). The average fire size is 64 acres, excluding a single large fire in 2001 of 14,000 acres, including lands not managed by Reclamation. Of all the fires that occurred between 1994 and 2003, 52 percent were less than 0.2 acres and 34 percent were between 0.3 and 9.9 acres. During the same period, total acres burned in any year ranged from one acre to 14,285 acres, including lands not managed by Reclamation. This analysis focuses on direct and indirect effects on wildland fire management from management actions and other resource uses.

6.13.2 Methods of Analysis

6.13.2.1 Methods and Assumptions

The following assumptions were made for the purpose of this analysis:

- As stated in the Fire Management Plan, firefighter and public safety are the top priority, therefore, it is assumed that RMP actions would not supersede safety;
- Fire suppression to protect life, property, and sensitive and high risk areas would be effective at protecting these areas;
- Activities to reduce hazardous fuel loads, and post-fire rehabilitation activities would be effective;

- The spread of noxious weeds or invasive plants is generally considered detrimental to natural fire regimes by increasing fuels and fire intensity;
- Goals and objectives of the Fire Management Plan would be met by the activities proposed. For example, if the goal is to limit the acres burned by wildland fire to 250 acres (FMU 01), this goal would be achieved; and
- RMP requirements to restrict airspace would not apply to fire suppression activities.

6.13.3 Effects on Fire Management Common to All Alternatives

6.13.3.1 Effects from Physical Resources Management

It is possible that limiting burning, for air quality reasons, could affect the timing of prescribed fire used to improve resource conditions.

Confining vehicles to existing roadways to protect water quality, and continuing the ban on OHV would help to reduce some accidental fire ignitions from sparks and exhaust coming into contact with flammable material, particularly weeds and grasses.

6.13.3.2 Effects from Natural Resources Management

The Vegetation Management Plan sets the course for managing vegetation to be in a more natural and healthy condition, meaning fuels would be reduced and natural fire regimes would be restored.

Controlling invasive species with herbicides or target-specific herbicides would reduce invasive plants that add fuel loading and contribute to the fire regime changes seen in the past.

Maintaining snags for cavity nesting birds may increase fire hazard if many snags (at a level above what is required for the number of birds) are maintained. Snags pose a hazard to firefighters and would be cut during a fire suppression action if necessary. Snags can also act as "chimneys" where the fire burns inside the snag and sprays embers out the top. These embers can travel five miles in the right wind conditions, igniting more fires.

6.13.3.3 Effects from Lands, Transportation, and Access Management

Controlling OHV use would help to control the number of accidental, human-caused fires that occur from vehicle exhaust systems or sparks contacting dry vegetation.

6.13.3.4 Effects from Cultural and Social Resources Management

Fuel reduction and post-fire rehabilitation activities would be subject to Section 106 compliance, which could affect how and where these activities were implemented.

6.13.3.5 Effects from Recreation Management

Recreation has the greatest potential to affect fire management, as most fires are human caused (either accidental or intentional ignitions). Overall, recreation use and new recreational facilities, and therefore the potential for recreation management to affect fire management, would be greatest under Alternative B, followed by D, C, and A.

6.13.4 Effects on Fire Management under Alternative A

6.13.4.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative A would be the same as those described under Effects Common to All Alternatives from Physical Resources Management.

6.13.4.2 Effects from Natural Resources Management

Reducing fire danger under Alternative A would benefit fire suppression efforts and make them more effective.

Preventing severe invasion of exotics under Alternative A would reduce the fire hazard. However, requiring the use of native seed may reduce the effectiveness of fire restoration activities, as native species are often slower to establish. This may lead to additional weed spread, as weeds can outcompete native species. The spread of weeds and invasive species could increase fire danger.

In the long-term, restricting vegetation treatments to only those that are inexpensive would likely result in more acres burned, and more severe effects on vegetation and soil from fire.

Under Alternative A, a fire management plan would not be implemented. Instead, Reclamation would continue to implement BMPs and SOPs to reduce fire danger and respond to wildland fire. Use of fuel breaks to enhance wildlife habitat would serve to also provide a safe area for fire fighters during fire suppressions, and help to suppress wildland fire.

6.13.4.3 Effects from Lands, Transportation, and Access Management

Maintaining fire roads and trails would maintain access for fire suppression.

Alternative A would not be as effective managing wildland fire as the other alternatives because the Fire Management plan would not be implemented.

6.13.4.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative A would be the same as those described under Effects Common to All Alternatives from Cultural and Social Resources Management.

6.13.4.5 Effects from Recreation Management

Development of new trails would increase public access and the potential for human-caused fire ignitions.

6.13.5 Effects on Fire Management under Alternative B

6.13.5.1 Effects from Physical Resources Management

Effects from physical resources management under Alternative B would be the same as those described under Effects Common to All Alternatives from Physical Resources Management.

6.13.5.2 Effects from Natural Resources Management

Using the Fire Management Plan as described under Alternative B to protect native habitats, rejuvenate chaparral and oak woodlands, and prevent severe infestation of some invasive plant species would reduce fire hazards. In turn, fire could play a more natural roll in some areas, and in the long-term, reduce the need for fire suppression if the natural fire regime is restored. Fires that start naturally (e.g., from lightning) could be allowed to burn if conditions are right, and public safety and facilities can be protected. Additionally, fires started by other ignitions sources would be easier to suppress because fuel loadings would be reduced.

Allowing other seed, besides just native seed, for reseeding could improve restoration effectiveness by facilitating areas to revegetate more quickly than if only native seed were used.

Only preventing severe invasions of exotics when it is inexpensive, as prescribed for Alternative B, would lead to additional infestations, and consequently, a large increase in exotics. These would occur in the most remote portions of the New Melones Lake Area, where fire suppression response times are longest and most expensive. Fires in these areas would also contribute to the spread of these plants.

Allowing grazing to control weeds and invasive plants would reduce fire fuels and therefore reduce fire danger in those areas.

Constructing fuel breaks under Alternative B would provide for fire suppression action, reduce the severity of wildland fire in those areas, and ultimately reduce the acres of burned areas.

Fuel breaks designed with wildlife habitat in mind would help to protect wildland firefighter safety and support wildland fire suppression.

6.13.5.3 Effects from Lands, Transportation, and Access Management

Improving roads would improve access for fire suppression and rehabilitation in some areas. This could reduce response times and result in fewer acres burned.

Optimizing trail connectivity would improve access for fire suppression. However, it may also increase access for recreationists, which may increase the number of human-caused fires, and need for fire patrols.

Using the Fire Management Plan would promote fire safety and management, public awareness, and improve fire planning and fire conditions.

6.13.5.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative B would be the same as those described under Effects Common to All Alternatives from Cultural and Social Resources Management.

6.13.5.5 Effects from Recreation Management
Development of new trails would increase public access and the potential for human-caused fire ignitions.

6.13.6 Effects on Fire Management under Alternative C

6.13.6.1 Effects from Physical Resources Management
Effects from physical resources management under Alternative C would be the same as those described under Effects Common to All Alternatives from Physical Resources Management.

6.13.6.2 Effects from Natural Resources Management
Restricting reseeding to using only native seed would have the same effects as described in Alternative A.

Using the Fire Management Plan as described under Alternatives C would have similar effects as described under Alternative B, Effects from Natural Resources Management.

As under Alternative B, fuel breaks designed with wildlife habitat in mind would help to protect wildland firefighter safety and support wildland fire suppression.

6.13.6.3 Effects from Lands, Transportation, and Access Management
Closing roads could reduce access for fire suppression and rehabilitation. This could increase response times and result in additional burned areas.

Retaining sufficient wildlife cover in Alternative C would mean maintaining fuels in some areas. If the fuels are involved in a fire, the cover would be lost.

Activities under fire management are more regulated and less flexible under Alternative C than under Alternative A and B. This could limit some activities, however, not to the extent that it would increase fire danger or limit fire suppression success.

6.13.6.4 Effects from Cultural and Social Resources Management
Effects from cultural and social resources management under Alternative C would be the same as those described under Effects Common to All Alternatives from Cultural and Social Resources Management.

6.13.6.5 Effects from Recreation Management
Restricting the development of new trails beyond existing trails and unpaved roads would help to avoid an increase in human-caused fires by not increasing access.

6.13.7 Effects on Fire Management under Alternative D

6.13.7.1 Effects from Physical Resources Management
Effects from physical resources management under Alternative D would be the same as those described under Effects Common to All Alternatives from Physical Resources Management.

6.13.7.2 Effects from Natural Resources Management
Using the Fire Management Plan, as described under Alternatives D, would have the same effects as described under Alternative B, Effects from Natural Resources Management.

Preventing severe invasion of exotics in Alternative D would be the same as described for Alternative A. Restricting reseeding to using native seed would have the same effects as described in Alternative A.

As under Alternative C, retaining sufficient wildlife cover in Alternative D would mean maintaining fuels in some areas. If the fuels are involved in a fire, the cover would be lost.

As under Alternative B, fuel breaks, designed with wildlife habitat in mind, would help to protect wildland firefighter safety and support wildland fire suppression.

6.13.7.3 Effects from Lands, Transportation, and Access Management
Effects from closing roads would be the same as those described under Alternative C.

Activities under fire management would be more regulated and less flexible under Alternative D (same as Alternative C) than under Alternative A and B. This could limit some activities, however, not to the extent that it would increase fire danger or limit fire suppression success.

6.13.7.4 Effects from Cultural and Social Resources Management
Effects from cultural and social resources management under Alternative D would be the same as those described under Effects Common to All Alternatives from Cultural and Social Resources Management.

6.13.7.5 Effects from Recreation Management
Development of new trails would have effects similar to those described under Alternative B.

6.14 Cultural Resources

6.14.1 Introduction
Proposed management actions that could affect or increase the risk of potential effects on known and unknown cultural resources include those that require ground disturbance, affect natural processes such as erosion, expose cultural resources to intense fire, open or close land to potentially incompatible uses, affect the visual setting of cultural resources, affect access to cultural resources, and remove or add land subject to federal protections for cultural resources. Most of the New Melones Lake area was inventoried for archaeological and historic sites before the lake was created; however, undiscovered cultural resources are likely still present, even in inventoried areas, due to changes in vegetation cover and survey methods since the initial surveys. Additionally, there are likely to be buried cultural resources within the area that cannot be identified by surface

survey alone. The extent and location of contemporary Native American traditional uses and sacred sites is not known.

The Section 106 process and tribal consultation would be completed to address anticipated impacts resulting from authorized and planned activities. Unauthorized activities, wildland fire, dispersed recreation, and natural processes could lead to effects that may be more difficult to monitor and mitigate. Management actions include stipulations designed to avoid or reduce effects.

Section 106 of the National Historic Preservation Act (NHPA) of 1966 (16 USC, Section 470(f), as amended) requires federal agencies to consider the effects of their actions including the approval, funding or permitting, of an activity on properties that are listed or eligible for inclusion on the National Register of Historic Places (NRHP). Archaeological and historic sites, objects, districts, historic structures, and cultural landscapes that are eligible for listing on the NRHP are known as historic properties. Section 106 also requires the federal agency to afford the Advisory Council on Historic Preservation an opportunity to comment on the agency's efforts to consider historic properties. The implementing regulations for Section 106, found at 36 CFR, Part 800, describe a process of inventory, evaluation, and consultation that satisfies the federal agency's requirements, and are summarized below in Section 6.14.2.

The types of effects resulting from many of the proposed resource management actions are the same or similar for each alternative. Because planned actions would be subject to review under the Section 106 process, there would be further site-specific consideration of cultural resource impacts.

6.14.2 Methods of Analysis

6.14.2.1 Methods and Assumptions

Impacts on cultural resources occur when there is damage or loss of these resources or their settings. The primary indicator for determining if an impact would occur is the effects on cultural resources eligible for listing on the NRHP, or areas of importance to Native American or other traditional communities. Specific indicators include the following:

- Acres and relative depth of ground-disturbing activities permitted, and their potential for affecting known or unknown cultural resources, or areas of importance to Native American or other traditional communities;
- Increased access to, or activity in, areas where resources are present or anticipated. Vandalism or unauthorized collecting can destroy a cultural resource in a single incident. Exposure of cultural resources or access to areas where cultural resources are present can increase the risk of vandalism or unauthorized collection of materials;
- The extent to which an action changes the potential for erosion or other natural processes that could affect cultural resources. Natural processes, such as erosion or weathering, will degrade the integrity of many types of cultural resources over

time. Human visitation, recreation, vehicle use, grazing, fire and nonfire vegetation treatments, and other activities can increase the rate of deterioration through natural processes. While the effect of a few incidents may be negligible, the effect of repeated uses or visits over time could increase the intensity of impacts due to natural processes;

- Measures that withdraw land or restrict surface development for the purpose of resource protection can provide direct and indirect protection of cultural resources from disturbance, incompatible activities, and unauthorized activities;
- The extent to which an action alters the setting (such as visual and audio factors) of cultural resources; and
- The extent to which an action alters the availability of cultural resources for appropriate uses.

Impacts on cultural resources are assessed by applying the criteria of adverse effect as defined in 36 CFR, Part 800.5(a): "An adverse effect is found when an action may alter the characteristics of a historic property that qualify it for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, workmanship, feeling, or association. Adverse effects may include reasonably foreseeable effects caused by the action that may occur later in time, be farther removed in distance, or be cumulative." The criteria of adverse effect provide a general framework for identifying and determining the context and intensity of potential impacts on other categories of cultural resources as well, if these are present. Assessment of effects involving Native American or other traditional community, cultural, or religious practices or resources also requires focused consultation with the affected group.

The following assumptions regarding the resource base and management practices were made in the analysis:

- Most of the planning area has been inventoried for cultural resources and these are described in Pacific Legacy (2008). Many cultural resources were recorded, but were inundated with the creation of the lake. There may be cultural resources in unsurveyed areas and unknown cultural resources within surveyed areas, but the presence and significance of resources and impacts cannot be quantified.
- Traditional Cultural Properties, sacred areas, and traditional use areas are places associated with the cultural practices or beliefs of a living community. These cultural resource sites are rooted in the community's history and are important in maintaining cultural identity. Contemporary Native American groups maintain social and cultural ties to the land and resources of the New Melones Lake Area. These cultural resources are generally not known or discussed outside of the affected community, but may be present in the area.
- Impacts would be minimized, avoided, or mitigated by compliance with laws and executive orders designed to preserve and protect cultural resources. These include, but are not limited to, the Antiquities Act of 1906, the NHPA Sections 106 and 110(a), the Archaeological Resources Protection Act (ARPA) Section

14(a), the Native American Grave Protection and Repatriation Act (NAGPRA), the American Indian Religious Freedom Act (AIRFA), and Executive Orders 13175 and 13007. Reclamation also has its own cultural resource policies, directives, and standards outlined in the Reclamation Manual.

6.14.3 Effect on Cultural Resources Common to All Alternatives

Chapter 5 indicates the existing site density of each management area and the potential for new sites to be identified in future surveys. With higher site density and new site potential, the potential for effects on cultural resources increases. Additionally, effects on sites included in the NRHP-eligible New Melones Lake Area Archaeological District could be adverse effects under Section 106. The management areas are listed below, from greatest to least potential for effects on cultural resources, identified and unknown, should the management actions discussed in the following sections occur within the management area boundaries:

1. Stanislaus River Canyon
2. Mark Twain
3. Parrotts Ferry
4. French Flat
5. Camp Nine
6. Carson
7. Coyote Creek
8. Tuttletown
9. Bear Creek
10. Peoria Wildlife Area
11. Glory Hole
12. Bowie Flat
13. Westside
14. Dam and Spillway
15. Greenhorn Creek

The Middle Bay, North Bay, and South Bay management areas are beneath the maximum pool. Cultural resources in these areas are inundated and proposed actions would likely not affect them.

6.14.3.1 Effects from Physical Resources Management

Proposed air quality actions that would minimize disturbance of serpentine soils and outcrops would indirectly reduce effects on cultural resources, such as archaeological sites and traditional use areas, if any exist.

Geologic resources actions that restrict mining and material excavation, and require review and comment on mining and reclamation plans within the New Melones watershed, would also help protect the region's cultural resources by limiting ground disturbances and offering input in the latter, helping to preserve the cultural landscape. Additionally, actions that require closing old mines after completing appropriate studies may aid in the interpretation and understanding of historic mines and mining industry in the region. Actions involving completion of a caves inventory update could identify additional cultural resources within the New Melones Lake Area, and actions proposing a protection plan and recreation management that preserves and minimizes impacts on cave resources provide additional protective measures for cultural resources within caves.

Ground disturbing activities, such as updating and constructing new basic facilities and development of retention basins, are proposed under all alternatives. Such projects would be addressed through the Section 106 process, limiting the potential effects on cultural resources from such actions. Actions under all alternatives to promote good water quality may also affect the availability and health of traditional use areas, if any exist. Additionally, preventing erosion and minimizing the development of serpentine outcrops could also prevent the erosion of cultural resources and disturbances of any traditional use areas.

Visual resource actions that seek to improve, maintain, and minimize impacts on scenic qualities and educate regarding visual qualities would affect traditional and cultural resource sites by maintaining the area's natural and historic appearance. Commenting on plans and environmental documents for projects within the watershed would have similar effects.

6.14.3.2 Effects from Natural Resources Management

Under all alternatives for vegetation management, the protection and promotion of, and limited disturbances of native plant and riparian communities would affect traditional cultural resources by providing healthy traditional fishing and gathering areas, if any exist. Avoidance of wetland communities, in order to avoid erosion or compaction, could affect cultural resources by ensuring healthy traditional use areas, if any exist and are maintained, and by reducing erosion within cultural resource sites. Additionally, under all alternatives, Reclamation would educate the public on the ecology and cultural importance of native plant and wetland vegetation communities.

Under all alternatives, actions requiring the promotion and improvement of fish and wildlife resources would support any traditional fishing and hunting areas that may exist by maintaining healthy populations of native resources. Additionally, allowing hunting would promote traditional hunting activities by Native Americans. Requiring domestic pets to be leashed or caged, minimizing trespass grazing, and controlling feral species would prevent animals from trampling or digging in archaeological sites.

Special status species actions under all alternatives seek to minimize impacts on sensitive natural and cultural resources in rural natural management areas and the PWMA by maintaining dispersed visitor use, and managing rock climbing in accordance with federal

regulations, respectively. This would reduce potential effects on cultural resources, such as ground disturbances, unauthorized collecting and vandalism.

Invasive species control actions under all alternatives would promote species traditionally used by Native Americans. Additionally, the reduction in fire danger would reduce the potential for the damaging effects of fire on cultural resources. However, some methods may affect cultural resources. The use of pesticides may affect species traditionally collected and used, potentially consumed or inhaled, by Native Americans. Additionally the use of grazing and mechanical techniques for invasive species removal could cause trampling and other ground disturbances of archaeological sites.

6.14.3.3 Effects from Lands, Transportation, and Access Management

General land management actions that continue the designation of the New Melones Lake Area as a Special Use Area under all alternatives provide for the protection and preservation of cultural resources and scenery valued for traditional purposes and promote scientific research that would develop our understanding of prehistory and history of the area. Additionally, coordinating with various federal, state, and local agencies regarding environmental documents and plans could contribute to that understanding. Similarly, prohibiting activities that require permits, such as grazing, OHV operation, and construction in specific areas would limit ground disturbing and trampling effects on cultural resources in those areas, but would leave other areas open to such effects. Patrols for unpermitted activities such as these would likely limit those effects. Facility updates to protect public health, safety, and water quality proposed under all alternatives for general land management could affect cultural resources through ground disturbances in previously undisturbed areas.

Effects on cultural resources from access and transportation actions common to all alternatives include continued additional protections for cultural resources stemming from the New Melons Lake Area designation as a Special Use Area and, indirectly, reductions in disturbances to resources through protective management of cave access. Additionally, the possibility of unauthorized collecting and ground disturbing activities is minimized through restrictions on public access, and the enforcement of a no trespassing zone in the New Melones Dam and Spillway Management Area. However, these restrictions could prevent Native Americans from reaching traditional use areas, if any exist.

Under all alternatives, public health and safety actions would result in effects on cultural resources. Efforts to increase law enforcement presence, address illegal activities, and develop a long-term strategy for effective law enforcement would have indirect effects of preventing disturbances or unauthorized collecting of cultural resources, and potentially increase ARPA case convictions. Additionally, ensuring adequate closures of unsafe or potentially hazardous areas, such as caves and old mine shafts, would prevent disturbances to such cultural resources. Allowing hunting under all alternatives would allow Native Americans to continue a traditional way of life.

Fire management actions under all alternatives would protect cultural resources from the damaging effects of fire. Actions proposed to guide the design of fuel breaks and firebreaks include consideration for minimizing impacts on cultural resources.

6.14.3.4 Effects from Cultural and Social Resources Management

Cultural resources management actions common to all alternatives would provide protective measures to these resources. Impacts would, in general, be minimized. Historic properties would be avoided, when possible, through use of protective fencing and exclusion areas. Minimum Impact Suppression Tactics used in coordination with a cultural resource advisor would also contribute to the preservation of cultural resources. All these would limit disturbances and unauthorized collecting of cultural resources while taking into account traditional Native American values. Educating visitors of the importance of cultural resources through handouts, brochures, signs, ranger interfaces, and interpretive programs could reduce accidental and intentional damage to cultural resources. Avoiding public disclosure of specific culturally sensitive areas would reduce the potential for disturbing traditional use areas, if any exist.

Effects of socioeconomic and environmental justice actions under all alternatives could increase public use of the area, which could lead to disturbances to cultural resources.

Although there are no known ITAs within project lands, consultation with tribes under all alternatives may reveal traditional use areas, or other areas of concern for Native Americans.

6.14.3.5 Effects from Recreation Management

Recreation is a major activity that is largely unsupervised in the New Melones Lake Area. Aquatic recreation can provide public access to cultural resources on shorelines, in caves, and in areas otherwise inaccessible. Recreation also brings additional people which could lead to increased effects from noise and trampling or ground disturbance. Individual projects proposed to improve the recreation experience at New Melones Lake would be addressed through the Section 106 process, limiting the potential effects on cultural resources from such actions.

Recreation actions under all alternatives that focus on coordination, seek to prevent illegal activities, such as unauthorized collecting of cultural resources, and to educate on the negative impacts of certain land use activities. These actions would reduce effects on cultural resources. ADA compliance upgrades proposed under all alternatives could disturb cultural resources. Providing public education on cultural resources under all visitor services and ranger program alternatives would provide opportunities to educate the public on the scientific and sacred importance of cultural resources.

Effects from actions related to aquatic invasive pest species would be similar to those described in Effects Common to All Alternatives from Natural Resources Management. Under all fishing alternatives, effects would be similar to those fish and wildlife actions where efforts to support native fish species and their habitat would also support traditional fishing areas, if any exist.

Land-based recreation actions under all alternatives would have effects on cultural resources similar to aquatic recreation, with increased public presence potentially affecting cultural resources. Actions for land-based recreation would have additional effects on cultural resources, through ground disturbance and potential unauthorized collecting, facilitated by public access. Promotion of climbing and bicycling would have the greatest effect. Actions related to trails and pathways for biking, hiking, and horseback riding under all alternatives would have similar effects. Trail and staging area creation would affect cultural resources primarily through ground disturbance and trampling of sites in those areas. Trails could also allow greater public access to cultural resources. However, actions requiring protection of these resources would limit these effects. Under all alternatives, actions related to camping, picnicking, and other day use activities propose various forms of new construction, which could disturb archaeological sites, or place new buildings and structures within historic landscapes. Actions related specifically to hunting would have potential effects on cultural resources similar to those described in Effects Common to All Alternatives from Natural Resources Management. Actions related to radio-controlled aircraft would have potential effects on cultural resources similar to those described for seaplanes, but to a lesser degree due to a lower level of noise emissions. Actions specific to rock climbing and spelunking would be similar to those described in Effects Common to All Alternatives from Natural Resources Management.

Interpretive services and visitor information actions under all alternatives would include public education of the scientific and traditional importance of cultural resources through use of interpretive displays, brochures, etc. Education can be helpful in creating an awareness of cultural resources and their need for preservation. The more the public knows about these resources, the more important they are thought to become to the public.

6.14.4 Effects on Cultural Resources under Alternative A

6.14.4.1 Effects from Physical Resources Management

Under Alternative A, Reclamation would close portions of Rural Developed Management Areas when necessary to prevent erosion, and protect water quality and natural and cultural resources.

6.14.4.2 Effects from Natural Resources Management

Invasive species management under Alternative A would continue to promote healthy native resources in traditional use areas that may exist and could be used by Native Americans. Invasive species management considers the effects of herbicides on cultural/traditional uses of plants. No oak tree mitigation area would be established under Alternative A, which would remove the possibility for ground disturbing effects on cultural resources under other alternatives.

The use of SOPs to reduce fire danger, as well as the use of prescribed fire techniques to minimize erosion and fire hazards to create wildlife habitat, would indirectly reduce the potential for wildfires and erosion to affect archaeological sites and historic wooden buildings and structures. Under Alternative A, the Baseline Conservation Camp would be

maintained in the PWMA in its existing state, and no new effects on cultural resources would occur.

Protecting wildlife species and habitats associated with the Endangered Species Act could affect traditional use areas, if any exist.

6.14.4.3 Effects from Lands, Transportation, and Access Management

General land use under Alternative A would have fewer potential effects on cultural resources than other alternatives. The Baseline Conservation Camp would not be moved, no lands in the PWMA would be excluded from the protections of that area, there would be less grazing, and no changes in the land use plan. However, under Alternative A, rights-of-way would not be minimized as under other alternatives, increasing the potential for effects on cultural resources in future rights-of-way.

Under Alternative A, potential effects on cultural resources from access and transportation management include reducing the possibility of unauthorized collecting and ground-disturbing activities. This would be done by continuing to keep closed twelve separate areas to public vehicles and, when warranted, restricting access to substandard facilities in six areas, effectively limiting public access to them. However, these restrictions could prevent Native Americans from reaching sacred sites and traditional cultural properties, if any such resources exist. Allowing seaplanes could create noise that could affect use of such areas. This potential is increased under Alternative A. The emphasis on conservation in the Westside and Bowie Flat Management Areas could lead to increased preservation of cultural resources.

Under Alternative A, fire management bulldozing would be minimized in high erosion areas. This would reduce the potential for ground disturbances and other destructive processes, such as erosion, within cultural resources.

6.14.4.4 Effects from Cultural and Social Resources Management

Under Alternative A, a new Archaeological Storage Facility would not be constructed. As a result, no new ground disturbance would occur that could affect cultural resources. However, collections housed at the facility would continue to be housed in a facility that does not meet standards described in "Curation of Federally Owned and Administered Archeological Collections" (36 CFR Part 79), or current Department of Interior and Reclamation museum collection management policies and procedures.

6.14.4.5 Effects from Recreation Management

Recreation actions, related to the commercial services/concessions and facilities and maintenance program under Alternative A, would have the fewest potential effects from new construction and permitting of new or expansion of existing activities. New construction of facilities, and permitting new or expanded activities could cause ground disturbances within archaeological sites, place modern construction within historic or cultural landscapes, and increase public presence that could lead to increased unauthorized collecting, and audible effects on traditional use areas, if any exist, where ceremonies may occur.

Compared to Alternative B, aquatic recreation management under Alternative A would reduce shoreline erosion, potentially reducing erosion of shoreline cultural resource sites. Additionally the implementation of no ski zones would reduce effects on traditional use areas, if any exist, in the specific areas listed by reducing public presence and noise. Aquatic recreation effects specifically from fishing actions under Alternative A would be similar to those described Alternative A, Effects from Natural Resources Management. Management actions related to boating, water-skiing, wake boarding, and rafting would continue activities that could affect cultural resources through public presence and noise. Effects specifically from seaplane operations under aquatic recreation Alternative A would be the same as those described for access and transportation.

Land-based recreation actions specific to trails and pathways for biking, hiking, and horseback riding could have effects on cultural resources, if present, under Alternative A. Actions that would relocate the PWMA equestrian staging area and facilities could disturb cultural resources within the footprint of the new staging area through new ground disturbance. Additionally, the new activity within a new area could disturb Native American traditional cultural property or traditional use area, if any exist. Alternative A would not place trail markers along the Natural Bridges trail. Although this would reduce the potential for a direct effect on cultural resources from the installation of signs compared to other alternatives, it could increase indirect effects of trail users going off-trail and disturbing cultural resources outside of the trail footprint.

6.14.5 Effects on Cultural Resources under Alternative B

6.14.5.1 Effects from Physical Resources Management

Cave resources actions under Alternative B would expand access to caves, opening cultural resources to increased effects. However identifying caves appropriate for public interpretation and providing tours would provide opportunities for public education on cultural resources and the traditional significance of those caves.

Under Alternative B, Reclamation would promote access to Rural Development Management Areas and provide new construction, potentially increasing access to and effects on cultural resources in those areas.

6.14.5.2 Effects from Natural Resources Management

Effects of invasive species management on cultural resources under Alternative B are the same as under Alternative A, but with less emphasis on promotion of native plants. Also under Alternative B, Reclamation could manage an oak tree mitigation area near the PWMA. Plantings within the area could disturb archaeological sites, but the propagation of a native species would provide additional traditional resources if planted within a traditional use area, if any exist.

Under Alternative B, potential effects on cultural resources from fish and wildlife management would be similar to those under Alternative A, but with greater potential for disturbances from trail construction and fuel breaks constructed with mechanical and prescribed burns. There is also greater potential for unauthorized collecting from increased public access via vehicles and new trails with no unauthorized trails being

closed as under Alternative A. Additionally, under Alternative B, the Baseline Conservation Camp would be expanded, potentially resulting in additional effects on archaeological sites from ground disturbances.

Effects of special status species management on cultural resources under Alternative B would be the same as those described under Alternative A.

6.14.5.3 Effects from Lands, Transportation, and Access Management

Alternative B's general land management actions could create more potential effects on cultural resources than Alternative A. Moving the Baseline Conservation Camp and allowing a larger or different footprint of the camp as well as allowing grazing and stock watering to control invasive plant species and reduce fire danger and operating an OHV park would create additional ground-disturbing activities and potentially create incompatible activities within the landscape of cultural resources.

Potential effects on cultural resources from access and transportation management under Alternative B would be similar to those under Alternative A, with the exception that additional areas would be opened to public access and new roads and connector fire roads and trails created. Additionally, use of the Bowie Flat Management Area would be increased. The increased access could lead to increased ground disturbances at cultural resources from an increase in public activities, potentially lead to a rise in unauthorized collecting in those areas, and potentially increase public presence in traditional use areas, if any exist. New road construction would also lead to new ground disturbances that could affect cultural resources. Alternatively, the increased access could allow easier access for Native Americans to traditional use areas that may be present. Alternative B is the only alternative under which lands could be disposed or transferred, potentially removing federal protections for cultural resources within such lands. Effects from seaplanes under Alternative B are similar to those under Alternative A, but with less effect.

Under Alternative B, fire management would provide new protections for cultural resources, but does not include the proposed minimization of bulldozing as under Alternative A. The Burned Area Stabilization and Emergency Response Plan provides for consultations with the staff archaeologist to evaluate effects on cultural resources and requires prevention of the degradation of cultural resources. The proposed overall project-wildfire management plan also requires that fire management meet cultural management goals through the appropriate use of fire and nonfire fuel treatments and to control erosion following prescribed burns.

6.14.5.4 Effects from Cultural and Social Resources Management

Under Alternative B, a new Archaeological Storage Facility would be constructed outside of the PWMA. The new construction from this action could affect cultural resources within the footprint of the new facility. However, collections currently housed at the facility would receive better curatorial care in a facility that meets federal curation standards.

6.14.5.5 Effects from Recreation Management

Recreation actions related to commercial services/concessions and facilities and maintenance programs under Alternative B represent the greatest amount of effects from new construction and permitting new or expansion of existing activities. Effects from these actions would be similar to those under Alternative A, but with greater incidence of the potential effects described under Alternative A.

Aquatic recreation management, such as expanded or additional use areas, under Alternative B would increase public presence in the areas listed. This could affect cultural resources by increasing public presence, noise, and access to terrestrial areas. Aquatic recreation effects specifically from fishing actions under Alternative B would be similar to those described for fish and wildlife management under Alternative A. Alternative B actions related to boating, water-skiing, wake boarding, and rafting would increase activities that could affect cultural resources through increased public presence and noise. Additionally, construction of new facilities related to these actions could disturb cultural resources. Effects specifically from seaplane operations under Alternative B would be the same as those described for access and transportation.

Land-based recreation management specific to trails and pathways for biking, hiking, and horseback riding would have effects on cultural resources under Alternative B. Effects would be similar to those described under Alternative A, but with increased potential due to the additional action of developing new trails and optimizing connectivity between trails and fire roads. Trail markers along the Natural Bridges trail could have direct effects on cultural resources where markers would be installed, but reduced potential for indirect effects relative to Alternative A as signs would reduce the potential for hikers to go off-trail and disturb cultural resources.

6.14.6 Effects on Cultural Resources under Alternative C

6.14.6.1 Effects from Physical Resources Management

Actions under Alternative C that seek mandatory compliance with boat and visitor noise regulations would have the greatest likelihood of reducing public presence and noise disturbances, thus providing the greatest effects on cultural resources.

Cave resources management would provide additional protections for cultural resources by controlling access and focusing on conservation. However this alternative lacks the opportunities for public education that Alternative B provides.

Reclamation would restrict access to Rural Developed Management Areas when necessary to prevent erosion and protect water quality and natural and cultural resources. Access would also be restricted in Rural Natural Areas and Semi Primitive Areas, indirectly protecting cultural resources in those areas from the effects of vehicle use and unauthorized collecting.

6.14.6.2 Effects from Natural Resources Management

Effects of invasive species actions on cultural resources under Alternative C are the same as under Alternative A, however with the addition of potential ground disturbance effects

from mechanical removal operations and no consideration of the effect of herbicides on the traditional uses of plants.

Under Alternative C the potential effects on cultural resources from fish and wildlife actions are similar to those under Alternative A, but with fewer disturbances at the Baseline Conservation Camp where the footprint would be reduced.

The effects of special status species management under Alternative C are similar to those described under Alternative A, with the added effect of minimizing disruption and loss of sensitive wildlife habitats.

Under Alternative C, invasive species control measures could remove the effects of pesticide use on any traditionally gathered and used species if other effective control measures can be identified. Additionally, the rehabilitation of all burn areas to prevent invasive species infestation would indirectly prevent erosion of cultural resources.

Additionally, under Alternative C, mechanical and biological invasive species controls, such as grazing, would be allowed in accordance with the Integrated Pest Management Plan which could impact archaeological sites through ground disturbance and trampling, respectively.

6.14.6.3 Effects from Lands, Transportation, and Access Management

Alternative C general land management actions have the least potential to effect cultural resources. Although the Baseline Conservation Camp would be moved, as under Alternative B, future easements and rights-of-way would be minimized. Effects related to grazing would be the same as under Alternative B.

Effects from access and transportation management on cultural resources under Alternative C would be similar to those under Alternative A. Effects from seaplanes and actions within the Westside and Bowie Flat Management areas would be similar to those under Alternative B, but would be slightly more protective of cultural resources. Under Alternative A, no land disposals or transfers would occur in the Westside or Bowie Flat Management areas, and those areas would retain federal protections of cultural resources.

Effects of fire management actions to cultural resources under Alternative C are similar to those under Alternative B, but do not include the additional protections from actions requiring management to meet cultural goals and objectives through use of fire and nonfire fuel treatments, or to control erosion following prescribed burns. Alternative C requires partnership with other agencies and councils to aid in the protection of cultural and natural resources, which could lead to greater preservation of cultural resource sites, and collaborations for a better understanding of prehistoric and historic cultural patterns of the region.

6.14.6.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative C would be the same as those under Alternative B.

6.14.6.5 Effects from Recreation Management

Recreation actions related to the commercial services/concessions and facilities and maintenance program under Alternative C represent the second least amount of effects from new construction, and permitting new or expansion of existing activities. Effects from these actions would be similar to those under Alternative A, but with slightly greater incidence of the potential effects described under Alternative A.

Aquatic recreation actions under Alternative C would have potential effects on cultural resources similar to those under Alternative B. However, Alternative C would also have additional effects from reducing shoreline erosion that would be even greater than under other alternatives. Aquatic recreation effects, specifically from fishing actions under Alternative C, would be similar to those described for fish and wildlife. Alternative C actions related to boating, waterskiing, wakeboarding, and rafting would be similar to those under Alternative B, but with less potential to affect traditional use areas, if any exist. Effects specifically from seaplane operations under aquatic recreation Alternative C would be the same as those described for access and transportation.

Land-based recreation actions specific to trails and pathways for biking, hiking, and horseback riding would have effects on cultural resources under Alternative C. Effects would be similar to those described under Alternative A, but with less potential due to the reduced ground disturbing actions. Alternative C also focuses on trail connectivity, but would focus new trail development on resource protection. Connector trails would be designed for use by hikers only, meaning the width of trails would be narrower under Alternative C, reducing overall ground disturbance. Effects from trail marker installation would be similar to those described for Alternative B.

Interpretive services and visitor information actions specific to the Visitor Center under Alternative C would develop an outdoor classroom for environmental education on an existing concrete slab. This action could disturb cultural resources within the construction footprint but outside of the existing slab and could place additional construction within the historic landscape of nearby cultural resources. However, including cultural resources in the public education program would increase public awareness of local history and cultural resources, as well as their traditional significance.

6.14.7 Effects on Cultural Resources under Alternative D

6.14.7.1 Effects from Physical Resources Management

Effects of water quality management under Alternative D would be the same as those under Alternative C, except that access to Rural Developed Management Areas, Mark Twain, Parrott's Ferry, and Melones Recreation Area would be increased, potentially increasing effects from erosion, trampling, and unauthorized collecting of cultural resources in those areas.

6.14.7.2 Effects from Natural Resources Management

Effects of invasive species management on cultural resources under Alternative D are the same as under Alternative C.

Effects of fish and wildlife management on cultural resources under Alternative D are the same as under Alternative A.

Effects of special status species management on cultural resources under Alternative D are the same as under Alternative C.

6.14.7.3 Effects from Lands, Transportation, and Access Management

General land management actions under Alternative D would have effects on cultural resources similar to those under Alternatives B and C. Effects relative to the Baseline Conservation Camp and grazing would be similar to those under Alternative B. Effects related to future easements and rights-of-way would be similar to those under Alternative C. However, Alternative D proposes to change the boundaries of the PWMA to exclude the Baseline Conservation Camp, which would remove the additional protections afforded cultural resources in that portion of the PWMA from the designation as a wildlife management area.

Potential effects on cultural resources from access and transportation management under Alternative D would be similar to those under Alternative B. Effects from area closures would be similar to those under Alternative A. Effects from land transfers in the Westside and Bowie Flat Management Areas would be the same as under Alternatives A.

Under Alternative D, potential effects on cultural resources from fire management actions would be similar to those under Alternative B, but do not include actions requiring control of erosion following prescribed burns. Thus, Alternative D poses additional risks of erosion for cultural resources. Alternative D would provide additional potential traditional resources by retaining mature oaks during fire management activities. There are additional opportunities for collaboration between Reclamation and other agencies and councils under Alternative D, compared to Alternative C. However, Alternative D would affect cultural resources within a new fuel break that would be constructed along the Westside Management Area from Peoria to Angels Creek.

6.14.7.4 Effects on Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative D would be the same as those under Alternative B.

6.14.7.5 Effects from Recreation Management

Recreation actions related to commercial services/concessions and facilities and maintenance program under Alternative D represent the second greatest amount of effects from new construction and permitting new or expansion of existing activities. Effects from these actions would be similar to those under Alternative C, but with slightly greater incidence of the potential effects described under Alternative C.

Effects from aquatic recreation actions under Alternative D would be similar to those under Alternative C. Aquatic recreation effects, specifically from fishing actions under Alternative D, would be similar to those described for fish and wildlife. Alternative D actions related to boating, waterskiing, wakeboarding, and rafting would be similar to those under Alternative B. Effects, specifically from seaplane operations, under aquatic

recreation Alternative D would be the same as those described for access and transportation.

Land-based recreation actions specific to trails and pathways for biking, hiking, and horseback riding under Alternative D would have effects similar to those described under Alternative B.

Effects from interpretive services and visitor information actions specific to the Visitor Center under Alternative D would be the same as those described under Alternative C.

6.15 Indian Trust Assets

6.15.1 Introduction

This section discusses potential effects from management actions on ITAs in the project lands. There are no ITAs identified within the New Melones Lake Area and therefore no effects under any alternative are anticipated. However, should ITAs be established in the future, Alternative A would maintain current management practices and therefore would not induce any changes. The growth and concentration of recreation, including hunting, fishing, and gathering, could affect the availability of resources, disturb culturally important areas, or interfere with religious uses within future ITAs. In general, Alternatives B, C, and D propose more actions designed to improve water quality, fisheries, and plant and animal habitat and restore watersheds than Alternative A. These actions would be consistent with maintaining Native American tribal uses under treaty rights that may be asserted in the long-term. Temporary loss of access during treatments or permanent changes in access or permitted activities may affect tribal use of access to any future ITAs. Government-to-government consultation with tribes would be conducted as actions are implemented. If tribal treaty rights are asserted or ITAs are recognized in the future, Reclamation would work with the affected tribes to resolve any potential impacts.

6.16 Socioeconomics and Environmental Justice

6.16.1 Introduction

Local and regional demographic characteristics and economies are affected by project land uses within the New Melones Lake Area. Similarly, social structures and values within the region influence the demand for recreation and other opportunities provided by public lands, as well as the acceptability of proposed land management decisions. This section describes potential impacts on socioeconomics and low-income and minority groups (environmental justice populations) from Reclamation management actions and other resource uses.

6.16.2 Methods of Analysis

6.16.2.1 Methods and Assumptions

Impact analyses and conclusions are based on the existing and projected population, employment, income, housing, earnings, social values, and the economic contribution of public lands, as described in the in Chapter 5 of this document. Low-income and minority populations also are considered. Changes in these indicators could result from management of other resources, particularly those that affect the level of recreation that would occur on project lands. Recreation is the main economic driver in the New Melones Lake Area. It attracts visitors to the area, who then spend money in the local economy for goods, services, and second homes, generating income and inducing further secondary expenditures by those industries receiving the initial economic input. Because this has the indirect effect of generating increased employment and earnings in the local economy, management actions that directly or indirectly affect recreational uses on project lands could have socioeconomic impacts.

The following assumptions were made for the purpose of this analysis:

- Restrictions in land available or implementing SOPs, BMPs, or mitigation measures in order to protect other resources could indirectly affect socioeconomics by increasing costs or precluding development;
- Decisions made with regard to transportation and access could result in increased or decreased recreation opportunities, which also could impact revenues created directly or indirectly for individuals seeking recreation opportunities, depending upon whether access is restricted and what types of recreation are most desired;
- Increased population growth and relocation would increase economic activity and improve local economies; and
- Closing areas for certain uses could negatively impact local economies.

Effects are quantified where possible, but potential socioeconomic impacts were not modeled. Where dollar values were unavailable for economic effects, the degree of impact was based on the number of areas or uses or acreage affected. In the absence of quantitative data, impacts were described using ranges of potential impacts or in qualitative terms, as appropriate.

None of the alternatives would result in direct changes in population or changes in the demand for housing, schools, and public facilities and services. No low-income or minority populations would be displaced or separated from community facilities, nor would minority businesses be disrupted; therefore, low-income and minority groups (environmental justice populations) would not be disproportionately affected by these actions. Therefore, the following analysis discusses effects on socioeconomics only.

6.16.3 Effects on Socioeconomics Common to All Alternatives

6.16.3.1 Effects from Physical Resources Management

Potential restrictions on visitor fires to protect air quality could reduce visitor satisfaction with the recreational experience at the New Melones Lake Area; however, these restrictions would be unlikely to result in a decrease in the number of visitors. It, therefore, would be unlikely to indirectly affect the socioeconomic contribution of recreation on project lands.

Compliance with noise regulations, whether voluntary or mandatory, would be likely to reduce visitor conflicts, which could improve overall visitor satisfaction and bring additional visitors to the area, stimulating the local economy.

The closure of old mine workings would be likely to improve public safety, which could indirectly reduce expenditures by the public and the US government, relating to accidents.

Changes in access to caves could expand or limit recreational opportunities and the associated economic contribution of these recreational opportunities, depending on the measures implemented under each alternative. Economic contributions include the dollars visitors spend in the local economy for goods and services during their visits, and concessionaire businesses, which could lead interpretive tours.

The continued provision of sanitation and fish cleaning facilities, visitor education, and updating of existing facilities would promote a healthier environment for visitors, ensuring their continued use of the New Melones Lake Area and their continued contribution to the local economy. Changes in the management of former roadways in Rural Developed Management Areas to prevent erosion and protect water resources could restrict or improve access to trailered boat launching and support facilities, depending on the project alternative. All alternatives aim to improve public safety, which would promote continued visitor use, which would bring additional expenditures, employment, and earnings into the local economy.

Commercial operations could experience increased costs to comply with visual resources management objectives under all alternatives. These increased costs would be associated with such activities as moving, shaping, or painting facilities to blend with the surrounding viewshed. In addition, restrictions to recreational activities that could occur in order to maintain the scenic qualities of an area could result in a decrease in visitors and their contribution to the local economy.

6.16.3.2 Effects from Natural Resources Management

Under all alternatives, measures to protect native plant communities could change the location of hiking and biking trails and roads to avoid impacts on native plant communities, and could restrict recreation development in areas identified for protection, which could alter the visitor experience and restrict the location of new recreational development. However, these measures would be unlikely to reduce the number of visitors or their economic contribution to the area unless the number of trails or the variety of recreational uses were substantially reduced. These actions also could limit the

number and types of concessionaires that would be permitted, as well as the locations that could be used by concessionaires, who provide local employment and earnings.

Restrictions to protect wetlands and riparian areas, could limit recreational activities and the number of visitors engaging in these activities on project lands. These restrictions could limit the contribution of visitors in the local economy to the extent that they reduce the number of visitors from outside Calaveras and Tuolumne Counties or their expenditures in the local economy. For example, the availability and timing of climbing at Table Mountain could be affected by the presence of vernal pools. If placing restrictions on climbing reduces the number of climbers who come into the area for recreation, the economic activity associated with their expenditures on food, gas, and lodging would decrease.

Hunting, fishing, and wildlife viewing bring visitors and visitor expenditures to project lands, and licensing also generates revenue from issuing hunting, fishing, and commercial fish business licenses. In 2006 in California, $8.0 billion was spent on hunting and fishing recreation, of which $3.4 billion was for trip-related expenditures, $4.1 billion was for equipment purchases, and $488 million was for licenses, contributions, land ownership and leasing, and other expenditures. The average expenditure per angler was $1,383 and the average angler trip expenditure per day was $62. The average expenditure per hunter was $2,119 with an average hunter trip expenditure per day of $68. The average expenditure per wildlife watching participant was $641 per day with an average trip expenditure of $44 (US Fish and Wildlife Service and US Census Bureau 2007). In California, in 2008, sales generated by hunting licenses, sport and commercial fishing licenses, and commercial fish business licenses totaled $21,650,468, $65,930,203, and $823,839, respectively (California Department of Fish and Game 2009). By continuing to allow hunting and fishing on project lands, Reclamation would ensure that these activities continue to contribute to the local economy and provide social and subsistence benefits to the area. Restrictions to protect spawning areas and fisheries could limit some recreational activities and trail building, the level of which would vary by project alternative, which could reduce the number of recreational visitors and their contribution to the local economy. However, this effect could be offset by an increase in the available fishing, fishing visitation, and contribution of fishing to the local economy.

Requiring the implementation of wildlife management projects in the PWMA could provide local employment and equipment use revenues, the amount of which would vary by alternative.

All alternatives would impose restrictions to protect special status species that could inhibit recreation activities and have indirect socioeconomic effects. These restrictions could increase the costs of concessionaire operations, decrease the incomes of operators, discourage some recreational activities, and potentially decrease expenditures in the local economy as a result of a potential reduction in the number of visitors or concessionaires in the New Melones Lake Area. The extent of these restrictions would vary by alternative.

6.16.3.3 Effects from Lands, Transportation, and Access Management

Land management measures would be implemented to improve public health and safety and eliminate unauthorized uses, which could have an indirect effect on socioeconomic resources that would vary by alternative. These land management actions would likely reduce user conflicts and improve the recreation experience of visitors to project lands, which would encourage continued or increased visitation. This could result in continued or increased expenditures in the local economy, with the secondary effect of generating additional earnings, expenditures, and employment.

All alternatives would impose some level of public transportation access restriction that could affect economic activity generated by recreation and concessionaire activities. Transportation and access measures to increase route connectivity would improve public access and increase the level of recreation and concessionaire activities, which could further expand local economic activity.

Management actions to improve public health and safety could indirectly affect socioeconomics by improving visitors' recreation experience and reducing the effects of conflicting uses. These improvements would encourage continued visitor use and could result in additional visits, which could increase expenditures, earnings, and employment in the local economy.

Under all alternatives, the use of grazing to control invasive species would add another economic activity to the project area. Typically, the cost of grazing on federally-owned land is less than the cost on private land, resulting in cost savings and increased disposable income to ranchers, which can then be invested in the local economy for supplies, equipment, and other goods and services. Therefore, an influx of ranching or a decrease in the cost of ranching could generate additional earnings and employment. Grazing on project lands would increase administrative costs to Reclamation to comply with regulatory requirements, but also would be a source of revenue from the implementation of grazing fees through the competitive bidding process. Grazing has a social (or non-market) value to visitors from outside the western US, who regard ranching as visual draw, and to the general public as a means of preserving open space and big game habitat, which could benefit the hunting industry (Foulke, Coupal, and Taylor 2006).

Fire management to control wildland fires could pose limitations for some recreational uses. Hazardous fuels reductions could protect infrastructure from wildfire, ensuring continued employment and other economic benefits. Emergency stabilization and rehabilitation treatments would temporarily close areas for certain uses. However, restoring rangeland would improve the health of the land, providing long-term economic benefits for wildlife habitat for hunting. Implementing wildland fire protection measures would protect the economic base of communities. Fire management activities on project lands could result in the employment of the local workforce and purchases of equipment and supplies in the local economy.

6.16.3.4 Effects from Cultural and Social Resources Management

Protecting cultural resources also protects the physical and natural resources that bring visitors to the New Melones Lake Area, which injects dollars into the local economy for goods and services, and generates secondary earnings and employment. However, these protections also could present access and recreational use restrictions, which could limit concessionaire businesses that could operate in the area and the number of visitors. This could indirectly reduce expenditures and subsequently generated earnings and employment in the local economy. In addition, all alternatives would provide interpretation and education for priority cultural sites within public use areas, which could reinforce social values by improving visitors' connection with project lands.

Coordination with local agencies to promote tourism could result in the development of new concessionaire businesses and increased visitors to the New Melones Lake Area. Visitors from outside the local economy spend money in the region of influence for lodging, food, supplies, permits, and recreation. As stated above, $8.0 billion was spent in California on hunting and fishing recreation in 2006. These expenditures generate earnings for local businesses, which would in turn be reinvested in the local economy for additional goods and services, earnings, and employment. By complying with Executive Order 12898 and addressing potential disproportionate human health and environmental effects on low-income and minority populations, Reclamation would avoid adversely affecting environmental justice populations through its management actions.

Tribal consultation may increase operational costs for realty transactions and could limit recreation uses or increase the costs of commercial recreation activities by avoiding sensitive areas of Native American religious importance. These costs would vary based on the scope and degree of mitigating adverse impacts.

6.16.3.5 Effects from Recreation Management

Expenditures for travel and tourism for recreation affect transportation, lodging, eating establishments, retail, and service businesses. These expenditures support jobs, personal income, and government tax revenues. In 1992, travel-generated visitor expenditures in California reached approximately $52.8 billion. These expenditures generated $938 million in local taxes, $2 billion in state taxes, 668,000 jobs and $11.5 billion in payroll expenditures (NPS 1995). As identified in Chapter 5, recreation and tourism at the New Melones Lake Area have generated approximately $75 million, and increased employment in the leisure, hospitality and construction sectors in Calaveras and Tuolumne Counties. Reclamation's regulation of recreational activities in the New Melones Lake Area would be designed to minimize user conflicts, promote public safety, minimize the harmful effects of recreational activities on sensitive resources while promoting multiple uses, and accommodate user demands for recreational opportunities and access. The continued provision of both land-based and aquatic recreation opportunities would ensure the continued economic contribution of recreation at the New Melones Lake Area in Calaveras and Tuolumne Counties, the levels of which could vary by the amount and types of recreation promoted and allowed under each alternative. Concessionaire agreements with private enterprises would continue to provide business opportunities, the level and type of which could vary by alternative.

6.16.4 Effects on Socioeconomics under Alternative A

6.16.4.1 Effects from Physical Resources Management

Managing access to caves under Alternative A to comply with federal law and health and safety requirements would place the fewest restrictions on existing recreational opportunities in caves and would likely maintain the existing economic contribution of these recreational opportunities.

Continuing to close former roadways in Rural Developed Management Areas for public and resource protection could restrict access to trailered boat launching and support facilities and limit future recreational development under Alternative A. If these closures reduced recreational visits or their expenditures in the local economy or limited the locations or types of concessionaire businesses that could operate in the New Melones Lake Area, these restrictions could reduce the level of earnings and employment generated by recreation at the New Melones Lake Area.

6.16.4.2 Effects from Natural Resources Management

Continued implementation of the Peoria Wildlife Management Area Interim Management Plan under Alternative A would not further restrict economic activities, through the restriction of public vehicle use, limiting camping to reservations, closing or restoring unauthorized trails, reseeding or restoring unauthorized roads and impacted areas, and continuing the ban on shooting and target practice; since these restrictions are already in place. Any limitations they would have on recreational activities and the associated economic contribution of these activities is already occurring.

Restrictions to protect spawning areas and fisheries under Alternative A, such as minimizing disturbance of known spawning areas in Texas Charley Gulch and Black Bart Cove, could limit some recreational activities and trail building, which could reduce the number of recreational visitors and their contribution to the local economy. However, this effect could be offset by an increase in the available fishing, fishing visitation, and contribution of fishing to the local economy.

Conducting surveys for raptors, mastiff bats, and other sensitive species under Alternative A would not directly result in restrictions to protect these special status species. It could limit recreational use of caves and climbing routes at Table Mountain if impacts on sensitive species were identified. Actions that would inhibit recreation activities to protect these species could have indirect socioeconomic effects, as described in Impacts Common to All Alternatives.

6.16.4.3 Effects from Lands, Transportation, and Access Management

Closures to public vehicles under Alternative A currently limits access to recreation that also could limit the level of economic activity generated by recreation and concessionaire activities. Continued operation and maintenance of existing substandard lake access routes would allow continued recreation in the accessed areas, which would not alter the level of economic activity generated by these recreational uses.

Under Alternative A, prohibiting OHV use on project lands precludes the potential economic contribution that this form of recreation would bring to the New Melones Lake

Area (described under Alternative B). Since this would not be a change from existing conditions, it would not have a socioeconomic effect, aside from eliminating it as a future source of local economic growth.

The potential use of grazing to control invasive species would have the indirect socioeconomic effects described in Effects Common to All Alternatives from Lands, Transportation, and Access Management; however, Alternative A has the least definitive language for implementing such a program.

Continued implementation of fire management BMPs to control wildland fires could pose limitations for some recreational uses. For example, limiting open campfires could affect some visitors' recreation experience. However, since this would not represent a change from existing conditions, fire management under Alternative A would be unlikely to reduce the number of visitors or the contribution of recreation to the local economy.

6.16.4.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative A would be the same as those described under Effects Common to All Alternatives from Cultural and Social Resources Management.

6.16.4.5 Effects from Recreation Management

Under Alternative A, Reclamation's regulation of recreational activities in the New Melones Lake Area would have socioeconomic effects similar to those described in Effects Common to All Alternatives from Recreation Management, with the following exceptions. Allowing the expiration of the concessionaire contract in 2012 with no plan for renewal and tying the public boat mooring to this contract could result in an unmanaged situation in the future, particularly in peak use periods, if visitor needs were not met as a result. These issues ultimately could impair the visitor experience and reduce the subsequent number of visitors, which could indirectly affect the local economy by reducing visitor expenditures.

Alternative A would implement the fewest management actions to protect and promote quiet fishing zones, as compared to the other alternatives. Therefore, Alternative A could result in fewer visits by anglers than other alternatives, resulting in a lower economic contribution than the other alternatives. According to the 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation-California, resident and non-resident anglers spent more than 32 percent of the total wildlife-associated recreation expenditures in 2006 (US Fish and Wildlife Service and US Census Bureau 2007).

Under Alternative A, buoyed off areas would protect existing designated swimming areas, preserving the visitor experience for this use and maintaining the likelihood that visitors would continue to engage in this form of recreation and continue to spend money in the local economy for this use.

Under Alternative A, trails management would be designed to retain visitor traffic in existing high use areas and maintain existing trails to accommodate additional use. These measures would be designed to provide for existing use patterns, which would be likely to retain the existing contribution of recreational visitors to the local economy but would

not be likely to draw new types of visitors or the associated new visitor expenditures in the local economy.

The continued updating of campground and RV facilities and the expansion of day use facilities would likely increase visitor satisfaction, which could encourage more recreational use and indirectly result in increased tourism expenditures in the local economy.

Under Alternative A, hunting would continue to be allowed and would continue to support earnings and employment in the local economy. According to the 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation-California, resident and non-resident hunters spent approximately 11 percent of the total wildlife-associated recreation expenditures in 2006 (US Fish and Wildlife Service and US Census Bureau 2007).

Development of a climbing management plan to protect sensitive species could restrict the number of visitors who use the New Melones Lake Area for climbing and reduce the expenditures of outside visitors to the local economy, which relies heavily on recreation.

Managing access to caves under Alternative A to comply with federal law and health and safety requirements would place the fewest restrictions on existing recreational opportunities in caves, and would likely maintain the existing economic contribution of these recreational opportunities.

6.16.5 Effects on Socioeconomics under Alternative B

6.16.5.1 Effects from Physical Resources Management

Expanding access to caves under Alternative B and potentially providing interpretive opportunities for a concessionaire could attract more visitors and new concessionaire businesses to the New Melones Lake Area, expanding the contribution of recreation to the local economy.

If funding becomes available, updating and improving former roadways in Rural Developed Management Areas for lake access and constructing modern boat launch and support facilities could expand future recreational use under Alternative B. If these improved facilities increase recreational visits from outside the local area, visitor expenditures in the local economy, or expanded the locations or types of concessionaire businesses that could operate in the New Melones Lake Area, these actions could increase the level of earnings and employment generated by recreation at the New Melones Lake Area.

6.16.5.2 Effects from Natural Resources Management

Continued implementation of the Peoria Wildlife Management Area Interim Management Plan under Alternative B would have socioeconomic effects similar to those described under Alternative A; however, Alternative B would not be as restrictive of public vehicle use and would expand the possibilities for special use group camping. These actions could provide expanded recreational access and opportunities, which could bring additional visitors and visitor expenditures into the local economy.

Restrictions to protect spawning areas and fisheries under Alternative B would have the same socioeconomic effects described under Alternative A.

Conducting surveys for raptors, mastiff bats, and other sensitive species under Alternative B would have socioeconomic effects similar to those described under Alternative A. Improving the interpretive program with respect to raptors and encouraging visitor participation in raptor-watching activities could improve the visitor experience for those visiting the New Melones Lake Area for wildlife watching and could stimulate increased visitation and visitor expenditures in the local economy. Approximately 56 percent of total wildlife-related recreation expenditures in California in 2006 were made by wildlife watching participants (US Fish and Wildlife Service and US Census Bureau 2007).

6.16.5.3 Effects from Lands, Transportation, and Access Management

Entering into a managing partner or concession agreement to construct facilities and operate an OHV park would expand recreational opportunities and would draw a new visitor population to the New Melones Lake Area. OHV visitor expenditures in the local economy could generate additional sales, income, and jobs. Expenditures by OHV users in California for equipment, activities and events generated about $3 billion in economic activity in 1992 and supported 43,000 jobs. Rural communities realized much of this economic benefit (Florida Department of Agriculture and Consumer Services 2002). The addition of a concessionaire business also would provide and economic stimulus. Limiting the extent of OHV use to a specific park area would limit the level of user conflicts, and noise, dust, and crowding effects on other visitors that would be associated with this new use, so that their recreation experience would not be adversely affected, and they would continue to contribute expenditures in the local economy.

By updating the land use allocation under Alternative B to reflect the WROS, carrying capacity study, and commercial services plan, the New Melones Lake Area would be able to plan for and accommodate a more-updated and potentially increased demand for recreational use, while protecting sensitive resources. An increase in recreational visits could also increase visitor expenditures in the local economy and generate employment and income.

Reopening public access to Peoria Flat, Old Parrotts Ferry Road and Melones Recreation Area with updated facilities, continued operation and updating of existing lake access routes, and upgrading of associated facilities under Alternative B would allow increased recreation in the accessed areas, which could increase the level of economic activity generated by these recreational uses.

The potential use of grazing to control invasive species would have the indirect socioeconomic effects described in Effects Common to All Alternatives from Lands, Transportation, and Access Management. Alternative B specifies adding grazing to generate revenue.

Implementation of the Fire Management Plan to control wildland fires could pose limitations for some recreational uses during prescribed burns and fuel hazard reduction

activities. However, it is unlikely that these activities would reduce the number of visitors or the contribution of recreation to the local economy, since these activities typically would not happen during peak visitation.

6.16.5.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative B would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.16.5.5 Effects from Recreation Management

Alternative B would ensure that current marina facilities would be available with fewer limitations due to storms. It would provide the most recreation opportunities to accommodate increased visitor use, draw new types of recreational visitors, and raise visitor satisfaction through the provision of recreational amenities. The additional developed recreation areas would be likely to draw in the most new types of visitor groups and concessionaire businesses, which would generate expenditures in the local economy to support increased incomes and jobs. By basing concessionaire contracts for the marina and other commercial services and the need for development of additional boat storage on the commercial services plan and financial feasibility study, it is possible that more concessionaire contracts and boat storage facilities would be available under Alternative B. Additional concessionaire contracts could result in an increase in business activity in the local economy, and additional boat storage could make it easier for recreational boaters to visit New Melones Lake and increase the number of visits to the project area. These increases could indirectly result in a stimulus to the local economy.

The potential for development of facilities in rural natural management areas, in addition to operating and maintaining facilities in all rural developed management areas, could encourage additional visitor use. To the extent that this would result in additional visits from outside the local economy or increased expenditures in the local economy from the same visitors, this could indirectly increase the level of activity in the local economy, boosting earnings and employment.

Alternative B would implement the same management of fishing zones as Alternative A and, therefore, would have the same socioeconomic effects with respect to this management action as Alternative A.

The addition of a new concessionaire for whitewater rafting could increase the number of jobs in the local economy by bringing in a new business, which could increase incomes and induce secondary employment and earnings through expenditures by the new business. In addition, a whitewater concession could draw new visitors and visitor expenditures in the local economy.

Under Alternative B, additional zoning to promote public safety on the lake, including additional swimming areas and areas appropriate for nonmotorized boating, houseboats, and seaplanes, would preserve the visitor experience for these uses and maintain the likelihood that visitors would continue to engage in these forms of recreation and

continue to spend money in the local economy. Expanded floating dock facilities and floating campsites could draw additional visitors and expenditures in the local economy.

Management of aquatic recreation Under Alternative B would provide for increased use of watercraft and houseboats, which could increase the number of visitors (and visitor expenditures in the local economy) who visit for this use; however, the increased number of watercraft may deter fishing recreation in favor of quieter areas, which could decrease the level of this type of recreation expenditure in the local economy.

New trails development and optimizing trails connectivity would be designed to improve visitor access to accommodate additional use. These measures would be designed to expand use patterns, which would be likely to increase the number of visitors and the contribution of recreational visitors to the local economy.

Similar to Alternative A, the continued updating of campground, particularly RV facilities, and the expansion of day use facilities under Alternative B could indirectly result in increased tourism expenditures in the local economy.

Under Alternative B, hunting would be limited to shotgun-only hunting, which could reduce the number of hunters visiting the New Melones Lake Area and indirectly could reduce the economic contribution of hunting to the local economy.

The indirect socioeconomic effects of development of a climbing management plan under Alternative B would be the same as those identified under Alternative A.

Expanding access to caves under Alternative B and potentially providing interpretive opportunities for a concessionaire could attract more visitors and new concessionaire businesses to the New Melones Lake Area, expanding the contribution of recreation to the local economy.

6.16.6 Effects on Socioeconomics under Alternative C

6.16.6.1 Effects from Physical Resources Management

Restricting and, in some cases, eliminating access to caves under Alternative C would reduce the number of caving visitors, reducing the contribution of recreation to the local economy.

As described under Alternative A, continued closure of former roadways in Rural Developed Management Areas to prevent erosion and protect water resources under Alternative C could reduce the level of earnings and employment generated by recreation at the New Melones Lake Area. Further restrictions of vehicle use in Rural Natural Areas could further reduce visitor access, which could reduce the number of visitors and visitor expenditures in the local economy.

6.16.6.2 Effects from Natural Resources Management

Restricting activities in areas prone to weed invasion could restrict recreation, such as hiking, biking, and equestrian activities under Alternative C. To the extent that these

recreation restrictions reduce the number of visitors to the New Melones Lake Area, they could result in reduced expenditures in the local economy.

The PWMA vehicle use and camping restrictions that would comprise implementation of a modified version of the Peoria Wildlife Management Area Interim Management Plan under Alternative C would restrict recreation in the PWMA and could reduce the number of visitors and their associated economic contribution to the area.

Management actions under Alternative C to enhance fish habitat and improve fisheries and aquatic resources would have socioeconomic effects similar to those described under Alternative B. However, restrictions to protect spawning areas and fisheries under Alternative C would limit recreational activities more than the other alternatives and could reduce the contribution of fishing to the local economy if the management actions discouraged fishermen from visiting the project area.

Under Alternative C management to protect special status species, including minimizing disruptions of caves and riparian areas, seasonal use restrictions, and conducting surveys for raptors, mastiff bats, and other sensitive species could limit the recreation opportunities available to visitors and discourage return recreational visits, which could reduce the contribution of recreation expenditures in the local economy.

6.16.6.3 Effects from Lands, Transportation, and Access Management

Avoiding future easements and rights-of-way across Reclamation lands or applying strict guidelines for the grant of such easements could increase costs to utilities to establish facilities and supply the utilities to the area, which could be passed along to consumers.

Under Alternative C the socioeconomic effects of prohibiting OHV use on project lands would be the same as those described under Alternative A.

Updating the land use allocation under Alternative C to reflect the WROS, carrying capacity study, and commercial services plan, in the New Melones Lake Area would have the same socioeconomic effects described under Alternative B.

Closures to public vehicles under Alternative C would have the same socioeconomic effects described under Alternative A. Continued operation and updating of existing lake access routes and upgrading of associated facilities under Alternative C would have the same socioeconomic effects as described under Alternative B.

The potential use of grazing to control invasive species would have the indirect socioeconomic effects described in Effects Common to All Alternatives from Lands, Transportation, and Access Management. Alternative C would be likely to limit the extent of grazing and, consequently, its contribution to the local economy, by implementing strict BMPs.

Similar to Alternative B, implementation of the Fire Management Plan to control wildland fires could pose limitations for some recreational uses during prescribed burns and fuel hazard reduction activities. However, these activities would be less intrusive

under Alternative C and, therefore, would be less likely than under Alternative B to result socioeconomic effects.

6.16.6.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative C would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.16.6.5 Effects from Recreation Management

Management regulations to minimize user conflicts and promote safety under Alternative C would be unlikely to have a measurable indirect effect on visitors, the number of visitors and consequent visitor expenditures in the local economy, since they would be more restrictive of user activities than under Alternative B, but compliance with these expanded regulations could improve the visitor experience for the activities that would continue to be permitted by further reducing user conflicts and safety issues.

The socioeconomic effects of commercial services and concessions management on recreation under Alternative C would be intermediate between Alternatives A and D (all of which would induce a lower economic stimulus than Alternative B), since Alternative C would continue to provide the commercial services and concessions that are described in Effects Common to All Alternatives from Recreation Management. It would provide additional services, lodging, facilities, and permits for a limited number of outfitters to provide guide services, and construction of equestrian facilities for day use. These additional facilities would involve less development and would draw and accommodate fewer overnight visitors than under Alternative B, which would mean less money spent by visitors in the local economy than Under Alternative B, but would be more spent than under Alternative A. Additional recreation expenditures in the local economy could be generated by visitors that prefer a more natural setting and a serene experience, since user conflicts generated by increased visitation and competing developed uses would be less likely under Alternative C.

By basing concessionaire contracts for the marina and other commercial services on the preservation of natural and cultural resources, it is likely that more visitors who prefer recreation in the natural environment would participate in recreation in the New Melones Lake Area and derive the most social value for the area, including second home owners. Additional concessionaire contracts could result in an increase in business activity in the local economy; however, the limitations placed on development would not likely bring an influx of new visitors or visitor expenditures to the local economy. Maintaining the existing marina concessionaire agreement would provide for the continued economic activity provided by this business.

Alternative C would have the same socioeconomic effects with respect to the management of fisheries and spawning areas as Alternative B, but the additional designation of Camp Nine, Coyote Creek, Greenhorn Creek and Mormon Creek could limit recreational activities in these areas and indirectly result in a decrease in the number of visitors to the New Melones Lake Area and a reduction visitor expenditures in the local economy.

If whitewater rafting businesses were to be approved under Alternative C, the addition of these businesses would have the same socioeconomic effects as described under Alternative B.

Under Alternative C, management of no-wake zones and swimming areas would have socioeconomic effects similar to those described under Alternative B.

Management of aquatic recreation Under Alternative C would reduce the use of watercraft and houseboats, which could indirectly result in a decrease in the number of visitors (and visitor expenditures in the local economy) who visit for this use; however, the decreased number of watercraft may encourage more fishing and wildlife watching forms of recreation that favor of quieter areas, which together injected $6,599,585,000 in the California economy in 2006 (US Fish and Wildlife Service and US Census Bureau 2007).

Alternative C would limit the number and extent of trails, campgrounds and RV facilities, and other developed facilities and encourage uses that preserve the natural environment, which could increase the level of social value attached to the project area for visitors who prefer more serene conditions. However, the limited development for land-based recreation could indirectly result in an overall decrease in the number of visitors and, therefore, visitor expenditures in the local economy. Modernization of existing facilities, enhancement of high demand areas, and optimizing trail connectivity could improve existing and new visitor access to accommodate existing and projected additional use, which could have socioeconomic effects similar to those described for Alternative B, but would be unlikely to result in a new influx of visitors or visitor expenditures in the local economy, due to development restrictions.

Hunting management under Alternative C could reduce the number of hunters visiting the New Melones Lake Area and indirectly could reduce the economic contribution of hunting to the local economy.

The indirect socioeconomic effects of development of a climbing management plan under Alternative C could further limit available climbing routes and decrease visiting climber expenditures in the local economy.

Restricting access to caves under Alternative C could indirectly result in a reduction in the number of caving visits to the New Melones Lake Area and could reduce the contribution of caving recreation to the local economy.

6.16.7 Effects on Socioeconomics under Alternative D

6.16.7.1 Effects from Physical Resources Management

While cave access would not be expanded under Alternative D, providing interpretive opportunities for a concessionaire could attract more visitors and new concessionaire businesses to the New Melones Lake Area, expanding the contribution of recreation to the local economy.

Updating and improving former roadways in Rural Developed Management Areas if funding becomes available would improve user access to Mark Twain, Parrott's Ferry, and Melones Recreation Area which could allow for continued and potentially expanded visitor use in these areas. If these improved facilities increase recreational visits from outside the local area or visitor expenditures in the local economy, these actions could increase the level of earnings and employment generated by recreation at the New Melones Lake Area. Providing dry camping opportunities in Semi-Primitive Areas and floating campsites in Rural Natural Areas could increase visitor satisfaction and visitor use, which could increase recreation-based economic activity.

6.16.7.2 Effects from Natural Resources Management

Full implementation of the Peoria Wildlife Management Area Interim Management Plan under Alternative D would have the same effects on socioeconomic resources as described under Alternative A.

Restrictions to protect spawning areas and fisheries under Alternative D, would have socioeconomic effects intermediate between Alternatives A and C, since restrictions to protect spawning areas and fisheries under Alternative D would limit recreational activities more than alternatives A and B and could reduce the contribution of fishing to the local economy if the management actions discouraged fishermen from visiting the project area. However, Alternative D does not call for seasonal restrictions on known warm water fish spawning areas, so fishing could continue to contribute to the local economy as under Alternative A.

Conducting surveys for raptors, mastiff bats, and other sensitive species under Alternative D would have the same effects on socioeconomic resources as those described under Alternative A.

6.16.7.3 Effects from Lands, Transportation, and Access Management

Under Alternative D the socioeconomic effects of prohibiting OHV use on project lands would be the same as those described under Alternative A.

The socioeconomic effects of updating the land use allocation under Alternative D to reflect the WROS, carrying capacity study, and commercial services plan would have the same effects as described under Alternative B.

The socioeconomic effects of closures to public vehicles under Alternative D would be the same as those described under Alternative A. Reopening public access to Old Parrotts Ferry Road, continued operation and updating of existing lake access routes, upgrading of associated facilities, and allowing access to the Westside for dispersed recreation under Alternative D would allow visitor use of the accessed areas, which would be less than would be allowed under Alternative B but more than under Alternatives A and C, which could increase the level of economic activity generated by these recreational uses.

The potential use of grazing to control invasive species would have the indirect socioeconomic effects described in Effects Common to All Alternatives from Lands, Transportation, and Access Management.

The socioeconomic effects of implementation of the Fire Management Plan to control wildland fires under Alternative D would be the same as those described under Alternative B.

6.16.7.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative D would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.16.7.5 Effects from Recreation Management

The effects of management regulations to minimize user conflicts and promote safety under Alternative D would be the same as those identified under Alternative C.

The effects of commercial services and concessions management on recreation under Alternative D would be intermediate between Alternatives C and B, in terms of increasing visitor use, visitor satisfaction with developed uses, and, therefore, visitor expenditures in the local economy, since a greater level of commercial services and concessions would be offered under Alternative D than under Alternative C but fewer than under Alternative B. Overall, Alternative D would provide increased recreational opportunities beyond what is proposed under Alternatives A and C, but limit development more than Alternative B. This would, satisfy users that prefer developed areas more than Alternatives A and C but potentially limit the level of competing uses that could occur under Alternative B, which could encourage a greater mix of visitor uses, but would limit the number and types of new visitors and their associated expenditures in the local economy. This would likely result in a lower economic stimulus than would be generated under Alternative B, but would still be likely to increase incomes and employment in the surrounding areas, as a result of goods and services purchases.

Alternative D would have socioeconomic effects similar to those described under Alternative B resulting from development of facilities in Rural Natural Management Areas in addition to operating and maintaining facilities in all Rural Developed Management areas.

Alternative D would implement the same management of fishing zones as Alternative A and, therefore, would have the same socioeconomic effects.

The socioeconomic effects of permitting commercial whitewater rafting businesses at the New Melones Lake Area under Alternative D would be the same as described under Alternative B.

Similar to Alternative B, management of aquatic recreation Under Alternative D would provide for increased use of watercraft and houseboats, which would have the same socioeconomic effects described under Alternative B.

Under Alternative D, increasing and improvement of equestrian trails in the PWMA and the addition of a concession facility, new trails development and optimizing trails connectivity would be designed to improve visitor access to accommodate additional use.

These measures would be designed to expand use patterns, which would be likely to increase the number of visitors and the contribution of recreational visitors to the local economy. These socioeconomic effects would be the same as those described under Alternative B.

Similar to Alternatives A and B, the continued updating of campground and particularly RV facilities and the expansion of day use facilities under Alternative D could indirectly result in increased tourism expenditures in the local economy.

Under Alternative D, limitations that could be placed on shotgun-only hunting and other hunting restrictions could reduce the number of hunters visiting the New Melones Lake Area and indirectly could reduce the economic contribution of hunting to the local economy. However, these effects could be offset by potential increases in hunting and associated hunting expenditures in the local economy that could be generated by management to enhance hunting opportunities by developing agreements to allow special hunting events.

The indirect socioeconomic effects of development of a climbing management plan under Alternative D would be the same as those identified under Alternative A.

Managing access to caves under Alternative D would have the same socioeconomic effects described under Alternative A.

6.17 Recreation

6.17.1 Introduction

Effects on recreation from the proposed alternatives would result in a range of possible outcomes. Surface-disturbing activities, such as wildland fire management and transportation improvements, would have effects on recreational settings and on recreation users due to restrictions or closures during treatments or improvements. This would be the case if areas and activities were restricted or excluded until surface-disturbing activities had concluded, or if such activities were to change the landscape character or the available recreation opportunities.

Recreation is divided into four categories for the purposes of this planning document and associated analyses: General Recreation, Land Based Recreation, Aquatic Recreation, and Interpretive Services, and Visitor Information. Refer to Chapter 5 for a description of the existing recreational opportunities in the New Melones Lake Area by recreational category. Chapter 3 describes the proposed recreation management actions for each recreational category under each alternative.

6.17.2 Methods of Analysis

6.17.2.1 Methods and Assumptions

This section presents potential effects of the alternatives on general, land and aquatic based recreation, and on interpretive services and visitor information, as determined through potential changes to visitor and community resident preferences (activities,

experiences, benefits), recreation setting conditions (physical, social, administrative), recreation management (resources, signing, facilities), recreation marketing (visitor services, information, interpretation, and environmental education), recreation monitoring (inventory, monitoring), and recreation administration (permits and fees and visitor limits and regulations. These recreation features are interrelated and connected to access. For example, changes in recreation settings would result in corresponding changes in opportunities to achieve desired recreation experiences and associated benefits, influenced by access.

Recreation experiences and the potential attainment of a variety of beneficial outcomes are vulnerable to any management action that would alter the settings and opportunities in a particular area. Recreation settings are based on a variety of attributes such as remoteness, the amount of human modification in the natural environment, evidence of other users, restrictions and controls, and the level of motorized vehicle use. Management actions that greatly alter such features within a particular portion of the planning area could affect the capacity of that landscape to produce appropriate recreation opportunities and beneficial outcomes.

The recreation settings at the New Melones Lake Area are characterized and organized in a Water Recreation Opportunity Spectrum (WROS). The WROS encompasses six WROS classes. However, there are only three WROS classes within the eighteen management areas: Rural Developed, Rural Natural, and Semi-Primitive. Management actions were analyzed to determine their effects on these settings since recreational opportunities and experiences are dependent upon the available settings.

The analysis of potential effects on recreation is based on knowledge of the planning area and visitor use reporting statistics, which provide information on the amount and types of recreation. Effects are quantified where possible. In the absence of quantitative data, best professional judgment was used, and effects are expressed in qualitative terms.

The analysis was based on the following assumptions:

- The demand for recreation use would continue to increase;
- Recreation visits would continue to increase;
- The incidence of resource damage and conflicts among recreationists involved in mechanized, motorized, and nonmotorized activities would increase as use of public lands increases;
- Anticipated increases would include OHV and boat use; and
- Users would continue to develop trails.

6.17.3 Effects on Recreation Common to All Alternatives

6.17.3.1 Effects from Physical Resources Management

Management actions designed to protect the geologic resources would also result in an improved recreational setting. Limiting mining would increase the amount of land that is

available to recreationists and would limit the degradation of scenic qualities from mining. Closing old mines would protect visitors from accidental falls or injuries in mine shafts.

Recreation in or around caves would be managed to protect the sensitive qualities of caves. This could result in closures of some caves which would limit recreational caving opportunities. All recreation use would be managed to minimize impacts on preserve cave resources such as scenic qualities, fragile formations, cultural resources, and sensitive species. Protecting these qualities could result in prohibitions and/or seasonal restrictions on recreational activities.

Actions designed to protect the water quality at the New Melones Lake Area include updating minimum basic facilities in the Rural Developed and Rural Natural Management Areas. These updates would enhance the recreational experience for those visitors who seek and appreciate manmade conveniences. Maximizing water conservation would enhance recreational opportunities by ensuring that there are no water shortages for recreationists. Actions designed to enhance sanitation in the project lands would ensure that there are enough restrooms and toilets available for visitors. Denuded vegetation and erosion would lower the scenic quality of the project lands, so management actions designed to minimize or prevent erosion would improve aesthetics and the recreational setting. Additionally, denuded vegetation and erosion decrease the value of wildlife habitat and if wildlife leaves an area due to diminished habitat quality, the opportunities for wildlife viewing would also decrease. To control erosion, all vehicles would be confined to existing roadways and all OHV use would be prohibited. While these restrictions would limit some of the access and variety of recreation available in the New Melones Lake Area, it would protect scenic qualities and enhance the recreational experience for those visitors hiking, biking, and participating in other types of non-motorized recreation. Actions designed to limit the release of contaminants would improve water quality in the project lands, thereby protecting the health of recreationists who drink the water or participate in aquatic activities. Maximizing water conservation would also contribute to sufficient water levels for aquatic recreation.

All noise from motorized boats, watercraft, and seaplanes would be monitored for compliance with noise regulations and seek to maintain noise at current levels. This would enhance visitor experiences, particularly for those seeking a serene setting.

6.17.3.2 Effects from Natural Resources Management

Protecting the native vegetation communities would have a variety of effects on recreation including maintaining or enhancing scenic qualities for visitors, maintaining quality habitat necessary for wildlife viewing opportunities, and screening evidence of other human activity. Protecting native plant communities could limit areas where recreational activities would be allowed, either seasonally or for longer periods. Over time, this would likely enhance recreational opportunities once the areas are reopened. Native plant communities found on serpentine soils contain a higher proportion of rare plant species so serpentine communities could have more closures and restrictions than other areas, which would limit or preclude recreational activities in those areas.

Protecting wetlands would have similar effects. Wetlands areas are particularly valuable for people participating in wildlife viewing activities so actions designed to protect or enhance these areas would enhance the wildlife viewing experience. If wetlands needed to be rehabilitated, then visitors would likely be excluded for short periods of time.

To protect the wildlife resources in the project lands, pets would be required to be leashed at all times, thereby precluding the opportunity to have a pet off-leash. Actions designed to protect or enhance wildlife habitat would have similar effects as those actions designed to protect or enhance vegetation. Improving habitat for wildlife would likely result in greater wildlife viewing opportunities, increased hunting opportunities, and a potentially more natural experience and less developed setting. The specific actions to rehabilitate habitat for wildlife would likely close off certain areas during the process, and thereby make them unavailable for recreation. Maintaining snags and placing nest platforms would increase the opportunities for recreationists to view wildlife that use these resources. Placement of wildlife water facilities could result in increased concentrations or numbers of wildlife, which could result in greater hunting success and an improved recreational experience for hunters as well as improved wildlife viewing opportunities. Actions designed to improve fish habitat would likely lead to improved populations of fish thereby enhancing the recreational opportunities for anglers.

To protect special status species, dispersed visitor use would be maintained in Rural Natural Management Areas, This would enhance the recreational experiences for visitors in those areas that wish to minimize their contact with other people or facilities. In the PWMA, rock climbing would be managed in accordance with federal regulations for natural resources. This could limit climbing if it is determined that climbing is affecting special status species.

The prevention of the introduction of aquatic invasive pest species by prohibiting boat launching from known source locations, screening for invasive plant species, and education would minimize the proliferation of invasive species and maintain natural habitats valued by recreationists.

Sound fish waste management would be promoted through a combination of fish cleaning facilities and public education. Public education opportunities on the ecology and cultural importance of native plant communities, wetlands and riparian areas would also be provided. These management actions would educate the public on a variety of issues and increase the number and type of interpretive visitor services offered.

6.17.3.3 Effects from Lands, Transportation, and Access Management

Land management actions to reduce unauthorized uses and prevent trespass, such as unpermitted grazing, would likely improve safety conditions for recreationists and reduce user conflicts. This would improve the overall recreational experience of visitors to project lands, which would encourage continued or increased visitation. Improvements to existing facilities to promote public health and safety also would ensure a positive visitor experience, which would promote return visits and better accommodate the anticipated increases in recreational use.

All alternatives would provide access to recreational opportunities on projects lands; however, all alternatives also impose some level of restriction on motorized transportation access. Such restrictions could affect the number of visitors that could use the New Melones Lake Area for recreation, the locations and types of recreation that could be pursued, and concessionaire activities. Management measures that continue to enforce Reclamation's off-road vehicles policy would continue to preclude motorized land-based recreation and motorized access to hunting in the New Melones Lake Area, a form of recreation that has seen increasing demand in recent years. However, these measures also would prevent conflicts between motorized and non-motorized land-based users and would preserve more serene user experiences.

Measures to protect public health and safety (such as providing staff levels commensurate with recreation visitation, law enforcement, and emergency first response; marking water safety hazards; and continued coordination with other relevant agencies to protect the public) would be likely to reduce user conflicts, allowing for a more positive recreation experience on project lands. A positive recreational experience would be likely to promote continued or increased recreational use of project lands.

All fuel breaks would be designed to minimize impacts on scenic resources. As a result, the recreation setting and visitor experience of boaters, swimmers and water craft users would not be affected from the sight of fuel breaks in the upland areas surrounding the New Melones Lake Area. Prescribed burns would be conducted in the fall and winter which would minimize effects on aquatic recreationists from smoke, noise and air pollutants.

6.17.3.4 Effects from Cultural and Social Resources Management

Protection of cultural resources also protects the physical and natural resources that bring visitors to the New Melones Lake Area; however, these protections could require access and recreational use restrictions. Such restrictions could limit the number of concessionaire businesses that could operate in the area, the number of recreational visitors that could be accommodated, and the types of recreation that could occur. These restrictions would include maintaining dispersed visitor use near high value resources, and placing barriers around historic properties.

Coordination with local agencies to promote tourism would result in the development of new concessionaire businesses and increased recreational use at the New Melones Lake Area, thereby reducing any potential reductions that could occur from restrictions to protect cultural resources. Tribal consultation could limit recreation uses to avoid sensitive areas of Native American religious importance.

Reclamation would provide interpretive programs, educational printed handouts, protective signs and ranger interface with the public to explain the values of cultural resources and to promote the protection of cultural resources. The implementation of these management actions would increase the cultural resources knowledge base of visitors and increase the number and type of interpretive visitor services offered.

6.17.3.5 Effects from Recreation Management

General

General recreation actions under all alternatives would support a diversity of recreational opportunities to support consumer demand, including development of a long-term recreation management strategy, continued updating of recreation management to reflect changing visitor uses, permitting special events, and supporting concessionaire agreements to provide recreational support services, programs and facilities. Management regulations would continue to foster public safety and minimize user conflicts, which would restrict some recreational activities in target areas.

Coordination measures would be likely to reduce user conflicts and improve public safety by preventing trespass, reducing visual negative impacts by educating landowners and agencies on nearby properties on the potential effects of their actions, and expanding boating law enforcement. These improvements could raise visitor satisfaction in areas where such conflicts have previously resulted in a negative experience.

Commercial services and concessions would continue to provide needed user services under all alternatives, which would allow continued visitor use of the marina, Angels Creek swim beach, the store at Glory Hole, water skiing course within the South Bay/Bear Creek Management Area, and RC flying facility in the PWMA. In addition, allowing special events permits would continue to draw visitors for the specifically permitted activities.

Under all alternatives, the provision and maintenance of facilities such as roads, trails, sanitation facilities, and storage facilities would provide the means for various forms of recreation and foster public health so that the recreation experience is positive for visitors, encouraging continued use. Limitations placed on roads, trails, and access easements would curtail some land-based uses but would ensure that these facilities continue to be available for public use in the future.

User fees would continue to be implemented and would contribute to Reclamation's ability to provide recreation opportunities in the New Melones Lake Area. In addition, they provide a means to account for the number and types of users that visit project lands and limit recreation to those who desire the particular activity for which fees would be charged. These limits would reduce user conflicts, which could increase the level of satisfaction of the recreation participants; however, they could prevent potential visitors who could not afford the fees from full participation in the recreation opportunities available on project lands.

Aquatic Recreation

The development of appropriate educational opportunities on water and boating safety would improve the safety of boaters, swimmers and watercraft users educate the public and reduce potential conflicts between recreational users. Overall, this would improve the visitor experience.

The allowance of special permit events when they support Reclamation's mission including fishing tournaments, triathlons, and water-ski exhibitions would increase the

number of aquatic recreationists on a seasonal basis (summer). Visitors not participating in special events would likely be displaced from areas that are being used for special events and congestion would increase.

Measures to prevent the introduction of aquatic invasive pest species would include prohibiting boat launching from known source locations, screening for invasive plant species, and education. These measures would provide an environmental education opportunity for the public. They would also reduce the number of boat launch areas, thereby limiting access for aquatic recreationists and increasing congestion in the remaining launch areas. However, courtesy docks in the waters surrounding usable boat ramps would continue to be provided, which would facilitate the efficient launch and take-out of boats and contribute to a positive visitor experience.

Land-Based Recreation

Continuing to provide a diverse range of land-based recreational opportunities would continue to draw large numbers of users and that number would likely increase over time. Limiting land-based recreational activities within wetlands and riparian buffer zones would alter use patterns and would limit recreational opportunities related to these ecosystems such as gathering flowers, viewing wildlife or just enjoying the scenic qualities of these ecosystems. Promoting wildlife viewing and other dispersed recreation in the PWMA would increase use in that area, thereby potentially altering use patterns somewhat throughout the New Melones Lake Area. Permitting of special events would contribute to a diverse array of recreational opportunities. However, recreationists not participating in the special events could find the quality of their experience diminished due to high numbers of users. Minimizing erosion and runoff through the design of recreation area facilities would contribute to an improved recreational setting and experience due to an improvement in scenic qualities.

Directional signs and interpretive markers on trails would facilitate and potentially promote, biking, hiking, and horseback riding. Designing roads, trails, and access easements to follow natural contours and minimize steep slopes and stream crossings would also facilitate and likely promote scenic driving, hiking, biking, horseback riding, and other use of those facilities. Coordinating with partners in regional trails planning, construction, and management would improve the trails system and increase recreational opportunities related to their use. Planning, developing, and maintaining trailheads with minimal facilities and minimal effects on natural resources would create a more scenic and less developed experience for trail users. Construction of pathways would funnel foot traffic into those areas, thereby increasing the number of users on pathways. It would also contribute to a more developed recreation experience. Prohibiting equestrian use of trails within developed parts of the Rural Developed Management Areas such as Tuttletown and limiting bicycle use on equestrian trails would minimize user conflicts and create a safer and more enjoyable recreational experience for most users.

Locating campsites and picnic sites for groups and disabled users at the larger recreation areas would increase the availability of those types of sites and increase Americans with Disabilities Act (ADA) compliance at the New Melones Lake Area. Continuing to operate a volunteer camp host program would benefit recreationists by having hosts on-

site to answer questions and offer assistance as needed. The presence of a camp host also facilitates compliance with regulations including noise restrictions, which benefits all visitors.

Educating all visitors on hunting opportunities and restrictions would increase compliance with hunting regulations and increase public safety. The ban on recreational target shooting would also increase public safety.

Under all alternatives, radio-controlled airplanes would continue to be allowed at Peoria Flat, so this recreational opportunity would continue.

Rock climbing would be allowed at the visitor's own risk under all alternatives. In the PWMA, rock climbing would be managed in accordance with federal regulations on natural and cultural resources, which could potentially entail some restrictions.

Spelunking would be allowed to continue at the visitor's own risk and would be managed to protect sensitive resources (scenic qualities, natural resources, cultural resources, etc). Protection could limit or preclude recreational use of caves, thereby limiting this recreational opportunity.

Interpretive and Visitor Services

Reclamation would continue to provide park rangers and resource staff to implement and manage the recreation, interpretive, natural resource, and visitor services programs, which would continue to reduce conflicts between users by providing ranger presence and enforcing laws. This would provide a safer and more positive recreational experience.

The use of a phone and Internet-based reservation system (National Recreation Reservation System) for campground and group picnic facility reservations would reduce conflicts between users by providing a streamlined process for reservations and ensuring that visitors have a site when they arrive. However, the structured system could deter those visitors who desire a more spontaneous visit.

The continued education of the public on natural resources, cultural resources, public safety, invasive species, and Reclamation's mission would provide environmental education opportunities and potentially increase visitor appreciation of the New Melones Lake Area.

6.17.4 Effects on Recreation under Alternative A

6.17.4.1 Effects from Physical Resources Management

Monitoring and seeking voluntary compliance with boat and visitor noise regulations would improve the recreational experience for visitors by minimizing noise levels. This effect would be the most noticeable in management areas classified as Semi-Primitive since those areas are where visitors go to escape the sights and sounds of mankind.

Access to caves under this alternative would be accomplished to allow recreational use while meeting federal laws. For those recreationists that use caves, access may be restricted if use is determined to be in violation of these regulations.

Maintaining the existing fish cleaning stations would allow anglers to continue to clean their catches at New Melones and would enhance their experiences there. Providing and maintaining restroom facilities would likely enhance the recreational experience for visitors in areas where such facilities are provided. At the Natural Bridges area, the sanitation facilities would continue to be a distance away from where most use occurs, requiring some inconvenience to use the restroom. Roadways in Rural Developed Management Areas would continue to be closed. Closing these roadways would limit access and thereby limit recreational opportunities.

6.17.4.2 Effects from Natural Resources Management

The Baseline Conservation Camp in the PWMA would continue under their current lease. Since the Baseline Conservation Camp is a prison facility, its operation could cause some recreationists to feel uncomfortable in the vicinity of the Camp and cause them to avoid the area.

Actions in the PWMA that may affect recreation include closing all roads to public vehicle use, closing and restoring unauthorized trails, limiting camping to reservation only, and encouraging low-impact recreation (hiking, biking, etc). These actions would encourage the use of the PWMA under the Rural Natural designation. Those visitors wishing a more developed type of recreation would have to use another area.

Restricting and minimizing disturbance to known trout and warm water fish spawning areas would limit the type and amount of recreation in those areas during the spawning periods. This could limit motorized boating as well as recreation along the shorelines in those areas. The continued prohibition of specific water uses, including no-ski or no-wake zones in order to maintain quiet fishing zones, would limit disturbance to shallow water fish and minimize shoreline erosion, which would reduce sedimentation and loss of vegetation and provide more quiet fishing areas for anglers. All of these prohibitions and restrictions would improve fish habitat and spawning areas and would result in improved fishing opportunities over the long-term in the areas that remain open to fishing.

Actions designed to control invasive species would have the potential to affect recreation by closing some areas off to public access during treatments. The Integrated Pest Management Plan includes herbicide and pesticide applications, grazing, mechanical techniques, and biological control as methods to control invasive species. The time needed to implement each method and the time that the area would be off limits to the public varies by treatment and the size of the area to be treated.

6.17.4.3 Effects from Lands, Transportation, and Access Management

Continued closures to public vehicles under Alternative A would restrict recreational access to Mark Twain Lake Access, Old Parrotts Ferry Road, the PWMA, the Melones Recreation, French Flat Recreation, and Bear Creek Recreation Areas, as well as the Westside, Bowie Flat, Greenhorn Creek, Carson Hill, Dam and Spillway, and Stanislaus

River Canyon Management Areas, which limits the level of recreational activities that could occur in these areas to more primitive types of recreation. Continued operation and maintenance of existing substandard lake access routes would allow continued recreation in the accessed areas.

Management of travel and access at the Westside and Bowie Flat areas under Alternative A would continue to emphasize low density use, and land-based recreational access would not be provided. A small amount of land-based recreation would be available, using fire roads; however, since the only access to these areas would be by boat, it would be unlikely that much land-based recreation could occur in these areas.

Reclamation would continue to allow hunting, provided it would occur at the regulated distance from human activity, for public safety; this would ensure that this form of recreation would continue to attract visitors to the New Melones Lake area. Under Alternative A, a long-term strategy for managing hunting would not be implemented as under Alternatives C and D. This could result in user conflicts and a decrease in the level of visitor satisfaction for other types of recreational users, as visitation and urbanization increase in the area.

Implementing BMPs to reduce fire danger and to respond to wildland fires would affect recreation in the project lands. Fire has the potential to disrupt recreation in a specific area, as well as affect the experiences for recreationists in other areas (loss of scenic values, smoke and odor, influx of additional visitors to an area that were displaced by the fire, etc.). The BMPs would seek to reduce the frequency of fires as well as to extinguish them immediately. Fire management actions under Alternative A, that have the potential to affect recreation, include maintaining defensible space around facilities, limiting the use of open campfires to designated overnight campgrounds, and maintaining adequate grass and brush clearance next to roads in recreation areas. Maintaining defensible space and adequate grass and brush control could involve mechanical means. The effects from this include the presence of machinery or the increase in noise levels during these activities. Visitors who wish to have a more primitive experience would likely be affected. Limiting campfires to designated areas would limit the recreational experience of those users who wish to have a campfire as part of their visit, unless they are in a more developed area.

6.17.4.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative A would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.17.4.5 Effects from Recreation Management

General

Management regulations to minimize user conflicts and promote safety under Alternative A would likely be less restrictive of user activities than under Alternative C because compliance would be sought only for existing regulations, and there would be no expansion of reservoir regulations.

Alternative A would continue to provide the commercial services and concessions that are currently available, which would serve the existing level of visitor use, as described in Effects Common to All Alternatives from Recreation Management. Under Alternative A the marina area would continue to be subject to closure due to storms, which would limit its availability to the public. The level of services available under Alternative A could become less adequate in meeting visitor needs and could result in reduced visitor satisfaction as recreational demand increases, since no new marina facilities, protected floating swim docks, additional RC flying facilities, or retail stores would be constructed. In addition, concessions and commercial services management under Alternative A would not be likely to draw new types of users, since no change would be made in the types of services provided. For example, there would be no plan under Alternative A to provide floating or other overnight lodging facilities, seasonal scenic cruises, a new RV park, new special event facilities, equestrian trail riding, a mountain biking course, camping facilities in a Rural Natural Management Area, an OHV park, additional water courses, skeet or target shooting, and seaplane training; and no permits would be offered for businesses to offer rental equipment. Alternative A, therefore, would provide the most limited level of recreation services of all of the alternatives and would be the least adaptable to increases or changes in visitor demands.

Alternative A would continue the existing provision and maintenance of facilities in both Rural Natural Management Areas and Rural Developed Management Areas, which would serve the existing level of visitor use but could become limited and result in reduced visitor satisfaction as recreational demand increases.

Evaluation of visitor satisfaction through anecdotal information under Alternative A would allow Reclamation to provide optimal recreation opportunities based on current use patterns but would be less effective than Alternatives B, C, and D in using visitor feedback to adjust recreation management since no formal comment structure would be used.

Aquatic Recreation

Maintaining the existing marina contract, but allowing it to expire in 2012, would affect boaters by not providing an adequate number of marina facilities, houseboat repair facilities, and watercraft rentals, particularly since demand is expected to increase over time. Visitor satisfaction would decrease as congestion increased and opportunities decreased.

The prohibition of the following activities would continue: no-ski zones in Camp Nine and Stanislaus Canyon management areas, no-wake zones around the launch and marina (200 feet), no boating in designated swimming areas, no-swimming zones within 100 feet of launch ramps or docks, and no fishing from docks unless otherwise permitted. These management actions would reduce conflicts between aquatic recreation users and increase public safety but would also limit the areas available for various aquatic recreation activities. Congestion would be likely to increase in some areas.

The continued operation of the public water ski course at Bear Creek Cove would continue to provide recreational opportunities for water skiers. The current level of

watercraft use would also continue. The continued management of houseboat activities and overnight occupancy vessels would continue. There would be no new effect from these actions.

Reclamation could issue a special use permit or enter into a concessionaire agreement to run a white water rafting operation at the Camp Nine Area which would provide another aquatic recreation activity. Currently, white water rafting occurs without permitted outfitters or special permits. Additionally, other guide services, such as fishing, occur without permits. Issuing a special permit or establishing a concessionaire would make these activities available to more visitors and would reduce safety concerns posed by unmonitored and unregulated guide activities.

Land-Based Recreation

If the equestrian staging area were relocated to a more appropriate area, and overnight use by permit allowed, this could improve the recreational experience for equestrian users.

Using existing trails and unpaved roads to develop future trail systems would limit access to new areas; however, effects on natural resources would be minimized thereby improving scenic qualities and opportunities for wildlife viewing and other similar activities. Operating and maintaining trail infrastructure in intensively used recreation areas would concentrate users and contribute to a more developed recreation experience. Constructing pathways three feet wide with an aggregate surface would contribute to a more developed recreation setting and would create a diminished recreational experience to those seeking a more natural setting. Operating and maintaining the Natural Bridges trail and the fire road and trail systems in Glory Hole, Greenhorn Creek, and Westside, Tuttletown, Bear Creek, French Flat, and Peoria Wildlife Management Areas would allow access to and travel within those areas to continue.

Continuing to update and modernize campground and day-use facilities, including in all Rural Developed Management Areas, would appeal to, and likely increase, recreationists who desire a developed recreation experience.

Alternative A would allow hunting except within 150 yards of developed recreation areas (campgrounds, parking area, day use area, designated recreation area, etc.), or within 150 yards of the two power plants in the Camp Nine Management Area. This alternative would likely allow for the most hunting opportunities. However, under this alternative, other types of recreationists would be most affected and could potentially experience decreased recreational opportunities and restrictions on activities due to hunting.

If rock climbing activities are determined to be affecting sensitive species, a climbing management plan would be implemented. This would likely result in restrictions or closures in some areas, thereby limiting opportunities for rock climbing.

Access to caves would be managed in accordance with federal law and to meet health and safety requirements, thereby maintaining the opportunity for this type of recreation.

Interpretive and Visitor Services
Effects would be the same as described in Effects on Recreation Common to All Alternative from Recreation Management.

6.17.5 Effects on Recreation under Alternative B

6.17.5.1 Effects from Physical Resources Management
Effects from actions to manage noise levels in the project lands would be the same as under Alternative A.

Alternative B would seek to expand access to caves. Expanding access would likely allow more people to recreate in caves and expand the recreational opportunities in these areas. Alternative B would also provide cave tours led by Reclamation or a concessionaire. This would allow recreationists who prefer a more structured setting to access these caves and increase their recreational opportunities. For visitors who prefer a more primitive experience, this would likely decrease their experience in those areas.

Alternative B would increase the number of fish cleaning stations. This would allow for easier access, enhancing the experience for anglers. In addition to providing appropriate restroom facilities, high use areas would provide showers, RV dump stations, and hookups. These additional facilities in the high use areas would likely increase the recreational opportunities and experiences for those visitors seeking a developed type of recreation. Providing temporary restroom facilities at lower elevations when the water levels drop would ensure that facilities would remain near users and that adequate facilities would be provided. Signs indicating the lack of restroom facilities would be posted at the Natural Bridges areas to inform users. A restroom may be installed in this area if deemed feasible by the Reclamation, which would reduce the time and inconvenience spent looking for other facilities.

In Rural Developed Management Areas, roads may be updated and improved rather than closed if funding becomes available. In addition to restoring these roads, a modern boat launch and support facilities would be developed in these areas. Having these roads and boat launching facilities open would have the potential to alter the recreational setting and opportunities of the users. An additional boat launch could result in more recreation on the water. Those people who are looking for a primitive type of recreation could leave these areas.

6.17.5.2 Effects from Natural Resources Management
The Baseline Conservation Camp would be managed the same as Alternative A with the exception that they would be allowed to expand operations. This expansion could limit recreation opportunities in the area.

Alternative B would allow a more developed type of recreation to take place in the PWMA. Vehicle use would only be restricted from December 1 to May 1, which would allow greater access to the area. Those seeking a primitive type of recreation may be displaced from the PWMA if vehicle use is allowed. Additional camping by nonequestrian hunters and special use groups (Boy Scouts and Girl Scouts) would be allowed by Special Use Permit. Allowing more camping in the area would likely result in

an increased experience for these groups. Enhancing wildlife viewing opportunities in the PWMA would also result in increased experiences for those users engaged in this activity. Enhancing the wildlife viewing opportunities could draw more visitors to the area.

Effects from restricting disturbance near warm water fish and trout spawning areas would be the same as Alternative A.

Habitat for special status species would be protected in the same manner and with the same effects as Alternative A. Alternative B would also construct nesting platforms for ospreys which would improve the wildlife viewing opportunities in those areas. Visitor participation for viewing wildlife would be encouraged through lakeside viewing and boat tours. This would expand the opportunities for people to participate in this type of recreation. Actions to protect sensitive bat species and the effects on recreation would be the same as Alternative A, with the additional action of partnering with local spelunking organizations. Partnering with local organizations could increase the recreation opportunities for spelunkers.

Effects from actions to control the invasive species in the New Melones Lake Area would be similar to Alternative A. Alternative B could allow the use of livestock grazing in all areas except high-density areas (Tuttletown and Glory Hole) to control invasive species. Livestock grazing could result in decreased recreational experiences or opportunities if visitors are not able to access an area due to grazing, or if they choose to leave the area due to the presence of livestock. Livestock could alter the recreation setting by trampling the native vegetation, leaving bare soil.

Effects from actions designing to minimize disturbance to fish spawning areas would be the same as under Alternative A.

6.17.5.3 Effects for Lands, Transportation, and Access Management

Effects from grazing would be the same as described in Effects from Natural Resources Management under Alternative B.

Under Alternative B operation of an OHV park would allow motorized off-highway land-based recreation, which had been precluded from the project area. The provision of this area would attract additional visitors and provide a new visitor use, allowing the New Melones Lake Area to respond to a user demand that has been increasing in recent years. However, these measures also could result in crowding issues at campsites from the increase in new recreational visitors.

The land management decisions under Alternative B would be based on the updated land use allocation at New Melones Lake, to reflect updated information, currently used management areas, and potential management from such sources as the WROS, carrying capacity study, and the commercial services plan. By doing this, the locations and types of recreation as well as the number of visitors and concessionaires would be allocated so that visitor satisfaction would be maximized, while minimizing user conflicts. These

actions could indirectly attract and accommodate more recreational visitors by providing the appropriate facilities and uses.

Reopening Old Parrotts Ferry Road, the PWMA, and the Melones Recreation Area to public access, obtaining access to landlocked Reclamation property, optimizing trail and fire road connectivity, and increasing multiple uses and special use activities at the Bowie Flat Management Area would expand recreational opportunities in the project area, which could allow for more dispersal of visitors, accommodate additional land- and water-based recreation, and could improve the recreation experience of visitors in the project area. The availability of more land and, therefore, dispersed recreation would decrease the number and frequency of encounters, which would benefit users desiring to experience a natural setting and solitude, and would decrease user conflicts that could occur when competing uses occupy the same area. Improving lake access routes and associated facilities under Alternative B would have a similar effect on recreation.

Effects from seaplane management would be the same as under Alternative A.

Effects from hunting management would be similar to Alternative A, except hunting would be limited to shotgun-only, precluding other types of hunting.

Siting a sheriff substation with lake access to decrease response times would improve public safety and be likely to reduce user conflicts, improving the recreational experience for all visitors to the New Melones Lake Area.

Actions from implementing the Fire Management Plan under Alternative B that could affect recreation include creating gates to close areas during burns or in cases of extreme fire danger, undertaking fuel reduction activities or construction of fire lines, and rehabilitating areas after burns. Closing areas due to extreme fire dangers would limit the recreational opportunities. Visitors could move to a different area which could increase human density on that area, affecting the recreational experiences of the people there. A similar effect could occur from closing areas during rehabilitation or restoration activities after a fire.

In Rural Developed Management Areas, the construction of modern boat launch and support facilities and roadway improvements under Alternative B would create greater and enhanced access for boaters than under Alternative A.

6.17.5.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative B would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.17.5.5 Effects from Recreation Management

General

The effects of management regulations to minimize user conflicts and promote safety under Alternative B would be the same as those described under Alternative A.

Alternative B would continue to provide the commercial services and concessions that are currently available, which would serve the existing level of visitor use, as described in Effects Common to All Alternatives from Recreation Management. Construction of a wave attenuator in the current marina location to minimize storm damage under Alternative B would ensure that these facilities would continue to be available to serve the recreational demands of the public with fewer limitations due to storms. In addition, Alternative B would provide the most recreation opportunities to accommodate increased visitor use, draw new types of recreational visitors, and raise visitor satisfaction through the provision of recreational amenities, since Alternative B would provide new marina facilities, additional marina amenities, protected floating swim docks, additional RC flying facilities, retail stores for camping supplies, floating or other overnight lodging facilities, seasonal scenic cruises, restaurants or cafes, a new RV park, new special event facilities, equestrian trail riding, a mountain biking course, camping facilities in a Rural Natural management area, an OHV park, additional water courses, skeet or target shooting, and seaplane training, Permits would be offered for businesses to provide "adventure" guide services and offer rental equipment. These types of recreational opportunities would be likely to draw in and satisfy visitors who desire more developed types of recreation, but could decrease the satisfaction of visitors who desire a more primitive setting, such as wildlife watching, hiking, and fishing. The additional provision of developed facilities and services, with an associated increase in recreational visitors, also could increase the level of user conflicts on project lands.

Along with the provision and maintenance of facilities under Alternative B Reclamation would assess the feasibility and need for more facilities, based on the recreation demands of the public. This approach would allow greater flexibility in responding to increased use and could result in less crowding during peak visitation, and fewer user conflicts and public safety issues. The ability to resolve these issues also could result in maintaining visitor satisfaction.

Evaluation of visitor satisfaction through formal customer surveys and other forms of public involvement under Alternative B would allow Reclamation to provide optimal recreation opportunities based on patterns and activities desired by the public and would be more effective than Alternative A in using visitor feedback to adjust recreation management.

Aquatic Recreation

In Rural Developed Management Areas, the construction of modern boat launch and support facilities would increase the number of boating opportunities.

The designation of additional swimming areas, areas appropriate for non-motorized boating, houseboats, and seaplanes to protect public safety and natural resources, and additional no-wake zones to prevent shore erosion would reduce aquatic recreational user conflicts.

The allowed level of watercraft use would increase, compared to Alternative A. Additional float docks (to be used for swimming and fishing) and floating campsites

would likely be constructed, providing additional opportunities and facilities for aquatic recreationists and likely enhancing visitor experiences.

The relocation of the public water ski course from Bear Creek Cove to Carson Creek Cove would maintain the availability of this activity at New Melones Lake.

The preparation of a moored vessel plan to manage houseboats would likely set the number of available size and term limits for boat mooring, which could limit houseboat activity but could reduce use conflicts and enhance visitor experiences.

The effects from seaplane management would be similar to Alternative A.

The issuance of a special permit or establishment of a concessionaire for white water rafting in the Camp Nine Area and commercial guide services would have effects similar to Alternative A.

Land-Based Recreation

Relocation of the equestrian staging area and its associated facilities at the PWMA would have the same effects as under Alternative A. However, improving the staging area and existing trails and developing additional trails would likely increase use by equestrian recreationists. More user conflicts are a possibility, but the creation of additional trails would also disperse equestrian users and would therefore likely diffuse increased user conflict. Equestrian users would likely have an enhanced recreational experience as a result of the improvements and additional trails.

Using existing trails and unpaved roads to develop future trail systems would have the same effects as under Alternative A. Encouraging multi-use trails (pedestrian, equestrian, bicycle, and ADA compliant) for new or existing trails would concentrate users and lead to an increase in user conflicts, thereby creating a diminished recreational experience for some users. However, ADA compliant trails, along with safety improvements and better access, would create opportunities for those users who previously did not use the trails or only used them on a limited basis. Constructing pathways three feet wide with an aggregate surface would have the same effects as under Alternative A. Updating the Natural Bridges trail in the Coyote Creek Management Area (including trail markers) would likely increase use in that area by making access easier for trail users. Optimizing the connectivity between the existing fire road and trail system for a variety of uses in Glory Hole, Greenhorn Creek, Westside, Tuttletown, Bear Creek, French Flat, and Peoria Wildlife Management Areas would increase recreational access to and travel within those areas, and would also increase the variety of recreational opportunities available in those areas. Developing new trailheads to access the Greenhorn Creek, Westside, Tuttletown, Bear Creek, French Flat, and Peoria Wildlife areas would increase recreational opportunities in those areas.

The effects from continuing to update and modernize campground and day-use facilities under Alternative B (including in all Rural Developed Management Areas) would be similar to those under Alternative A. However, under this alternative, full hookup campsites would also be created, thereby further promoting a developed recreation

experience since it would attract more RV users. Adding utilities to RV sites at Glory Hole and Tuttletown would increase the demand and the number of RV recreationists in those areas. Constructing additional full-service RV campgrounds would increase the availability of those sites and contribute to a more developed recreational setting and experience for all visitors.

Creating a day use parking area on 66 acres near the PWMA would allow additional access to the PWMA and the activities popular there such as wildlife viewing and hiking.

Alternative B would restrict hunting more than under Alternative A by limiting it to shotguns only, thereby precluding opportunities to hunt by other weapons such as a rifle or bow. Hunting opportunities would be increased under Alternative B by developing agreements that would allow special hunting events.

Effects from management of rock climbing would be the same as under Alternative A.

Alternative B would increase access to caves while continuing to meet federal regulations and health and safety requirements. This would result in greater recreational opportunities for spelunking. Alternative B would have the most cave access of any of the alternatives.

Interpretive and Visitor Services

Preparing and implementing an Interpretive Master Plan would increase interpretive and educational opportunities for visitors. Updating and modernizing outdoor facilities for interpretive facilities would likely enhance visitor experiences at these facilities.

6.17.6 Effects on Recreation under Alternative C

6.17.6.1 Effects from Physical Resources Management

Alternative C would manage noise to seek mandatory compliance with noise regulations instead of voluntary compliance. By enforcing mandatory compliance, there would be less excessive noise and the recreational experience would likely improve for visitors. As mentioned in Alternative A, those visitors who are seeking to minimize contact with human activity would benefit the most from this.

Alternative C would limit access to caves which would limit recreational opportunities. Visitors would have to use caves off of the project lands for spelunking activities.

Alternative C would provide and maintain appropriate restroom facilities at existing high use areas as well as provide temporary facilities at lower elevations during times of low water levels similar to Alternative B. This Alternative would not provide showers, RV dump stations or hookups as in Alternative B. Not providing these services would likely preclude use of these areas by RVs. Visitors who would normally travel in RVs could not visit New Melones. Visitors who prefer a more primitive type of recreation would likely have an increased recreational experience if there were fewer RVs. A sign indicating the lack of restroom facilities at the Natural Bridges area would be installed; if funding becomes available, a composting toilet facility could be installed there to accompany an existing facility. This would likely enhance the recreational experience of those users

who wish to see fewer facilities in the areas, but would detract from the experience of those wishing for more facilities.

In Rural Developed Management Areas, former roadways to boat launching facilities would be closed similar to Alternative A. Alternative C would also restrict or reduce vehicle use in Semi-Primitive Management Areas and reduce vehicle use in Rural Natural Areas. Restricting vehicle access to these areas would result in a more primitive type of recreation and those users would likely have an increased recreational opportunity from these actions. Conversely, those visitors who want more vehicle access would have decreased recreational opportunities. These users could travel to other areas in the project lands and increase activity or use in those areas.

6.17.6.2 Effects from Natural Resources Management

Serpentine soils would be fully surveyed for sensitive plants under Alternative C. This information would be used in project planning. If sensitive plants were found, or their populations found to be decreasing, public access to those areas would likely be limited or restricted. If that happened, there would less land available for public recreation.

The Baseline Conservation Camp would reduce its footprint under Alternative C. This could result in a greater amount of land being available to visitors for recreation. In the PWMA all roads would be closed, no camping would be allowed, and unauthorized trails would be closed. Limiting vehicle access in this area under Alternative C would result in decreased opportunities for those users who wish to drive in the area. Conversely, for those people who prefer a more primitive type of recreation, there would be an increased opportunity in the PWMA. Prohibiting camping would have a similar effect. Also, if people are unable to camp in this area, they could camp in another area and increase the human density there.

Protections of trout and warm water spawning locations would be similar to Alternative A but with more areas covered. Expanding the protections would result in a larger area of land being off limits to recreation resulting in a decreased recreational opportunity.

Alternative C would protect special status species from disruption or loss, particularly during sensitive periods (breed, nesting, etc). To accomplish this, recreation in habitat for these species would likely be limited or restricted thereby limiting recreational opportunities. Over time, however, as the populations of these species increase in the area, there would be an increased opportunity for wildlife viewing. Climbing routes would be restricted near sensitive bats species and all routes would need to be designated. By limiting climbing routes to designated routes only, the experiences and opportunities of people involved with climbing may decrease. Overall, Alternative C provides the most protection to special status species thereby having the greatest potential to affect recreation from these protections.

Effects from actions designed to control invasive species would be similar to Alternative B.

6.17.6.3 Effects from Lands, Transportation, and Access Management

Under Alternative C, effects from basing land management decisions on the updated land use allocation at New Melones Lake would be the same as those described under Alternative B.

Under Alternative C, continued closure to public vehicles of Mark Twain Lake Access, Old Parrotts Ferry Road, Peoria Wildlife Management Areas, and Melones, French Flat and, Bear Creek Recreation Areas, as well as the Westside, Bowie Flat, Greenhorn Creek, Carson Hill, Dam and Spillway, and Stanislaus River Canyon Management Areas would have the same effects on recreation as described under Alternative A. However, reopening Old Parrotts Ferry Road and the Melones Recreation Area to public access and updating and modernizing the Camp Nine Road and other access roads and parking would have a mitigating effect on these recreation restrictions, similar to those described under Alternative B. However, the level and types of recreation permitted under Alternative C would be more limited than under Alternative B because trail and fire road connectivity would be optimized for hikers, rather than all uses, and recreation at the Bowie Flat Management Area would be optimized for hiking, equestrian use, and dry camping, similar to the emphasis of Alternative A.

Development and implementation of a long-term hunting management strategy could restrict the amount of hunting compared to Alternative A. However, it would also reduce the use conflicts between hunting and other more passive forms of recreation, which could result increased visitor satisfaction.

Effects from fire management actions would be similar to Alternative B.

6.17.6.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative C would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.17.6.5 Effects from Recreation Management

General

Management regulations to minimize user conflicts and promote safety under Alternative C would be likely to restrict user activities more than under Alternative B because compliance would be sought for expanded environmental constraints. However, compliance with these expanded regulations could improve the visitor experience for the activities that would continue to be permitted by further reducing user conflicts and safety issues.

The effects of commercial services and concessions management on recreation under Alternative C would be intermediate between Alternatives A and D. Alternative C would continue to provide the commercial services and concessions described in Effects Common to All Alternatives from Recreation Management. Moving the marina to a new location to minimize storm damage under Alternative C would have the same effects on recreation as described under Alternative B. In addition to the services and facilities provided under Alternative A, Alternative C would provide additional seasonally

operated marina services, seasonal scenic cruises and lake tours, additional lodging facilities, permits for a limited number of outfitters to provide guide services, and construction of equestrian facilities for day use. These additional facilities would have recreation effects similar to those described under Alternative B but would be oriented more toward more passive uses and would tend to draw more day use visitors and satisfy those visitors desiring a more primitive setting and quieter experience. Since fewer developed facilities would be constructed under Alternative C than under Alternative B, user conflicts generated by increased visitation and competing developed uses would be less likely under Alternative C. By specifically prohibiting the construction of a mountain bike course in currently undeveloped management areas, Alternative C would limit the satisfaction for this user group and would be unlikely to draw additional recreational visitors for this use.

The limitations on future development in Rural Natural Management Areas and Rural Developed Management Areas under Alternative C could limit the level of response to increased recreational use and could result in crowding and user conflicts during peak visitation. Limited facilities development could enhance the satisfaction of users desiring a more primitive setting, however, this potentially could be offset by crowding and user conflicts.

The effects on recreation of valuation of visitor satisfaction through formal customer surveys and other forms of public involvement under Alternative C would be the same as those described under Alternative B.

Aquatic Recreation

The effects on aquatic recreation users from the designation of additional swimming areas, areas appropriate for non-motorized boating, houseboats, and seaplanes would be similar to Alternative B, except that more areas would be restricted to certain activities under Alternative C to protect sensitive resource areas.

The public water ski course would continue to operate and the effects under Alternative C would be similar to Alternative A. However, the relocation of the public water ski course is possible if a suitable location is found that would benefit resources, provide for public safety, minimize conflicts and optimize recreational opportunities.

A decrease in allowed watercraft use, compared to Alternative A, would provide less aquatic recreational opportunities for visitors and would likely result in a decrease in the number of visitors.

The effects on visitor services from the preparation of a moored vessel policy for the management of houseboats would be similar to Alternative B.

Under Alternative C, seaplane activity would be restricted, eliminating this recreational opportunity.

Concessionaire operated, white-water rafting opportunities would not be considered. Currently, white water rafting occurs without permitted outfitters or special permits. There would be no new effect.

Land-Based Recreation

Continuing to operate and maintain the equestrian staging area and its associated facilities at the PWMA and imposing use limits would reduce the amount of equestrian recreation in this management area. Equestrian users would likely be dissatisfied with this management action. However, user conflicts on the trails would decline, resulting in an enhanced recreational experience for the other types of recreationists. Relocating the Baseline Conservation Camp to the equestrian staging area would likely increase user conflicts at the staging area and negate effects from imposition of equestrian use limits.

Precluding new trail development except to protect sensitive species and habitats, would concentrate an increasing number of trail users over time, thereby reducing the quality of their recreational experience. However, as under Alternatives A and B, effects on natural resources would be minimized by precluding new trail construction, which would improve scenic qualities and opportunities for wildlife viewing and other similar activities. The effects from encouraging multi-use trail activities for new or existing trails would be similar to those under Alternatives B and D but with slightly less effect since it would only apply to redevelopment of trails (and not to new trails). The effects from updating the Natural Bridges trail in the Coyote Creek Management Area (including trail markers) would be the same as under Alternatives B and D. Optimizing the connectivity between the existing fire road and trail system for hikers in Glory Hole, Greenhorn Creek, Westside, Tuttletown, Bear Creek, French Flat, and Peoria Wildlife Management Areas would increase hiking access to and within those areas, as well as hiking opportunities.

The effects from continuing to update and modernize campground and day-use facilities under Alternative C would be similar to those under Alternative A except that under this alternative, vehicle barriers would be installed in the campgrounds and day-use areas. This would contain vehicle parking, thereby reducing effects on vegetation and soils. It would contribute to a developed recreation setting and experience, but would reduce the visual effects associated with denuded vegetation and soil erosion. Reducing the density of campground facilities at Rural Developed Management Areas would result in less noise and crowding and allow for a more relaxed and tranquil recreational setting and experience. Recreationists seeking those attributes would appreciate the increased opportunities for that type of setting.

Managing a 66-acre parcel near the PWMA for natural resource restoration projects could provide an additional area for recreational activities.

Alternative C would develop and implement a long-term hunting strategy that would include various hunting restrictions to protect the public. The additional restrictions would result in decreased hunting opportunities if the restrictions close areas previously open to hunting. Educating hunters to increase compliance and public safety would be accomplished in the same manner as Alternative A and would have the same effects.

Alternative C would restrict climbing routes near caves during bat habitation periods for sensitive species. A climbing management plan would be developed and implemented

that would designate specific climbing routes and areas, which would limit climbing opportunities.

Interpretive and Visitor Services

Preparing and implementing an Interpretive Master Plan would have effects similar to Alternative B. Updating and modernizing outdoor facilities for interpretive facilities would have effects similar to Alternative C. In addition, an outdoor classroom would be constructed at the visitor center, providing the public with additional educational opportunities.

6.17.7 Effects on Recreation under Alternative D

6.17.7.1 Effects from Physical Resources Management

Effects from actions to manage noise levels would be the same as Alternative A.

Effects from managing access to caves would be similar to Alternative A, and effects from providing tours of caves would be similar to Alternative B.

Effects from managing roads and access for water quality protections would be the same as under Alternative C. One difference is that roads accessing Mark Twain, Parrott's Ferry, and Melones Recreation Area would be updated and improved in Rural Natural Management Areas. Increasing access to these areas would likely increase visitation and the human density in those areas. Additionally, dry camps would be provided in Semi-Primitive Management Areas, and floating campsites would be provided for in Rural Natural Management Areas. This would improve the experiences and opportunities for most visitors; however, visitors seeking a primitive type of recreation would likely have a reduction of recreational opportunities and experiences in those areas.

6.17.7.2 Effects from Natural Resources Management

Surveying serpentine soils to include information for planning purposes would have the same effect as Alternative C.

Effects from management of Baseline Conservation Camp and PWMA would be similar to Alternative A.

Effects on recreation from special status species management would be similar to Alternative B.

Actions to control invasive species would have effects similar to Alternative A.

The disturbance of trout spawning areas would be restricted and minimized in five areas during the spawning season which would limit the fishing opportunities. The effect to anglers would be less under Alternative D than C, but greater under Alternatives A and B.

6.17.7.3 Effects from Lands, Transportation, and Access Management

Access closures under Alternative D would have recreation effects intermediate between those described under Alternative A and Alternative B, since the same areas would be

closed as under Alternative A (Mark Twain Lake Access, Peoria Wildlife Management Area, and Melones, French Flat, and Bear Creek Recreation Areas, as well as the Westside, Bowie Flat, Greenhorn Creek, Carson Hill, Dam and Spillway, and Stanislaus River Canyon Management Areas), but Old Parrotts Ferry Road could be re-opened and lake access routes, associated facilities and Camp Nine Road would be modernized.

Limiting hunting to shotgun-only and development and implementation of long-term hunting management to protect the public and promote safety under Alternative D could potentially restrict the amount of hunting recreation that would occur to a greater extent than under Alternative B (which would be more restrictive than Alternative A). Alternative D would have the maximum potential to reduce the user conflicts between hunting and other forms of land-based recreation, increasing visitor satisfaction for these other types of recreational users and resulting in an increase in the other types of recreation in the area.

Effects from siting a sheriff substation with lake access would have the same effects as under Alternative B.

Effects from fire management actions would be similar to Alternative B.

6.17.7.4 Effects from Cultural and Social Resources Management

Effects from cultural and social resources management under Alternative D would be the same as those described in Effects Common to All Alternatives from Cultural and Social Resources Management.

6.17.7.5 Recreation

General

The effects of management regulations to minimize user conflicts and promote safety under Alternative D would be the same as those identified under Alternative C.

The effects of commercial services and concessions management on recreation under Alternative D would be intermediate between Alternatives C and B, in terms of increasing visitor use and visitor satisfaction with developed uses, since a greater level of commercial services and concessions would be offered under Alternative D than under Alternative C but fewer than under Alternative B. The level of marina services proposed under Alternative D would be similar to those identified under Alternative B, but on a seasonal basis. Similar to Alternative B, Alternative D would provide floating overnight lodging; however, it would be limited to the more primitive floating campsites, rather than the potentially more intensively developed "dockominiums" or floating hotels, which would be more likely to draw visitors that prefer a more primitive experience. Under Alternative D the provision of additional marina amenities, protected floating swim docks, retail stores for camping supplies, restaurants or cafes, a new RV park, new special event facilities, equestrian trail riding, and camping facilities in a Rural Natural Management Area would have the same effects on recreation described under Alternative B. The recreation effects of specifically prohibiting the construction of a mountain bike course in currently undeveloped management areas would be the same as those described under Alternative C. Overall, Alternative D would provide increased recreational

opportunities beyond what is proposed under Alternatives A and C but limit development more than Alternative B, satisfying users that prefer developed areas more than Alternatives A and C but potentially limiting the level of competing uses that could occur under Alternative B.

The effects on recreation of the provision and maintenance of facilities under Alternative D would be the same as those described under Alternative B. Alternative D would concentrate future facilities development in specific areas, including French Flat, Bear Creek, Parrotts Ferry, Natural Bridges, Westside, Bowie Flat, Mark Twain, Camp Nine, Greenhorn Creek, Tuttletown and the Glory Hole Recreation Area. These areas cover most of the land-based recreation areas within the New Melones Lake Area.

The effects on recreation of valuation of visitor satisfaction through formal customer surveys and other forms of public involvement under Alternative D would be the same as those described under Alternatives B and C.

Aquatic Recreation

The effects on aquatic recreation users from the designation of additional swimming areas, areas appropriate for non-motorized boating, houseboats, and seaplanes would be less restrictive to recreation than Alternative C but more restrictive than Alternative B.

The public water ski course would continue to operate and the effects under Alternative D would be similar to Alternative A. However, the relocation of the public water ski course is possible if a suitable location is found that would benefit resources, provide for public safety, minimize conflicts and optimize recreational opportunities.

The level of watercraft use and effects on aquatic recreation under Alternative D would be similar to Alternative B.

The effects on visitor services from preparing a policy for managing houseboats are similar to those under Alternative B.

Effects from seaplane management would be the same as under Alternative A.

The issuance of a special permit or establishment of a concessionaire for white-water rafting in the Camp Nine Area, and commercial guide services would have the same effects as those under Alternative A.

Land-Based Recreation

Effects from relocating the equestrian staging area and its associated facilities in the PWMA would be similar to Alternative B; however, there would be additional emphasis on providing interpretive opportunities.

Precluding new trail development except to protect sensitive species and habitats would have the same effects as under Alternative C. The effects from encouraging multi-use trail activities, implementing ADA-compliance features, safety, and other improvements including better access for new or existing trails would be the same as under Alternative B. The effects from updating the Natural Bridges trail in the Coyote Creek Management

Area (including trail markers) would be the same as under Alternatives B and C. The effects from optimizing the connectivity between the existing fire road and trail system for a variety of uses in Glory Hole, Greenhorn Creek, Westside, Tuttletown, Bear Creek, French Flat, and Peoria management areas and from developing new trailheads to access the Greenhorn Creek, Westside, Tuttletown, Bear Creek, French Flat, and Peoria areas are the same under Alternative D as under Alternative B.

The effects from continuing to update and modernize campground and day-use facilities would be similar to those under Alternative A except that under this alternative, vehicle barriers would be installed in the campgrounds, and day-use areas and full hookup campsites would be created. Vehicle barriers would contain vehicle parking, thereby reducing effects on vegetation and soils. The barriers and full hookup campsites both contribute to a developed recreation setting and experience but would reduce the visual effects associated with denuded vegetation and soil erosion associated with parking off pavement and in a broad area. The effects from modernization under Alternative D would be the greatest of any of the four alternatives since Alternative D contains the most actions associated with modernizing campgrounds and day use facilities. The effects from adding utilities to RV sites and constructing full service RV campgrounds would be similar to those under Alternative B.

If a 66-acre parcel near the PWMA were managed to provide for a combination of natural resource restoration projects and recreation, it would increase recreational opportunities in the area.

Hunting under Alternative D would be managed similarly to Alternative C through the implementation of a long-term hunting strategy except that hunting would be limited to shotgun hunting only. This would result in less opportunity for other types of hunting.

Rock climbing and access to caves would be managed in the same manner as Alternative A.

Interpretive and Visitor Services

Preparing and implementing an Interpretive Master Plan would have effects similar to Alternative B. Effects from management of interpretive and visitor services would be similar to Alternative C.

6.18 Cumulative Effects

Cumulative effects are defined as the direct and indirect effects of a proposed project alternative's incremental impacts when they are added to other past, present, and reasonably foreseeable actions, regardless of who carries out the action (40 CFR, Part 1508.7). Guidance for implementing NEPA (Public Law 91-190, 1970) requires that federal agencies identify the timeframe and geographic boundaries within which they will evaluate potential cumulative effects of an action and the specific past, present, and reasonably foreseeable projects that will be analyzed. Effects of past actions and activities on resources are manifested in the current condition of the resource, which is

described in Chapter 5 (Affected Environment) for resources on BLM-administered lands.

For this EIS, the cumulative impact assessment timeframe is from approximately 2000 to 2030, with some exceptions where additional past data are available. This encompasses a range within which data are generally available and forecasts can be reasonably made. This analysis is provided for each resource. It is general because decisions about other actions in the planning area would be made by many public and private entities, and the location, timing, and magnitude of these actions are not well known.

Public documents and data prepared by federal, state, and local government agencies are the primary information sources for past, present, and reasonably foreseeable future actions and for identifying reasonable trends in resource conditions and land uses. Actions undertaken by private persons and entities are assumed to be captured in the information made available by such agencies. Actions included in the cumulative impact analysis do not affect all resources equally: some resources would be affected by several or all of the described activities, while others would be affected very little or not at all. The actions that make up the cumulative effect scenario were analyzed in conjunction with the effects of each alternative to determine if they would have any additive or interactive effects on a particular resource.

Actions and trends with the potential to cumulatively affect the resources evaluated (e.g., water resources, vegetation) are identified below.

Calaveras County

Calaveras County has 40 pending projects. The projects involve 3,988 dwelling units on 14,202.24 acres. The projects involve, for example, townhouses and subdivisions. Calaveras County has 14 approved projects. The projects involve 752 dwelling units on 1394.60 acres. The projects involve, for example, townhouses and subdivisions. The pending and approved projects are scattered around Copperopolis, Tulloch Reservoir, New Melones Reservoir, Altaville, Vallecito, Douglas Flat, Murphys, and Avery.

Copper Valley Planning Area

The Copper Valley planning area is nine miles long from north to south and seven miles wide from west to east (Pastizzo 2009). It incorporates 50,000 acres, including 10,000 acres of open space.

There are approximately 15 approved projects within the Copper Valley planning area, covering a minimum of 1,400 acres. Many of these are residential developments. Approximately 40 projects are pending approval within the Copper Valley planning area, covering a minimum of 14,000 acres. These include residential developments such as townhouses and associated amenities, a golf course, and golf communities, and may total 4,000 units.

It is important to note that while some projects overlap with the approved and pending projects described above under Calaveras County, there are additional approved projects yet to be fully built out. Additionally there are some proposed projects that have not come to the planning department yet.

West Side Road Project

There has been a partial proposal to create access to the Westside Management Area on the western shores of New Melones Lake. The draft Copperopolis Community Plan has been submitted to the Calaveras County Board of Supervisors. The proposed route follows a portion of Loliando Road from O'Byrnes Ferry Road through the Morrissey Ranch to the Westside Management Area and Texas Charlie gulch (Pastizzo 2009).

Tuolumne County

Tuolumne County is to the eastern side of New Melones. The planning department did not have any information on development projects to provide and indicated that most of their county land near New Melones is designated as agricultural land.

General Plans

The following information came from available general plans. Although not specific to any particular project, the following information is useful with regard to project trends.

Angels Camp

The General Plan for the City of Angels Camp is from 1995, and there is a Draft EIR (2008) for the 2020 General Plan. According to the Draft EIR, the population is expected to increase from 3,537 in 2005 to 5,400 in 2020. From 2001-2008, there was a projected need for 282 new housing units.

The Angels Camp 2020 General Plan projects an increase in average daily traffic generation, land development, demand for emergency services, and pressure on cultural resources. It also predicts a decrease in wastewater generation and water demand, reduced air quality due to increases in ozone, particulates, and other pollutants, and disturbance to native habitats. The plan includes extensive goals, policies, and implementation program to protect scenic resources.

Calaveras County

According to the general plan, the population in the county is projected to increase 46% from 40,890 in 2000 to 59,691 in 2020. Also, noise from traffic is expected to increase.

Climate Change

Climate change refers to any significant change in measures of climate such as temperature, precipitation, or wind patterns lasting for an extended period such as decades or longer. Climate change may result from natural factors, natural processes within the climate system, and human activities that change the atmosphere's composition through burning fossil fuels or changes in the land surface such as deforestation, urbanization and desertification (EPA 2009).

Climate change is a natural, continuous, and inevitable process that is influenced by many forces, one of which is the concentration of both naturally emitted and human-induced greenhouse gases in the atmosphere. Many other forces also control climate change, including cyclical changes in solar radiation, movement of the Earth's tectonic plates, oscillations in ocean temperatures and ocean currents, and the positions and magnitudes of meteorological entities such as high, low, and convergent zones.

The scientific community is largely in agreement that human activity in the twentieth and twenty-first centuries has enhanced greenhouse gas concentrations in the atmosphere, and these added gases have an effect on global temperatures and climate. Greenhouse gases include water vapor, carbon dioxide (CO_2), methane (CH_4), ozone (O_3), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6) (USGS 2006). CO_2, CH_4, and N_2O are produced naturally by respiration and other physiological processes of plants, animals, and microorganisms, by decomposition of organic matter, by volcanic and geothermal activity, by naturally occurring wildfires, and by natural chemical reactions in soil and water. Ozone is not released directly by natural sources but forms during complex chemical reactions in the atmosphere among organic compounds and nitrogen oxides in the presence of ultraviolet radiation. While water vapor is a strong greenhouse gas, its concentration in the atmosphere is primarily a result of, not a cause of, changes in surface and lower atmospheric temperature conditions.

Increases in greenhouse gas concentrations act primarily to increase the atmospheric absorption of outgoing radiation and increases in aerosols (microscopic airborne particles or droplets) that act to reflect and absorb incoming solar radiation and change cloud properties. Several of the major greenhouse gases occur naturally but increases in their atmospheric concentrations over the last 250 years are due largely to human activities. Other greenhouse gases are entirely the result of human activities. The current concentration of a greenhouse gas in the atmosphere is the net result of the history of its past emissions and removals from the atmosphere (IPCC 2007).

Water vapor and carbon dioxide are the most abundant greenhouse gases but HFCs, PFCs and SF_6 have higher global warming potential. Global warming potentials are used to compare the abilities of different greenhouse gases to trap heat in the atmosphere. Carbon dioxide is used as the base for all the calculations, so its global warming potential is 1. The higher the global warming potential the more heat the specific gas can keep in the atmosphere (IPCC 2007).

Paleoclimate research has shown that the Earth has experienced several episodes of climate change during which air temperatures and levels of CO_2 increased in ways comparable to the present day changes, although the ice record indicates that the current concentrations of CO_2 in the atmosphere are unprecedented during human existence. Understanding the science of natural variability in climate is essential to forming of effective policy regarding the mitigation of or adaptation to climate change, both human and natural. One of the major challenges facing the climate science community is distinguishing natural climate change from that imposed on the natural system through human activities (USGS 2006).

Regulatory Background

NEPA requires Reclamation to discuss the significant environmental effects of its actions. The courts have held that this applies to climate-related effects as well as traditional environmental effects. The Secretary of the Interior's Order 3226 as amended in 2009 requires that DOI agencies "Consider and analyze potential climate change impacts when undertaking long-range planning exercises, setting priorities for scientific research and investigations, and/or when making major decisions affecting DOI

resources." The amendment also includes proscriptions and direction on expanding the DOI consideration of climate change in ongoing programs and promoting carbon sequestration (USDOI 2009). The DOI is developing guidance on incorporating climate change in resource management planning.

The state of California has been a leader among governmental entities in recognizing climate change issues and planning for climate change. There is series of Executive Orders and adopted legislation on climate change within the state and a very active government research program (California 2009).

In 2005 Executive Order S-3-05 established targets for reducing greenhouse gas emissions in California to 2000 levels by 2010; a reduction of emissions to 1990 levels by 2020; and a reduction of GHG emissions to 80 percent below 1990 levels by 2050 (California 2005). The principal state legislation related to climate change is Assembly Bill 32 (AB 32), which Governor Schwarzenegger signed into law on September 27, 2006. AB 32 establishes a comprehensive program of regulatory and market mechanisms for reducing greenhouse gases to 1990 levels by 2020. It also adopted mandatory reporting rules for significant sources of greenhouse gases and a plan for indicating how emissions will be reduced from significant greenhouse gas sources through discrete incremental actions. It also ensures the opportunity to comment on any actions to achieve these goals and to evaluate any effects on the economy, the environment, public health, equity between regulated entities, electricity reliability, conformance with other environmental laws, and environmental justice (California 2006).

Climate change in itself is not an environmental impact, but it is a global phenomenon that is modifying the affected environment of the planning area and can cause environmental impacts. Climate change has influenced or will influence most resources and resource uses. It can also affect the resource or recreational values of areas and the social and economic features of the planning area. This analysis includes a description of trends in climate change, how climate change is broadly affecting resources and resource uses, how plan alternatives might contribute to climate change and the potential adaptation, mitigation, sequestration, and emissions control measures.

Consideration of effects of climate change on the current condition and trends of specific resources as well as the impacts caused by climate change are addressed in more detail in the respective resource sections which follow. For example, changes in temperature and precipitation patterns are discussed here, but what those trends mean in terms of habitat availability, wildfire management or recreational opportunities are addressed in the subsequent resource sections.

Current Conditions

Climate change by definition is a global phenomenon that manifests itself locally in different ways. The global temperature record shows an average warming of about 1.3°F over the past century. According to the National Oceanic and Atmospheric Administration (NOAA), seven of the eight warmest years on record have occurred since 2001. Within the past 30 years, the rate of warming across the globe has been approximately three times greater than the rate over the last 100 years. The current post

industrial warming trend differs from past changes in the Earth's climate because greenhouse gas emissions are higher and warming is occurring faster than at any other time on record. The Intergovernmental Panel on Climate Change (IPCC) concluded that warming of the Earth's climate system is now "unequivocal". The IPCC bases this conclusion on observations of increases in average air and ocean temperatures, melting snow and ice, and average sea level across the globe (EPA 2009; IPCC 2007).

Information on climate and climate change used for decision making is typically provided by historical observations or model results of projected future conditions. The first approach examines historical data for evidence of changing climate conditions and how climate change has manifested itself in the past. Knowing how the climate has already changed provides insight into the current trends in the future. The second approach compares simulations of the late twentieth century to observed data to see how well the downscaled climate information from modeling represents the climate in local regions.

There is a great deal of research being conducted on issues related to climate change in general and in California in particular. Studies that provide a complete synthesis of trends within discrete regions of the state (such as the New Melones Lake area and Sierra foothills) are limited, so broader scale data are used here. The state of California maintains a web site (www.climatechange.ca.gov) that is constantly updated with the latest reports including primary studies. However, there remains a great deal of uncertainty, particularly with regard to regional and local manifestations of climate change. Researchers are trying to gain an understanding of the sources of uncertainty in tracking trends and planning for the future. The most recent simulations pull together up to twelve climate projections and two statistical downscaling methods to forecast California climate trends. Continuing to address issues of uncertainty in assessing potential climate change trends will remain a priority for researchers and decision makers (California Climate Change Center 2009a).

Greenhouse Gases

Current Trends. There is no synthesized data that inventories the current trends of greenhouse gas emissions specific to the New Melones Lake area or regionally. Detailed inventory by industry is available for the state of California from 1990 to 2004 to provide the baseline and to track targeted reductions. In summary by far most of the greenhouse gases in California are generated by the energy sector and more specifically by fuel combustion activities by vehicles, manufacturing and power generation. Transportation, mostly road transportation, accounts for 38 percent of the total gross emissions generated in the state. Electrical generation accounts for 25 percent, and manufacturing and industrial uses make up 20 percent of the total gross emissions. Agriculture and residential uses generate six percent each and commercial/institutional sources account for three percent.

The annual metric tonnes of CO_2 equivalent emitted have increased during the inventory period for transportation, electrical power generation and agriculture. There have been decreases in emissions from manufacturing and construction and from residential and commercial/institutional sources (California Air Resources Board 2007b , 2007c). To the extent that there are larger populations and more vehicle use in the other areas of the

state, the inference may be that there are more greenhouse gas sources in these areas than in the New Melones Lake area.

Projected Trends. There is considerable uncertainty in projections of greenhouse gas emissions. Regardless of California's targeted reductions, future levels of greenhouse gases in the atmosphere will depend on human activities globally. Policy and development outcomes will affect emissions from carbon-based fossil fuel burning and other human activities driving climate change.

Climate researchers working in California have used scenarios developed by the IPCC as the basis for modeling the inputs of greenhouse gases into climate models (IPCC 2007). These scenarios do not assume explicit climate change or emission-reducing policies such as the ones in place in California. One lower-emissions scenario (called "B1") projects future decreases in CO2 concentrations following significant "decarbonization" of the economy. If CO2 emissions continue unabated, high emissions will ensue under a scenario called "A1fi" (for fossil fuel-intensive). The "A2" scenario describes a medium-high emissions scenario. However, the estimated emissions growth from 2000 to 2007 worldwide has been higher than even the most fossil fuel intensive scenario described above. Climate projections derived from these scenarios should be viewed as a set of possible outcomes, each having an unspecified degree of uncertainty and not as detailed predictions (Cayan et al. 2008; IPCC 2007).

The California Governor's Executive Order S-3-05 calls for an 80 percent reduction in GHG emissions below 1990 levels by 2050 (California 2005). If the industrialized world were to follow California's lead, and newly industrializing nations followed a low carbon emission pathway, global emissions might remain below the lower B1 emissions scenario. However, even if global emissions stay below the lower emissions scenario, some impacts from greenhouse gases in the atmosphere are inevitable. Evidence indicates that even if actions could be taken to immediately curtail emissions, the potency of greenhouse gases that have already built up, their long atmospheric lifetimes, and the inertia of the Earth's climate system, it could still result in additional temperature increases over the next century (Cayan et al. 2008).

Temperature

Current Trends. The West is heating up faster than any other region of the United States. From 2003 through 2007, the global temperature averaged 1°F warmer than its twentieth century average. During the same period, 11 western states averaged 1.7 degrees warmer, 70 percent more than the world average. Scientists have shown that the warming trend is more than 99 percent likely to be outside the normal bounds of climate variation (Moser et al. 2009).

The warming of California is not geographically uniform. Minimum temperatures are increasing almost everywhere in California during the summer. Maximum daily temperatures are increasing at a slower rate, with some locations such as the Central Valley experiencing a cooling trend. Empirical evidence indicates that an increase in agricultural irrigation in the Central Valley since the 1920s has progressively cooled this region, partially masking the warming trend observed in unirrigated regions. Moist

irrigated soil allows for evaporative cooling of the air above. The annual minimum temperature averaged over all of California has increased 0.33°F per decade from 1920 to 2003, while the average annual maximum temperature has increased 0.1°F per decade. There is also a positive trend in heat wave activity over the entire region that is expressed more strongly and clearly in nighttime rather than daytime temperature extremes. The magnitude of nighttime heat waves has substantially increased over time. Daytime heat wave activity has been intensifying more rapidly over the elevated interior compared to the lowland valleys (Moser et al. 2009).

Other independent studies have documented an increase in monthly minimum temperatures in the middle elevation Sierra Nevada over the past 100 years by about 5.4ºF. In the 1930s, the coldest months still registered with their minimum temperatures below freezing. Researchers have found that the freeze line on western edge of Sierra forests has shifted eastward toward higher elevations (Moser et al. 2009).

Projected Trends. Hotter temperatures are expected throughout the state by the end of the century regardless of what assumptions are made about greenhouse gas emissions. Under a lower greenhouse gas emissions scenario an increase of 3 to 5.5°F in average temperature is anticipated, and 8 to 10.5°F is anticipated under the higher emissions scenario. Recently accounting has revealed that emissions are rising more rapidly than those predicted by even the highest emission scenario. Thus, future projections of temperature increases for the state will need to model higher emissions scenarios and would likely result in an increase in projected average temperature if global actions to reduce greenhouse gas emissions are not effective (Moser et al. 2009).

Temperatures will vary locally and by the time of day. Urban areas can exacerbate the "heat island" effect, especially by raising nighttime temperatures. In agricultural areas like the Central Valley, for example, future warming will be governed in part by future rates of irrigation known to mask warming effects. Water availability may change agricultural practices and perhaps reduce this positive effect. Some models show greater summertime warming relative to wintertime warming, while some show less seasonality of temperature increases. Minimum nighttime temperatures are projected to warm slightly more relative to daytime temperatures (Moser et al. 2009).

Precipitation

Current Trends. There is a high degree of natural variability in precipitation and runoff in California. Projected increases in air temperature and changes in precipitation patterns could modify rainfall and snowfall patterns, reduce snowpack, change runoff volume and timing, increase sea levels, and change urban and agricultural water demands (California Climate Change Center 2009).

Throughout most of California, the general trend is that there is little summer precipitation. In the upper elevations, especially in the Sierras most precipitation falls in the winter as snow. Sierra snowpack is extremely important because it acts as a large natural reservoir and provides water for the summer and fall when rainfall is scarce. Over the past century, rising temperatures over the Sierra Nevada have had two major implications. First, more precipitation is falling as rain and less as snow and second,

snow is melting earlier in the spring (California Climate Change Center 2009; Moser et al. 2009).

As more snow falls as rain during the winter, and spring snow melt occurs sooner, the risk of flooding increases and water shortages may occur in the summer. Because a greater percentage of the annual runoff is occurring outside the traditional snowmelt season, it reduces the amount of runoff that could be stored in reservoirs for later use. Runoff is increasingly occurring during times when flood control requirements mandate release of water from reservoirs to avoid flooding from possible strong storms in late winter. This change in precipitation patterns leads to low flow conditions in streams beginning in late spring with implications on aquatic habitat and water supplies for homes and agriculture (Moser et al. 2009).

The amount of water contained in accumulated snow has also been declining in low elevation areas while snowfall in higher elevations of the southern portion of the Sierra Nevada has been increasing. Lower elevations are more vulnerable to the effects of warming because a small rise in average temperature will create an earlier snowmelt or a shift from snow to rain. At high elevations, cooler temperatures provide a buffer that can maintain the snowpack until spring, but the trend is toward increased temperatures there as well (Moser et al. 2009).

Projected Trends. There is no evidence from the projections indicating any change in the Mediterranean seasonal precipitation regime in California. Simulations show that most precipitation would continue to be derived during the winter from North Pacific storms. Summer precipitation would change only incrementally, with decreases in some of the simulations, so there is little evidence for a stronger monsoon influence. Precipitation overall would continue to be characterized by large fluctuation between years, including multiyear wetter and drier periods, but not much change in annual precipitation when averaged over the 2000 to 2100 period. The frequency of warm tropical events (El Niños) remains about the same as was exhibited in the historical simulations. However, the models however do not account well for local changes in precipitation which could be substantial (California Climate Change Center 2006).

While there is no clear pattern in the modeling of major changes in the overall amounts of precipitation expected or in the pattern of winter precipitation, the shift toward less snow and more rain in the mountains and earlier snowmelt is expected to continue to increase with rising temperatures. By the end of the century the snowpack in the Sierra Nevada and other mountains is expected to decrease by 20 to 40 percent, depending on the level of greenhouse gas emissions assumed in modeling. There would be an increased risk of winter flooding and earlier spring runoff leading to a greater vulnerability to summer water supply shortages. Hydroelectric power generation may be decreased in the summer when power demand is peaking (Moser et al. 2009).

Sea Level

Current Trends. Sea level has been rising globally since the end of the last glaciation more than 10,000 years ago. Global sea level rose at an average annual rate of 0.07 inches from 1961 to 2003 and at an accelerated average annual rate of about 0.12 inches

from 1993 to 2003 (IPCC 2007). Global sea level rise is primarily the result of thermal expansion of the ocean water (water expands as it heats up) and the melting of land based ice. These two contributors account for most but not all of the observed sea-level rise (Moser et al. 2009). Sea level rise is already affecting much of California's coastal region.

Projected Trends. Estimates suggest that future global sea level could increase by 0.6 to 1.9 feet, or as much as over 4 feet by 2100, depending on the emission warming scenario employed (IPCC 2007). One study shows that man-made reservoirs around the world have been reducing the magnitude of global sea level rise by about 30 millimeters during the last half of the 20th century. The actual rate of sea level rise may be higher than had been assumed and used in these future projections. Effects in coastal areas are compounded by sea-level rise combined with storm surge, tides, and other climatic fluctuations, such as El Niño. Projections specific to the San Francisco area that may be relevant farther south indicate higher future sea level extremes resulting from increasing storm intensity, more frequent and longer extreme events and increased winter rainfall (Moser et al. 2009).

Modeling also indicates that there is almost no difference in the expected range of increase in sea level between a lower and higher level of projected future greenhouse gas scenarios. This suggests that even stringent emissions reductions and resulting lower air temperature cannot prevent substantial sea level rise because ocean waters store heat effectively and will expand for centuries, long after air temperatures may have been stabilized by controls on greenhouse gas emissions (Moser et al. 2009).

6.18.1 Air Quality

Cumulative air quality impacts typically occur when multiple projects affect the same geographic areas at the same time, or when sequential projects extend the duration of air quality impacts on a given area over a longer period of time. Since attainment of national ambient air quality standards for ozone and particulate matter require evaluation of conditions over three years, air pollution emissions that occurred in the recent past can affect attainment or nonattainment designations.

There would be cumulative air quality effects in the New Melones Area if projects such as the planned Copperopolis road project were constructed concurrently with construction being performed under proposed management actions in the New Melones Lake Area. Tuolumne County and Calaveras County both expect future increase in population. Population growth will be accompanied by new building construction on public and private lands throughout the two counties, with some of the new construction likely to occur near the New Melones Lake Area. Some of this construction activity is likely to occur concurrently with RMP-related construction activity in the New Melones Lake Area. Population growth in Tuolumne and Calaveras counties also will increase traffic on major roadways. Federal and state vehicle emission control programs may offset the increases in traffic volumes, and thus avoid increases in the absolute amount of vehicle-related air pollutant emissions.

Greenhouse gas emissions from sources in the New Melones Lake Area will contribute to cumulative climate change effects occurring in the region. Sources of greenhouse gas emissions in the New Melones Lake Area include boating and personal watercraft use at New Melones Lake, wildland fires, agricultural burns on private lands, vehicle traffic on paved and unpaved roads, campfires and camp stoves used in campgrounds at New Melones Lake, internal combustion engine equipment (such as portable generators) used in campgrounds at New Melones Lake, and mining and mineral development activities in areas near New Melones Lake. To the extent that these activities increase, greenhouse gas emissions are also likely to increase.

California and other parts of the western US have been warming over recent decades. The warming of California is not geographically uniform. Moser et al. (2009) indicate that minimum temperatures are increasing almost everywhere in California during the summer. Maximum daily temperatures are increasing at a slower rate, with some locations such as the Central Valley experiencing a cooling trend. Empirical evidence indicates that an increase in agricultural irrigation in the Central Valley since the 1920s has progressively cooled this region, partially masking the warming trend observed in non-irrigated regions. Moist, irrigated soil allows for evaporative cooling of the air above. The annual minimum temperature, averaged over all of California, has increased 0.33°F per decade from 1920 to 2003, while the average annual maximum temperature has increased 0.1°F per decade. There is also a positive trend in heat wave activity, over the entire region, that is expressed more strongly and clearly in nighttime rather than daytime temperature extremes. The magnitude of nighttime heat waves has substantially increased over time. Daytime heat wave activity has been intensifying more rapidly over the elevated interior compared to the lowland valleys. Monthly minimum temperatures in the middle elevation Sierra Nevada Mountains have increased by about 5.4ºF over the past 100 years. Researchers have found that this warming has caused the freeze-line on the western edge of Sierra forests to shift eastward toward higher elevations.

There is a high degree of natural variability in precipitation and runoff in California. Projected increases in air temperature, and changes in precipitation patterns could modify rainfall and snowfall patterns, reduce snowpack, change runoff volume and timing, increase sea levels, and change urban and agricultural water demands. Throughout most of California there is little summer precipitation. In the upper elevations of the Sierras most precipitation falls in the winter as snow. Sierra snowpack is extremely important because it acts as a large natural reservoir, and provides water for the summer and fall, when rainfall is scarce. Over the past century, rising temperatures over the Sierra Nevada have had two major implications: first, more precipitation is falling as rain and less as snow, and second, snowmelt is occurring earlier in the spring (California Climate Change Center 2009, Moser et al. 2009). The amount of water contained in accumulated snow has also been declining in low-elevation areas while snowfall in higher elevations of the southern portion of the Sierra Nevada has been increasing. Lower elevations are more vulnerable to the effects of warming since a small rise in average temperature will create an earlier snowmelt or a shift from snow to rain. At high elevations, cooler temperatures provide a buffer that can maintain the snowpack until spring, but the trend is toward increased temperatures there as well (Moser et al. 2009).

Over the long term, climate change may have indirect effects on emissions from wildfires and prescribed burns in the New Melones Lake Area. Climate change may also have indirect effects from greenhouse gas emissions associated with recreational activities by altering seasonal recreational patterns or use intensity. Climate change will alter temperature, precipitation, and snowpack conditions, resulting in changes to vegetation, stream flow, and the flow of springs. Vegetation changes will in turn have an effect on wildfire frequency and intensity, the necessity for conducting prescribed burns, and wildlife habitat conditions. As more precipitation falls as rain during the winter, and spring snow melt occurs sooner, the risk of flooding increases and water shortages may occur in the summer. Because a greater percentage of the annual runoff is occurring outside the traditional snowmelt season, it reduces the amount of runoff that could be stored in reservoirs for later use. Runoff is increasingly occurring during times when flood control requirements mandate release of water from reservoirs to avoid flooding from possible strong storms in late winter. This change in precipitation patterns leads to low flow conditions in streams beginning in late spring, with implications on aquatic habitat, water supplies for homes and agriculture, and water-based recreational activities (Moser et al. 2009). While climate change may affect air quality in the New Melones Lake Area, no cumulatively significant effects on air quality are expected from implementing the New Melones RMP.

6.18.2 Noise

There would be no cumulative effects on noise from climate change.

There would be cumulative effects on noise in the New Melones area if projects such as the planned Copperopolis road project were constructed concurrently with construction being performed under proposed management actions in the New Melones Lake Area.

Tuolumne County and Calaveras County both expect an increase in population of 53% and 46% respectively by the year 2020. This increase will increase the traffic in the area by an estimated 7.4 million trips on roadways between 2002 and 2025. This projected overall increase in traffic will have a cumulative effect on noise through an increase in noise levels if there is also an increase in visitor- and vehicle-related noise in the New Melones Lake Area. While cumulative projects may increase noise in the New Melones Lake Area, no cumulatively significant effects from noise are expected to result from implementing the New Melones Lake Area RMP.

6.18.3 Geological Resources

Past, present, and reasonably foreseeable actions that are relevant to the disturbance of geologic features, caves and soils include population growth, recreational use, wildland fire, and mining activities. The types of impacts that are ongoing and would occur in the future include additional disturbance of soils, increase in erosion, loss of areas with sensitive soils (e.g., serpentine soils, biological crusts), disturbance of cave ecosystems, loss of scientific value of unique geologic and cave features.

Developed areas adjacent to the New Melones Lake Area, such as Angels Camp and Copperopolis, are projected to increase in population, and will increase the demand for

roads and housing, as well as increase the number of recreational users at New Melones Lake.

Along with population increases, a road from the West Side management area to Copperopolis would involve direct disturbance of soils, as well as facilitate a large increase in recreation use, with resultant indirect impacts.

Effects on soils from climate change are speculative at this time, and are based on current research. Projected increases in temperature would potentially change the patterns of vegetation species, changing the type and amount of vegetative cover over the soils. Less vegetation, or species with less soil retention capacity, would result in increased erosion. Increases in drought could reduce the vegetative cover, increasing wind erosion and runoff erosion during infrequent rain storms.

Any reductions in the Sierra snowpack would potentially alter the amount of water flowing in the Stanislaus River, and would potentially lower the lake level. This would increase the amount of area of the "bathtub ring" where there is no impediment to erosion. Associated changes to recreation could change the amount of visitation to unique geologic features and caves. Low water would re-expose some caves lost to the construction of the reservoir.

Cumulative effects would not be significant and would be similar among the alternatives. Alternative B would contribute to more regional cumulative effects resulting from implementing actions and allowing for increased use of the New Melones Lake Area. In general, Alternatives A, C, and D would provide more management measures than Alternative B which would directly or indirectly reduce the potential for cumulative impacts. Under Alternative C, the emphasis on actions that value resource conservation, education, and protection would have the least effect, or risk of effect, on vegetation management, and would contribute the least to cumulative effects.

6.18.4 Water Resources (Hydrology and Water Quality)

Effects from past and present events, including recreation development and infrastructure, adjacent land use changes, and road construction, have affected water quality and water resources at New Melones Lake. Foreseeable future events affecting water quality and water resources mirror many of the events that have occurred in the past, and that are currently occurring. Certain events, such as road construction, occur relatively rapidly, while other events, such as the public living closer to public lands, and climate change, occur relatively slowly.

Reclamation cannot prevent certain events, such as landscape-level projects conducted by other land managers, nor can Reclamation entirely forecast some events, such as wildland fires. Reclamation, however, does have greater control over certain events, such as recreation, preservation of open space, and motorized vehicle use.

Cumulative impacts on water quality and water resources from the above events would alter drainage patterns by recontouring the terrain, alter groundwater infiltration by increasing impervious surfaces, increase soil erosion by introducing activities to

undeveloped areas, increase the presence of harmful wastes capable of degrading water quality by increasing activities that involve hazardous substances, and change supplies of water at New Melones Lake by altering the water cycle and upstream development. Reclamation would continue to use prohibitions, stipulations, BMPs, and SOPs to minimize impacts on water quality and water resources. While cumulative projects may alter water resources in the New Melones Lake Area, no cumulatively significant effects on water resources are expected to result from implementing the New Melones Lake Area RMP.

6.18.5 Visual Resources

Effects of past and present events, including recreation development and infrastructure, vegetation treatments, adjacent land use changes, and road construction, have affected visual resources at New Melones Lake. Foreseeable future events affecting visual resources mirror many of the events that have occurred and that are currently occurring.

Certain events, such as road construction, occur relatively rapidly. Other events, such as air pollution, the public living closer to public lands, and noxious weeds invading the area, occur relatively slowly.

Reclamation cannot prevent certain nearby events, such as landscape-level projects conducted by other land managers, or forecast events such as wildland fires. Reclamation, however, does have greater control over other events, such as recreation, preservation of open space, and motorized vehicle use.

Cumulative effects on visual resources could include new nighttime light, new structures (such as buildings or roads), or new activities (such as motorized vehicle use). These effects would be more noticeable if they occurred in undeveloped or natural areas than in areas that already have human-made changes. Reclamation would continue to use prohibitions, stipulations, BMPs, and SOPs, so that changes to the visual landscape from specific, planned events ensured the environmentally sound preservation of visual resources. While cumulative projects may alter visual resources in the New Melones Lake Area, no cumulatively significant effects on visual resources are expected to result from implementing the New Melones Lake Area RMP.

6.18.6 Vegetation

Past, present, and reasonably foreseeable actions that are relevant to vegetation management include population growth, recreational use, wildland fire, watershed rehabilitation activities, regional planning efforts, weed management efforts, and livestock grazing. The types of effects that have occurred and would continue to occur include additional removal or disturbance of vegetation, loss of plant diversity, continued invasive and noxious weed invasion, loss of soil integrity, changes in fire regime, and reduced ecosystem function.

Developed areas adjacent to the New Melones Lake Area, such as Angels Camp and Copperopolis, are projected to increase in population. For example, Angels Camp's population is projected to increase by 53 percent between 2005 and 2020. This increase in population would increase the demand for roads and housing, as well as increase the

number of recreational users at New Melones Lake. Such development would increase habitat fragmentation, and could allow for invasive weed introduction and spread. An increased number of vehicles could correspond with an increase in population, which could reduce air quality. This could affect vegetation by altering plant physiological processes, such as respiration, leading to a decline in plant health and vigor.

Along with population increases, a road from the Westside Management Area to Copperopolis would facilitate a large increase in recreation use. This road would permanently remove vegetation in previously undisturbed areas, would disturb vegetative patterns, would allow weeds to be introduced and spread, and would allow unauthorized uses. Effects from population growth and increased recreation would be similar to those described in Effects Common to All Alternatives from Recreation Management. In addition, the proposed roadway location contains extremely steep terrain, and removing vegetation for road construction would increase erosion and would affect water quality in the Texas Charley Gulch Area, a known fish spawning location.

Reclamation's management actions would increase and improve the native plant communities within the New Melones Lake Area. Since much of the surrounding lands are being developed, and weed invasion and loss of native communities are a problem throughout the western states, this cumulative effect could be substantial throughout the region of influence.

Definitive effects on vegetation from climate change are speculative at this time, and are based on current research. Climate change can affect vegetation by altering the frequency, intensity, duration, and timing of fire, drought, introduced species, and insect and pathogen outbreaks (Dale et al. 2001). Projected increases in temperature could favor some species over others, and invasive plant species could have a competitive advantage. Recent modeling has shown that the prevalence of non-native grasses would increase in the Sierra Nevada foothills, with a loss of oak woodland and chaparral communities (Lenihan et al. 2003). Due to their immobility, it is unlikely that plants would be able to adapt and move quickly enough to match the pace of climate changes. Increased temperatures could alter the timing of pollinator life cycles, preventing certain native species from reproducing. Increases in drought could change the natural fire regime by making wildland fires more frequent, causing widespread destruction of vegetation. Further, reductions in the Sierra snowpack could alter the amount of water flowing in the Stanislaus River, and could lower the lake level. This could be beneficial to certain recreational uses, such as white-water rafting, but detrimental to others, such as boating. Changes in recreational uses could affect vegetation, as described in Effects Common to All Alternatives from Recreation Management.

Cumulative effects would not be significant and would be similar among the alternatives. Alternative B would contribute to more regional cumulative effects resulting from implementing actions and allowing for increased use of the New Melones Lake Area. In general, Alternatives A, C, and D would provide more management measures that would directly or indirectly reduce the potential for cumulative effects than Alternative B. Under Alternative C, the emphasis on actions that value resource conservation and

protection would have the least effect, or risk of effect, on vegetation management, and would contribute the least to cumulative effects.

6.18.7 Fish and Wildlife

Past, present, and reasonably foreseeable actions relevant to fish and wildlife management include population growth, recreational use, wildland fire, watershed rehabilitation activities, regional planning efforts, weed management efforts, and livestock grazing. The types of effects that have occurred and would continue to occur include additional removal or disturbance of vegetation, habitat fragmentation, loss of plant diversity, continued weed and noxious weed invasion, loss of soil integrity, changes in fire regime, and reduced ecosystem function. This would result in degraded quality of habitats and potentially reduce the populations the habitats can support.

Numerous pending and approved developments have been identified in the area surrounding the New Melones Lake Area. In Calaveras County, approximately 1,395 acres of land has been approved for development (new housing, etc), and approximately 7,101 acres are pending approval. Development of these areas would result in loss of habitat for wildlife species, fragmentation of habitat, and potential disturbance to wildlife in those areas. An increase of people living in the area could result in greater disturbance to wildlife species.

If implemented, constructing a road to the western shore of New Melones Lake would likely increase access to the reservoir. It also would result in habitat loss and fragmentation where the road is built, would disturb wildlife along the road, including the possibility of mortality from vehicle strikes, and would increase disturbance to wildlife at the reservoir from more visitation due to improved access.

Any construction near water bodies, particularly those upstream of the New Melones Lake Area, could result in increased erosion and sedimentation, and potential degradation of fishery habitat.

In the foreseeable future, implementation of the RMP would put numerous new mitigation, restoration, and conservation measures in place that would reduce the potential extent and severity of effects from other actions. Action on Reclamation lands would have a noticeable effect at the local level, and because of the high level of recreational use that occurs in the projects lands, the contribution from the New Melones Lake Area is considerable.

Climate change is a process influenced by many factors, both natural and man-made. Cumulative effects resulting from climate change, that could affect fish and wildlife species in the New Melones Lake Area, include changes in temperature and precipitation. Current models predict that temperatures throughout California are expected to rise. This could affect wildlife by altering hibernation patterns (beginning hibernation later in the fall and awakening earlier in the spring). If wildlife are hibernating less, then they would likely need greater supplies of food during the additional “awake” period. If wildlife have to search for more food resources, then the likelihood of human/wildlife interactions increases. Another effect of rising temperatures is those species that require cooler

temperatures would be required to travel to higher elevations to look for food and shelter. If more species congregate at higher elevations, then the resources there would be more impacted from the increased use. Higher temperature could affect fish species. Cold water fish could have to descend to deeper depths of the reservoir which could limit their access to food resources. Other changes that could occur include loss of potential food sources, loss of host plants, and changes in the timing of life cycle events, such as mating, egg-laying, and migration.

The models for climate change in California do not predict a change in the total amount of precipitation near the project lands, as this area is naturally highly variable in the amount of precipitation. Instead, due to the predicted increases in temperature, more of the precipitation would occur as rainfall than snow. If there is less snow then the snowpack would be less and the snowmelt would likely occur earlier. Altering the spring runoff could have an affect of fish populations. If water levels or flow rates change, it may alter the spawning success for fish species, or cause them to alter the timing of these activities to coincide with the changed flow rates.

While cumulative projects may affect fish and wildlife in the New Melones Lake Area, no cumulatively significant effects on fish and wildlife are expected to result from implementing the New Melones Lake Area RMP.

6.18.8 Special Status Species

Past, present, and reasonably foreseeable actions that are relevant to special status species management include population growth, recreational use, wildland fire, watershed rehabilitation activities, regional planning efforts, weed management efforts, and livestock grazing. The types of effects that have occurred, and would continue to occur, include additional removal or disturbance of vegetation, habitat fragmentation, loss of plant diversity, continued invasive and noxious weed invasion, loss of soil integrity, changes in fire regime, and reduced ecosystem function. The results would be degraded quality of habitats and potentially reduction the populations that the habitats could support.

Population increases are projected for developed areas adjacent to the New Melones Lake Area, such as Angels Camp and Copperopolis. For example, Angels Camp's population is projected to increase by 53 percent between 2005 and 2020. This increase in population would increase the demand for roads and housing, as well as increase the number of recreational users at New Melones Lake. Such development would increase habitat fragmentation, and could destroy special status species or their habitats. An increased population means an increased number of vehicles, which could reduce air quality. This could affect habitats by altering plant physiological processes, such as respiration, leading to a decline in plant health and vigor. In addition, reduced air quality could lower the health of some special status wildlife species.

Along with population increases, a road from the Westside Management Area to Copperopolis would facilitate a large increase in recreation use. This road would permanently remove vegetation in previously undisturbed areas, as well as allow for weed introduction and spread, and unauthorized uses. Effects from population growth

and increased recreation would be similar to those described in Effects Common to All Alternatives from Recreation Management.

Reclamation's management actions would increase and improve potential habitats for special status species within the New Melones Lake Area, and protect existing known populations. However, since much of the surrounding lands are being developed, and habitat fragmentation and degradation are a problem throughout the western states, the cumulative effect of fragmentation and degradation could be substantial throughout the region of influence.

Definitive effects on vegetation from climate change are speculative at this time, and are based on current research. Climate change can affect special status species and their habitats by altering the frequency, intensity, duration, and timing of fire, drought, introduced species, and insect and pathogen outbreaks (Dale et al. 2001). Projected increases in temperature could favor some species over others, and invasive plant species could have a competitive advantage. Recent modeling has shown that with a loss of oak woodland and chaparral communities, the prevalence of non-native grasses would increase in the Sierra Nevada foothills, (Lenihan et al. 2003).

Many species, particularly plants, cannot move quickly enough to match the pace of climate changes. Increased temperatures could alter the timing of pollinator life cycles, preventing certain species from reproducing. Other changes that could occur include loss of potential food sources, loss of host plants, and changes in the timing of life cycle events, such as mating, egg-laying, and migration.

Increases in drought could change the natural fire regime by making wildland fires more frequent, causing widespread destruction of habitats and potential mortality of special status species. Further, reductions in the Sierra snowpack could alter the amount of water flowing in the Stanislaus River and could lower the lake level. This could be beneficial to certain recreational uses, such as white water rafting, but detrimental to others, such as boating. Changes in recreational uses could affect vegetation, as described in Effects Common to All Alternatives from Recreation Management.

Cumulative effects would not be significant and would be similar among the alternatives. Alternative B would contribute to more regional cumulative effects resulting from implementing actions and allowing for increased use of the New Melones Lake Area. In general, Alternatives A, C, and D would provide more management measures than Alternative B that would directly or indirectly reduce the potential for cumulative effects. Under Alternative C, the emphasis on actions that value resource conservation and protection would have the least effect, or risk of effects, on special status species management and would contribute the least to cumulative effects.

6.18.9 General Land Management

Cumulative actions would affect general land management. Recreation demands, adjacent land uses, protection of biological and aquatic resources, and increases in New Melones users and the population, are examples of cumulative actions that affect general land management. Reclamation's mission is to manage, develop, and protect water and

related resources in an environmentally and economically sound manner, in the interest of the American public. In order to do this, Reclamation would continue to manage its land and coordinate with others so that cumulative actions did not result in incompatible land uses. As a result, no significant cumulative effects on general land management are expected to result from implementing the New Melones Lake Area RMP.

6.18.10 Access and Transportation

The demand on the transportation network within the New Melones Lake Area is expected to increase in the future along with population growth. Effects on the transportation network and access from residential, commercial and industrial development would occur from an increase in traffic, and create a need for greater access to the New Melones Lake Area. The increase in the WUI in and around the New Melones Lake Area would affect the transportation network by putting more demand on access, especially during a fire. Climate change related effects on the transportation network include increased snowmelt, heavy precipitation events and prolonged periods of warmer air and water temperatures. Roads and access routes would likely be damaged by snowmelt and heavy precipitation from an increased amount of water in tributaries overflowing onto roads within the New Melones Lake Area. The frequency and duration of warmer air and water temperatures would likely increase the amount of traffic in the New Melones Lake Area from a prolonged visitor season. Implementing any of the alternatives would result in a variety of cumulative effects on the transportation network and access routes. However, no significant cumulative effects on access and transportation are expected to result from implementing the New Melones Lake Area RMP.

6.18.11 Public Health and Safety

Reasonably foreseeable future actions (such as those associated with recreation, visitor use, and population increases) involve additional public health and safety issues due to increased use of, and access to, Reclamation land. Public health and safety issues may involve additional law enforcement, for example. Reclamation strives to provide adequate staffing and enforcement to fully implement policies and management actions to maintain the level and quality of safety and services expected by visitors, thereby minimizing cumulative effects on public health and safety. Depending on the actual level of law enforcement, due to budget constraints, cumulative effects on public health and safety would vary in intensity, but they are unlikely to be significant.

6.18.12 Fire Management

Cumulative effects for fire management are assessed for 20 years from the beginning of implementation of the revised plan.

In the past, fire has been most affected by fire suppression, which has changed the fire regime from frequent low or mixed severity fire to stand replacing fire, by increasing fuel loads (live and dead vegetation, leaves, needles, etc.) and overstocked (denser vegetation). Fire ignitions between 1994 and 2003 were 90 percent human caused. The extent of burned areas in the future would be determined by the increasing fuel loads, increasing human activities, and weather.

In the 20-year cumulative effects analysis period, temperature trends show a potential 0.5 to 1 degree increase when land use impacts such as irrigation are not considered. Additionally, the predicted trend for precipitation is, "summer precipitation would change only incrementally, and decreases in some of the simulations". Neither the small potential temperature change, nor the minor increase or decrease in precipitation, is likely to add to fire activity or acres burned. Therefore, predicted climate change would not affect fire behavior, acres burned, or fire severity.

However, fire activity is much more likely to be affected cumulatively in the next 20 years by human activities such as accidental and intentional ignitions, land use activities that increase or decrease fuel loadings, water availability, or urban heat islands.

Proposed new roads in the Westside Management Area would provide additional access, which would improve access for fire suppression, and also increase the chance for human-cause wildland fire.

Housing developments, depending on where they are located, can increase the wildland urban interface, which increases the need for immediate fire suppression and could increase the fire severity on project lands. As the New Melones Lake Area is currently managed for full fire suppression (all fire are suppressed), the effect is likely an increase in risk to firefighters from combustible materials stored on properties and used in construction of homes and landscaping.

No significant cumulative effects on fire management are expected to result from implementing the New Melones Lake Area RMP.

6.18.13 Cultural Resources

Pending residential development projects being considered by the Calaveras County Planning Department are adjacent to the Coyote Creek, Carson, and Glory Hole Management Areas. Construction near the former two management areas would have the greatest potential to affect cultural resources based upon the known site density of those areas and the potential for undocumented cultural resources to be identified. The area near the Glory Hole Management Area has slightly less potential for effects.

The proposed road to access the Westside Management Area would likely affect five known cultural resources there and an unknown number of cultural resources outside of the New Melones Lake Area. Additionally, the Westside Management Area is considered to have a high potential for unrecorded sites (Pacific Legacy 2008). Therefore, the road project would likely have an even greater effect on cultural resources in this area.

Shoreline cultural resources in the New Melones Lake Area are particularly susceptible to the effects of climate change. As water levels rise, these resources are eroded away and eventually submerged. However, as New Melones Lake is a controlled water body, such effects from climate change on cultural resources are unlikely. None of the cultural resource actions would likely add to the climate change of the area.

In general, ground disturbing and new construction projects within the region pose potential effects on the archaeology and historic landscape of the region. The importance

of the archaeological and historical landscape of the area has been recognized with the determination that the New Melones Lake Area Archaeological District is eligible for inclusion on the NRHP. As archaeological sites are damaged or removed, the potential for better understanding of prehistoric and historic land use, trade, and settlement patterns of the region is diminished. With new construction the historic "feel" of the region is lost as modern construction replaces historic buildings and structures. Similarly, traditional use areas, if there are any, become more and more constrained in size, and, along with all other types of cultural resources, their views and noise levels are affected. Cultural resource actions would, in general, preserve these resources and would not contribute to the cumulative effects of the identified regional projects. However, construction of a new Archaeological Storage Facility could contribute to cumulative effects on the regional cultural resource population if it were constructed in a manner that disturbs archaeological sites, historical buildings, historical structures, or Native American traditional use areas. No significant cumulative effects on cultural resources are expected to result from implementing the New Melones Lake Area RMP.

6.18.14 ITA

Because there are no ITAs within the New Melones Lake Area, there would be no cumulative effects on or from ITAs.

6.18.15 Socioeconomics and Environmental Justice

In combination with the increased development and growth-inducing projects that are underway or proposed for the future in the area, resource management at the New Melones Lake Area would not generate additional population growth. However, increased developed recreation in combination with increase growth in the area would be likely to bring more visitors to project lands, which would further increase expenditures in the local economy and induce local economic growth. If these increases resulted in overcrowding and user conflicts at the New Melones Lake Area, visitor satisfaction could be negatively affected, which could reduce the number of visitors from outside the local area. This could result in a decrease in the local economic stimulus provided by recreation at the New Melones Lake Area.

Climate change related effects include increased snowmelt and prolonged periods of warmer air and water temperatures. Warmer temperatures could increase the season of use at the New Melones Lake Area, potentially increasing the demand for recreation and the number of visitors from outside the local area. This could increase the associated expenditures in the local economy and the level of earnings and employment that would be induced by these expenditures.

While cumulative projects may affect socioeconomics and environmental justice in the New Melones Lake Area, no cumulatively significant effects on socioeconomics and environmental justice are expected to result from implementing the New Melones Lake Area RMP.

6.18.16 Recreation

Projected increases in development and in the population of areas surrounding New Melones, construction of new roads near and within the New Melones Lake Area, past

and future management actions, and climate change all have the potential to incrementally affect the New Melones Lake Area.

If development and the population surrounding the New Melones Lake Area continue to increase, it would likely result in an increase in the number of visitors and the demand for recreation opportunities. These increases would increase crowding and user conflicts and decrease the level of satisfaction of some user groups, particularly those that favor serene, natural settings.

Construction of new roads within and near the New Melones Lake Area would result in greater access for recreationists. In particular, the proposed road from Copperopolis would provide additional access to the Westside Management Area. Increasing access would result in more recreational opportunities for the general public but could result in decreased experiences for those seeking a more primitive type of recreation including solitude. Increased housing development in the area would result in more people living near the New Melones Lake Area and using it for recreation. Both the construction of new roads and new housing developments would result in increased noise levels. This would affect the recreational experience for all visitors, especially those seeking quiet and tranquility.

The construction of roads and housing developments in the area would also result in habitat loss and displacement of wildlife. If wildlife from new construction areas relocate to the New Melones Lake Area, wildlife viewing and hunting opportunities would likely increase on the project lands. However, if the construction displaces not only those populations near New Melones but those on project lands as well, then wildlife viewing and hunting opportunities would decrease. Implementing any of the alternatives would also result in a variety of cumulative effects on the transportation network and access routes, which could in turn affect wildlife-related recreational opportunities, as well as access and resulting changes in visitation.

Effects of past actions to the visitor and interpretive services within the project lands include closures and addition of facilities and areas that have altered the number of visitor and interpretive services. However, the amount and type of visitor and interpretive services is expected to increase in the future along with a rise in visitors from a rise in population growth in the surrounding counties. Development in the surrounding areas is expected to result in increased visitation as well as an increased demand for interpretive programs. The increase in development in and around the New Melones Lake Area would also increase the need for environmental education programs focused on effects of living in areas where wildlife frequently occur.

Climate change also has the potential to affect the recreation at New Melones. Climate change affects temperatures, precipitation, greenhouse gases, and sea levels. As the temperatures rise, visitor patterns may change to take advantage of warmer weather in months when it was previously too cold. Precipitation in the area may occur more as rain rather than snow. If that happened, snowmelt could occur at earlier points in the year and affect the regional water levels. This potential climate change has the probability of affecting aquatic recreation, in particular, through increased snowmelt, heavy

precipitation, and prolonged periods of warmer air and water temperatures. Longer spring and summer seasons would likely attract a greater number of aquatic recreationists to the New Melones Lake Area. Increased water levels from heavy precipitation and snowmelt could increase the surface area of New Melones Lake, thereby increasing opportunities for aquatic recreationists; however, access to some waterways may be restricted due to steep terrain and limited access to the water's edge. The implementation of the proposed recreation management actions would not contribute appreciably to climate change.

While cumulative projects may affect recreation in the New Melones Lake Area, no cumulatively significant effects on recreation are expected to result from implementing the New Melones Lake Area RMP. Implementation of the New Melones Resource Management Plan would increase the ability of project lands to accommodate the additional demand for recreation and anticipate future recreation needs.

6.19 Unavoidable Adverse Impacts

Section 102(2)(C) of NEPA requires disclosure of any adverse environmental effects that cannot be avoided should the proposal be implemented. Unavoidable adverse impacts are those that remain, following the implementation of mitigation measures, or those for which there are no mitigation measures. Virtually all potential unavoidable adverse impacts are generally long term, indirect, and difficult to quantify. Some unavoidable adverse impacts would occur by implementing the RMP and from the proposed management under one or more of the alternatives. Others result from everyday use of public lands within the planning area. The alternatives were developed to respond to these impacts and to be protective of the resources, while allowing land use to be as diverse as possible.

Portions of the resource area with increased visitation, and therefore more intense recreational use, would continue to experience scarring, increased soil erosion, and loss of vegetation. Although these latter impacts are unavoidable, if they are concentrated in areas already disturbed, this would reduce the spread of impacts from increased visitation to more remote or less frequented areas. However, changes in the amount of recreational visitation and patterns of use could also result in increased conflicts between users, unanticipated changes in resource conditions, vandalism, and illegal collection of cultural resources. Although mitigation measures could be implemented for scientific data recovery of cultural resources, the impacts on areas of any excavation would be unmitigable. The number of sites anticipated to be inadvertently damaged is unknown but is directly proportional to the acreage disturbed. The greatest impacts would occur from development and increased use. Natural processes, such as erosion and natural decay or deterioration, could also result in unmitigated damage to cultural resources.

Conflicts between user types, such as recreationists who seek more primitive types of recreation and motorized vehicle users who share the same recreation areas, are unavoidable adverse impacts. As recreation demand increases, recreation use would disperse to other parts of the planning area, which could create conflicts with previous uses of those areas.

Unauthorized OHV travel could cause scarring, increased soil erosion, and loss of vegetation cover. Introduced weeds could increase the likelihood of fires and could reduce canopy coverage, leaving soils subject to increased erosion. Additional soil erosion would result from any facility developments, including recreation sites.

Unavoidable adverse impacts would result from the accidental or unauthorized introduction of exotic plant or animal species, either from OHV and boat use or other vectors, which in turn could harm, or cause loss of populations of native plants or animals. Ecosystem components could be impacted if fire-prone areas are not treated before a high-intensity wildland fire. If fuels are not treated, the risk of loss of life and property would be higher as rural growth expands.

In addition, unavoidable adverse impacts would result from implementing proposed restrictions on recreation, livestock grazing, and other resource uses to protect sensitive resources and other values. These restrictions would lessen the ability of operators, permittees, individuals, and groups to use public lands, and could increase operating costs.

6.20 Irretrievable or Irreversible Commitment of Resources

Section 102(2)(C) of NEPA requires a discussion of any irreversible or irretrievable commitments of resources from implementing the RMP. Implementing actions in accordance with the selected alternative may result in impacts that could be irreversible or irretrievable or both.

Irreversible commitments of resources refer to the loss of future options and apply primarily to the effects on nonrenewable resources, such as minerals, cultural resources, and soils, that cannot be regained. Examples are the extinction of a species, disturbance of protected cultural resources, or the removal of mined ore. An irretrievable commitment of resources involves the loss of production, harvest, or use of renewable resources. These opportunities are foregone for the period of the proposed action, during which other resource use cannot be realized. These decisions are reversible, but the use opportunities foregone are irretrievable.

Implementing any of the management plan alternatives would result in some impacts that could be characterized as irreversible and irretrievable commitments. For most impacts, the RMP would provide objectives for resource management and guidance for future activity and implementation-level decisions that minimize the potential for irreversible and irretrievable impacts. Some localized resources could be disrupted but could be mitigated. However, implementing the alternatives would result in some irreversible or irretrievable losses.

Visual characteristics near recreation sites could be irretrievably lost during development and operation; that is, opportunities to view undisturbed settings would be lost because of new infrastructure, and this would be irretrievable.

Changes in vegetation communities from drought, wildfire, invasive plants, or restoration treatments may not be reversible or may be reversible only after many decades. Some changes would be irretrievable. Changes in vegetation communities that would result from restoring or not restoring areas may be irreversible or may be reversible only after many decades. Invasion by noxious or invasive weeds may be irreversible. The resources committed to manage weeds would be irretrievable. Wildlife that depend on affected habitats might be displaced and populations might be reduced as carrying capacity of the habitat is reduced. Irreversible and irretrievable losses of wildlife habitat indirectly reduce the amount of suitable special status species habitat. However, management prescriptions and mitigations prescribed under the alternatives are intended to reduce the magnitude of these impacts and would restore some of the soil, vegetation, and habitat lost. Effects on special status wildlife or plants from authorized and unauthorized activities, wildfire, invasive plants, or restoration treatments may be irreversible.

Construction of roads and other transportation infrastructure improvements create an irretrievable loss of habitat and impair important visual elements, particularly in undeveloped areas.

Stand-replacing fires might cause an irreversible loss of some key ecosystem components. Loss of soils following wildfires, or from erosion during restoration treatments, would be irretrievable. The effect of a high intensity wildfire, or one covering many acres, would be reversible only after several decades. Resources committed for fire suppression and rehabilitation would be irretrievable. Changes in wildlife habitat from wildfire, invasive plants, or restoration treatments may be irreversible or may be reversible only after many decades.

Undiscovered cultural resources could be unintentionally affected by management activities. Cultural resources are by their nature irreplaceable, so altering or eliminating any such resource, be it National Register eligible or not, represents an irreversible and irretrievable commitment. Authorized mitigation of cultural sites before disturbance and unauthorized collecting and vandalism would be an irreversible commitment of the resource. Authorized and unauthorized collection of fossils would also be an irreversible commitment of the resource.

The exact nature and extent of any irreversible and irretrievable commitment of resources cannot be defined due to uncertainties about location, scale, timing, and rate of implementation, as well as the relationship to other actions and the effectiveness of mitigation measures throughout the life of the plan.

6.21 Relationship of Short-Term Uses of the Environment to Long-Term Productivity

Section 102(2)(C) of NEPA requires a discussion of the relationship between local, short-term uses of the human environment and the maintenance and enhancement of long-term productivity of resources. As described in the introduction to this chapter, “short-term” means those effects that are expected to occur while the alternative is being implemented,

that is, within one to five years. “Long-term” means those effects that are expected to occur for an extended period after the first five years of alternative implementation, but within the life of the RMP, which is projected to be 20 years. These effects could last many years.

Regardless of which alternative is selected, management activities would result in various short-term adverse effects, such as increased localized soil erosion, smoke and fugitive dust emissions affecting air quality, damage to vegetation and fish and wildlife habitat, and decreased visual resource quality. Other short-term effects could improve long-term productivity and be beneficial.

Short-term effects, such as those associated with mineral development, could result in long-term degradation of wilderness values and scenic quality. Short-term effects associated with route designations, maintenance, and alterations also could result in long-term effects on recreation activities and wildlife movement within corridors. Alternatively, short-term effects, such as vegetation treatments, would be beneficial to long-term productivity for wildlife by increasing available forage. Short-term effects of wildland fire management and vegetation treatments could result in long-term improvements for scenic quality.

Management actions and best management practices can minimize the effect of short-term uses and reverse the change during the long term. However, project lands are managed to foster multiple uses, and some long-term productivity impacts might occur regardless of management approach.

Surface disturbing and disruptive activities, including mineral development, dispersed recreation, livestock grazing, infrastructure development, and human use, would result in the greatest potential for impacts on long-term productivity. The disturbance of soils, vegetation, and wildlife habitats from these activities would reduce the long-term productivity of the environment in local areas where revegetation or restoration of the natural environment could not be fully realized over time.

7. Consultation and Coordination

7.1 Introduction

This chapter is a description of the public outreach and participation opportunities made available through the development of the RMP/EIS and the coordination and consultation efforts with tribes, government agencies, and other stakeholders that have transpired to date. It includes a list of preparers of the document and the agencies, organizations, and individuals that received a copy of the Draft RMP/EIS for review. There have been many ways for the public to participate in the planning process for the New Melones Lake Area RMP/EIS.

7.2 Public Collaboration and Outreach

7.2.1 Scoping Process

Scoping is the term used in the Council on Environmental Quality Regulations implementing NEPA (40 Code of Federal Regulations, Part 1500 et seq.) to define the early and open process for determining the scope of issues to be addressed in the planning process. The scoping process gets the public involved in identifying significant issues of land use management actions. The process also helps identify any issues that are not significant and that can thereby be eliminated from detailed analysis. The list of stakeholders and other interested parties is also confirmed and augmented during the scoping process.

7.2.1.1. Notice of Intent

The notice of intent (NOI) is the legal document notifying the public of Reclamation's intent to initiate the planning process and to prepare an EIS for a major federal action. The NOI invites the participation of the affected and interested agencies, organizations, and members of the general public in determining the scope and significant issues to be addressed in the planning alternatives and analyzed in the EIS. The NOI for the New Melones Lake Area RMP was published in the *Federal Register* on December 18, 2006.[1] The scoping period for receiving public comments ended on March 19, 2007, providing 92 days for public input.

[1]"Notice of Intent to Prepare an RMP/EIS and Notice of Public Meetings." *Federal Register*, Vol. 71, No. 242 (December 2006): pp. 75,769-75,770.

7.2.1.2. Press Releases

Reclamation used local newspapers (Stockton *Record,* the *Manteca Bulletin,* the Sonora *Union Democrat,* and the *Calaveras Enterprise*) to disseminate information on the New Melones Lake Area RMP scoping and planning process. Reclamation prepared press releases to notify the public of the project, to announce public scoping meetings, workshops, and open houses, to request public comments, and to provide contact information. Press releases were sent on January 25, 2007, February 14, 2007, September 20, 2007, August 22, 2008, October 30, 2009, and November 20, 2009.

7.2.1.3. Scoping Meetings

Reclamation held public scoping meetings in Sonora on January 29, in Angels Camp on January 30, and in Manteca on January 31, 2007. A fourth meeting, for agency officials, was held in Sonora on January 29, 2007. Reclamation provided the local media with press releases announcing the time, location, and purpose of these meetings.

The scoping meetings were presented in a public meeting and workshop format, allowing the public to receive information, ask questions, and provide input. Reclamation provided fact sheets, brochures, and handouts about the project area and a map of the planning area. Site and resource maps were displayed illustrating the current conditions and uses practiced among different resources and land areas. Planning questions were posted to guide the public in formulating questions to be addressed in the RMP/EIS. A slide presentation was used to highlight key issues and to summarize the planning process. Prominent, handicapped-accessible local facilities in informal settings were chosen as venues to encourage broad participation. In addition to Reclamation representatives, 93 people attended the meetings. Attendees were encouraged to mail written comments and questions or to fill out comment cards specific to the New Melones Lake Area RMP.

Additional public meetings were held throughout the RMP/EIS process to inform the public and to solicit input. In late September 2007, Reclamation held two alternatives development workshops to obtain further input on possible management actions and opportunities for the New Melones Lake Area. Public meetings were held in September 2008 to solicit input on Draft RMP/EIS Chapters 1-3 (currently Chapters 1-5).

7.2.1.4. Draft RMP/EIS Open House Meetings

The Draft New Melones Lake Area RMP/EIS was released on October 30, 2009 and was made available for public review and comment until January 4, 2010. On December 2, 2009, Reclamation held two open houses at the New Melones Lake Visitor Center, which were attended by 25 people. The goal of the Draft RMP/EIS open house sessions was to obtain further public input on the alternatives that had been developed and analyzed in the New Melones Lake Area Draft RMP/EIS. In addition, Reclamation sought comments on potential impacts resulting from the four alternatives. Verbal comments received at these meetings are summarized in Appendix J.

The open houses were held on a Wednesday afternoon and evening to accommodate various schedules. At the open houses, each alternative was represented at its own

station, where an alternative summary was presented, along with maps showing proposed zoning areas for each alternative. Visitors were free to stop at any or all stations and in any order. New Melones staff members were at each station to explain the alternatives, to answer questions, and to record comments. Commenters were encouraged to provide written comments in addition to their discussions to ensure their intent was received accurately.

By the end of the review period, 202 comments had been submitted, and 17 additional comments were received after the January 4, 2010 deadline. All 219 comments received were considered when revising the Draft RMP/EIS. All written comments received are included in Appendix J along with Reclamation's responses.

Two hundred nineteen comments were submitted, which were assigned to the categories listed in Table 7-1. Some comments fit into several issue categories; where this occurred, the comment was counted only once and placed in the issue category where it was most relevant. Twenty-six percent of the comments received focused on access, 25 percent focused on and water-based recreation. General comments, as well as comments regarding general recreation and land management, were also common, comprising eight percent each of the total comments received.

7.2.2 Project Web Site

In November 2006, Reclamation launched a New Melones Lake Area RMP/EIS project Web site to serve as a clearinghouse for project information during the planning process. The Web site, www.usbr.gov/mp/ccao/newmelones/rmp.html, provides background information about the project, a public involvement timeline and calendar, maps and photos of the planning area, and copies of public information documents, such as the NOI and project updates. The site also provides contact information for submitting comments and for obtaining further information about the project.

7.2.3 Project Updates

Project updates are published throughout the course of the RMP/EIS process and are posted on the New Melones Lake Area Web site. On January 22, 2007, the first project newsletter was mailed to 791 individuals from the public, agencies, and local organizations. The second project update was mailed on September 19, 2007, to 738 individuals identified during the scoping process. The third project update was mailed on July 29, 2008, to 713 individuals. The fourth project update was mailed on November 4, 2009, to 700 individuals. The purposes of these updates were as follows:

- Remind the public of how they can comment and get involved;
- Announce scoping, alternatives development, and open house meetings;
- Inform individuals of where Reclamation is in the RMP process;
- Notify the public of the availability of various documents, such as the visitor use survey and WROS reports; and

Table 7-1
Summary of Written Comments Received on the Draft RMP/EIS

Issue Category	Number of Individual Comments	Summary of Comments Received
Air quality	6	Consider greenhouse gases in the alternatives analysis.
Access	57	Improve ADA access; Comments supporting and opposing a road to the Westside Management Area; Improve access to certain areas for vehicles and boats; Concerns over the environmental impact of having more impervious surfaces
Biological resources	5	Protect biological resources
Caves	2	Strengthen cave management language
Cultural resources	1	Concern regarding the environmental effects of relocating the archaeological storage facility
Cumulative effects	2	Disagreements over the discussion of cumulative effects in the Draft RMP/EIS
Facilities	2	Comments regarding the number, type, and location of facilities
Fire management	1	Suggest grazing for fuels reduction
Geologic resources	1	Concern over grazing impacts on geological resources
Hydrology/water resources	7	Concern over effects of development on water quality in the lake and downstream
Interpretive services	1	Include more language to ensure mitigation or prevention of impacts
Invasive species	3	Expand the level of analysis of impacts from invasive species control
Land management	17	Desire to maintain existing conditions and facilities Concern regarding new development and Reclamation's capacity to handle more users Include more specifics regarding certain actions, particularly proposed development
Noise	1	Desire for mandatory noise reduction on the lake
Public health and safety	5	Concerns over funding/siting of sheriff substation; need for more law enforcement
Recreation—general	18	Concern over not fulfilling development included in the 1976 Master Plan Include more language to ensure mitigation or prevention of impacts
Recreation— water-based	55	Comments for and against seaplane access and zoning for such access Desire for increased houseboat size limits Include more language to ensure mitigation or prevention of impacts
Recreation—land-based	13	Suggestions for trail and campsite improvements, expansion, and creation
Socioeconomic	1	Encourage more economic development in the area
Utilities	2	Concern over Tuolumne County's utilities that currently depend on New Melones
General comments	19	Support for a particular alternative or actions under a given alternative
Total	219	

- Explain how they could be involved and how input given would be used in creating the RMP/EIS.

In addition, the project updates gave the public various methods to submit their comments, including the project manager's e-mail address and fax line and Reclamation's Central California Area Office address to mail comments.

7.3 Consultation and Coordination

The benefits of enhanced collaboration among agencies in preparing NEPA analyses include disclosing relevant information early in the analytical process, applying available technical expertise and staff support, avoiding duplication with other federal, state, tribal, and local procedures, and establishing a mechanism for addressing intergovernmental issues. One of the key concerns raised during the New Melones public scoping period was how input given during other ongoing and past public participation efforts would be used and incorporated into the New Melones Lake Area RMP/EIS project. Coordination with these other agencies facilitates this sharing of ideas and public input.

To initiate the collaborative planning process, on January 10, 2007, Reclamation mailed 139 letters inviting federal, state, local, and tribal organizations to the agency scoping meeting scheduled for Monday, January 29, 2007, or to any of the three public scoping meetings held during that week. Each of these organizations was also included on the original distribution list to receive the project update. The agencies were also invited to meet individually with Reclamation to discuss specific issues. The Calaveras Council of Governments, Altaville Fire Department, and Calaveras County Chamber of Commerce all requested and attended additional meetings with Reclamation.

Letters inviting Tuolumne and Calaveras Counties to participate as cooperating agencies in the RMP development process were sent on July 31 and August 1, 2007, respectively. To initiate the alternatives development process, on September 19, 2007, Reclamation mailed 738 postcards inviting federal, state, local, and tribal organizations to the public alternatives development workshops help on September 28 and 29, 2007. Each of these organizations was also included on the original distribution list to receive the project update.

Calaveras and Tuolumne Counties and the City of Angels Camp agreed to serve as cooperating agencies. On May 16, 2008, Reclamation met with cooperating agencies to review an advanced copy of the RMP/EIS Draft Chapters 1-3 (currently Chapters 1-5). The agencies were asked to provide input to further refine the document before releasing it to the public. The cooperating agencies were given 60 days to provide comments. Similarly, on September 22, 2009, Reclamation met with cooperating agencies to invite them to review an advanced copy of the Draft RMP/EIS. To provide input, the cooperating agencies were given 30 days, in addition to the public comment period.

Cultural resource consultation with the SHPO, Native American tribes, and interested parties is required under the NHPA and a variety of laws, regulations, guidance, and departmental and

executive orders. Tribes were consulted for the cultural resource overview report prepared in conjunction with this RMP/EIS. Consultations with the SHPO and Indian tribes may be required during implementation of individual projects.

7.4 Distribution List

Scoping for the RMP/EIS began in January 2007. The first project update for the New Melones Lake Area RMP was mailed on January 22, 2007, to 791 individuals from the public, agencies, and organizations. The distribution list has been updated throughout the development of the RMP/EIS. The distribution list of agencies, organizations, and individuals who have been a part of the RMP/EIS process is available in the administrative record. Reclamation maintains the distribution list for the RMP/EIS, which is available on request.

7.5 List of Preparers

A team of resource specialists from Reclamation prepared this RMP/EIS. Tetra Tech, Inc., assisted Reclamation in preparing these documents and in the planning process.

Bureau of Reclamation

Name	Role
Melissa Vignau	Project Manager, Natural Resources Specialist, Central California Area Office
Peggi Brooks	Chief, Recreation Resources Division, Central California Area Office
Jeffrey Laird	Supervisory Park Ranger, New Melones Lake, Central California Area Office
Dan Holsapple	Natural Resources Specialist, New Melones Lake, Central California Area Office
Elizabeth Vasquez	Natural Resources Specialist, Central California Area Office
Anastasia Leigh	Regional Archaeologist, Mid-Pacific Region
Scott Springer	Regional Recreation Coordinator, Mid-Pacific Region
Brian Buttazoni	Natural Resources Specialist, Mid-Pacific Region
Janet Sierzputowski	Public Affairs Specialist, Mid-Pacific Region
Robert Schroeder	Chief, Resources Management Branch, Central California Area Office
Michael Finnegan	Central California Area Manager, Central California Area Office
Richard Johnson	Deputy Area Manager, Central California Area Office

Tetra Tech Consulting Team

Name	Years Experience	Role/ Responsibility	Education
Kelly Bayer	16	Project Manager	BS, Biology and Marine Science
Meredith Zaccherio	5	Deputy Project Manager, Vegetation, Special Status Species	MA, Biology BS, Biology BS, Environmental Science
Holly Prohaska	11	Land Management, Project Management	MS, Environmental Management, BA, Marine Science
David Munro	15	Climate and Topography, Vegetation, Water Resources, Project Management	MA, Natural Resource Management BA, Psychology
Cynthia Adornetto	24	Recreation	MS, Environmental Policy and Management BS, Natural Resources Management
Maren Anderson	2	Noise	BA, Ecology and Evolutionary Biology
Theresa Avedian	9	Access and Transportation	BS, Civil Engineering
Jenny Benz	15	Access and Transportation, Recreation	BA, Environmental Studies
Kevin Doyle	19	Cultural Resources, Climate Change	BA, Sociology
Yashekia Evans	11	GIS	
Cameo Flood	22	Fire Management	BS, Forest Resource Management
Derek Holmgren	9	Land Management, Public Health and Safety, Visual Resources, Water Resources	MS, Environmental Science BA, International Studies BS, Environmental Science
Cliff Jarman	18	Geology	MS, Geophysics BS, Geology
Genevieve Kaiser	19	Socioeconomics, Recreation	MS, Energy Management and Policy, BA, Economics Professional Certification: GIS
Erin King	8	Cultural Resources, ITA	MA, Cultural Anthropology, Public Archaeology BA, Cultural Anthropology
Neil Lynn	7	Fish and Wildlife, Recreation	BS, Wildlife Biology
Craig Miller	15	Fish and Wildlife	MS, Wildlife Biology BS, Wildlife and Fisheries Biology
Cindy Schad	14	Word Processing	BFA, Creative Writing

Tetra Tech Consulting Team

Name	Years Experience	Role/ Responsibility	Education
Bob Sculley	36	Air Resources, Noise	MS, Ecology BS, Zoology
Randolph Varney	20	Technical Editor	MFA, Writing BA, Technical and Professional Writing
Tom Whitehead	30	Geology	MS, Hydrology, University of Arizona,1987 BS, Geology, California State University Hayward, 1984 BA, Anthropology, California State University San Francisco, 1975

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9. Glossary

A-Weighted Decibel (dBA). A frequency-weighted decibel scale that approximates the relative sensitivity of human hearing to different frequency bands of audible sound.

Air Basin. A regional area, defined for air quality management purposes based on considerations that include the constraints of topographic features on meteorology and pollutant transport patterns, and political jurisdiction boundaries that influence the design and implementation of air quality management programs.

Ambient Air. Outdoor air in locations accessible to the general public.

Ambient Air Quality Standards. A combination of air pollutant concentrations, exposure durations, and exposure frequencies that are established as thresholds above which adverse impacts to public health and welfare may be expected. Ambient air quality standards are set on a national level by the US Environmental Protection Agency. Ambient air quality standards are set on a state level by public health or environmental protection agencies as authorized by state law.

Aquatic. Living or growing in or on the water.

Best Management Practice (BMP). A suite of techniques that guide, or that may be applied to, management actions to aid in achieving desired outcomes

Biological Control. The use of natural enemies (e.g., insects, goats) to retard growth, prevent re-growth and seed formation of a target weed.

Chemical Control. Application of herbicides to control invasive species/noxious weeds and/or unwanted vegetation.

Concession Lease. Authorizes the operation of recreation-oriented services and facilities by the private sector, on Reclamation lands. The concessionaire is authorized through a concession lease administered on a regular basis. The lease requires the concessionaire to pay fees to Reclamation in exchange for the opportunity to carry out business activity.

Criteria Pollutant. An air pollutant for which there is a national ambient air quality standard (carbon monoxide, nitrogen dioxide, ozone, sulfur dioxide, inhalable particulate matter, fine particulate matter, or airborne lead particles).

Critical Habitat. Habitat designated by the US Fish and Wildlife Service under Section 4 of the Endangered Species Act and under the following criteria: 1) specific areas within the geographical area occupied by the species at the time it is listed, on which are found those physical or biological features essential to the conservation of the species and that may require special management of protection; or 2) specific areas outside the geographical area by the species at the time it is listed but that are considered essential to the conservation of the species.

Cultural Resources. Locations of human activity, occupation, or use. Cultural resources include archaeological, historic, or architectural sites, structures, or places with important public and scientific uses and locations of traditional cultural or religious importance to specific social or cultural groups.

Cumulative Effects. The direct and indirect effects of a proposed project alternative's incremental impacts when they are added to other past, present, and reasonably foreseeable actions, regardless of who carries out the action.

Decibel (dB). A generic term for measurement units based on the logarithm of the ratio between a measured value and a reference value. Decibel scales are most commonly associated with acoustics (using air pressure fluctuation data); but decibel scales sometimes are used for ground-borne vibrations or other types of measurements.

Disposal. A transaction that leads to the transfer of title to public lands from the federal government.

Easement. Right afforded a person or agency to make limited use of another's real property for access or other purposes.

Emergency Stabilization. Emergency stabilization action to stabilize and prevent unacceptable degradation to natural and cultural resources, to minimize threats to life or property resulting from the effects of a fire, or to repair/replace/construct physical improvements necessary to prevent degradation of land or resources.

Endangered Species. Any species of animal or plant in danger of extinction throughout all or a significant portion of its range and so designated by the Secretary of Interior in accordance with the 1973 Endangered Species Act.

Erosion. Detachment or movement of soil or rock fragments by water, wind, or gravity. Accelerated erosion is much more rapid than normal, natural, or geologic erosion, primarily as a result of the influence of surface-disturbing activities of people, animals, or natural catastrophes.

Fire Intensity. Technically calculated as the energy release per unit length of flame front. Generally, fire intensity is a component of fire behavior and refers to the heat of the fire. Fire intensity is measured as the fire burns. A high intensity fire would be more difficult to suppress than a low intensity fire.

Fire Severity. The effect of fire. Severity is reflected in killed vegetation or soil damage. Fire severity is determined after the fire. A high intensity fire may not have severe fire effects. High severity fire could result in soil erosion, sediment in water, landslides, and weed infestation. Often, low severity fire is desirable for removing dead fuels.

Fire Suppression. Fire control activities concerned with controlling and extinguishing a fire, starting at the time the fire is discovered.

Greenhouse gases. Compounds in the atmosphere that absorb infrared radiation and reradiate a portion of that back toward the earth's surface, thus trapping heat and warming the earth's atmosphere.

Groundwater. Water beneath the land surface, in the zone of saturation.

Guzzler. General term covering such devices as guzzlers and wildlife drinkers. A natural or artificially constructed structure or device to capture and hold naturally flowing water to make it accessible to small and large animals. Most guzzlers involve above or below ground piping, storage tanks, and valves.

Habitat. A specific set of physical conditions that surround a single species, a group of species, or a large community. In wildlife management, the major components of habitat are considered to be food, water, cover, and living space.

Historic Property. Any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on the National Register. This term includes artifacts, records, and remains which are related to such district, site, building, structure, or object [16 USC. Section 470(w)(5)].

Indian Trust Assets. Legal interests in property, physical assets, or intangible property rights held in trust by the United States for Indian tribes or individual Indians.

Invasive Species. An exotic species whose introduction does or is likely to cause economic or environmental harm or harm to human health (Executive Order 13122, 2/3/99).

Mechanical Vegetation Treatment. Includes mowing, chaining, chopping, drill seeding, and cutting vegetation to meet resource objective.

National Historic Preservation Act (NHPA). The primary federal law providing for the protection and preservation of cultural resources. The NHPA established the National Register of Historic Places, the Advisory Council on Historic Preservation, and the State Historic Preservation Officers.

National Register Of Historic Places. A listing of architectural, historical, archaeological, and cultural sites of local, state, or national significance, established by the Historic Preservation Act of, 1966, and maintained by the National Park Service.

Off-Highway Vehicle (Off-Road Vehicle). Any motorized vehicle capable of, or designed for, travel on or over land, water, or other natural terrain, excluding: (1) any nonamphibious registered motorboat; (2) any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; (3) any vehicle whose use is expressly authorized by the an officer or otherwise officially approved; (4) vehicles in official use; and (5) any combat or combat support vehicle when being used for national defense.

Ozone. A compound consisting of three oxygen atoms. Ozone is a major constituent of photochemical smog that is formed through chemical reactions in the atmosphere involving reactive organic compounds, nitrogen oxides, and ultraviolet light. Ozone is a toxic chemical that damages various types of plant and animal tissues and which causes chemical oxidation damage to various materials. Ozone is a respiratory irritant, and appears to increase susceptibility to respiratory infections. A natural layer of ozone in the upper atmosphere absorbs high energy ultraviolet radiation, reducing the intensity and spectrum of ultraviolet light that reaches the earth's surface.

Particulate Matter. Solid or liquid material having size, shape, and density characteristics that allow the material to remain suspended in the atmosphere for more than a few minutes.

Payments In Lieu Of Taxes. Federal payments to local governments that help offset losses in property taxes due to nontaxable Federal lands within their boundaries.

PM_{10} (inhalable particulate matter). A fractional sampling of suspended particulate matter that approximates the extent to which suspended particles with aerodynamic equivalent diameters smaller than 50 microns penetrate to the lower respiratory tract (tracheo-bronchial airways and alveoli in the lungs). In a regulatory context, PM_{10} is any suspended particulate matter collected by a certified sampling device having a 50% collection efficiency for particles with aerodynamic equivalent diameters of 9.5 to 10.5 microns, and an maximum aerodynamic diameter collection limit less than 50 microns. Collection efficiencies are greater than 50% for particles with aerodynamic diameters smaller than 10 microns and less than 50% for particles with aerodynamic diameters larger than 10 microns.

$PM_{2.5}$ (fine particulate matter). A fractional sampling of suspended particulate matter that approximates the extent to which suspended particles with aerodynamic equivalent diameters smaller than 6 microns penetrate into the alveoli in the lungs. In a regulatory context, $PM_{2.5}$ is any suspended particulate matter collected by a certified sampling device having a 50% collection efficiency for particles with aerodynamic equivalent diameters of 2.0-2.5 microns, and an maximum aerodynamic diameter collection limit less than 6 microns. Collection efficiencies are greater than 50% for particles with aerodynamic diameters smaller than 2.5 microns and less than 50% for particles with aerodynamic diameters larger than 2.5 microns.

Prescribed Fire Treatments. Any fire ignited by management actions to meet specific objectives. A written, approved fire management plan must exist, and NEPA requirements (where applicable) must be met before the fire is started.

Raptor. Bird of prey with sharp talons and strongly curved beaks, such as hawks, owls, vultures, and eagles.

Right-of-Way. Land authorized to be used or occupied for the construction, operation, maintenance, and termination of a project, pursuant to a right-of-way authorization.

Riparian. Situated on or pertaining to the bank of a river, stream, or other body of water. Normally describes plants of all types that grow rooted in the water table or sub-irrigation zone of streams, ponds, and springs.

Sedimentation. Deposition of particles and/or clumps of particles of sand, clay, silt, and plant or animal matter carried in water.

Seismicity. A factor of how prone an area is to earthquakes.

Spawning Area. An area where aquatic animals such as bivalve mollusks, fishes, and amphibians deposit their eggs.

Special Status Species. Federal- or state-listed species, candidate or proposed species for listing, or species otherwise considered sensitive or threatened by state and federal agencies.

Special Use Area. A designation used to protect public health and safety, protect and preserve cultural and natural resources, protect environmental and scenic values, scientific research, the security of Reclamation facilities and avoid conflict among visitor use activities per 43 CFR 423.

Special Use Permit. A permit that authorizes the use of Reclamation land for a purpose not specifically authorized under other regulation or statute.

Spelunking. Exploring caves as a hobby.

Standard Operating Procedure (SOP). A written procedure or set of written procedures providing direction for consistently and correctly performing routine operations. These written procedures set forth methods expected to be followed during the performance of the particular task.

Threatened Species. Any species or significant population of that species likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Includes only those species that have been recognized and listed as threatened by federal and state governments.

Trespass. Any unauthorized use of public land.

Vernal Pool. A sensitive, ephemeral wetland vegetative community with predominantly low-growing ephemeral herbs. Germination and early growth occur in winter and early spring, often while plants are submerged, and pools dry out by summer.

Visual Resources. The visible physical features on a landscape, (topography, water, vegetation, animals, structures, and other features) that make up the scenery of the area.

Water Recreation Opportunity Spectrum. A tool used to help identify and preserve a diversity of recreation opportunities and experiences ranging from peace and solitude in remote settings to socially oriented experiences in urban settings. The WROS system utilizes six classes: Urban, Suburban, Rural Developed, Rural Natural, Semi Primitive, and Primitive.

Watershed. Topographical region or area delineated by water draining to a particular watercourse or body of water.

Wetlands. Permanently wet or intermittently water-covered areas, such as swamps, marshes, bogs, potholes, swales, and glades.

Wildfire. An unplanned, unwanted wildland fire, including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to put the fire out.

APPENDIX A
APPLICABLE REGULATIONS

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Appendix A: Applicable Regulations

Air Quality:

- **The Clean Air Act of 1970, (42 US Code [USC], Sections 7401 et seq.)** regulates air emissions from area, stationary, and mobile sources. Under this law, National Ambient Air Quality Standards (NAAQS) are established for each state by the EPA in order to protect public health and the environment (EPA 2003).

Noise:

- **43 Code of Federal Regulations (CFR), Part 423.39** puts forth standards on vessels on Reclamation waters, including requirements for safety equipment, effective exhaust mufflers, and maintenance of vessels.

Geological Resources:

- **The Alquist-Priolo Earthquake Fault Zoning Act of 1972** was passed to mitigate the hazard of surface faulting to structures for human occupancy. The act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults.

Caves:

Federal Laws and Statutes

- **The Federal Cave Resources Protection Act of 1988 (16 USC, Sections 4301 – 4309)** requires inventory of significant caves on Federal lands, implementation of management measures, and provides certain protections of cave resources. It requires that significant caves are considered in the preparation of resource management plans and that the public be invited to participate in planning. It provides for the issuance of permits for collection or removal of cave resources and identifies criminal and civil penalties for prohibited acts.

State Laws and Statutes

- **The California Cave Protection Act (Sections 594-625(c) of the California Penal Code)** makes it a misdemeanor to perform certain acts that damage cave features or resources.

Water Resources:

Federal Laws and Statutes

- **The Clean Water Act of 1987, as amended (33 USC, Section 1251)** establishes objectives to restore and maintain the chemical, physical, and biological integrity of the nation's water;

- **The Federal Water Pollution Control Act (33 USC, Section 1323)** requires the Federal land manager to comply with all Federal, state, and local requirements, administrative authority, processes, and sanctions regarding the control and abatement of water pollution in the same manner and to the same extent as any nongovernmental entity;

- **The Safe Drinking Water Act (42 USC, Section 201)** is designed to make the nation's waters drinkable and swimmable. Amendments in 1996 establish a direct connection between safe drinking water and watershed protection and management;

- **The Flood Control Act of 1944 (16 USC, Sections 460(d) et seq.; 33 USC, Sections 701 et seq.)** authorizes the US Army Corps of Engineers (USACE) to construct, maintain and operate public park and recreational facilities at water resources development projects. While planning such projects, the USACE is required by this act to consult with the Secretary of the Interior on certain projects, and reports for such projects were to contain the opinions of governors of affected states as well as the Secretary of the Interior.

- **The Appropriations Act of 1952, McCarran Amendment** allows the US to be joined as a defendant in any suit for the general adjudication of water rights;

- **The Watershed Protection and Flood Control Act of 1954**, as amended, directs the Federal government to cooperate with states and their political subdivisions, soil or water conservation districts, flood prevention or control districts, and other local public agencies to prevent erosion or flood water and sediment damage;

- **The Water Resources Research Act of 1954**, as amended, permits the Secretary of the Interior to give grants to, and cooperate with, Federal, state, and local agencies to undertake research into any water problems related to the mission of the department;

- **The Water Resources Planning Act of 1965,** as amended, establishes the Water Resources Council, which is directed to maintain studies of water supplies and water programs. The chairman of any river basin commission can request from an agency, and that agency is authorized to furnish, such information as is necessary to carry out its functions;

- **The Water Resources Development Act of 1974** directs agencies to consider the full range of potentially useful measures in all projects involving reduction of flood losses;

- **Executive Order 11288** requires heads of agencies to provide leadership in the field of water quality management and requires Federal facilities to develop pollution abatement plans;

- **Executive Order 11507** directs the Federal government in the design, operation, and maintenance of its facilities to provide leadership in the nationwide effort to protect and enhance the quality of air and water resources. It provides for action necessary to

correct air and water pollution at existing facilities to be completed or underway by December 31, 1972, and requires surveillance to ensure that water quality standards are met;

- **Executive Order 11514, as amended by Executive Order 11991**, directs Federal agencies to provide leadership in protecting and enhancing the quality of the nation's environment to sustain and enrich human life. It provides for continued monitoring, evaluation, and control of the activities of each Federal agency, as well as development of programs and measures to protect and enhance environmental quality and to exchange data and research results and cooperate with other agencies to accomplish the goals of NEPA;

- **Executive Order 11738** directs each Federal agency to enforce the Clean Air Act and the Clean Water Act in the procurement of goods, materials, and services;

- **Executive Order 11752** mandates that Federal agencies provide national leadership to protect and enhance the quality of air, water, and land resources by complying with applicable Federal, state, interstate, and local pollution standards. This order mentions the Clean Air Act, Federal Water Pollution Control Act, Solid Waste Act, Noise Control Act, insecticide and pesticide acts, and NEPA;

- **President's Letter of May 26, 1974** creates the Interagency Committee on Water Resources and establishes interagency participation in river basin planning. The Federal agencies concerned executed a memorandum of agreement that assigns interagency cooperation to coordinate water and related land resource activities;

- **Executive Order 11988, Floodplain Management, as amended by Executive Order 12148**, directs each Federal agency to take action to avoid the long- and short-term adverse impacts associated with the occupancy and modification of floodplains. Agencies are further required to avoid direct or indirect support of floodplain development whenever there is a practicable alternative;

- **Executive Order 11990, Protection of Wetlands**, directs Federal agencies to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial value of wetlands in carrying out programs affecting land use;

- **Executive Order 12088, Federal Compliance with Pollution Control Standards**, requires all Federal agencies to comply with local standards and limitations relating to water quality. As a wastewater management agency, each Federal agency is bound to recognize and adopt the policies, goals, and standards of approved Section 208 area-wide water quality management plans in regard to those Federal lands under its jurisdiction. Each agency also must implement plan standards to the maximum extent feasible in its own planning process and management activities;

- **Executive Order 12322** requires that any report, proposal, or plan relating to a Federal or Federally assisted water and related land resources project or program

must be submitted to the Director, Office of Management and Budget, before submission to Congress;

Reclamation Policies and Regulations

- **Floodplain Management Policy (CMP P01)** was established to (1) reduce the vulnerability of the nation to loss of life and property and the disruption of societal and economic pursuits caused by flooding or facility operations; and (2) sustain, restore, or enhance the natural resources, ecosystems, and other functions of the floodplain; and

- **Floodplain Management Directive and Standard (CMP 01-01)** was established to (1) reduce the vulnerability of the nation to loss of life and property and the disruption of societal and economic pursuits caused by flooding or facility operations; and (2) sustain, restore, or enhance the natural resources, ecosystems, and other functions of the floodplain.

Cultural Resources

Federal Laws and Statutes

- **An Act for the Preservation of American Antiquities [Antiquities Act of 1906] (PL 59-209; 34 Stat. 225; 16 USC, Sections 432 and 433)** made it unlawful for any person to appropriate, excavate, injure, or destroy any historic or prehistoric ruin or monument, or any object of antiquity, situated on lands owned or controlled by the Government of the United States.

- **Historic Sites Act of 1935 (PL 74-292; 49 Stat. 666; 16 USC, Section 461)** declares a national policy to identify and preserve nationally significant "historic sites, buildings, objects and antiquities." It authorizes the National Historic Landmarks program and provides the foundation for the National Register of Historic Places authorized in the National Historic Preservation Act of 1966. Regulations implementing the National Historic Landmarks Program are at 36 CFR Part 65.

- **National Historic Preservation Act of 1966 and amendments (PL 89-665; 80 Stat. 915; 16 USC, Section 470)** creates the National Register of Historic Places and extends protection to historic places of state and local as well as national significance. It establishes the Advisory Council on Historic Preservation, State Historic Preservation Officers, Tribal Preservation Officers, and a preservation grants-in-aid program. Section 106 directs Federal agencies to take into account effects of their actions ("undertakings") on properties in or eligible for the National Register.

- **National Environmental Policy Act of 1969 (PL 91-190; 83 Stat. 852; 42 USC, Section 4321)** states that it is the Federal government's continuing responsibility to use all practicable means to preserve important historic, cultural, and natural aspects of our national heritage. It instructs Federal agencies to prepare environmental impact statements for each major Federal action having an effect on the environment.

- **American Indian Religious Freedom Act of 1978 (PL 95-341; 92 Stat. 469; 42 USC, Section 1996)** states that "it shall be the policy of the United States to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions of the American Indian, Eskimo, Aleut, and Native Hawaiians, including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites".

- **Archaeological Resources Protection Act (ARPA) of 1979 [PL 96-95; 93 Stat. 721; 16 USC, Sections 470(aa)-470(mm)], as amended (PL 100-555; PL 100-588)** expands the protections provided by the Antiquities Act of 1906 in protecting archaeological resources and sites located on public and Indian lands. ARPA has felony-level penalties for excavating, removing, damaging, altering, or defacing any archaeological resource more than 100 years of age, on public or Indian lands, unless authorized by a permit.

- **Native American Graves Protection and Repatriation Act of 1990 (PL 101-601; 25 USC, Sections 3000-3013; 104 Stat. 3048-3058)** provides for disposition of cultural items from Federal or tribal lands. The ownership or control of Native American cultural items that are excavated or discovered on Federal or tribal lands after 1990 is determined by a custody hierarchy set out in the statute.

- **Reservoir Salvage Act of 1960, as amended [16 USC, Sections 469-469(c)]** extended the Historic Sites Act of 1935. It gave the Department of the Interior, through the National Park Service, major responsibility for preserving archaeological data that might be lost specifically through dam construction.

- **Curation of Federally-Owned and Administered Archeological Collections (36 CFR, Part 79)** establishes definitions, standards, procedures, and guidelines to be followed by Federal agencies to preserve collections of prehistoric and historic material remains and associated records.

- **Determinations of Eligibility for Inclusion in the National Register (36 CFR, Part 63)** was developed to assist Federal agencies in identifying and evaluating the eligibility of properties for inclusion in the National Register.

- **National Register of Historic Places (36 CFR, Part 60)** describes the criteria for eligibility for inclusion of properties in the NRHP.

- **Protection of Historic Properties (36 CFR, Part 800)** describes the Section 106 Process.

- **Public Conduct on Bureau of Reclamation Facilities, Lands, and Waterbodies (43 CFR, Part 423)** intends to maintain law and order and protect persons and property within Reclamation projects and on Reclamation facilities, lands, and waterbodies by specifying areas open and closed to public use.

- **Executive Order 13175, Consultation and Coordination with Indian Tribal Governments (65 FR 67249)** was issued to establish regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications. When implementing such policies, agencies shall consult with tribal officials as to the need for Federal standards and any alternatives that limit their scope or otherwise preserve the prerogatives and authority of Indian tribes.

- **Government-to-Government Relations with Native American Tribal Governments (Memorandum signed by President Clinton; April 29, 1994) (61 FR 42255)** directs Federal agencies to consult, to the greatest extent practicable and to the extent permitted by law, with tribal governments prior to taking actions that affect Federally recognized tribal governments. Federal agencies must assess the impact of Federal government plans, projects, programs, and activities on tribal trust resources and assure that tribal government rights and concerns are considered during such development.

- **Executive Order 11593, Protection and Enhancement of the Cultural Environment (36 FR 8921)**, directs Federal agencies to inventory cultural properties under their jurisdiction, to nominate to the National Register all Federally owned properties that meet the criteria, to use due caution until the inventory and nomination processes are completed, and to assure that Federal plans and programs contribute to preservation and enhancement of non-Federal properties.

- **Executive Order 13007, Indian Sacred Sites (61 FR 26771)** directs Federal agencies in managing Federal lands to 1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners; and 2) avoid adversely affecting the physical integrity of such sacred sites.

- **Executive Order 13287, Preserve America 2003 (68 FR 10635)**, directs Federal agencies to improve their management of historic properties and to foster heritage tourism in partnership with local communities.

Department of Interior Directives

- **Managing Museum Property (Departmental Manual 411)** sets the policy for the collection, management, and care of museum property for all DOI bureaus. Museum property is a subset of the larger personal property category within DOI, thus property law and regulations apply.

Reclamation Policies and Regulations

- **Cultural Resources Management Policy (LND-P01)** states that cultural resources are recognized as fragile, irreplaceable resources with potential public and scientific uses, and represent an important and integral part of our Nation's heritage. It is Reclamation's practice to:

    1. Manage cultural resources under Reclamation jurisdiction or control according to their relative importance, to protect against impairment,

destruction, and inadvertent loss, and to encourage and accommodate the uses determined appropriate through planning and public participation.

2. Manage cultural resources under cultural resource statutes and the planning and decision making processes as are followed in managing other public land resources.

3. Ensure that tribal issues and concerns are given consideration during planning and decision making, including fire management planning and decision making for specific fire management projects.

This policy is not limited to Reclamation's activities that affect Federal lands. It is the responsibility of Reclamation to assure that its actions and authorizations are considered in terms of effects on cultural resources located on non-Federal lands. Fire management planning and activities on site-specific projects that involve non-Federal land shall consider this responsibility.

- **Cultural Resources Management Directive and Standard (LND 02-01)** ensures that Reclamation manages its cultural resources according to Federal legislative mandates and in a spirit of stewardship; clarifies Reclamation's roles and responsibilities related to cultural resources; and provides direction for consistent implementation of Reclamation's cultural resources management responsibilities.

- **Inadvertent Discovery of Human Remains on Reclamation Lands (LND 07-01)** establishes procedures for compliance with federal statutes when inadvertent (i.e., unplanned) discoveries of human remains occur on Reclamation lands.

- **Museum Property Management Policy (LND P05) and Directive and Standard (LND 02-02)** defines Reclamation's responsibility for the museum property it owns, controls, or administers on behalf of the United States Government in accordance with Federal laws, regulations, and the Department of the Interior policies.

Biological Resources:

Federal Laws and Statutes

- **Fish and Wildlife Coordination Act of 1934** requires consultation with USFWS and state agencies whenever the waters or channels of a body of water are modified by a department or agency of the U.S, with a view to the conservation of wildlife resources. It provides that land, water and interests may be acquired by Federal construction agencies for wildlife conservation and development.

- **Sikes Act of 1974** directs the Secretaries of Interior and Agriculture to, in cooperation with the State agencies, develop, maintain, and coordinate programs for the conservation and rehabilitation of wildlife, fish, and game. Such conservation and rehabilitation programs shall include, but are not limited to, specific habitat improvement projects and related activities and adequate protection for species considered threatened or endangered.

- **North American Waterfowl Management Plan of 1986** was signed between Canada and USA and aims to conserve migratory birds throughout the continent. Further, it sets population goals for waterfowl and provides guidance as to how these goals can be achieved.

- **Federal Endangered Species Act of 1973** provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. It is designed to protect critically imperiled species from extinction due to "the consequences of economic growth and development untempered by adequate concern and conservation".

- **US Migratory Bird Treaty Act of 1918 and amendments** establishes a Federal prohibition, unless permitted by regulations, to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, ... any migratory bird . . . or any part, nest, or egg of any such bird." An amendment was passed in 1972 to include owls, hawks, and other birds of prey.

- **Bald Eagle Protection Act of 1940** provides for the protection of the bald eagle and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession and commerce of such birds.

- **Federal Noxious Weed Act of 1974** provides for the control and management of nonindigenous weeds that injure or have the potential to injure the interests of agriculture and commerce, wildlife resources, or the public health. Under this Act, the Secretary of Agriculture was given the authority to designate plants as noxious weeds, and inspect, seize and destroy products, and to quarantine areas, if necessary to prevent the spread of such weeds.

- **Executive Order 13112 Invasive Species (64 FR 2793)**, signed in 1999, directs Federal agencies to prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause. To do this, the EO established the National Invasive Species Council; currently there are 13 Departments and Agencies on the Council.

- **Executive Order 13443 Facilitation of Hunting Heritage and Wildlife Conservation (72 FR 46537)** intends to direct Federal agencies with programs and activities that have a measurable effect on public land management, outdoor recreation, and wildlife management, including the Department of the Interior and the Department of Agriculture, to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat.

Reclamation Policies and Regulations

- **Implementation of the Cost-Sharing Authorities for Recreation and Fish and Wildlife Enhancement Directive and Standard (LND 01-01).**

- **Reclamation Policy for Consultation under the Endangered Species Act of 1973, as amended (ENV P04)**.

- **Wetlands Mitigation and Enhancement Policy (LND P03)** establishes policy for Reclamation to use in determining appropriate mitigation for all actions affecting wetlands. Encourage activities protecting, preserving, and enhancing wetlands.

Indian Trust Assets:

Federal Laws and Statutes

- **Executive Order 13175, Consultation and Coordination with Indian Tribal Governments (65 FR 67249)**, was issued to establish regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications. When implementing such policies, agencies shall consult with tribal officials as to the need for Federal standards and any alternatives that limits their scope or otherwise preserves the prerogatives and authority of Indian tribes.

- **Government-to-Government Relations with Native American Tribal Governments (Memorandum signed by President Clinton; April 29, 1994) (61 FR 42255)** directs Federal agencies to consult, to the greatest extent practicable and to the extent permitted by law, with tribal governments prior to taking actions that affect Federally recognized tribal governments. Federal agencies must assess the impact of Federal government plans, projects, programs, and activities on tribal trust resources and assure that tribal government rights and concerns are considered during such development.

Department of Interior Directives

- **Secretarial Order No. 3175, Departmental Responsibilities for Indian Trust Resources**, requires Interior bureaus and offices to consult with the recognized tribal government with jurisdiction over the trust property that a proposal may affect.

- **Secretarial Order No. 3206, American Indian Tribal Rights, Federal -Tribal Trust Responsibilities, and the Endangered Species Act**, clarifies the responsibilities of the Interior agencies with regard to the effects of ESA compliance actions affect, or may affect, Indian lands, tribal trust resources, or the exercise of American Indian tribal rights. Interior agencies will carry out their responsibilities in a manner that harmonizes the Federal trust responsibility to tribes, tribal sovereignty, and statutory missions of the departments, and that strives to ensure that Indian tribes do not bear a disproportionate burden for the conservation of listed species.

- **Secretarial Order No. 3215, Principles for the Discharge of the Secretary's Trust Responsibility**, provides guidance to the employees of the Department of the Interior who are responsible for carrying out the Secretary's trust responsibility as it pertains to ITAs.

- **Departmental Manual 512 DM Chapter 2, Departmental Responsibilities for Indian Trust Resources**, establishes the policies, responsibilities, and procedures for operating on a government-to-government basis with Federally recognized Indian tribes for the identification, conservation, and protection of American Indian and

Alaska Native trust resources to ensure the fulfillment of the Federal Indian Trust Responsibility.

Reclamation Policies and Regulations

- **Indian Policy of the Bureau of Reclamation** affirms that Reclamation will comply with both the letter and the spirit of Federal laws and policies relating to Indians; acknowledge and affirm the special relationship between the United States and Federally recognized Indian Tribes; and actively seek partnerships with Indian Tribes to ensure that tribes have the opportunity to participate fully in the Reclamation program as they develop and manage their water and related resources.

- **Bureau of Reclamation Protocol Guidelines: Consulting with Indian Tribal Governments** provides guidance on the protocol for conducting consultation and maintaining government to government relationships with Indian tribes.

- **Bureau of Reclamation Indian Trust Asset Policy and Guidance** is described in a 1993 Memorandum outlining National Environmental Policy Act Handbook Procedures to Implement Indian Trust Asset Policy.

Land Management:

Land Use

Federal Laws and Statutes

- Mining Law of 1872, as amended;
- The Recreation and Public Purposes Act of 1926, as amended;
- Land and Water Conservation Fund Act of 1965, as amended;
- Federal Land Transaction Facilitation Act of 2000;
- Federal Cave Resources Protection Act of 1988, as amended;
- The Declaration of Taking Act of 1931;
- The Condemnation Act of 1888, as amended;
- The Engle Act of 1958;
- The Federal Power Act of 1920, as amended;
- The Act of May 24, 1928, as amended;
- The Carey Act of 1894, as amended;
- Unlawful Enclosures Act of 1885;
- The Act of December 22, 1928, as amended;

- Sections 2275 and 2276 of the Revised Statutes, as amended;
- 43 CFR, Part 402: Sale of Lands in Federal Reclamation Projects;
- 43 CFR, Part 420: Off-road vehicle use;
- 43 CFR, Part 429: Procedure to process and recover the value of rights-of-use and administrative costs incurred in permitting such use;

Reclamation Policies and Regulations

- Land Withdrawals, Withdrawal Reviews and Withdrawal Revocations Directive and Standard (LND 03-01);
- Real Estate Appraisal Directive and Standard (LND 05-01);
- Land Acquisition Directive and Standard (LND 06-01);
- Land Use Authorizations Directive and Standard (LND 08-01);
- Land Disposal Directive and Standard (LND 08-02);
- Real Property Management Records Directive and Standard (LND 09-01);
- Payments in Lieu of Taxes (PILT) Directive and Standard (LND 09-02); and
- Disposal of Bridges and Crossings on Reclamation Land Directive and Standard (LND 011-01).

Concessions

Reclamation Policies and Regulations

- Concessions Management Policy (LND P02);
- Concessions Management by Reclamation Directive and Standard (LND 04-01); and
- Concessions Management by Non-Federal Partners Directive and Standard (LND 04-02).

Facilities Management

Reclamation Policies and Regulations

- Environmental Management Systems Policy (LND P05);
- Emergency Management Policy (FAC P01);
- Hazardous Waste and Materials Management Policy (ENV P01);

- Pollution Prevention-Hazardous and Solid Waste Minimization Directive and Standard (ENV 02-03); and

- Emergency Management Directive and Standard (FAC 01-01).

Fire Management

Federal Laws and Statutes

- Protection Act of September 20, 1922 (42 Stat. 857; 16 USC, Section 594);

- Reciprocal Fire Protection Act of May 27, 1955 [69 Stat. 66; 42 USC, Sections 1856 and 1856(a)];

- Economy Act of June 30, 1932 (47 Stat. 417; 31 USC, Section 686);

- Disaster Relief Act, Section 417 (PL 93-288);

- Annual Appropriations Acts for the Department of the Interior;

- The Multiple-Use Sustained-Yield Act of June 12, 1960;

- The Forest and Rangeland Renewable Resources Planning Act of August 17, 1974;

- Healthy Forests Restoration Act, December 2003 (PL 108-148);

- United States Department of the Interior Manual (910 DM 1.3);

- 1995 Federal Wildland Fire Management Policy; and

- 2001 Updated Federal Wildland Fire Management Policy (1995 Federal Wildland Fire Management Policy Update).

Department of Interior Directives

- 1998 Departmental Manual 620 Chapter 1, Wildland Fire Management General Policy and Procedures.

Transportation

Federal Laws and Statutes

- Federal-Aid Highway Act of 1958, 1962, 1966, 1968, and 1973, as amended;

- Highway Safety Act of 1966, as amended;

- Architectural Barriers Act of 1968, as amended; and

- Surface Transportation Act of 1978 and 1982, as amended.

- **Executive Order 11644 (37 FR 2877), as amended by Executive Order 11989 (42 FR 26959h)**, requires Federal agencies to adopt rules regulating OHV use on public lands and to adopt a designation process and designation criteria to protect land resources and promote public safety. The stated underlying authority for issuance of the orders is NEPA (42 USC, Section 4321).

Range Management

Federal Laws and Statutes

- The Taylor Grazing Act of 1934 (43 USC, Section 315) states "[T]he Secretary of the Interior is authorized, in his discretion, by order to establish grazing districts or additions thereto…of vacant inappropriate and unreserved lands from any part of the public domain…which in his opinion are chiefly valuable for grazing and raising forage crops[.]…" The act also provides for the classification of lands for particular uses;

- The Public Rangelands Improvement Act of 1978 (43 USC, Section 1901) provides that the public rangelands be managed so that they become as productive as feasible in accordance with management objectives and the land use planning process established pursuant to 43 USC, Section 1712;

- 43 CFR, Part 4100 (Grazing Regulations); and

- General Allotment Act of 1887, as amended.

Public Safety

Federal Laws and Statutes

- The Federal Water Pollution Control Act of 1977 (33 USC, Section 1323) requires Federal land managers to comply with all Federal, state, and local requirements, administrative authority, process, and sanctions regarding the control and abatement of water pollution in the same manner and to the same extent as any nongovernmental entity;

- The Clean Water Act (CWA) of 1972, as amended (33 USC, Section 1251) establishes objectives to restore and maintain the chemical, physical, and biological integrity of the nation's water;

- The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended (42 USC, Sections 9601 et seq.), also known as Superfund, is primarily intended to address risks posed to human health and welfare or the environment resulting from releases or potential releases of hazardous substances. Other key acts related to CERCLA include the following:

- Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) amends CERCLA/SARA (42 USC, Section 11001) and adds sections 120 and 121 dealing with Federal facilities;

- Community Environmental Response Facilitation Act of 1992 (CERFA) amends CERCLA Section 120(h) (42 USC, Section 9620);

- Pollution Prevention Act of 1990 (42 USC, Section 13101);

- Resource Conservation and Recovery Act of 1976, as amended (42 USC, Sections 6901 et seq.);

- Toxic Substances Control Act of 1976 (15 USC, Sections 2601 et seq.);

- Federal Insecticide, Fungicide, and Rodenticide Act of 1975 (7 USC, Sections 136 et seq.);

- Clean Air Act of 1970, as amended (42 USC, Sections 7401 et seq.);

- Safe Drinking Water Act of 1974, as amended (42 USC, Sections 300 et seq.);

- Transportation Safety Act of 1974; Hazardous Materials Transportation Act amendments of 1976 and 1990 (49 USC, Sections 1801 et seq.);

- Atomic Energy Act of 1954 (42 USC, Sections 2011 et seq.);

- Uranium Mill Tailings Radiation Control Act of 1978, as amended (42 USC, Sections 2014 et seq.);

- Nuclear Waste Policy Act of 1982 (42 USC, Sections 10101 et seq.);

- Executive Order 11514, Protection and Enhancement of Environmental Quality, March 5, 1970;

- National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR, Part 300);

- Occupational Safety and Health Act of 1970, as amended; and

- Lead-based Paint Poisoning Prevention Act, as amended;

Reclamation Policies and Regulations

- Hazardous Waste and Materials Management Policy (ENV P01);

- Pest Management Policy (ENV P02);

- Occupational Safety and Health Program Policy (SAF P01);

- Pest Management/Resource Protection (Integrated Pest Management) Program Directive and Standard (ENV 01-01);

- Public Notification of Aerial Pesticide Applications on Lands Managed Directly by Reclamation Directive and Standard (ENV 01-02);

- Pollution Prevention-Hazardous and Solid Waste Minimization Directive and Standard (ENV 02-03);

- Emergency Management Directive and Standard (FAC 01-01); and
- Hazardous Materials Directive and Standard (FAC 01-03).

Visitor Use and Recreation:

Federal Laws and Statutes

- **Procedure to process and recover the value of rights-of-use and administrative costs incurred in permitting such use (43 CFR, Part 429)** intends to meet the requirements of the Independent Offices Appropriation Act [31 USC, Section 483(a)] and Departmental Manual Part 346, Chapters 1.6 and 4.10, to set forth procedures for Reclamation to recover the value of rights-of-use interests granted to applicants, and for the collection of administrative costs associated with the issuing of rights-of-use over lands administered by Reclamation;

- **Reclamation Recreation Management Act of 1992** is an amendment to the Federal Project Recreation Act of 1965, PL 89-72, that provides up to 50 percent Federal cost sharing for the planning, construction, and operation and maintenance of recreation facilities with non-Federal public entities. It also provides 75 percent Federal cost sharing with non-Federal partners for fish and wildlife enhancement and up to 50 percent of the operation and maintenance of such facilities. Non-Federal public entities that have agreed to manage developed facilities and lands at Reclamation projects are to work with local Reclamation offices to identify proposed projects for funding. Congressional funds are appropriated annually and distributed for selected sites;

- **Public conduct on Reclamation lands and projects (43 CFR, Part 423)**, **e**stablished on April 17, 2002, is meant to maintain law and order and protect persons and property on Reclamation lands and at Reclamation projects. This statute at the time of authorization honored all designated closures and special use areas on Reclamation property. At New Melones Lake, two separate Memoranda for Record and an Interim Management Plan were in force;

- **The Reclamation Act of 1902, as amended** set aside Federal money to irrigate lands in the West to promote farming and vested Reclamation with the authority to operate water projects;

- **Flood Control Act of December 22, 1944** authorized construction of New Melones Dam, and was subsequently modified by the Flood Control Act of 1962 (PL 87-874). The authorized purposes of the project included flood control, irrigation, power generation, general recreation, water quality, and fish and wildlife enhancement;

- **The Flood Control Act of 1962** describes the responsibilities of the Secretary of the Army and the Secretary of the Interior at the New Melones project. This act authorized Reclamation to allow and plan for recreational activities at the New Melones Lake Area;

- **The Federal Lands Recreation Enhancement Act of 2005 (FLREA)** provides for a nationally consistent interagency program, additional on-the-ground improvements to visitor services at recreation sites across the nation, a new national pass for use across interagency Federal recreation sites and services, and more public involvement in the program. The new authority addresses public concerns about the previous Fee-Demo program by limiting fees to sites that have a certain level of development and meet specific criteria. The FLREA will allow New Melones management to establish a comprehensive fee collection program and to retain a portion of the fees for improvements to recreational facilities and infrastructure. Details of the proposed fee collection program will be identified in the RMP/EIS;

- **36 CFR, Part 71, Recreation Fees**, specifies the criteria under which recreation fees may be charged on Federal lands. Fees must be entrance fees, daily recreation use fees, or special use permit fees. Areas with recreational facilities provided at Federal government expense are eligible to charge use fees;

- **43 CFR, Part 24, Department of the Interior Fish and Wildlife Policy: State-Federal Relationships**, establishes policy on intergovernmental cooperation for the management, use, and preservation of fish and wildlife resources;

- **The Federal Water Project Recreation Act of 1965, as amended**, mandates that planning for any Federal water resource project must address opportunities for recreation and fish and wildlife enhancement;

- **The Land and Water Conservation Fund Act of 1964** directed the Secretary of the Interior to inventory, evaluate and classify outdoor recreation facilities, and formulate and maintain a comprehensive nationwide outdoor recreation plan;

- **PL 106-206, Commercial Filming**, established the requirement of a permit and reasonable fee for filming on lands under the supervision of the Secretary of Interior or Secretary of Agriculture;

- **Americans with Disabilities Act of 1990** prohibits private employers, state and local governments, employment agencies and labor unions from discriminating against persons with physical disabilities;

- **Reclamation Recreation Management Act of 1992** is an amendment to the Federal Project Recreation Act of 1965, PL 89-72, that provides up to 50 percent Federal cost sharing for the planning, construction, and operation and maintenance of recreation facilities with non-Federal public entities. It also provides 75 percent Federal cost sharing with non-Federal partners for fish and wildlife enhancement and up to 50 percent of the operation and maintenance of such facilities;

- **Office of Management and Budget (OMB) Circular A-025, Revised 1993** establishes Federal policy regarding fees assessed for Government services and for sale or use of Government goods or resources. It provides information on the scope and types of activities subject to user charges and on the basis upon which user charges are to be set. Finally, it provides guidance for agency implementation of charges and the disposition of collections; and

- **Executive Order 13443, Facilitation of Hunting Heritage and Wildlife Conservation (72 FR 46537)**, intends to direct federal agencies that have programs and activities with a measurable effect on public land management, outdoor recreation, and wildlife management, including the Department of the Interior and the Department of Agriculture, to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat.

Reclamation Policies and Regulations

- **Recreation Management Policy (LND P04)** defines Reclamation's overall responsibilities and establishes the basic principles for planning, development, management, and protection of public recreation resources on Reclamation lands and waters;

- Concessions Management by Reclamation Policy (LND P02);

- Concessions Management by Reclamation Directive and Standard (LND 04-01);

- Concessions Management by Non-Federal Partners Directive and Standard (LND 04-02);

- National Environmental Policy Act (ENV P03); and

- Cultural Resources. A Memorandum of Agreement between Reclamation and the Advisory Council on Historic Preservation, dated December 22, 1980, outlined requirements for mitigating effects to cultural resources from construction of New Melones Dam and subsequent filling of the reservoir. One of the tenets of the agreement was that Reclamation would create and maintain an interpretive program. This program was to include "trails, signs, exhibits, and pamphlets, brochures, booklets, and displays", but has been expanded to include the visitor center located at lake headquarters as well as the current interpretive program.

Socioeconomics and Environmental Justice:

Federal Laws and Statutes

- **Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations** requires that Federal Agencies make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.

- **Americans with Disabilities Act of 1990 ["ADA"], as Amended** prohibits discrimination on the basis of disability in employment, State and local government, public accommodations, commercial facilities, transportation.

APPENDIX B
NEW MELONES LAKE 2008 WATER RECREATION OPPORTUNITY SPECTRUM INVENTORY AND MANAGEMENT ALTERNATIVES

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This Appendix B is a summary of the New Melones Lake Water Recreation Opportunity Spectrum (WROS) Inventory and Management Alternatives Report (Reclamation 2008). The preparers of this report inventoried, classified, mapped, and described the current recreation situation for New Melones Lake in order to help guide land and water managing agencies in future planning and management decisions. Full copies of this report are available by contacting the New Melones RMP/EIS Project Manager, Melissa Vignau, Natural Resources Specialist, 7794 Folsom Dam Road, Folsom, CA 95630; telephone: 916-989-7182; email: *mbrockman@usbr.gov*.

What is the WROS?

A recreation opportunity is composed of four components that are linked together: 1.) The opportunity for a person to participate in a particular recreation activity and 2.) in a specific setting and 3.) to enjoy a particular recreation experience and 4.) the benefits this affords. The WROS is a tool that relies on a systematic approach, which is used to understand the type, location, and quality of basic water recreation experiences. The WROS system uses six classes that range from Urban to Primitive. The WROS enables a water body to be inventoried and mapped into any or all of the appropriate six WROS classes.

Each WROS class conveys a basic understanding of what a recreationist can expect to experience, because each class is defined by a particular suite of activities, setting attributes, experiences, and benefits. Characteristics of the WROS classes are described in Chapter 5.

The WROS Inventory Process

WROS is designed to provide a relatively quick, easy, and inexpensive process to inventory recreation on a water body and its land interface. There are three possible levels of WROS inventory analysis: slight, ordinary, and extraordinary. This three-level sliding scale of analysis allows for managers to have the flexibility to make decisions based on a level that is commensurate with the purpose and potential consequences of the decision.

Regardless of what inventory level is selected, the WROS inventory process involves a collaborative team of multidisciplinary experts evaluating a water resource based on 15 physical, social, and managerial attributes (RMP/EIS Chapter 5, Table 5-26), using the six-class, eleven-point scale (Table B-1). The inventory results in a map showing the classes and location of the current recreation opportunities provided on the water resource.

Table B-1. Six-Class, Eleven-Point Scale of the WROS

Scale	WROS Class
1-2	Urban
2-3-4	Suburban
4-5-6	Rural Developed
6-7-8	Rural Natural
8-9-10	Semi Primitive
10-11	Primitive

The team of experts completes standardized inventory forms at selected locations on each body of water. The forms are used to rate the physical, social, and managerial attributes

of each water body. The next step is to arrive at an overall WROS rating for each inventory site using the six-class, eleven-point scale.

Benefits of the WROS are as follows:

- Identifying the needs that any given water body is best suited to serve;
- Providing and preserving diverse recreational experiences across the region;
- Saving money by reducing unnecessary duplication of facilities and services;
- Efficiently planning and managing cooperatively across water body and agency boundaries;
- Improving conservation of natural resources;
- Comparing management alternatives and potentially associated economic impacts;
- Gaining essential information for the public to evaluate alternatives and make informed choices; and
- Improving planning and allocation of limited funds.

General Field Observations

The WROS inventory team found that New Melones Lake is well managed and its facilities and services are diverse and can accommodate many users. Some of its structures are aging and may lack accessibility, but investing major public funds is not necessary at this time, beyond providing for routine maintenance and replacement.

Further, water-based recreation is popular year-round, with prime visitation in the warmer months. Fishing is the primary year-round activity, while houseboating and water-contact activities are popular in the summer.

Visitation and diverse types of boat uses are the key determinants of the available recreation opportunities. The large core area of New Melones provides an opportunity for Rural Developed recreation.

The biggest challenge for Reclamation is deciding how to address the gradual expansion of the Rural Developed area at the loss of the Rural Natural opportunities. Rural Natural areas with the potential to change are the northwest (Angels Creek) and southeast (Long Gulch) corners of the reservoir, plus the area near and above the Parrotts Ferry Bridge. Future management alternatives should focus on these areas. The key planning question is: What is the public demand and support for the current range of WROS diversity on New Melones; that is, is there more support for a more urban and less diverse setting?

Results

The WROS inventory team conducted the study on July 20, 2007. Based on the WROS inventory, the team developed a map depicting the current recreation situation for New Melones Lake. The reservoir provides Rural Developed (RD4 and RD5), Rural Natural (RN6 and RN7), and Semi Primitive (SP9) classes of water recreation opportunities (Table B-2). The team classified five inventory sites as Rural Developed, three inventory sites as Rural Natural, and one inventory site as Semi Primitive.

Table B-2. Water surface acres of WROS classifications

Water Surface	Classification	Surface Acres	Percent of Total Surface Acres
New Melones Lake	Rural Developed	7,500	60
	Rural Natural	3,750	30
	Semi Primitive	1,250	10
Total	**12,500 acres**		

The three changes from the current to the suggested WROS classifications and maps are as follows:

1. The current SP9 area begins up the Stanislaus River Canyon above Parrotts Ferry Road, approximately one mile up-river from the Y-junction. The suggested SP9 classification begins at the Y-junction. At this location, this suggested change represents an addition of approximately one mile of SP9 and a reduction of one mile of RN7.
2. The upper end of North Bay, including the Greenhorn Creek area, would change from the RN6 to the suggested RN7.
3. The western shoreline across from Iron Horse and down through Middle Bay would change from RD4 to the suggested RD5/RN6.

Figure 2-1 in Chapter 2 of the RMP/EIS depicts these changes.

Future Management Considerations

The WROS team members identified management considerations for managing New Melones Lake as a result of their site visits, discussions, and consideration of WROS guidelines.

Consideration 1: Upper Stanislaus River

Current situation

The Upper Stanislaus River was inventoried to provide Semi Primitive recreation opportunities. However, the three attribute scores (physical, social, and managerial) suggest a current or potential inconsistency. The scores suggest that, while the area has the attributes of a Semi Primitive area, there are some uses that reduce the social setting values that may not be compatible with the current situation.

Management Option 1.1: Manage the Upper Stanislaus River as a Semi Primitive setting
Management Option 1.2: Manage the Upper Stanislaus River as a Rural Natural setting

Consideration 2: Greenhorn Creek area

Current situation

This area was inventoried to be on the edge of providing either Rural Developed or Rural Natural recreation opportunities. There was a large variation in the three attribute scores, suggesting an inconsistency. This variation suggests that management intervention is required to mitigate this inconsistency.

Management Option 2.1: Manage the Greenhorn Creek area as a Rural Natural setting
Management Option 2.2: Manage the Greenhorn Creek area as a Rural Developed setting

Consideration 3: Ski course
Current situation
One cove in the South Bay area contains a ski course, which has been in operation for a number of years. The area was inventoried as a Rural Natural area overall, though there were modest variations in the three attribute scores, suggesting a small inconsistency. There is concern that the ski course is having a potential impact on nearby residents and recreationists, especially considering its proximity to the Peoria Wildlife Mitigation Area. The type and extent of the impact is unknown, but it would be reasonable to assume that there is some impact from the ski course and that another location may be of mutual benefit to all parties.

Management Option 3.1: Relocate the ski course
Management Option 3.2: Management change for the ski course

Consideration 4: Houseboat policies
Current situation
Houseboating is allowed on New Melones Lake, and it is an increasingly popular recreation activity. However, in contrast to other types of boating, the space necessary to moor a houseboat is considerable, for it to travel safely and to accommodate its many attendant devices. Currently, there are few policies at New Melones regarding houseboat sizes, length of mooring, number of private and commercial houseboats at one time, or other regulations. In the absence of adequate houseboat policies and regulations, whatever WROS management scheme is implemented in the future would likely be impacted, given the trends in houseboating. Thus, it would seem reasonable for policies to be proactively established for the benefit of all parties.

Management Option 4.1: Expand houseboat management policies
Management Option 4.2: Do not implement houseboat management policies

Regional WROS Perspective
This section allows for a comparison of New Melones Lake to the other study lakes in Region III, which is the East Central Foothills Region WROS study area. Region III includes Lakes McClure and McSwain, Millerton Lake, New Melones Lake, Pine Flat Lake, Turlock Lake, and Don Pedro Lake. Together, these foothill reservoirs provide most of the mid-range WROS Rural Natural and Rural Developed water recreation opportunities and experiences in both the East and West Central regions.

New Melones Lake is unique because it is in a beautiful setting and because approximately two-thirds of its large water surface area is covered by either Rural Natural or Semi Primitive WROS classes. Only eight percent of the water surface acres of all study reservoirs in the region are classified as Semi Primitive, with New Melones Lake representing fifty percent of the total.

Tables B-3 and B-4 are presented below to allow for a comparison of New Melones Lake to other study lakes in Region III.

Table B-3.
Comparison of Physical and Managerial Profile Variables: Region III and New Melones

Variables	Region III[1]		New Melones Lake	
	Region Average	Region Total	New Melones Total	New Melones Percent of Regional Total
Physical Profile Variables				
Total water surface acreage (high pool)	7,056	42,334	12,500	30
Managerial Profile Variables				
Number of developed campgrounds	3	15	5	33
Number of developed campsites	214	1,285	315	25
Number of undeveloped/rustic campsites	61	363	0	0
Number of picnic sites	52	209	100	48
Miles of hiking trails	6	33	25	76
Miles of horseback riding trails	<1	2	2	100
Miles of bike trails	5	31	24	77
Number of boat launch sites	3	20	7	35
Number of paved boat access lanes	9	54	18	33
Number of boat rentals (boats)	15	73	43	59
Number of private moorings (slips)	135	809	170	21
Number of visitor centers	1	3	1	33

[1] Region III includes Don Pedro, McClure, McSwain, Millerton, New Melones, Pine Flat and Turlock Lakes.

Table B-4.
Comparison of Social Profile Variables: Region III and New Melones

Variables	Region III[1]	New Melones Lake
Social Profile Variables	**Region Average**	**New Melones Total**
Number of annual visitors[2]	540,639	800,000
Average length of stay (days)	2	1.5
Average size of visitor groups (people)	4	7
Percent of large groups over 12 people	12	6
Percent of repeat visitors	64	13
What Experiences Visitors Are Seeking (Percentage)		
Social	36	50
Skill development	8	5
Peace and quiet	25	15
Thrills	16	10
Aesthetics	7	20
Other	8	0
Home Origin of Visitors (Percentage)		
Less than 10 miles	2	0
10-25 miles	21	42

Table B-4.
Comparison of Social Profile Variables: Region III and New Melones

Variables	Region III[1]	New Melones Lake
26-100 miles	49	30
101-250 miles	25	28
250+ miles	5	0
Percent of Visitors by Ethnicity		
Caucasian	61	75
Mexican American	24	9
American Indian	4	8
Asian American	8	4
African American	4	2
Other	1	2
Percent of Boats by Size		
<16 feet	33	30
16 to 25 feet	57	60
Over 25 feet	11	10
Percent of Boats by Type		
Nonmotorized	6	5
Outboard engine	49	50
PWC	17	15
Inboard engine	17	10
Houseboat	12	20

[1] Region III includes Don Pedro, McClure, McSwain, Millerton, New Melones, Pine Flat and Turlock Lakes.

[2] The total number of visitors for Region III is 2,703,193. New Melones's percent of the regional total is 30%.

In order to continue providing a diversity of water recreation opportunities and visitor experiences in the region and state, it is most important to protect the WROS classes and opportunities that are relatively rare in the region. As such, management to protect the Semi Primitive areas at New Melones Lake is important.

APPENDIX C
DRAFT NEW MELONES LAKE MOORED VESSEL PLAN

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Draft New Melones Lake Moored Vessel Plan

1. Authority:
The Act of Congress approved June 17, 1902, (32 Stat. 388), the Reclamation Act of 1939, (53 Stat. 1187) including all amendments, supplements, and the Federal Water Project Recreation Act (1965) and the Reclamation Recreation Management Act of 1992.

Additional authority for the Special Recreation Policy is contained in OMB Circular A-25, the Code of Federal Regulations (43 CFR 429), and Reclamation Manual/Directives and Standards LND08-01.

Flood Control Act of 1944, Flood Control Act of 1962

CVPIA

43 CFR Part 423

Reclamation Manual LND P02 Concessions Management

Reclamation Manual LND 04-01 Concessions Management Directives and Standards

2. Purpose: To establish a plan for the placement, mooring and operation of houseboats and other vessels at New Melones Lake, in order to ensure the protection of water quality, enhancement of resource values, and provision of fair and equitable recreational use of this waterway. Any person wishing to place, moor, dock, occupy and/or operate a houseboat, overnight occupancy vessel and/or other vessel on New Melones Lake shall comply with the following provisions.

3. Scope: This policy applies to all privately and commercially owned houseboats, overnight-occupancy vessels and moored/docked vessels on New Melones Lake.

4. Effective Date: January 1, 2013 or upon expiration of existing concession contract.

5. Definitions:

a. Houseboats are defined by Reclamation as vessels which may have the capability of sleeping four or more people and can include galleys, toilets and showers which can produce black and/or gray water. All vessels must meet standards in accordance with 43 CFR 423.39.

b. Moored Vessels are those vessels that are attached to or housed within a floating structure such as a dock or boathouse, or are secured in place by an anchor, mooring line, buoy, or other mooring device for the purpose of temporary or longer term placement on the water of New Melones Lake.

c. Overnight Occupancy Vessels (OOV) are generally shorter in length but may also have galleys and/or toilets and are capable of producing black and/or gray water.

6. Discharge of Wastes:

a. Unauthorized discharge of wastes including gray and/or black water from a vessel is prohibited on New Melones Lake lands or waters.

b. All vessels capable of discharging wastes shall be equipped with intact, fully functional and approved gray and black water holding tanks. While on the waterway, such tanks shall only be discharged via vacuum pumping by a Reclamation-approved pump-out facility.

7. Inspection:

a. Pre-placement Inspections: Prior to being placed, moored or docked on New Melones, all vessels capable of discharging gray and/or black water, including houseboats, shall have on board documentation of having been inspected and certified as meeting federal, state and local requirements. In addition, all moored vessels shall be inspected and certified as being free from all invasive aquatic species. The marina concessionaire shall perform inspections and certifications for vessels prior to issuing mooring or docking permits or placement on the lake. A copy of the inspection reports must be provided to the New Melones Lake Resource Office and a copy must be kept on file at the marina concession office.

b. All vessels moored, docked or operated at New Melones Lake shall be subject to inspection by Reclamation, local boating enforcement and/or U.S. Coast Guard personnel for health, safety and environmental compliance purposes at any time.

c. All permitted houseboats and OOVs will be inspected annually with a Reclamation approved form by the concessionaire to be kept on file and a copy sent to the Reclamation field office.

8. Mooring/Docking Permits:

a. Vessels, including houseboats and overnight-occupancy vessels, may be anchored, docked and occupied only in approved locations overnight on the lake for up to 14 days in a 30 day period. Houseboat mooring and anchoring outside of the marina concession area is permitted except in restricted areas as shown on a map of New Melones Restricted Water Use Zones. Restricted areas may change. For a map of current restricted areas vessel owners shall contact the New Melones Lake Administrative Office. Houseboats will not be anchored within ¼ mile of any campground, day use area, or boat launch ramp.

b. After the 14th day, all vessels shall be removed from the lake unless a mooring or docking permit has been previously obtained from the marina concessionaire legally authorized by Reclamation to provide mooring or docking services.

c. Houseboats and OOV's may be occupied overnight for a maximum of one night while moored/docked in the marina concession area.

d. A maximum number of houseboat, OOV, and vessel mooring/docking permits will be established for New Melones Lake, based on a Carrying Capacity study, Water Recreation Opportunity Spectrum analysis and/or other planning and decision documents including the New Melones Lake Area Resource Management Plan/Environmental Impact Analysis Record of Decision. These permit limitations apply to both privately-owned vessels and rental vessels owned by a concessioner.

e. Mooring/Docking permits for vessels shall be issued with term limits in accordance with 43 CFR 429. Vessel must be removed from the lake by the last day of the permit term or by the last day of the marina concession contract.

f. Mooring/Docking permits will be issued only to the registered owner of the vessel. The owner is that individual(s) or entity identified on the vessel registration at the time the permit is issued. Any change in the registered ownership of a vessel will require the vessel to be removed from the lake and the new owner will be required to place their name on the waiting list. Privately owned vessels may not be used commercially and the permit cannot be transferred. Vessel owners must provide a copy of their vessel registration to the marina concessionaire annually by Dec 31 of each year.

9. Vessel Maintenance:

a. Major maintenance or repairs including policy compliance retrofits requiring haul-out will be accomplished off Reclamation lands or at the marina concession maintenance yard. The authorized concessioner is the only entity permitted to perform maintenance or repairs of houseboats/vessels on Reclamation lands or waters. Owners/Operators of vessels are prohibited from performing their own work on their boats on Reclamation property (including in the marina yard). Owners/Operators may not hire subcontractors or hired contractors to work on their vessels on Reclamation property.

b. No maintenance or repairs shall be made on any houseboat/vessel while on the lake that involves the following: 1) any work or repair that involves structural alteration or modification, 2) any work or repair or any by-product of such work or repair that could result in the introduction of any materials, hazardous material, pollutant or contaminant into the waters of the lake, 3) hot work such as welding or other activities that pose a threat to fire safety.

10. Size Limitations:

a. The maximum size vessel allowed on New Melones Lake is fifteen (15) feet wide and sixty (60) feet long. Total width and length include all temporary and permanent appurtenances in their open or useable position. Manually operated gangplanks designed for passenger boarding that retract flush with the hull when the vessel is underway will be exempted from the appurtenance clause.

b. The maximum height for vessels on New Melones Lake is a single story, which is generally no more than ten (10) feet above the primary deck for permanent structures. Superstructure higher than ten feet above the primary deck is permitted only if it is readily removable or collapsible, or with authorization by Reclamation.

c. Size limitations are based on such factors as road and highway permit requirements, access routes, engineering design and construction of marina facilities and visitor use/capacity studies. Stated size limits are subject to revision as studies are updated and/or conditions change.

11. Waiting Lists:

a. Marina concessioner shall maintain a waiting list of applicants for houseboat/OOV/vessel moorage/docking permits. This list shall be established via first-come, first-served inquiries from the public.

b. The waiting list will be numbered and posted annually on the marina's website for public review. Annually, individuals on the waiting list must submit a written request not later than December 1st if they wish to remain on the waiting list for the following year. The current waiting list will be posted on the marina concessioner's website by Jan 15 of each year and will be updated a minimum of annually by Jan 15 of each subsequent year.

c. Applicants on the waiting list may not sell, trade, gift, assign, or otherwise transfer his/her position on the waiting list to another person or entity.

d. Waiting lists expire upon expiration/termination of the concession contract. Placement on a waiting list in no way guarantees a future mooring agreement and should never be construed as "permission" to construct or purchase a vessel for placement on New Melones Lake.

12. Launch and Retrieval:

Houseboat owners must comply with New Melones' Special Event Permit program and obtain a permit prior to launching, retrieving, or transporting a houseboat on New Melones Lake waters or lands. Houseboats may only be launched or retrieved Monday through Thursday unless otherwise authorized.

a. The houseboat mover must have an approved permit, including proof of insurance, in their possession when moving a houseboat on New Melones' lands or waters.

b. The houseboat mover must comply with all safety and traffic management laws and obtain necessary permits as required on a state highway.

c. A written traffic or safety plan may be required prior to moving a houseboat.

d. Permitting fees will be determined for any event using the "Special Event Classification and Fees" schedule.

e. A completed application form, MP-1016, and the required certificate of insurance form must be received a minimum of 45 days prior to the requested event date. After an application is received, the Special Use Coordinator will contact the permit applicant in approximately 10 days with the fee amount and any additional permit requirements.

13. Costs and Fees:

Costs or fees associated with required inspections, surveys, permits, launches or haul-outs, salvage operations and environmental clean-up for hazardous materials spills directly caused by the vessel shall be borne in whole by the vessel owner.

14. Compliance:

a. Houseboats and other vessels not in compliance with this policy shall be removed from New Melones Lake within 14 days of the owner or their agent's receipt of written notification. In the event the vessel poses an immediate health, safety or environmental threat, the vessel shall be removed immediately by any feasible means, and the owner or agent may be notified after the fact. Vessels which are not removed in accordance with these provisions may be impounded and removed by Reclamation or its agent at the owner's expense.

b. Unattended or abandoned vessels will be removed in accordance with 43 CFR 423.23 and other applicable directives.

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BUREAU OF RECLAMATION
NEW MELONES PROJECT AREA

FIRE MANAGEMENT PLAN
2007

Table of Contents

ACRONYMS

AMR	Appropriate Management Response
AOP	Annual Operating Plan
BA	Biological Assessment
BI	Burning Index
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BO	Biological Opinion
Reclamation	Bureau of Reclamation
CAR	Communities at Risk, At-risk Communities, Communities of Interest
CC	Condition Class
CDFG	California Department of Fish and Game
CDF	California Department of Forestry and Fire Protection
CWPP	Community Wildfire Protection Plan
CX	Categorical Exclusion
DNA	Determination of NEPA Adequacy
EA	Environmental Analysis
EIS	Environmental Impact Statement
ESA	Endangered Species Act
ESR	Emergency Stabilization and Rehabilitation
FIL	Fire Intensity Level
FMAP	Fire Management Activity Plan
FMO	Fire Management Officer
FMP	Fire Management Plan
FMU	Fire Management Unit
FPA	Fire Program Analysis
FPA -PM	Fire Program Analysis – Preparedness Module
FPD	Fire Protection District
FPU	Fire Planning Unit
FR	Fire Regime
FCC	Fire Condition Class
FUELSPRO	Fuels Project Program of Work

FWFMP	Federal Wildland Fire Management Policy
FWS	U.S. Fish and Wildlife Service
GACC	Geographic Area Coordination Center
HCP	Habitat Conservation Plan
HFI	Healthy Forest Initiative
HFR	Historic Fire Regime
HFRA	Healthy Forest Restoration Act
ICS	Incident Command System
IIAA	Interagency Initial Attack Assessment
IM	Internal Memorandum
LUP	Land Use Plan
MIST	Minimum Impact Suppression Tactics
MOU	Memorandum of Understanding
MSCP	Multiple Species Conservation Program
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFDRS	National Fire Danger Rating System
NFMAS	National Fire Mgmt Analysis System
NFP	National Fire Plan
NFRP	Normal Year Fire Rehabilitation Plan
NHPA	National Historical Preservation Act
NIFC	National Interagency Fire Center
NOAA	National Oceanic Atmospheric Administration
NPS	National Park Service
NWCG	National Wildfire Coordination Group
PCHA	Personal Computer Historical Analysis
RAMS	Risk Assessment and Mitigation Strategies Planning Process
RAWS	Remote Automated Weather Stations
RFA	Rural Fire Assistance
RFD	Rural Fire Department
RMP	Resource Management Plan
RNA	Research Natural Area
ROD	Record of Decision

SHPO	State Historic Preservation Office
SSS	Special Status Species
TCU	Tuolumne Calaveras Ranger Unit
TE&S	Threatened, Endangered, and Sensitive Species
USDA	United States Department of Agriculture
USDI	United States Department of the Interior
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
W&S	Wild and Scenic River
WFSA	Wildland Fire Situation Analysis
WFU	Wildland Fire Use
WHMA	Wildlife Habitat Management Areas
WIMS	Weather Information Mgmt System
WSA	Wilderness Study Area
WUI	Wildland-Urban Interface

I. INTRODUCTION

The U.S. Bureau of Reclamation (Reclamation) manages the lands and reservoir known as the New Melones Project Area, northeast of Modesto, California. Bureau of Reclamation Instructions Series 210, Land, and Part 215, Resources Management, require Reclamation to prepare a resource management plan for all lands for which it has jurisdiction. In compliance with this guidance, Reclamation developed a New Melones Lake Draft Resource Management Plan (RMP) in 1995 and the New Melones Lake RMP update scheduled for 2007. The RMP provides background information and planning guidance to manage all resources at New Melones Lake. The Fire Management Plan (FMP) for New Melones Project Area is the next step in the resource planning process and expands on the *Fire Management Element* of the 1995 New Melones Lake Draft RMP and the 2007 RMP update.

New Melones Lake is situated approximately 60 miles northeast of Modesto and approximately 10 miles west of Sonora, on the Stanislaus River in the Sierra Nevada foothills. The reservoir is bisected by the Tuolomne/Calaveras County Line

Fire is an integral part of California's Sierra foothill landscape. Outbreaks of wildfire occur routinely in the dry season and threaten life and property. However, fire through the means of prescribed burning, combined with the use of non-fire fuel treatments, can be used to restore and maintain natural ecosystems, influence natural succession patterns, restore or maintain vistas, reduce fuels that contribute to wildfire hazard, enhance the habitat of sensitive species, control exotic species, and create fuelbreaks near development or project area boundaries. The policies and management actions below specify an approach to fire and fuels management that focuses on mitigating fire hazard near infrastructure and residences by reducing the probability of ignition from human sources as well as by reducing hazardous fuel loading through a variety of fire and non-fire vegetation treatment strategies.

A. Purpose

The purpose of the FMP is to identify and integrate all wildland fire management guidance, direction, and activities required to implement national fire policy and the National Fire Plan (NFP). The FMP will also reflect and integrate fire management direction from the 1995 New Melones Lake Draft Resource Management Plan, subsequent amendments to this RMP, and other applicable New Melones Lake special management and/or activity plans. The existing RMP contains specific fire related planning decisions and guidance and is included within this FMP. The FMP is prepared using existing knowledge and professional judgment and will be amended when the RMP is amended to provide additional specific land use planning decisions and guidance for fire management decisions.

Existing management direction, which includes the RMP and various implementation plans, allows for fire and non-fire treatments to be used to restore landscape ecosystems, to meet resource management objectives, and improve protection of human life and property through the reduction of hazardous fuels. The New Melones Project Area FMP will provide clear fire management direction for Reclamation New Melones resource personnel and operations. After

the RMP is updated in 2007, this FMP will be modified to reflect those changes, if necessary. In the meantime, there is adequate information and direction to develop the following fire management strategies:

- Wildfire Suppression
- Prescribed Fire
- Non-Fire Fuels Treatment
- Emergency Stabilization and Rehabilitation (ESR)
- Community Protection/Assistance, Prevention and Education

Site-specific projects will be derived from these strategies and the accompanying proposed actions, alternatives, and environmental analyses, in compliance with the National Environmental Policy Act (NEPA), will be addressed at that time. The information in this plan may strengthen cumulative effects analysis when planning and analyzing site-specific projects. In addition, this FMP lays the foundation for future collaborative efforts involving interagency partners and cooperators.

This FMP may also provide quantified information for the Fire Program Analysis (FPA) planning process. FPA is the interagency fire planning model that will be used to project the budget and personnel needs for fire management organizations administered by the U.S. Departments of the Interior (USDI) and Agriculture (USDA). The agencies include the Forest Service (USFS), the Bureau of Land Management (BLM), the National Park Service (NPS), the Bureau of Indian Affairs (BIA), and the Fish and Wildlife Service (USFWS). The FPA process is being implemented in two phases. The first phase covers initial attack and wildland fire use on agency protected lands. The second phase includes fuels management, community education/ assistance, hazard mitigation, and fire prevention activities. Since CDF provides fire protection for Reclamation lands in this area, this FMP will provide information primarily for Phase II of FPA.

The fire management strategies and priorities recommended in this FMP will be updated as appropriate to reflect current issues and conditions.

National Direction for Fire Management Planning

The purpose of this FMP is to incorporate newly developed fire and fuels management strategies and tactics into a document which supports the land and resource management goals and objectives of the New Melones Lake Draft RMP. In addition, to comply with the Federal Wildland Fire Management Plan Policy and Program Review (1995 and 2001) and the National Fire Plan's A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Comprehensive Strategy and Implementation Plan (2002), all federal lands with burnable vegetation must be covered under an approved FMP.

Federal policy requires that a FMP be developed for all acres of burnable vegetation on Federal land, and that they be linked closely with an approved RMP. This FMP was developed in

compliance with the Interagency Fire Management Plan Template, to ensure that all FMPs prepared by USDI agencies have consistent content and format.

B. Scope

The 1995 New Melones Lake Draft RMP provides extensive background information and comprehensive planning guidance to manage all resources in the New Melones Project Area. This FMP is a companion document to the 1995 New Melones Lake Draft RMP and subsequently to the New Melones Lake RMP 2007 update, and serves to elaborate on the fire management issues.

In the 1995 RMP there were 18 resource management elements. One of the 18 elements addressed is the Fire Management Element. For each element, the RMP provides an approach or goal, as well as policies and management actions. Among the specific recommended actions in the RMP is the development of a fire management plan, a grazing management plan, and a vegetation management plan. The Vegetation Management Plan (VMP) was the first of the three plans completed. The VMP was developed in 1997. The VMP presents current grazing and fire management practices recommended by the University of California's (UC) Cooperative Extension and Integrated Hardwood Range Management Program, and the California Native Plant Society (CNPS). It provides recommendations for grazing and fire management practices as they apply to vegetation management. These recommendations have been reviewed and incorporated into this fire management plan, where appropriate.

The FMP is the second of the three plans. This plan will incorporate recommendations from the VMP, where feasible and appropriate. The recommendations of the VMP and FMP may not be fully implementable until a revised set of goals and objectives specific to grazing is developed in the 2007 RMP update.

The FMP also functions as a working reference to provide continuity of operations for wildland fire management, hazardous fuel reduction treatments, fire prevention and education, and burned area rehabilitation activities that occur within the New Melones Project Area. The FMP can also provide the necessary baseline information to generate out-year budget and planning elements for fuels management planning requirements in RAMS, FuelsPro and Fire Program Analysis Phase II.

The New Melones FMP will be reviewed annually and updated as necessary. This FMP will also provide information and direction for the development of subsequent, future fire management-related planning documents, risk assessments and operational procedures.

Examples of future planning requirements and development of operational procedures are as follows:

- Development and further refinement of landscape and site-specific fire management and fuel management objectives, such as reducing fuel loads in high fire hazard areas, consistent with the New Melones Lake *Vegetation Management Plan*.

- Further development of site-specific vegetation management objectives for desired plant communities to describe the appropriate treatment for achieving the target composition including mechanical, hand, and prescribed burn approaches.
- Further development of landscape and site-specific fuel management objectives and activities that will reduce wildfire frequency and intensity by reducing fuel loading; enhance wildlife habitat by increasing access, promote growth of herbaceous forage, and rejuvenate shrub forage; increase water yields by reducing transpirational losses produced by large volumes of decadent shrub species; and, maintain diverse, open shrublands for recreational activities.
- Create a detailed fuels survey map, slope/aspect map, risk assessment map, and a compilation of the 90% weather conditions for Tuolumne and Calaveras Counties to assist in predicting fire behavior;
- An evaluation and mapping of site-specific fire hazards throughout Reclamation lands with a focus on current and proposed recreational facilities and adjacent residences and structures. Further risk and hazard analysis should be implemented through the RAMS analysis process, a USDI hazard evaluation program which is based on fire behavior, fuel load, slope, probable location and rate of ignition, potential loss of life, potential loss of valuable property, and access restrictions.
- Development of a New Melones Project Area pre-suppression (ie; pre-attack) plan that specifies development and maintenance of fire defense components such as firebreaks, fuelbreaks, roads, water sources, helispots, and mobilization points.
- Development of specific procedures for coordinating with cooperating agencies and land owners regarding vegetation clearance requirements.
- Development of a day-to-day operations plan that includes: criteria to initiate special precautions; actions to take under high fire danger; agreements to be made with local fire departments and agencies; and a pre-attack plan developed in conjunction with the California Department of Forestry and Fire Protection (CDF).
- Development of specific procedures for site closures during periods of extreme fire danger, in coordination with adjacent federal and state agencies. These procedures would include the posting of the main entry points to Reclamation lands. Signs will give the current fire hazard warning status and/or the reason for site closure if necessary under extreme fire hazard conditions.

C. Relationship to Environmental Compliance

This FMP has been prepared to assist in the identification and implementation of decisions made within the 1995 RMP and 2007 New Melones RMP update, inclusive of subsequent plan amendments and implementation-level activity plans. Impacts of fire suppression, hazardous fuels reduction and burned area rehabilitation activities on lands administered by Reclamation will be analyzed through the NEPA process that will accompany the 2007 New Melones Lake RMP update.

As an interim strategic document, the FMP can be categorically excluded from further NEPA analysis under DOI 516 DM 2, Appendix 1, Chapter 2, 1.10: "Policies directives, regulations and guidelines of an administrative, financial, legal, technical or procedural nature; or the environmental effects of which are too broad, speculative or conjectural to lend themselves to meaningful analysis and will be subject later to the NEPA process, either collectively or case-by-case".

Land Use Plan Conformance

General fire and resource management objectives and strategies outlined in the FMP are in conformance with the goals, objectives, management actions, and terms and conditions of the supporting 1995 New Melones Lake Draft RMP and the 2007 New Melones Lake RMP update. Revisions, additions, and adjustments to the FMP that are in conformance with the land use plan may be made at any time as a result of annual review of the FMP.

FMP Implementation

Prior to implementing fire management projects on-the-ground, including projects that may be planned in cooperation with other agencies, additional environmental analysis for compliance with NEPA, ESA and other federal and state laws and regulatory requirements, such as the National Historic Preservation Act, the Clean Water Act and the Clean Air Act may be required.

D. Collaboration

Reclamation's New Melones Project Area FMP was developed with review and consultation by representatives from the CDF Tuolumne-Calaveras Ranger Unit (TCU), the Bureau of Land Management Folsom Field Office, the U.S. Forest Service Stanislaus National Forest, the Highway 108 Fire Planning Group, and the Altaville-Melones Fire District. The extensive use of cooperative interagency fire resources is recognized as key components in meeting fire management objectives on Reclamation lands within the New Melones Project Area.

E. Authorities

The Reclamation Act of 1902 establishes the primary authority and provides guidance for how public lands are to be managed by Reclamation.

Authority is delegated from the Secretary of the Interior to the Director of the Bureau of Reclamation for the operation of a resource protection program on lands under the jurisdiction of Reclamation. DOI 255 DM 1 and Reclamation RM ACM 01-01 document this delegation of authority.

Additionally, this FMP has been developed to fully comply with the following legislative efforts:

- Reclamation Act of 1902

- American Antiquities Act (1906)
- Protection Act of September 20, 1922 (42 Stat. 857; 16 U.S.C. 594)
- Reclamation Project Act of 1939
- Reciprocal Fire Protection Act of May 27, 1955 (69 Stat. 66; 42 U.S.C. 1856a)
- Federal Water Project Recreation Act of 1965 (as amended through PL 106-580, Dec. 29, 2000)
- National Historic Preservation Act (NHPA; 1966)
- National Environmental Policy Act (NEPA; 1969)
- Endangered Species Act (ESA; 1973)
- Federal Fire Prevention and Control Act of October 29, 1974 (88 Stat. 1535; 15 U.S.C. 2201)
- Archaeological Resources Protection Act (ARPA; 1979)
- Wildfire Suppression Assistance Act of 1989 (P.L. 100-428, as amended by P.L. 101-11, April
- 1995 Federal Wildland Fire Management Policy
- United States Department of the Interior Manual (910 DM 1.3) and the 1998 620 DM Chapter 1, Wildland Fire Management General Policy and Procedures
- National Fire Plan (USDA and USDI, 2000)
- Protecting People and Sustaining Resources in Fire-Adapted Ecosystems: A Cohesive Strategy (USFS response to GAO report GAO/RCED-99-65 2000)
- 10 Year Comprehensive Strategy (USDA and USDI 2001)
- Review and Update of the 1995 Federal Wildland Fire Management Policy (USDA and USDI, 2001)
- 10 Year Comprehensive Strategy Implementation Plan (USDA and USDI 2002)
- Burn Area Emergency Stabilization and Rehabilitation Handbook (USDA and USDI 2002)
- Healthy Forests: An Initiative for Wildfire Prevention and Stronger Communities. (HFI 2002)
- Healthy Forest Restoration Act (HFRA 2003)
- Protecting People and Natural Resources: A Cohesive Fuels Treatment Strategy (USDA and USDI 2006)
- Appropriate Reclamation Manuals (RM)

II. RELATIONSHIP TO LAND MANAGEMENT PLANNING AND FIRE POLICY

This chapter outlines the national policy, regional guidance, Reclamation regional policy, and local land use planning guidance that provide direction for this FMP.

A. Relationship to Fire Policy

The Federal Wildland Fire Management Policy

The Federal Wildland Fire Management Policy (FWFMP) was developed by the Secretaries of the USDI and USDA in 1995 to respond to dramatic increases in the frequency, size, and catastrophic nature of wildfires in the United States. This policy was reviewed and reaffirmed by the Secretaries in 2001. The FWFMP identified the need for a new approach to fire management on federal lands and led to the development of the National Fire Plan (NFP).

This FMP adheres to the following established fire policy:

- September 2000, "Managing the Impacts of Wildfires on Communities and the Environment."
- August 2001 and amended May 2002, Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment -10 Year Comprehensive Strategy and May 2002, Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment, 10 Year Comprehensive Strategy – Implementation Plan – provide a suite of core principles and four goals. The strategy provides a foundation for wildland agencies to work closely with all levels of government, tribes, conservation and commodity groups, and community-based restoration groups to reduce wildland fire risk to communities and the environment.
- August 2002, "Healthy Forests – An Initiative for Wildfire Prevention and Stronger Communities"- created a uniform categorical exclusion for certain fuels reduction projects, streamlined the NEPA process, and better coordinated ESA consultations.
- December 2003, "Healthy Forest Restoration Act" – provides improved statutory processes for hazardous fuel reduction projects and streamlined the EA process.
- Created January 2004 and amended annually, "Interagency Standards for Fire and Fire Aviation Operations" describes policy and operations for all fire related activities in the DOI and USDA.
- February 2006, Protecting People and Natural Resources: A Cohesive Fuels Treatment Strategy – goal is to coordinate an aggressive, collaborative approach to reduce the threat of wildland fire to communities and prioritize treatments to reduce the vegetation that supports fires.

Additionally, the 2001 Review and Update of the 1995 Federal Wildland Fire Management Policy states:

1. **Safety** – Firefighter and Public Safety is the first priority. All Fire Management Plans and activities must reflect this commitment.
2. **Fire Management and Ecosystem Sustainability** – The full range of fire management activities will be used to help achieve ecosystem sustainability, including its interrelated ecological and social components.
3. **Response to Wildland Fire** – Fire, as a critical natural process, will be integrated into land and resource management plans and activities on a landscape scale, and across agency boundaries. Response to wildland fire is based on ecological, social, and legal consequences of the fire. The circumstances under which a fire occurs, and the likely consequences on firefighter and public safety and welfare, natural and cultural resources, and values to be protected dictate the appropriate management response to the fire.
4. **Protection Priorities** – The protection of human life is the single, overriding priority. Setting priorities among protecting human communities and community infrastructure, other property and improvements, and natural and cultural resources will be based on the values to be protected, human health and safety, and the costs of protection. Once people have been committed to an incident, these human resources become the highest value to be protected.
5. **Use of Wildland Fire** – Wildland fire will be used to protect, maintain, and enhance resources and, as nearly as possible, be allowed to function in its natural ecological role. Use of fire will be based on approved Fire Management Plans and will follow specific prescriptions contained in operational plans.
6. **Rehabilitation and Restoration** – Rehabilitation and restoration efforts will be undertaken to protect and sustain ecosystems, public health, safety, and to help communities protect infrastructure.
7. **Wildland Urban Interface** – The operational roles of federal agencies as partners in the Wildland Urban Interface are wildland firefighting, hazardous fuels reduction, cooperative prevention and education, and technical assistance. Structural fire suppression is the responsibility of tribal, State, or local governments. Federal agencies may assist with exterior structural protection activities under formal Fire Protection Agreements that specify mutual responsibilities of the partners, including funding.
8. **Planning** – Every area with burnable vegetation must have an approved Fire Management Plan. Fire Management Plans are strategic plans that define a program to manage wildland and prescribed fires based on the area's approved land management plan. Fire Management Plans must provide for firefighter and public safety; include fire management strategies, tactics, and alternatives; address values to be protected and public health issues; and be consistent with resource management objectives, activities of the area, and environmental laws and regulations.
9. **Science** – Fire Management Plans and programs will be based on a foundation of sound science. Research will support on-going efforts to increase scientific knowledge of biological, physical, and sociologic factors. Information needed to support fire management will be developed through an integrated interagency fire science program.

Scientific results must be made available to managers in a timely manner and must be used in the development of land management, fire management, and implementation plans.

10. **Preparedness** – Agencies will ensure their capabilities to provide safe, cost-effective fire management programs in support of land and resource management plans through appropriate planning, staffing, training, equipment, and management oversight.
11. **Suppression** – Fires are suppressed at minimum cost, considering firefighter and public safety, benefits, and values to be protected, consistent with resource objectives.
12. **Prevention** – Agencies will work together with their partners and other affected groups and individuals to prevent unauthorized ignition of wildland fires.
13. **Standardization** – Agencies will use compatible planning processes, funding mechanisms, training and qualification requirements, operational procedures, values to be protected, methodologies, and public education programs for all fire management activities.
14. **Interagency Cooperation and Coordination** – Fire management planning, preparedness, prevention, suppression, fire use, restoration and rehabilitation, monitoring, research, and education will be conducted on an interagency basis with the involvement of cooperators and partners.
15. **Communication and Education** – Agencies will enhance knowledge and understanding of wildland fire management policies and practices through internal and external communication and education programs. These programs will be continuously improved through the timely and effective exchange of information among all affected agencies and organizations.
16. **Agency Administrator and Employee Roles** – Agency administrators will ensure that their employees are trained, certified, and made available to participate in the wildland fire program locally, regionally, and nationally as the situation demands. Employees with operational, administrative, or other skills will support the wildland fire program as necessary. Agency administrators are responsible and will be held accountable for making employees available.
17. **Evaluation** – Agencies will adopt and implement a systematic method of evaluation to determine effectiveness of projects through implementation of the 2001 Federal Fire Policy. The evaluation will assure accountability, facilitate resolution of areas of conflict, and identify resource shortages and agency priorities.

The National Fire Plan

The Secretaries of USDI and USDA initiated the National Fire Plan (NFP) in 2000 to address the needs identified in the FWFMP. The NFP is not an actual document, but a nationally coordinated effort to protect communities and natural resources from the harmful effects of increasing wildfire occurrence and severity in the United States. The NFP establishes the overarching purpose and goals, which are articulated and carried forward through the 10-Year Comprehensive Strategy (USDI, USDA 2001), the Cohesive Fuels Treatment Strategy for

Protecting People and Natural Resources (USDA and USDI 2006), and other supporting documents.

The five primary goals of the NFP

1. Assure that necessary firefighting resources and personnel are available to respond to wildfires that threaten lives and property.
2. Conduct emergency stabilization and rehabilitation activities on landscapes and communities affected by wildfire.
3. Reduce hazardous fuels (dry brush and trees that have accumulated and increase the likelihood of unusually large fires) in the country's forests and rangelands.
4. Provide assistance to communities that have been or may be threatened by wildfire.
5. Commit to the Wildland Fire Leadership Council, an interagency team created to set and maintain high standards for wildland fire management on public lands.

To implement these goals one must have an understanding of ecological processes that define a landscape in fire terms. The NFP and supporting documentation provide a baseline for quantifying landscapes in order to prioritize treatments. The following are tools used to define the landscape for fire return intervals and departure from this standard.

Fire Regime

A generalized description of the role fire plays in an ecosystem. It is characterized by fire frequency, predictability, seasonality, intensity, duration, scale (patch size), as well as regularity or variability. There are five combinations of fire frequency, expressed as fire return interval in fire severity.

Fire Regime Descriptions	
I	0-35 year frequency and low severity (most commonly associated with surface fires) to mixed severity (in which less than 75 percent of the dominant over story vegetation is replaced
II	0-35 year frequency and high severity (stand replacement: greater than 75 percent of the dominant over story vegetation is replaced)
III	35-200+ year frequency and mixed severity
IV	35-200+ year frequency and high severity
V	200+ year frequency and high severity

Condition Class

Fire condition classes measure the degree of departure from reference conditions, possibly resulting in changes to key ecosystem components, such as vegetation characteristics (species composition, structural stage, stand age, canopy closure, and mosaic pattern); fuel composition; fire frequency, severity, and pattern; and other associated disturbances, such as insect and disease mortality, grazing, and drought. Possible causes of this departure include (but are not limited to)

fire suppression, timber harvesting, livestock grazing, introduction and establishment of exotic plant species, and introduced insects and disease.

Fire Conditions Descriptions		
Condition Class 1	Low	For the most part, fire regimes in this Fire Condition Class are within historical ranges. Vegetation composition and structure are intact. Thus, the risk of losing key ecosystem components from the occurrence of fire remains relatively low.
Condition Class 2	Moderate	Fire regimes on these lands have been moderately altered from their historical range by either increased or decreased fire frequency. A moderate risk of losing key ecosystem components has been identified on these lands.
Condition Class 3	High	Fire regimes on these lands have been significantly altered from their historical return interval. The risk of losing key ecosystem components from fire is high. Fire frequencies have departed from historical ranges by multiple return intervals. Vegetation composition, structure and diversity have been significantly altered. Consequently, these lands verge on the greatest risk of ecological collapse.

NFP states that fuels projects need to treat vegetation types within Fire Regime Groups I, II, and III, and by doing so move them to a better Condition Class.

The 10-Year Comprehensive Strategy

The 10-Year Comprehensive Strategy was prepared in 2001 by the USDI, USDA, and the Western Governor's Association to provide a more detailed framework for accomplishing the goals of the NFP. This strategy emphasizes a collaborative, community-based approach to address wildland fire issues and identifies guiding principles and management actions for agencies to follow in implementing the NFP. The guiding principles of the Comprehensive Strategy include both goals and guiding principles.

The four goals of the 10-Year Comprehensive Strategy

1. Improve Fire Prevention and Suppression: Public and firefighter safety is the first priority in all fire management.
2. Reduce Hazardous Fuels: Prioritize hazardous fuels reduction where the negative impacts of wildfire are greatest.
3. Restore Fire-Adapted Ecosystems:
   - Prevent invasive species and restore watershed function and biological communities through short-term rehabilitation.
   - Restore healthy, diverse, and resilient ecological systems to minimize uncharacteristically severe fires on a priority watershed basis through long-term restoration.

4. Promote Community Assistance: Promote better fire prevention planning and actions in local communities through technical assistance and cost-sharing incentives.

The three guiding principles of the 10-Year Comprehensive Strategy

1. Priority setting that emphasizes the protection of communities and other high-priority watersheds at-risk.
2. Collaboration among governments and broadly representative stakeholders
3. Accountability through performance measures and monitoring for results.

The Cohesive Strategy for Protecting People and Sustaining Natural Resources

The Cohesive Strategy for Protecting People and Sustaining Natural Resources was prepared in 2000 by the USDA. It projected the quantity and rate of fuels reduction treatments required on a landscape scale to restore fire-adapted ecosystems and protect communities from increasing wildfire. It was written by the USFS in response to the Government Accounting Office after the devastating 2000 fire season. It was never signed by the USDI agencies. Because of this it has since been updated and is only mentioned here to segue into the following publication.

Protecting People and Natural Resources: A Cohesive Fuels Treatment Strategy

This strategy was created in 2006 to focus on goals two, three, and four of the 10-year Comprehensive Strategy. The mission of the strategy is to lessen risks from catastrophic wildfires by reducing fuels build-up in forests and woodlands and by reducing threats from flammable invasive species on rangelands in the most efficient and cost effective manner possible. The strategy will result in fewer large, catastrophic fires and less damage from those that do occur than would otherwise be the case, vegetative conditions in which some fires will be used to fulfill appropriate ecological functions, and the establishment of viable infrastructure capable of improving and maintaining desired land conditions over the long term. The strategy efficiently and effectively focuses Federal land management efforts in collaboration with those of State, Tribal, and local governments to reduce risks that uncharacteristically severe wildfire pose to people, communities, and natural resources. Four principles guide the strategy: Prioritization, Coordination, Collaboration, and Accountability

B. California Fire Plan

The lands within Reclamation's New Melones Project Area are protected from fire by CDF. This is covered under an agreement that states that these lands will be provided fire protection and fall under State Responsibility Area (SRA). The State Board of Forestry and the California Department of Forestry and Fire Protection (CDF) have drafted a comprehensive update of the fire plan for wildfire protection in California. The planning process defines a level of service measurement, considers assets at risk, incorporates the cooperative interdependent relationships of wildfire protection providers, provides for public stakeholder involvement, and creates a fiscal framework for policy analysis.

The overall goal is to reduce total costs and losses from wildfire in California by protecting assets at risk through focused pre-fire management prescriptions and increasing initial attack success.

The five strategic objectives of the California Fire Plan

1. To create wildfire protection zones that reduce the risks to citizens and firefighters.
2. To assess all wildlands, not just the state responsibility areas.
3. To identify and analyze key policy issues and develop recommendations for changes in public policy.
4. To have a strong fiscal policy focus and monitor the wildfire protection system in fiscal terms.
5. To translate the analyses into public policies.

The California Department of Forestry - Tuolumne-Calaveras Unit Fire Plan

The fire plan concept identified in the CDF Tuolumne-Calaveras Unit (TCU) Pre-Fire Management Plan involves a strategic and holistic approach to fire safe planning and project development. Under the "Alliance for a Fire Safe California," the TCU will work with other governmental agencies, public and private groups, and stakeholders to develop a comprehensive Fire Plan to address the fire problem within the Ranger Unit.

The TCU Pre-Fire Management Plan has been modified to conform to the components required in a Community Wildfire Protection Plan (CWPP) and it will serve as the CWPP for all communities in Calaveras County. CWPP development must include the following components:

1. **Collaboration:** A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties.
2. **Prioritized Fuel Reduction:** A CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect one or more at-risk communities and essential infrastructure.
3. **Treatment of Structural Ignitability:** A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan.

Tuolumne County has already adopted a more detailed CWPP for their county. The 2005 TCU Pre-Fire Management Plan will include the Battalion analysis and projects from the County plan. TCU staff will ascertain if Tuolumne County would like to incorporate their CWPP into the TCU Unit Plan in 2006.

It is important to note that the fire safe councils in Tuolumne and Calaveras County play key roles in preparation and implementation of the plans. They act as the primary outreach mechanism for soliciting comments, needs and desires from the public, as well as disseminating

fire safe information to the communities they serve. Over the last several years, the councils have been planning and implementing their own projects and also assisting with agency projects.

CDF TCU staff work cooperatively with entities that provide fire and natural resource protection on Local Responsibility Areas (LRA) and Federal lands, to develop a comprehensive fire plan. CDF, local government (city and county), the United States Forest Service (USFS), the USDI Bureau of Land Management (BLM) and the USDI Bureau of Reclamation have worked cooperatively on pre-fire projects in TCU.

As stated in the Plan, existing CDF programs and treatment methods will be used to implement the projects that are developed through the TCU pre-fire management planning process. One of the most commonly used programs will be CDF's Vegetation Management Program (VMP). The VMP Program allows CDF to enter into agreements with landowners (private, federal, state, or local government) to assist them in performing fuel modification projects such as prescribed burns, manual or mechanical brush clearing, biomass reduction, and fuel break construction.

CDF TCU will use defensible space inspections to ensure that property owners have adequate clearance of flammable vegetation around their structures. This program will help reduce the structure ignitability of homes and businesses in the area. Timber harvesting of over-dense forest stands will be encouraged to reduce the fuel build-up, which leads to large, catastrophic wildfires. Demonstrations of these projects will be used to educate the public on the importance of creating a fire safe environment in and around their communities and homes.

C. Land Use Plan Guidance

The FMP derives overall program guidance from the following local New Melones plans:

- 1995 Bureau of Reclamation New Melones Lake Draft Resource Management Plan.
- 1997 Vegetation Management Plan for New Melones Lake
- 2006 Interim Peoria Wildlife Management Plan
- 2002 Central California Area Office Operations and Maintenance Plan: For the Protection of Endangered Species

Special Status Species Policy & Guidance

Endangered Species Act of 1973 (16U.S.C. 1531 et seq.), as amended.

Provisions of the ESA, as amended, apply to plants and animals that have been listed as endangered or threatened, those proposed for being listed, and designated and proposed critical habitat.

Sikes Act of 1974, Title II (16 U.S.C. 670g et seq.), as amended.

This Act directs the Secretaries of Interior and Agriculture to, in cooperation with the State agencies, develop plans to develop, maintain, and coordinate programs for the conservation and rehabilitation of wildlife, fish and game. Such conservation and rehabilitation programs shall include, but not limited to, specific habitat improvement projects, and related activities and adequate protection for species considered threatened or endangered.

Bureau of Reclamation Special Status Species Policy

It is Reclamation policy and practice to:

1. Conserve federally listed and proposed threatened or endangered species and the habitats on which they depend.
2. Ensure that actions requiring authorization or approval by Reclamation are consistent with the conservation needs of Special Status Species (SSS) and do not contribute to the need to list any SSS, either under provisions of the ESA or other provisions of this policy.

The terms conserve and conservation in this national policy and pursuant to the ESA are defined as *the use of all methods and procedures necessary to improve the status of federally listed species and their habitats to a point where the provisions of the ESA are no longer necessary.*

Fire management planning and activities on site-specific projects should consider the following where ESA species occur:

1. Recovery or conservation plans and activities that promote species recovery in the New Melones Project Area.
2. Terms and conditions of consultation with the USFWS, NOAA Fisheries, and CDFG to promote species recovery in the New Melones Project Area.
3. Where and how Reclamation fire management activities can conserve SSS, especially ESA listed proposed and candidate species.

Bureau of Reclamation Sensitive Species Policy

Reclamation's policy is to provide sensitive species with the same level of protection as is provided for candidate species, and to ensure that fire-related actions do not contribute to the need for the species to become listed. The Sensitive Species designation is normally used for species that occur on Bureau administered lands for which Reclamation has the capability to significantly affect the conservation status of the species through management.

Other Special Considerations Policy and Guidance

American Antiquities Act of 1906

This Act made it unlawful for any person to appropriate, excavate, injure, or destroy any historic or prehistoric ruin or monument, or any object of antiquity, situated on lands owned or controlled by the Government of the United States.

Archaeological Resources Protection Act of 1979 (ARPA)

The Archaeological Resources Protection Act expands the protections provided by the Antiquities Act of 1906 in protecting archaeological resources and sites located on public and Indian lands. ARPA encompasses a great variety of objects, not just historic sites like the Antiquities Act.

Native American Graves Protection and Repatriation Act of 1990 (NAGPRA)

This Act provided for the protection of Native American graves and artifacts.
National Historic Preservation Act of 1966
This Act established a program for the preservation of additional historic properties throughout the nation.

Bureau of Reclamation Cultural Resource Policy

Cultural resources are recognized as fragile, irreplaceable resources with potential public and scientific uses, and represent an important and integral part of our Nation's heritage.

It is Reclamation's practice to:

1. Manage cultural resources under Reclamation jurisdiction or control according to their relative importance, to protect against impairment, destruction, and inadvertent loss, and to encourage and accommodate the uses determined appropriate through planning and public participation.
2. Manage cultural resources under cultural resource statues and the planning and decision-making processes as are followed in managing other public land resources.
3. Ensure that tribal issues and concerns are given consideration during planning and decision-making, including fire management planning and decision-making for specific fire management projects.

This policy is not limited to Reclamation's activities that affect Federal lands. It is the responsibility of Reclamation to assure that its actions and authorizations are considered in terms of effects on cultural resources located on non-Federal lands. Fire management planning and activities on site-specific projects that involve non-Federal land shall consider this responsibility.

Goals, Standards, Objectives and/or Desired Future Condition – 1995 New Melones Draft Resource Management Plan

"*Achieve balanced stewardship of the natural, cultural, and recreational resources of the reservoir and the economic vitality of the surrounding communities."*

Wildland fire management activities within the New Melones Project Area will assist in meeting the resource management goals, standards, and guidelines from the plans listed above by incorporating the following management requirements into this plan:

Vegetation Element

- The following are objectives specific to major plant communities where vegetation management could occur within the New Melones Project Area:
  - Oak Woodlands
    - Manage oak woodlands for long-term viability or sustainability so oak stands replace themselves.
    - Rejuvenate oak woodlands affected by brush encroachment through the use of prescribed burns where possible.
  - Montane Woodlands
    - Increase biodiversity in montane woodland communities.
  - Annual Grassland
    - Prevent severe invasions of exotics (such as yellow starthistle). Invasive exotics should comprise less than 5 percent of the total plant cover.
    - Protect and promote native perennial grasslands.
    - Manage grasslands for sustainability
    - Minimize disturbance to grassland communities
  - Chamise Chaparral
    - Enhance the biodiversity, and a variable structure and age composition in chaparral communities
    - Prohibit clearing or conversion of chaparral to any other plant community; only type conversion by natural processes is recommended.
    - Rejuvenate brushlands through the use of prescribed burns where possible.
  - Valley and Foothill Riparian Woodland
    - Minimize the loss of valley and foothill riparian woodland communities.
    - Protect the riparian zone and riparian vegetation from degradation, including prevention of soil compaction, head-cutting, and undercutting.
    - Restore or enhance lost or degraded riparian communities where sustainable.
    - Promote streambank and reservoir shoreline stability to encourage establishment of riparian vegetation.
  - Wet Meadow
    - Protect any seep vegetation and wet meadow communities from loss or degradation.
  - Vernal Pools
    - Protect vernal pool communities from loss or degradation, including the invasion of exotic plants.

  - Serpentine-Based
    - Preserve vigorous serpentine-based communities.
    - Protect serpentine-based communities from erosion and high-impact uses that would degrade habitat values (including building roads).
    - Identify and restore degraded areas in serpentine-based communities.

- Management of Sensitive Plant Communities
  - Protect and preserve Federally and State-listed threatened and endangered species, those proposed for listing, and their habitats as required by law.

- Promote vigor, stability, and diversity in all vegetative communities
  - Reduce accumulated biomass
    - Reduce biomass accumulation to safe levels through methods including fire, limited grazing, or mowing.
    - Prohibit the use of aerial herbicide spraying to reduce biomass.
  - Manage invasive species
    - Limit invasive exotics to no more than 5 percent of the plant cover.
  - Monitor cover types
    - Following fuels treatment of fire and non-fire, monitoring plans should be developed and implemented annually to evaluate the actual condition versus the desired condition.
  - Re-vegetate degraded areas
    - If monitoring reveals vegetation is declining or has been damaged by disturbance, re-vegetating the area in native plant cover may be necessary.

Wetlands and Riparian Vegetation Element

- Protect wetland and riparian habitats of species legally listed or proposed for listing under the federal and state Endangered Species Acts by implementing obligatory requirements.
- Conserve wetland and riparian habitat by minimizing disruption and loss.
- Enhance wetland and riparian habitat values, features and diversity.
- Restore habitat values of damaged areas through revegetation and reclamation.
- Prevent degradation of wetlands and riparian zones by establishing 150-foot wide Wetland/Riparian Buffer Zones on each side of perennial riparian corridors and wetland areas in elevations above the 1000 foot reservoir water level.
- Use low-intensity prescribed burns or hand clearing for establishing fuel breaks within Wetland/Riparian Buffer Zones.
- Piling and burning of vegetation within Wetland/Riparian Buffer Zones is prohibited.
- Minimize disruption of riparian cover that becomes established within the reservoir fluctuation zone.

Wildlife Element

- Protect wildlife species and habitats legally listed or proposed for listing under the federal and state Endangered Species Acts by implementing obligatory requirements.

- Conserve sensitive wildlife habitats by minimizing disruption and loss.
- Enhance wildlife habitat values, features and diversity.
- Restore wildlife habitat values of damaged areas through revegetation and reclamation.
- Restrict all vehicles to designated roads unless authorized.
- Conduct prescribed burns to improve deer winter range conditions.

Fisheries Element

- Protect and enhance cold and warm water fishery resources.

Cultural Resources Element

- Protect and manage historic and prehistoric properties from damage or loss and encourage interpretative uses where appropriate.
- Protect prehistoric and historic properties by avoidance where appropriate.

Grazing Element

- Manage grazing as a permitted activity subordinate to the needs of fuels reduction, water quality and habitat protection.
- Employ season and intensity of livestock use to meet fuels reduction and resource protection goals.

Public Safety Element

- Inform visitors of fire activity in the area including suppression and prescribed burns through the use of personal contact, announcements, signs, and news articles.
- Ensure adequate closure of all unsafe or potentially hazardous areas.

Mineral and Material Resources Element

- Ensure all personnel involved with suppression or fuels treatment activities are aware of mine locations that pose a threat to foot and vehicle travel.

Trespass and Unauthorized Use Element

- All fences, signs, enclosure, etc. that is removed to safely treat an area for fuels reduction or for fire suppression must be replaced at the conclusion of the project or fire.

Hunting and Recreational Shooting Element

- During hunting season ensure personnel are aware of armed hunters that may be around and if necessary request the area be closed to firearms until personnel have completed the project or the conclusion of the fire.

Water Quality Element

- Manage lands and activities for water quality protection and improvement.
- Where possible design roads, fuel breaks, and fire breaks to follow the natural topography, minimizing steep slopes and the number of stream crossings.
- Stabilize and waterbar all roads and firelines where erosion is a problem.
- The use of pesticides, herbicides, and fertilizers on Reclamation lands shall be minimized.
- Prescribed burning should be planned in such a way as to minimize water quality impacts.
- Utilization of natural or in-place barriers where appropriate to minimize fireline construction where excessive erosion will result.
- Minimize the use of bulldozing firelines in high erosion areas. If unavoidable, construct on contour or stabilize with waterbars to control erosion.
- Minimize pollution resulting from wildfire suppression while recognizing safety and operational priorities of fighting wildfires.
- Revegetate burned areas with adapted herbaceous species.

Jurisdictional Issues and Coordination Element

- Inform cooperators of changes to maps by the acquiring or disposal of Reclamation lands.
- Ensure CDF-TCU has updated maps for fire suppression annually.

Interpretive Program Element

- Develop interpretive programs to educate the public on New Melones Lake resources including fire and fuels reduction projects.
- Provide information to visitors to improve their experience at New Melones Lake and to increase their awareness of natural resource values and protection including the use of fire and fuels reduction projects.

Fire Management Element

- Reduce fire hazards that threaten life and property.
- Fire Suppression
  - Suppress fires that threaten life, private property, public safety, and improvements.
  - Protect sensitive areas from inappropriate fire.
  - Provide suppression oversight to cooperating agencies.
  - Protect sensitive cultural resources.
- Fire Prevention and Education
  - Employ fire prevention strategies that reduce human ignition occurrence in campgrounds and transportation corridors.

  - Open campfires are limited to designated overnight campgrounds and within provided fire rings and pedestal grills.
  - Educate the public as to fire's natural role in ecosystems.
  - Work with communities, fire safe councils, and other agencies to identify hazards and risk mitigation strategies.

- Ecological Processes
  - Protect riparian/wetland areas and improve degraded vegetation for long-term health.
  - Manage for healthy populations of native wildlife in their natural habitat.
  - Manage the habitat for Special Status Species of plants and animals to maintain viable populations and the ecosystems upon which they depend.
  - Manage land treatments to conserve site moisture and to protect long-term stream health from increased runoff damage.
  - Establish a fire effects monitoring system that inventories pre-burn species composition and resulting post fire response, over time.

- Fuels Management
  - Use prescribed burns where there is no threat to life or property and ecological benefits would result from burning.
  - Maintain air quality to meet or exceed applicable federal and state standards and regulations.
  - Reduce fire risk to Wildland Urban Interface (WUI) communities.
  - Restore and maintain the structures, species composition, and processes of native ecological communities and existing ecosystems.
  - Use management tools such as mechanical thinning, prescribed fire, biological, cultural, and/or chemical treatments to make forests dominated by shade-intolerant species more resilient to fire, insects, and disease.
  - Use fire as a management tool to improve the ecological condition of the project area.

- General polices and action items:
  - The results of prescribed burns must be consistent with the vegetation management goals, regardless of the fire management goals.
  - Fuelbreak and firebreak designs should consider objectives for vegetation management.
  - Grass and brush clearances adjacent to roads and in recreation areas should be consistent with the objectives for vegetation management and legally protected plants.
  - Retain mature oaks in fuelbreaks for their importance to wildlife and aesthetic qualities.
  - Create a varied or feathered edge between fuelbreaks and burn units.
  - Retain clumps of unmodified vegetation in interior areas of fuelbreaks to provide habitat for wildlife and visual variety.
  - Use low-intensity controlled burns rather than firebreaks within Wetland/Riparian Buffer Zones.
  - If possible, use only air drops or hand crews during suppression in Wetland/ Riparian Buffer Zones. (300 feet wide).
  - Avoid, if possible, bulldozing vegetation in Wetland/Riparian Buffer Zones.

- Avoid grass and brush clearing in areas designated as sensitive plant communities (wetlands and serpentine-base communities).
- Retain sufficient vegetation for wildlife cover adjacent to cleared areas to discourage poaching of deer and other game species.
- Prohibit firewood collection, including dead and down wood, unless needed to reduce fuel loading in a specific area.
- Where fire is used to enhance forage production, prescribe the fire at an ecologically appropriate season and with an appropriate interval between burns to promote the health of the native plant community.
- Incorporate all applicable vegetation management objectives in the VMP into the FMP and every prescription.

III. WILDLAND FIRE MANAGEMENT STRATEGIES

A. General Management Considerations

In order to comply with direction provided in current National Fire Plan guidance, the 1995 New Melones Lake Draft RMP, and the interim Peoria Wildlife Area Management Plan, the New Melones Project Area's management and staff will implement the following fire management guidance:

- Provide for firefighter and public safety in all fire management activities.
- Reduce fire risk and hazardous fuels that threatens life and property.
- Protect communities, watersheds, sensitive and high risk areas from unwanted wildfire.
- Use fire and non-fire treatments to restore and/or sustain ecosystem health based on sound scientific principles and information, balanced with other societal goals, including public health and safety and air quality.
- Work closely with CDF Tuolumne/Calaveras Ranger Unit to implement an appropriate management response to wildfires that will provide for firefighter and public safety. When possible, fire suppression operations should be managed to minimize resource damage, control costs, and efficiently suppress high intensity, unwanted wildfire, considering benefits and values to be protected consistent with resource objectives, standards, and guidelines.
- Meet resource, watershed, wetlands, wildlife, fisheries, cultural and vegetation/fuels management goals and objectives through the appropriate use of fire and non-fire fuel treatments.
- When appropriate, use prescribed fire as a primary management tool to improve the ecological condition of natural ecosystems and maintain natural plant community diversity. Use non-fire treatments to achieve desired objectives when the use of prescribed fire is not a realistic or viable option.
- Work collaboratively with Communities-At-Risk and Communities-of-Interest within the WUI to develop plans for wildfire risk/hazard reduction. The list of Communities-At-Risk is available through the California Fire Alliance at http://www.cafirealliance.org/
- Work collaboratively with federal, state, and local partners to develop cross boundary management strategies and prioritize cross-agency fire management activities.
- Identify appropriate management response goals, objectives, and constraints by specific Fire Management Units (FMU) within the New Melones Project Area. All FMU-specific wildfire management activities will be implemented to reflect FMU guidance outlined in Chapter III, Section D.

As a federal land management agency, the Bureau of Reclamation, New Melones Project Area, anticipates the use of the National Fire Program Analysis as a planning and budget process when FPA Phase II is implemented. The following fire program planning elements are used in this FMP/Strategy approach, and are also used in the national interagency fire budget software program 'Fire Program Analysis' (FPA).

Fire Planning Unit (FPU)

The FPU defines a strategic-level geographic planning area. FPA uses the interagency FPU planning polygon as the basic geographic area for fire management analysis. The New Melones Project Area is located within California Interagency FPU #7. Below is listed the current federal agency partners within FPU#7.

California Fire Planning Unit (FPU) - Federal Agencies	
California FPU #7	Folsom Field Office, BLM
	San Luis National Wildlife Refuge Complex
	Yosemite National Park
	Sierra National Forest
	Stanislaus National Forest

Fire Management Unit (FMU)

The New Melones FMP identifies three distinct fire management units (New Melones, Stanislaus and Peoria FMUs). An FMU is any land management area definable by objectives, management constraints, topographic features, access, values to be protected, political boundaries, fuel types, major Fire Regime groups, and so on, that set it apart from the management characteristics of an adjacent FMU. Fire Management Units are scalable, and can be separated geographically. Each FMU should be unique as evidenced by resource management strategies, objectives and attributes.

The Federal fire management plan template policy states that each FMU should be assigned a classification type to define its primary resource management strategy. The types are:

- Wildland Urban Interface (WUI)
- Special Management Areas (SMA)
- Research Natural Areas (RNA)
- High Value Habitat (HVH)
- Cultural/Historic/Paleontological (CHP)
- Vegetation (VEG)
- Wilderness (WLD)

FMUs have dominant management objectives and pre-selected fire suppression strategies assigned to accomplish these objectives. Fire management objectives and suppression strategies for wildfire ignitions in the New Melones FMP are defined and measured in terms of containing unplanned ignitions. (*Note: see Chapter III, Section D for detailed strategy descriptions of the FMUs).* Wildfire tolerance is further defined and measured in terms of total allowable/desired burned acre targets over a 10 year period for each FMU.

B. Wildland Fire Management Goals

As stated in Chapter II, the New Melones Fire Management Plan will reflect the wildland fire management goals that are identified in the 1995/2001 Federal Wildland Fire Policy, the NFP, the Cohesive Fuels Treatment Strategy, and the 10 Year Comprehensive Strategy.

The 10 year Comprehensive Strategy provides a suite of core principles and fire management goals that identifies an aggressive, collaborative approach to reduce the threat of wildfire to communities and to restore and maintain land health.

The four primary goals

1. Improve Prevention and Suppression
2. Reduce Hazardous Fuels
3. Restore Fire Adapted Ecosystems
4. Promote Community Assistance

The New Melones Project Area will conduct all wildland fire management actions in compliance with goals identified in the 1995 Federal Wildland Fire Policy and the 2001 Federal Wildland Fire Policy Update guiding principles. These goals are:

- Firefighter and public safety are the highest priority in every fire management activity.
- Assess risk to communities in terms of direct wildfire impact and economic values, and implement effective pre-fire programs and activities to mitigate that risk through collaborative planning and projects.
- Implement the full range of wildland fire and fuels management practices, including prescribed fire, mechanical, chemical, biological, and cultural treatments that will move all affected landscapes toward desired future condition as described in the RMP.
- Establish partnerships with all interagency cooperators to facilitate coordinated fire management activities.
- Keep CDF's Tuolumne/Calaveras Ranger Unit (TCU) informed and aware of all fire management decisions related to the suppression of wildfires in the New Melones Project Area.
- Encourage close coordination and collaboration among specialists within and among federal, interested organizations, private landowners, state, and local partners.

- Develop and use the best scientific information (including fire science, vegetation, ecology, watershed, public safety etc.) available to deliver technical and community assistance to support ecological, economic, and social sustainability.
- Allow prescribed fire to maintain, and enhance resources, and as nearly as possible be allowed to function in its ecological role when appropriate for the site and situation.
- Create an integrated approach to fire and resource management.

Specific fire management strategies and objectives for each Fire Management Unit (FMU) of the New Melones Project Area are outlined in Chapter III; Section D of the FMP.

C. Wildland Fire Management Options

Wildland fire management options for the New Melones Project Area will typically include the following:

- Wildfire Suppression – Aggressive Initial Attack/Extended Attack
- Prescribed fire
- Non-Fire Fuels Treatment that include mechanical, biological and chemical strategies
- Post Fire Rehabilitation and Restoration
- Community Assistance and Education, Fire Prevention and Rural Fire Assistance

The New Melones Resource Manager has the overall authority and statutory responsibility to provide for resource protection (including fire management and wildfire protection) and public safety on Reclamation lands within the New Melones Project Area. In executing wildfire protection responsibilities on Reclamation lands, the New Melones Resource Manager will provide an aggressive and continuous attack on all wildfires through a fire suppression agreement with CDF.

In exchange for administrative considerations and the long-term use of Reclamation's former construction management facilities, CDF TCU has agreed to provide all wildfire protection functions (initial attack and extended attack) on Reclamation lands in the New Melones Project Area as per an interagency fire agreement between Reclamation and CDF.

Because CDF has fire suppression responsibilities, Reclamation and CDF TCU will coordinate fire suppression responses and actions on all wildfires within the Project Area, with emphasis on; minimizing the loss of life and damage to private property, providing for firefighter and public safety, minimizing environmental damage due to suppression efforts, and keeping suppression costs relative to values at risk.

The use of tactical pre-fire planning and the annual operating plan will allow both Reclamation and CDF TCU managers to design preplanned wildfire responses that meet management objectives established in the New Melones RMP and FMP.

Ultimately, CDF has overall jurisdictional initial attack and fire suppression responsibilities on Reclamation lands, and will respond as equipment availability and immediate fire conditions warrant, and to the greatest extent possible, within the guidelines provided in this FMP, CDF Operational Policy, and the approved operating plan between CDF TCU and Reclamation.

D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU)

There are three FMUs within New Melones Project Area; the New Melones FMU, the Stanislaus FMU, and the Peoria FMU.

Fire and Resource Management Goals Common to All New Melones Project Area FMUs

- Suppress all wildfires through aggressive attack.
- Reduce hazardous fuel loads, with emphasis on wildland urban interface (WUI) areas, high value infrastructure and critical watersheds.
- Implement post-fire rehabilitation activities to ensure that water quality, potential for invasive species, native species diversity, and resource values are taken into consideration. Native species will be used, as appropriate, for post-fire rehabilitation/re-vegetation actions.
- Protect Water Quality Resources:
  - Manage lands and activities for water quality protection and improvement
- Protect Wildlife Resources:
  - Protect wildlife species and habitats legally listed or proposed for listing under the federal and state Endangered Species Acts
  - Conserve sensitive wildlife habitats by minimizing disruption and loss
  - Enhance wildlife habitat values, features and diversity
  - Restore wildlife habitat values of damaged areas through re-vegetation and restoration
- Protect Wetlands, Riparian Areas and Sensitive Vegetation Resources:
  - Protect wetland, riparian areas, sensitive plant species and other associated habitats of species legally listed or proposed for listing under the federal and state Endangered Species Acts
  - Conserve wetlands, riparian habitat and sensitive plant communities by minimizing disruption and loss
  - Enhance wetland, riparian and other habitat values, features and diversity
  - Restore habitat values of damaged areas through re-vegetation and restoration
- Protect Fisheries Resources
  - Protect and enhance cold and warm water fishery resources
- Protect Cultural Resources
  - Protect and manage historic and prehistoric properties from damage or loss

  - Protect sensitive cultural resources by using Minimum Impact Suppression Tactics (MIST) and by coordinating with a Cultural Resource Advisor during fire suppression activities.

- Protect Soil Resources
  - Design and implement emergency stabilization and rehabilitation efforts to achieve soil stability and watershed protection objectives.
  - Implement aggressive rehabilitation actions in severely burned areas that are susceptible to erosion and conversion to invasive species. Native species will be used, as appropriate, for post-fire re-vegetation actions.
  - Locations for structures and routes for fire access roads and motorized fuel breaks will be selected to avoid areas with high potential for slope failure.
  - Stabilize steep slopes to minimize erosion, sedimentation, and water quality degradation and to prevent further damage to critical watershed functions.
  - Re-establish plant cover in a manner that will replicate the prior natural state and to help protect exposed soils.
  - Design, place and maintain fire management-related fuel breaks and fire access roads in a manner that will help mitigate soil compaction, sedimentation and erosion potential.

- Protect Air Resources
  - The overall air resource protection goal is to maintain or improve air quality to in a manner that meets the requirements of the Federal Clean Air Act.
  - The goals of air resource management in the New Melones Project Area is to mitigate air pollutants related to fire management activities and to cooperate with the California Air Resources Board and the Mountain Counties Air Basin District in monitoring and managing/regulating air pollution sources.
  - Air quality management emphasis will be placed on mitigating air quality-related impacts to adjacent communities and visibility-related impacts to transportation corridors within the Project Area.
  - Reclamation prescribed burn plans will be submitted and approved by the Mountain Counties Air Basin District, and will assure that predicted emissions from each burn will not exceed the National Ambient Air Quality Standards (NAAQS).

Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs

In order to comply with direction provided in current National Fire Plan guidance, the New Melones Project Area Manager, CDF Tuolumne/Calaveras Ranger Unit and other cooperating agencies will work collaboratively with regional partners in fire and resource management activities across agency boundaries to achieve the following fire management objectives, strategies, goals, and actions:

General Fire Management Guidelines

As previously stated, the protection of human life is the first and most important consideration in all wildfire events and suppression actions. The safety of the public and firefighters is of

primary importance. All fire management actions whether they are related to fire suppression, fuels treatment, community education and assistance, or emergency stabilization and rehabilitation will be conducted in a manner consistent with public and firefighter safety as the highest priority.

Protection of private property and infrastructure within at-risk WUI areas and the protection of high value watersheds will be a high priority. To this end, the Reclamation will participate with CDF TCU and other cooperative agencies within Tuolumne and Calaveras counties to work collaboratively with local communities at risk, and to develop joint agency plans for landscape risk and hazard reduction activities.

In addition, Reclamation's New Melones resource managers will use fire and non-fire vegetation treatments as management tools to restore and/or sustain ecosystem health, improve the ecological condition/productivity of range ecosystems, and maintain natural plant community diversity. Fire management guidelines identified in the FMP will allow fire (and fire surrogates) to function in its ecological role, as appropriate, to protect, maintain, and enhance resource values and fire dependent/adapted vegetation communities within high value watersheds.

Fire Suppression

Reclamation, through an existing fire protection agreement CDF TCU, will provide for fire protection and suppression of all wildfires that occur within the fire management jurisdiction of the New Melones Project Area boundary. Reclamation will also identify initial attack objectives, and any management constraints by specific Fire Management Units (FMU).

Under the current policy, human caused fires will always be suppressed. Other general fire suppression guidelines are as follows:

Wildfire Suppression/Protection Priorities:

- The protection of human life and the provision of firefighter safety will always have the highest priority.
- Operational emphasis will be placed on firefighter and public safety, minimizing the loss of life and damage to private property and minimizing environmental damage that result from suppression efforts.
- The intensity of fire suppression effort will reflect a response consistent with human and resource values at risk.
- 100% protection of adjacent communities and resource/social values at risk from unwanted wildfire. Community and resource/social values specifically include:
  - Wildland Urban Interface
  - Watershed values and water quality
  - Critical wildlife habitat
  - Community and regional economic infrastructure
  - Recreational uses

- Fires on Reclamation land will be managed to remain on Reclamation land whenever possible. Aggressive initial attack objectives will be developed to minimize the fire potential to crossover on to private or other agency land.
- Existing natural and human made barriers (i.e. roads, trails, rock outcroppings, riparian areas) will be utilized when feasible during wildfire suppression operations.
- Protect fire-sensitive areas from inappropriate or undesired wildfire.

Wildfire Suppression Strategies:

- Once the FMU's decadal wildfire acre-burned target has been reached, from either wildfire or prescribed fire, a review of the FMU objectives and strategies will be initiated to develop new suppression criteria for wildfire events.
- All fire suppression/management activities will consider safety of personnel and the public as the highest priority.
- Wildfires will be aggressively suppressed using a mix of the following methods:
  - Aerial attack, including helicopters, air tankers, and helitankers.
  - Hand crews
  - Engines and water tenders
  - Use of foam and/or fire retardant.
  - Earth-moving equipment (dozers) will be used to protect life, property, and natural resources as appropriate.
- New Melones Project Area suppression strategies encourage the aggressive use of air resources, engines and hand crews during fire suppression activities, whenever possible. Heavy equipment (dozers, etc.) should be used when the disturbance impacts of the equipment are outweighed (or potentially outweighed) by direct and indirect impacts to watershed functions and other resource values.
- CDF TCU will notify the Reclamation's Duty Officer of all fires on or threatening Reclamation lands within the New Melones Project Area.
- As appropriate, and as defined within the operating plan, the CDF incident command team will request and work closely with, a Reclamation Agency Representative/Resource Advisor for all wildfires exceeding or expected to exceed initial attack suppression efforts.
  - A Reclamation Agency Representative (AREP) will be assigned to significant wildfires and work with the CDF Incident Commander and/or the Incident Management Team in the development of fire suppression strategies.
  - The Reclamation AREP will assign a Resource Advisor(s) and/or Environmental Specialist(s) (ENSP) as appropriate. The Reclamation Agency Representative will also coordinate suppression efforts with all available New Melones Project Area resource specialists, as appropriate.
- In the case of a wildfire that escapes initial attack, a Wildland Fire Situation Analysis (WFSA) will be completed to determine the complexity level and identify suppression alternatives. When analyzing alternatives, consideration should always be given to least cost suppression tactics as long as other resource objectives can be met. Federal policy

stipulates that a Wildland Fire Situation Analysis (WFSA) is required for all fires that are not contained within the first burning period.
  - CDF and the Reclamation Agency Representative will coordinate in the development of a WFSA on fires extending beyond initial attack. The WFSA will be updated by operational shift as necessary.

Wildfire Suppression Constraint Strategies:

- Regardless of constraints, all fire suppression/management activities will consider safety of personnel and the public as the highest priority.
- Avoid using heavy equipment in the river corridors and riparian areas.
- Restrict retardant use within 200 feet from the Stanislaus river corridor.
- Use Minimum Impact Suppression Tactics (MIST) in areas where cultural resources exist and are vulnerable to surface disturbance.
- Prevent unacceptable impacts to Special Status Species, cultural resources, and sensitive sites.
- Fire suppression strategies should be tailored to address areas of significant constraints including critical habitat for wildlife, T&E species, areas of soil instability, areas of other critical resource constraints (cultural), and where plant communities are at risk due to current conditions/times of year or other ecological constraints.
  - Actions will be taken in these identified areas to protect the sensitive sites from damage by heavy mechanized equipment.
- In areas where there are know or suspected sensitive sites, a Reclamation Agency Representative /Resource Advisor will be assigned to all wildfires to work with the CDF Incident Commander and/or Incident Management Team to identify areas of known or suspected ecologically sensitive sites. Actions will be taken in these identified areas to protect the sensitive sites from damage by heavy mechanical equipment.
- In cases where wildfires are or may threaten known high value cultural resource sites, employ all available suppression and resource protection measures to avoid loss to the site. CDF will promptly notify the Reclamation Agency Representative.
  - The Reclamation Agency Representative will coordinate notification of the New Melones Resource Manager and archaeologist. The Reclamation Agency Representative will assess resource concerns and coordinate with CDF as necessary.
  - The Reclamation Agency Representative will coordinate suppression efforts in culturally sensitive sites with the Reclamation /New Melones Archaeologist.
- In non-initial attack/multiple-burning period fire situations, the request for an archaeologist to be available on-scene should be submitted prior to any significant heavy equipment use in cultural resource areas sensitive to surface disturbance.
- In emergency circumstances, where heavy equipment was employed without prior on-site coordination, Reclamation will conduct post-fire archaeological evaluations to assess and document equipment damage to cultural resources.

Fire and Non Fire Fuels Treatments

Fire (prescribed fire) and non-fire fuels treatments (mechanical, chemical, and biological) will be developed and implemented in order to create fire safe communities, protect private property, achieve resource management objectives, as well as restoring and maintaining the structures, species composition, and processes of native ecosystems. Where appropriate, vegetation management projects will be developed in a collaborative manner consistent with the 10-Year Strategy Implementation Plan (2002). As appropriate, resource managers will incorporate applicable vegetation management objectives identified in the Vegetation Management Plan for New Melones Lake into fire and non-fire treatment prescriptions.

Municipal watersheds and wildland urban interface (WUI) areas are of great concern to the Bureau of Reclamation, and will be considered as high priorities for fuels treatment projects. These WUI areas are identified in the Communities at Risk section of each FMU description. Additional collaborative project level planning will be completed prior to implementation of fuels management actions. Additional at-risk areas and projects may be identified through a joint-agency, landscape-scale collaborative process on a case-by-case basis.

Fuelbreaks and firebreaks will be designed in a manner that minimizes impacts to aesthetic, scenic, and ecological resources, and consider resource objectives for vegetation management, wildlife habitat management, soil stabilization, public safety, ignition sources, and safety of fire-fighting personnel. Emphasis will be to create fuelbreaks with blended or feathered edges through selective thinning and by cutting indentations in brush to create bays. Interior areas of the fuelbreaks should retain clumps of unmodified vegetation to provide cover and food for wildlife and create interest and variety in the landscape. Retention of oak trees is especially desirable. Mature oaks will be retained in fuelbreaks for their wildlife benefits and scenic qualities.

Projects will be also be designed to ensure that vegetation management treatments conserve site moisture and protect long-term stream health from increased runoff damage. Within wetland/riparian buffer zones, fuel treatment projects will be designed to use low-intensity/low-impact hand treatments and/or prescribed fire, rather than constructing large firebreaks with heavy equipment.

Fuel hazard reduction activities will be designed and implemented to maintain adequate grass and brush clearance directly adjacent to high use roads and in Reclamation recreation areas during the fire season, consistent with Vegetation Management Plan for New Melones Lake objectives and special status plant requirements. Vegetation in those areas outside of fuel treatment project perimeters will retain sufficient wildlife cover to discourage poaching of deer and other game species.

Prescribed burns and non-fire fuel treatments will be reseeded, as appropriate, using native species to the extent practical, wherever residual vegetation is not adequately abundant to revegetate the sites naturally, to prevent domination by invasive weed species, and to meet ecosystem and watershed health/restoration objectives. Where fire is used to enhance forage

production, prescribe the fire at an ecologically appropriate season and with an appropriate interval between burns to promote the health of the native plant community.

Prescribed Fire Objectives:

- Use fire as a management tool to improve the ecological condition of the project area.
- Treatment emphasis and priorities will be given to critical WUI areas, high value watersheds, high value habitat, and developed recreational areas.
- An interdisciplinary approach will used to determine the best site-specific prescribed fire treatments to accomplish fuels reduction and other resource goals and objectives.
- The objectives and results of prescribed burns must be consistent with the vegetation management goals, regardless of the fire management goals.
- Prescribed fire will be used as a tool to meet resource management objectives and to reduce surface fuels in areas of fuel reduction projects
- As appropriate, use prescribed fire to reduce hazardous fuel loadings in order to mitigate fire intensity levels. This will minimize negative fire effects on natural and cultural resources in the unit.
- Prescribed fire will be used to reduce the future need for aggressive suppression activities by the development of prescribed fire strategies that reduce or eliminate risk to life, property and natural resource values.

Prescribed Fire Strategies:

- Future prescribed fire projects and acre-targets will be re-evaluated if and when the FMU desired burned acreage target is reached through unplanned ignitions.
- Prescribed fire smoke emissions will remain within those allowed by state and local air quality regulators.
- Prescribed fire treatments should be designed to break up continuous fuel beds and concentrations of dead or decadent fuels.
- Prescribed fire should be planned and executed to promote a mosaic pattern of numerous and irregular shaped burned areas, colonized by early and mid-successional stage vegetation.
- Conduct appropriate pre-treatment surveys (archaeological, botanical, etc…) to ensure no unintended loss of resource values.
- Conduct post-treatment surveys for increases in non-native plant species.
  - If non-native species cover **exceeds 5%** in treated areas, implement appropriate eradication measures, as determined by an interdisciplinary treatment plan.

Prescribed Fire Air Quality Strategy:

- New Melones personnel will work closely with the Mountain Counties Air Basin District personnel to ensure prescribed fire emissions stay within permitted levels.

- Develop and implement a smoke management plan for each prescribed burn.
- Plans are required to be approved by the Mountain Counties Air Basin District, and must assure that predicted emissions from each burn will not exceed the National Ambient Air Quality Standards (NAAQS).

Prescribed Fire Monitoring Strategy:

- All prescribed fires will have on-site monitoring during the operational period to collect fire behavior and weather data.
- Photo points will be established pre-burn.
- Data will be collected immediately post-burn for initial estimate of consumption of fuels and attainment of resource objectives.
- Long-term post burn monitoring should include identification of vegetation species and the presence of invasive non-native species.

Non-Fire Fuels Treatment Objectives:

- Treatment emphasis and priorities will be given to critical WUI areas, high value watersheds, high value habitat, and developed recreational areas.
- An interdisciplinary approach will be used to determine the best site-specific non-fire fuels treatments to accomplish fuels reduction and other resource goals and objectives.
- Mechanical treatments will be utilized on Reclamation lands along the wildland urban interface to reduce fuel loadings and create fuel breaks to serve as control lines for prescribed burns and unwanted wildfires.
- Reduce hazardous fuel loadings in order to reduce fire intensity levels which will minimize negative fire effects on natural and cultural resources in the unit and mitigate the potential for catastrophic fires.
- Reduce the future need for high cost, aggressive suppression activities by the development of non-fire treatment fuels management strategies that reduce hazard and mitigate risk to life, property and high value watersheds.

Non-fire Fuels Treatment Strategies:

- Fuels treatments using non-fire means will be utilized in those situations where, due to current high fuel loading, the use of prescribed fire would create artificially high fire intensity levels that may result in severely damaged soils, watershed functions, or loss of desired plant species.
- Non-fire treatments will serve to somewhat mimic fires' function, in that they will remove a large portion of the biomass accumulation from the landscape, thus allowing a better opportunity in subsequent years for follow up treatments using lower intensity prescribed fire.
- Conduct appropriate pre-treatment surveys (archaeological, botanical, etc…) to ensure no unintended loss of resource values.

- Use of herbicides as a vegetation treatment option will be carefully examined, for potential impacts to water sources, wildlife habitat, and cultural/traditional uses.
- Conduct post-treatment surveys for increases in non-native plant species.
  - If non-native species cover **exceeds 5%** in treated areas, implement appropriate eradication measures, as determined by an interdisciplinary treatment plan.

Non-Fire Treatment Monitoring Strategy:

- Initial project monitoring data will be collected immediately after the treatment for initial estimate of reduction of fuels and attainment of resource objectives.
- Long-term post treatment monitoring should include identification of vegetation species and the presence of invasive non-native species.

Community Assistance, Education and Fire Prevention

Community education and assistance activities will be conducted in collaboration with cooperating agencies and local fire safe councils to create fire safe communities, prevent catastrophic impacts on sensitive natural resources, and educate the public on the natural role of fire in Sierra foothill ecosystems.

Community Protection/Community Assistance Objectives:

- Increase public awareness, participation, and cooperation pertaining to the mitigation of fire threats in the WUI.
- Educate area population on the basic principles of fire ecology and fire's role in the environment.
- Build public support for fuels reduction efforts in and around Reclamation lands adjacent to wildland urban interface areas.
- Collaborate with CDF Tuolumne/Calaveras Ranger Unit, local fire departments and fire safe councils regarding federal grants available to communities at-risk.
- Develop and implement collaborative mitigation and prevention strategies with communities at risk.
- Reduce the risk of human caused wildfires, with emphasis on fires caused by recreational activities.

Community Protection/Community Assistance Strategies:

- Support and encourage the formation of fire safe councils in all communities at risk.
- Work collaboratively with local communities, CDF and other agency partners to develop and update county-wide Community Wildfire Protection Plans (CWPP). Amend Reclamation's New Melones Project Area's program of work to reflect and incorporate mitigation/prevention recommendations and action priorities developed by and outlined in the county-wide CWPP.

- Present fire ecology information to local and special interest groups to help enhance the understanding and support of Reclamation's fire management objectives and implementation activities.
- Provide informational brochures and materials on reducing fire risks to local communities and creating defensible space for those homeowners that are near or adjacent to Reclamation lands.
- Participate with other agencies in providing fire safe education and residential assessments to adjacent homeowners.
- Support and participate in interagency presentations to local homeowner groups explaining "Defensible Space" and related fire prevention safety and risk mitigation activities.

New Melones Fire Prevention Strategies:

- Employ cause-specific fire prevention activities to reduce human ignition, with special emphasis in wildland-urban interface areas, Reclamation's developed campgrounds, shoreline recreations areas, and adjacent high-use transportation corridors.
- Limit open campfires to designated overnight campgrounds and within provided fire rings and pedestal grills. Prohibit open fires in all areas during periods of Interagency Fire Restrictions.
- Work with Reclamation's New Melones Ranger and recreation staff to ensure recreation and high use areas are patrolled and that fire prevention/education signs are posted and maintained.
- Provide yearly fire prevention outreach/education materials to Reclamation personnel and offices offering campfire permits and general camping safety information to the public.
- Provide CDF Tuolumne/Calaveras Ranger Unit fire restriction and emergency closure information to Reclamation personnel and the public.

Post Fire Stabilization and Rehabilitation:

Emergency stabilization and rehabilitation efforts will be designed and implemented to achieve vegetation, habitat, soil stability, and watershed objectives. Aggressive actions will be taken in burned areas susceptible to erosion and conversion to invasive species. Native species will be used, as appropriate, for post-fire re-vegetation actions.

Post Fire Stabilization, Rehabilitation and Restoration Objectives and Strategies:

Fire damages resulting from wildfires have two forms: short-term suppression activity damage and long-term resource damage. Suppression action damages may be the result of suppression operations; resource damages are a result of the fire itself as it relates to damage to the natural resource.

- Protect water quality and prevent further damage to critical watershed functions.
- Stabilize steep slopes to minimize erosion, sedimentation, and water quality degradation.

- Rehabilitate burned areas to mitigate the adverse effects of wildfire on soil and vegetation in a cost-effective manner and to minimize the possibility of wildfire recurrence or invasion of weeds.
- Post-fire rehabilitation and/or restoration will emphasize the re-establishment and perpetuation of habitat diversity and the reduction of undesirable, invasive non-native annual grass establishment and proliferation.

Emergency Stabilization & Rehabilitation (ESR) Strategies:

Emergency stabilization and rehabilitation (ESR) involve short term actions to stabilize burned areas and mitigate suppression activity damage. This includes also replacing equipment and infrastructure that was directly damaged or destroyed by fire suppression actions. ESR strategies for New Melones Project Area include the following:

- Identify immediate emergency rehabilitation actions to prevent further land degradation or resource loss.
- All firelines will be rehabilitated to natural condition.
- Post-suppression mitigation shall include re-establishing drainage, removing trash, rehabilitation of firebreaks and other ground disturbances, and obliteration of vehicle tracks sufficient to discourage future casual use and erosion.
  - Actions must be taken within one year following containment of a wildfire
- Repair, replace, or construct physical improvements damaged by suppression actions.
- Repair minor facilities damaged by fire suppression actions.
  - Actions must be taken within three years of containment of a wildfire
- Consult with staff archaeologist, botanist, wildlife biologist, and other staff specialists to evaluate fire and suppression operations effects and determine if additional restoration is necessary.
- Ensure that equipment and emergency stabilization material, e.g., straw etc… meets federal requirement and are certified weed-free.
- Low-impact equipment should be used for ESR activities whenever appropriate.

Long-term Post Fire Restoration and Re-vegetation Strategies

Resource damage restoration/rehabilitation and post fire re-vegetation typically involves long-term post incident actions. Post-fire rehabilitation, restoration and/or re-vegetation requirements should be considered for large, high intensity fires that occur within high value, critical watersheds. USDI policy requires agency-standard fire rehabilitation plans prepared for those fires requiring complex rehabilitation and restoration/re-vegetation efforts. Post-fire rehabilitation is typically considered on a case-by-case basis depending on the location of the fire and resources to be protected.

Other post-fire rehabilitation considerations include:

- Post-fire rehabilitation and/or restoration is generally deemed necessary or desirable, when resource specialists identify a need for large-scale slope stabilization efforts and/or the re-establishment of appropriate, site-specific native plant species over large, high intensity burn areas.
- The need to restore or re-vegetate fire-damaged lands unlikely to recover naturally.
- Repair, replace, or construct physical improvements necessary to prevent degradation of land or resources.
- Stabilize and prevent unacceptable degradation to natural and cultural resources.
- Minimize threats to life and property resulting from the effects of a fire.
- Ensure that long-term rehabilitation material, e.g., seed, straw etc… meets all federal requirements and is certified weed-free.
- Long term rehabilitation could involve the use of an ESR (BAER) team on larger fires.
- Long term rehab may include repairs to structures (fences, signs, windmills, etc.) and construction of temporary fences to exclude people and livestock from burned areas.

Monitoring

Increased emphasis will be placed on natural resource objectives for each fire and fuels treatment. A monitoring and evaluation program will be established to determine the effectiveness of the management implemented. This will include the purposeful collection and analysis of data to determine the results of implementing management actions. It will require monitoring for both pre and post-fire environmental conditions. This information will be used to adjust management determinations. Adjustment in fire and fuels management practices based on sound scientific monitoring and analysis will be consistent with this plan amendment.

Environmental Analysis (NEPA)

Current standard operating procedures for environmental analysis will be followed. Each proposal for a prescribed burn or non-fire fuels treatment will be further analyzed in a project specific environmental analysis (CX, EA, DNA) as appropriate.

NEPA Documentation for Hazardous Fuels Reduction Activity- Categorical Exclusion

This NEPA approach is appropriate for use in the New Melones Project Area. Reference "NEPA Documentation Needed for Fire Management Activities; Categorical Exclusions" in the Federal Register, June 5, 2003, for additional NEPA-related information. Projects that qualify under this specific NEPA categorical exclusion must meet the following conditions:

For hazardous fuels reduction activities conducted under a Categorical Exclusion, these activities:

- Will not be conducted in wilderness areas or where they would impair the suitability of wilderness study areas for preservation for wilderness;

- Will not include the use of herbicides or pesticides;
- Will not involve the construction of new permanent roads or other infrastructure;
- Will not include sales of vegetative material that do not have hazardous fuels reduction as their primary purpose;
- Will not exceed 1,000 acres for mechanical hazardous fuels reduction activities and will not exceed 4,500 acres for hazardous fuels reduction activities using fire;
- Will only be conducted in wildland-urban interface or in Condition Classes 2 or 3 in Fire Regime Groups I, II, or III, outside the wildland-urban interface.

New Melones Project Area – Landscape-Scale Fire Management Information

The following maps and statistical data provide fire management information for all lands within the New Melones Project Area and serve to define fire management issues and physical characteristics in a more landscape context.

Maps:

- New Melones Project Area Fire Management Units (FMUs)
- New Melones Project Area Fire Management Units (FMUs) by FMU
- New Melones Project Area Fire Occurrence by FMU
- New Melones Project Area Vegetation by FMU

Statistical Summaries:

- New Melones Project Area Fire Management Unit (FMU) Types
- New Melones Project Area Fire Management Objectives by Fire Management Unit (FMU)
- New Melones Project Area Decadal (1994-2003) Fire History by FMU
- New Melones Project Area Ignitions by Size Class (1994-2003)
- New Melones Project Area Fire Acres by Year (1994-2003)

New Melones Project Area Fire Management Unit Types		
FMU Number	**FMU Name**	**FMU Category/Type**
01	New Melones FMU	WUI & High Value Watershed
02	Stanislaus FMU	Watershed/WUI
03	Peoria FMU	High Value Habitat/WUI

The following table summarizes the quantifiable Fire Management Objectives presented by FMU.

New Melones Project Area Fire Management Objectives by Fire Management Unit (FMU)						
FMU Number	**Wildfire Desired IA Success**	**Wildfire Decadal Goals (Acres)**	**Decadal Wildland Fire Use (Acres)**	**Decadal Rx Fire (Acres)**	**Decadal Non-Fire Treatments (Acres)**	**FPA Suppression Priority***
01	< 1 ac. @ 90%	250	N/A	500	1,000	1
02	<10 ac. @ 90%	1,000	N/A	1,500	100	2
03	<10 ac. @ 90%	500	N/A	1,500	750	3

FMU Ignition and Fire History Analysis: Fire occurrence information is derived from CDF Fire Reports, and also includes fire reports for those Reclamation fires where USFS was the jurisdictional agency.

New Melones Project Area Decadal Fire History by Fire Management Unit (FMU)				
FMU Number	**Decadal Number of Fires (94-03)**	**Largest Fire Acres (94-03)**	**Decadal Average Acres (94-03)**	**Decadal Total Acres (94-03)**
01	57	3,212	91	5,186
02	42	14,280	384	16,144
03	11	6	10	10

New Melones Project Area Ignitions by Size Class (1994-2003)				
Size Class (Acres)	**Number of Fires**	**Largest Fire (Acres)**	**Average Fire Size (Acres)**	**Total Acres Burned**
A (0.0 - 0.2)	57	0.2	0.05	3
B (0.3 - 9.9)	37	8	2	81
C (10 - 99.9)	6	25	17.5	105
D (100 - 299.9)	4	210	176	710
E (300 - 999.9)	3	700	566	1,700
F (1000 - 4999.9)	2	3,212	2,231	4,462
G (5000+)	1	14,280	14,280	14,280

New Melones Project Area Fire Acres by Year (1994-2003)				
Year	**Number of Ignitions**	**Largest Fire (Acres)**	**Average Fire (Acres)**	**Total Acres**
1994	14	700	54	754
1995	8	3,212	401	3,214
1996	19	1,250	114	2,174
1997	7	4	1	5
1998	8	25	3.8	30
1999	18	100	7.6	138
2000	15	700	48	724
2001	8	14,280	175	14,285
2002	12	8	1	13
2003	1	1	1	1

New Melones Reservoir
Fire Management Units

Stanislaus-FMU

New Melones FMU

Peoria FMU

NEW MELONES RESERVOIR

Area of Detail

New Melones Reservoir

Prepared by Envrionmental Restoration Technology Ltd.

0 1.5 3 Miles

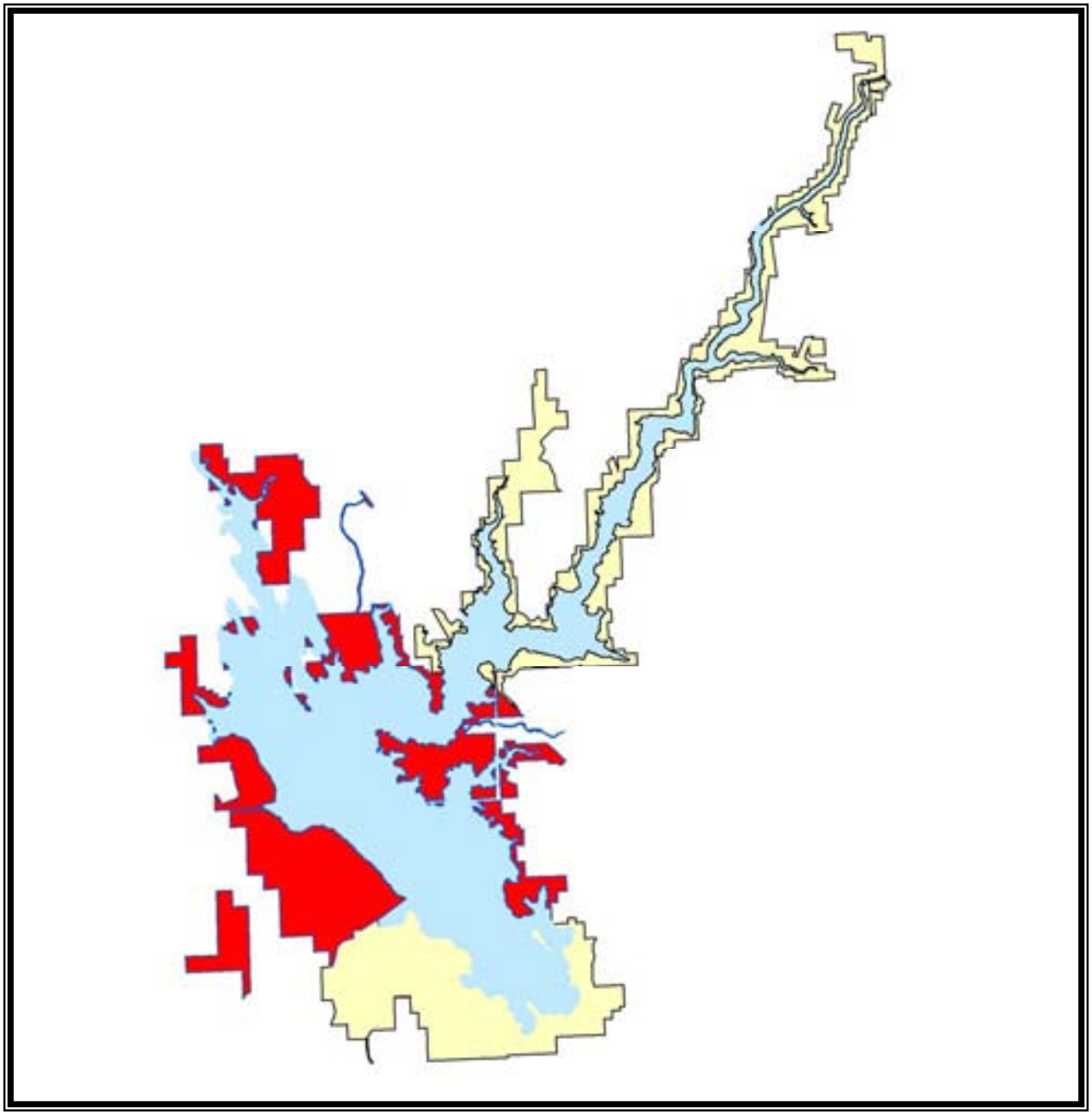
Legend

- New Melones FMU
- Stanislaus FMU
- Peoria FMU
- Road
- Cities
- New Melones Reservoir

Agency

- Bureau of Reclamation
- Bureau of Land Management
- State
- US Forest Service
- Private

01 - NEW MELONES FMU



FMU I.D.: 01 - NEW MELONES

1. FMU Type: Wildland Urban Interface and High Value Watershed

2. FMU Location Information

Geographic boundaries

- Angels Camp and Highway 4 to the North
- Table Mountain and Highway 49 to the East
- Lightner Peak and Obyrnes Ferry Road to the West
- Peoria FMU and Stanislaus River to the South

3. FMU Area Acre Total: Bureau of Reclamation Ownership: **6,589 acres**

4. FMU Characteristics

Topography

- **Elevation Range:** 600 - 2400 feet
- **Slope:** 0-100%
- **Aspect:** All
- **Major topographical features:** General topography of the FMU includes flat expanses along lower to mid slopes and along ridge tops, steep upland slopes, intermittent drainages, perennial watercourses, and seeps. The New Melones Lake and the Stanislaus River are also part of the hydrologic topography located in this FMU.

Resource Use

- Critical Watershed
- Municipal Water Supply
- Critical Deer Winter Range
- Water-related Recreation
- Developed Campgrounds
- Hunting
- Federal administrative sites
- Grazing
- Dispersed General Recreation

Hydrology & Water Quality

- The Stanislaus River is the primary hydrological river feature in this FMU.
- One large reservoir exists in this unit, New Melones Lake, which is surrounded by Reclamation land as well as adjacent to BLM and USFS lands. New Melones Lake operations provide releases for downstream fishery requirements, water quality, water rights, and also functions as a municipal water supply.

Access: This FMU is accessed by a road network of state and county roads. Access to Reclamation lands in most areas is limited, with the exception of developed recreation sites within the Project Area. Many of Reclamation's land parcels are not easily accessible by vehicle, or are limited by narrow, two track roads. Around the periphery of the New Melones Project Area, Reclamation lands are often directly adjacent to housing subdivisions and high-use rural roads, county roads, and a State Highway.

Air Quality Characteristics & Issues

- The New Melones Project Area is under the air quality management jurisdiction of the Mountain Counties Air Basin District.
- Emissions in the northern counties in the San Joaquin Valley are approximately 10 times the emissions from the 5 northern counties that comprise the Mountain Counties Air Basin District. Emissions from some southerly counties in the San Joaquin Valley contribute to some of this transport by way of the Fresno Eddy. The Fresno Eddy is a counterclockwise circulation pattern that transports morning emissions from the Fresno area northward along the eastern side of the Valley and potentially into the Mountain Counties Air Basin. Research has indicated that on some days, a significant component of the emissions that are transported from the Valley to the Mountain Counties Air basin originated in the Bay Area.
- The wind flow patterns in the project area are typically daytime, up-slope and nighttime, down-slope/down-canyon drainage winds. The air mass from the San Joaquin Valley encounters few emissions from the Mountain Counties Air Basin District before reaching the sites where the violations of the ozone standard were measured. The transport impacts identified at the higher elevations are believed to be due to transport aloft.
- During fire season, prevailing southwest, west and northwest winds tend to blow the smog generated in the valley into the Mountain Counties Air Basin District. Smoke generated from wildfires that occur in the area adds to the already stagnant air conditions. Low inversion layers reduce the air quality further by trapping the smoke closer to the ground.

Soils: Soils in this FMU include serpentine and plutonic soils, metamorphic, marine sedimentary and volcanic flow.

Cultural values: *(To be added as appropriate)*

Sensitive species & habitats, T&E species & habitat

- Special status plant species known to occur on Reclamation land in this FMU:
  - *Allium jepsonii* - Jepson's onion
  - *Allium tuolumnense* - Rawhide Hill onion
  - *Chlorogalum grandiflorum* - Red Hills soaproot
  - *Cryptantha mariposae* - Mariposa cryptantha
  - *Erythronium tuolumnense* - Tuolumne fawn lily
  - *Horkelia parryi* - Parry's horkelia
  - *Lomatium congdonii* - Stebbins' lomatium
  - *Mimulus pulchellus* - Pansy monkeyflower
- Special status animal species:
  - Bat species
  - California spotted owl
  - Northern goshawk
  - Foothill yellow-legged frog
  - California red-legged frog
  - Valley elderberry longhorn beetle
  - Vernal pool invertebrates

5. FMU Fire Occurrence & History

01 - FMU Decadal (94-03) Fire Occurrence & Ignition Cause			
Number of Fires	57	Natural	3
		Camp Fire	7
Largest Fire (Acres)	3,212	Smoking	5
		Fire Use	7
		Incendiary	6
Total Acres Burned	5,186	Powerline	2
		Equipment	11
		Vehicle	4
Average Fire Size (Acres)	91	Juveniles	1
		Unidentified	3
		Miscellaneous	8

01 - FMU Fire History Ignitions by Size Class		
Size Class (Acres)	**Number of Ignitions**	**Number of Acres**
A (0.0 - 0.2)	32	1
B (0.3 - 9.9)	16	48
C (10 - 99.9)	4	65
D (100 - 299.9)	3	610
E (300 - 999.9)	0	0
F (1000 - 4999.9)	2	4,462
G (5000+)	0	0

6. FMU Fuel Models, Fire Behavior, Fire Weather & Climate Related Impacts:

Heavy fuels and steep topography are the main influences on fire behavior in this FMU.

Fuel models and/or vegetation types within the FMU

- Fuel Model 1 – Annual grasses
- Fuel Model 2 – Herbaceous and grass vegetation under a timber overstory
- Fuel Model 4 – Heavy shrubs such as chaparral
- Fuel Model 6 – Moderate shrubs such as intermediate chamise or chaparral
- Fuel Model 9 – Closed stands of long-needle pine

Live fuel moisture characteristics: Fuel model 4 has an important live fuel moisture component that heavily influences fire behavior. This moisture content typically drops to critical levels in late spring or early summer.

General Vegetation Types: General vegetation types found in this FMU includes grasslands, oak woodlands and forests, pine and oak forests, chaparral, and deciduous shrublands. A type-specific list of primary vegetation types is listed below:

- Mixed Conifer - Pine
- Interior Live Oak
- Blue Oak
- Black Oak
- Oak / Grass savannah
- Valley Oak
- Interior Live Oak

- Poison Oak
- Chamise
- Wedge Leaf Ceanothus
- Buckeye
- Mixed Riparian Shrub
- Native Wet Perennial Grassland
- California Annual Grasslands
- Native Xeric Herbaceous shrubs
- Star thistle, medusahead and other invasive/non-native species

01 - FMU Vegetation/Fuel Types		
Vegetation/Fuel Type	**Acres**	**Percent**
Annual Grassland	179	3%
Blue Oak-Foothill Pine	5,650	85%
Chamise-Redshank Chaparral	190	3%
Montane Chaparral	570	9%
Total	**6,589**	**100%**

7. FMU Values at Risk

Primary values to be protected

- Water quality
- Watershed values
- Private property
- Developed recreation sites
- Cultural resources
- Special Status Species
- Wildlife Habitat
- Air quality
- Recreation
- Vegetation values
- Visual resources

8. FMU Communities at Risk/WUI Areas

- Angels Camp
- Stanislaus
- Tuttletown
- Jamestown
- Carson Hill
- Cloy House
- Copperopolis
- Jackass Hill

9. FMU Objectives & Strategies

Fire Management Objective Priority Statement

The fire management goal in this FMU is the protection of life and property, to gradually restore conditions approximating the Fire Regime, and to lower the potential for large, uncharacteristically severe wildfires. The management objective is to enhance fire suppression capabilities by decreasing fire behavior inside the unit and to provide a safe and effective area for possible future fire suppression activities. The primary strategies to achieve these objectives include an aggressive suppression response to all wildfires and strategically placed hazardous fuel reduction treatments.

Wildland Fire Objectives & Strategies

Wildland Fire Burned Acre Targets:

- FMU target individual wildfire size: **1 acre or less at a 90% success rate**
- FMU Target acres burned per decade: **250 acres**

Wildfire Suppression/Protection Priorities: Wildfire Suppression/Protection Priority information for this FMU is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Fire Suppression;* Wildfire Suppression/Protection Priorities: pg 28

Wildfire Suppression Strategies:

- Once the decadal wildfire acre burned target has been reached at **250 acres** from wildfire events, a review of the FMU objectives and strategies will be initiated to develop new suppression criteria for wildland fire events.
- Additional Wildfire Suppression Strategy information for this FMU is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit

(FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Fire Suppression;* Wildfire Suppression Strategies: pg 29

Wildfire Suppression Constraint Strategies: Wildfire Suppression Constraint Strategy information for this FMU is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Fire Suppression;* Wildfire Suppression Constraint Strategies: pg. 30

Prescribed Fire Objectives & Strategies

Prescribed Fire Acre Targets:

- Prescribed Fire Annual Acre Target: **25 acres to 100 acres**
- Prescribed Fire Decadal Acres Burned Target: **500 acres**

Prescribed Fire Objectives and Strategies: Additional Prescribed Fire Objectives and Strategy information for this FMU is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Fire and Non Fire Fuels Treatments:* Prescribed Fire Objectives ; Prescribed Fire Strategies: pg. 32

Non-Fire Fuels Treatment Objectives & Strategies

Non-Fire Fuels Treatment Acre Targets:

- Non-Fire annual acre target: **100 acres**
- Non-fire treatment decadal acres target: **1,000 acres**

Non-Fire Fuels Treatment Objectives & Strategies: Additional Non-Fire Fuels Treatment Objectives and Strategy information for this FMU is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Fire and Non Fire Fuels Treatments:* Non-Fire Fuels Treatment Objectives and Non-Fire Fuels Treatment Strategies: pg. 34

Post Fire Rehabilitation & Restoration Objectives & Strategies

Detailed information for this FMU referencing post fire stabilization and rehabilitation (including ESR and long term rehabilitation/restoration) objectives and strategies is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Post Fire Stabilization and Rehabilitation:* Post Fire Stabilization, Rehabilitation and Restoration Objectives and Strategies: pg. 36

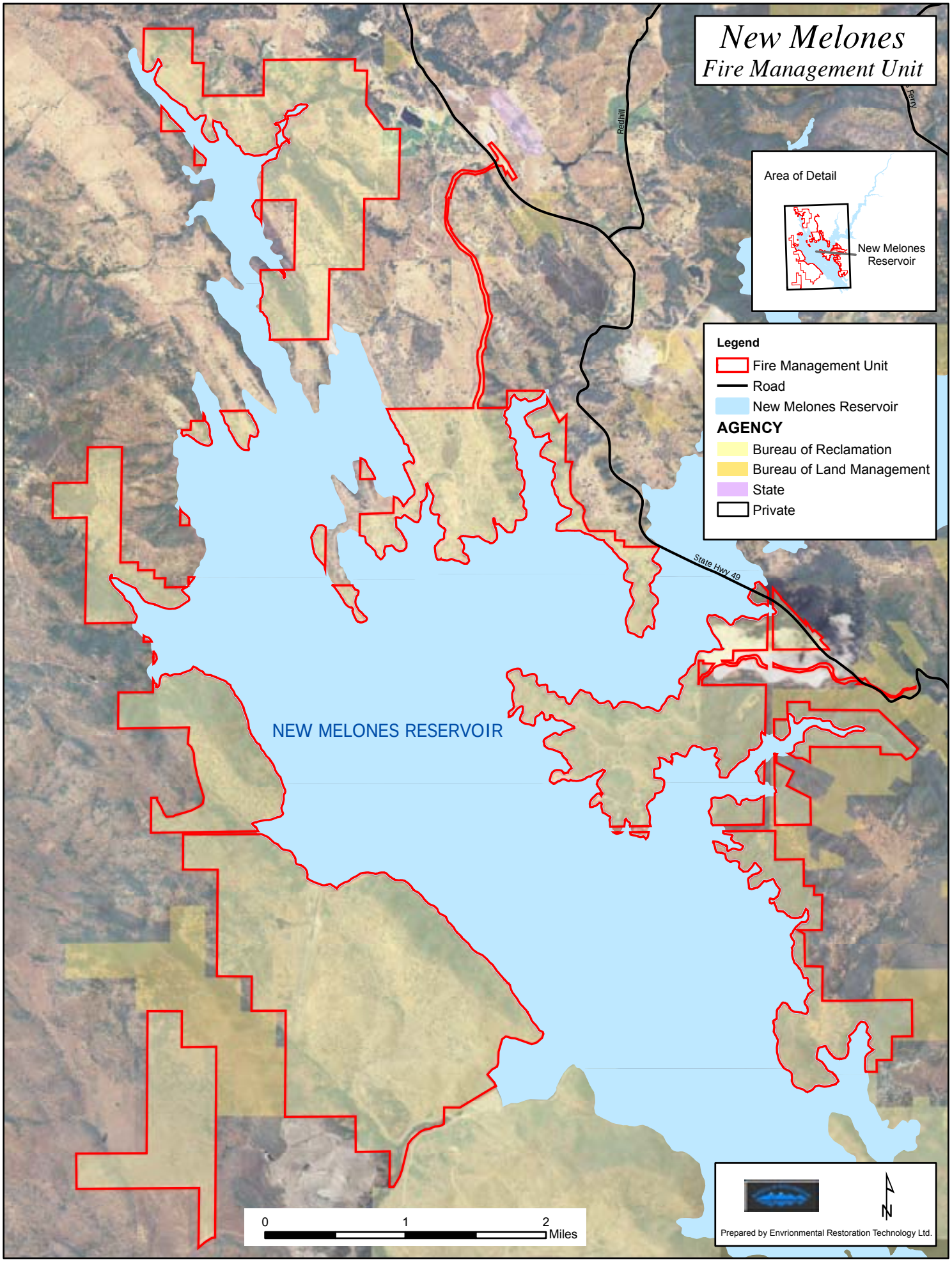
Community Protection/Community Assistance & Fire Prevention Objectives & Strategies

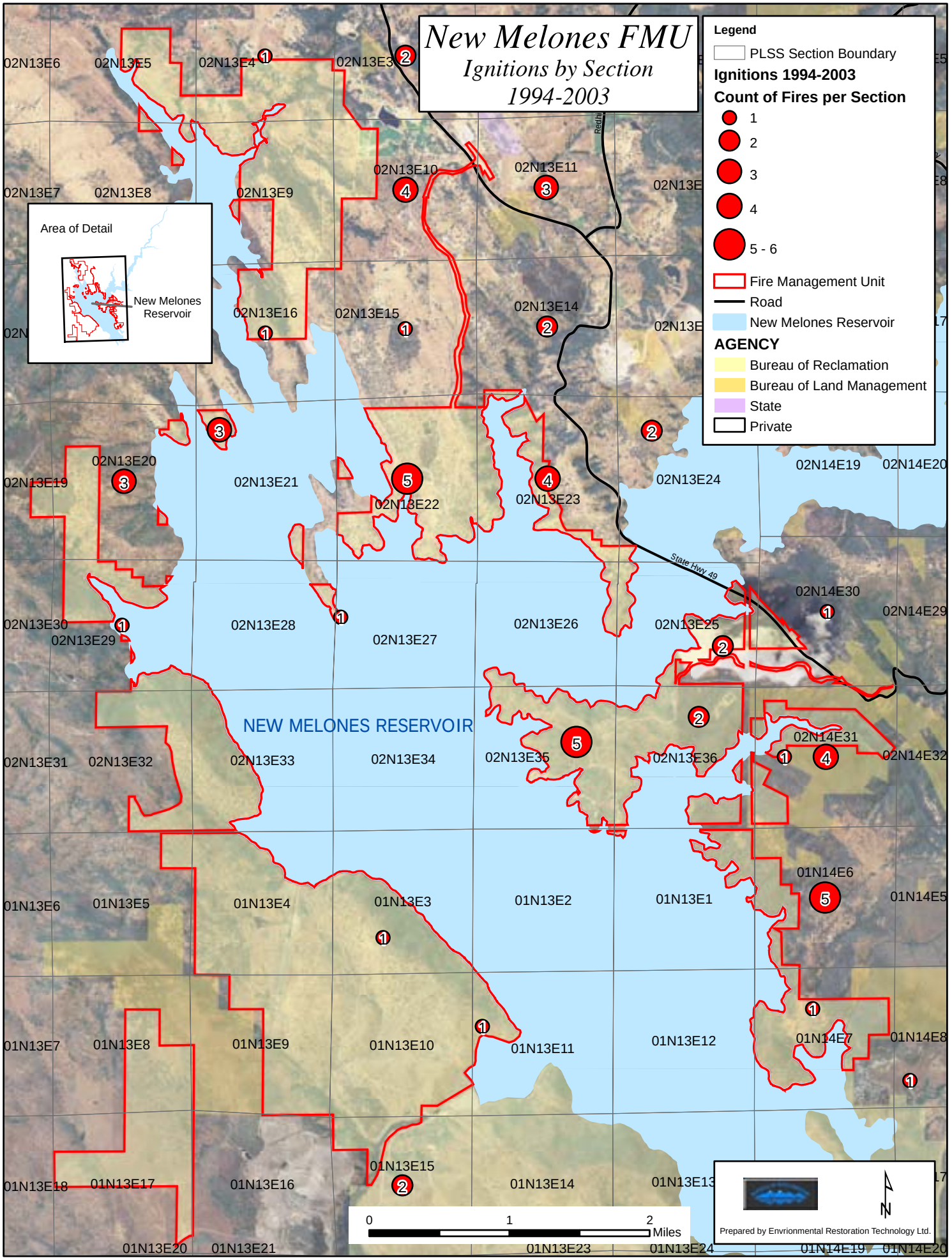
Community Protection/Community Assistance Objectives & Strategies: Community Protection/Community Assistance Objectives and Strategy information for this FMU is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Community Assistance, Education and Fire Prevention:* Community Protection/Community Assistance Objectives and Community Protection/ Community Assistance Strategies: pg. 35

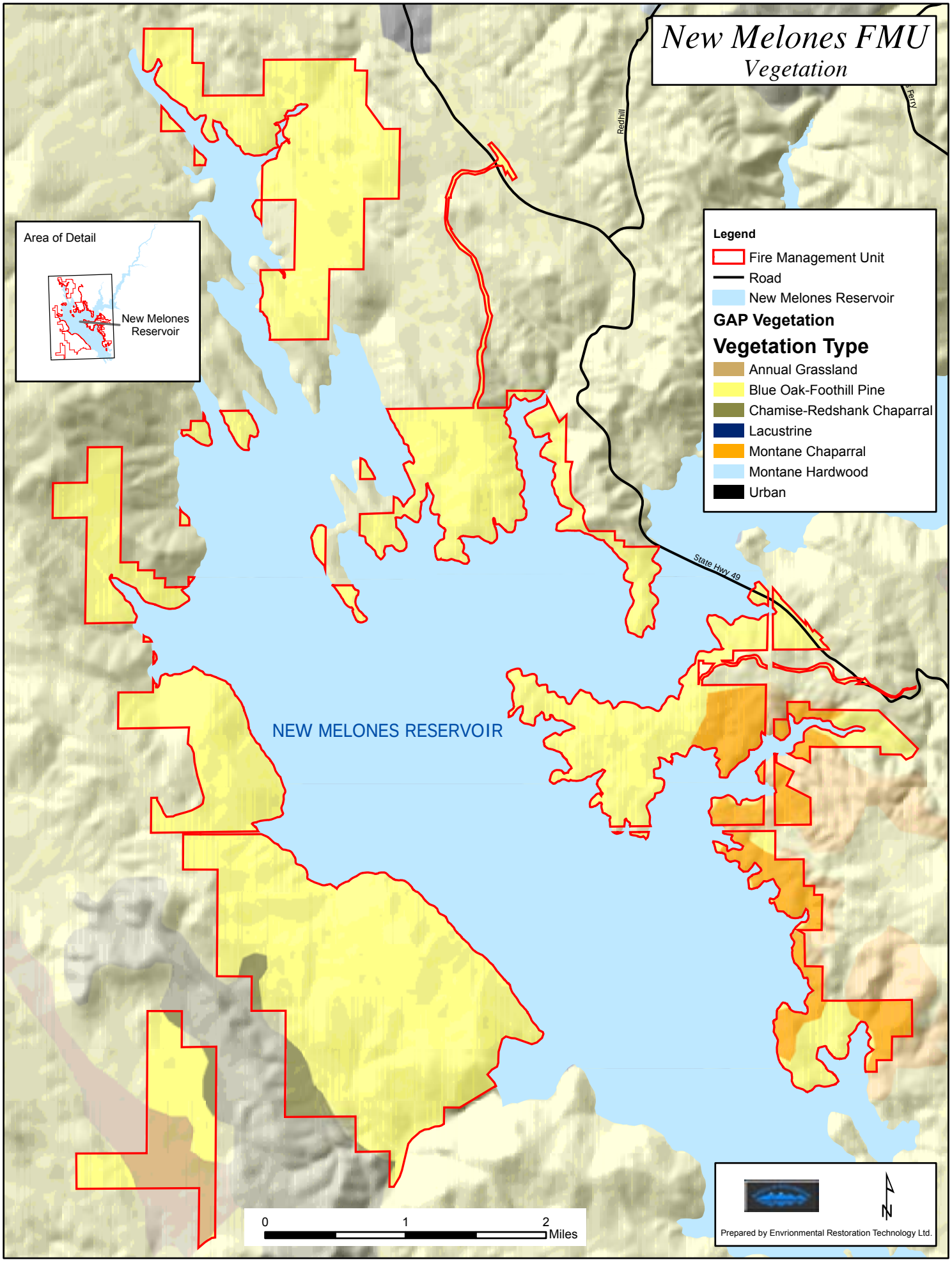
Fire Prevention Strategies: Fire Prevention Strategy information for this FMU is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Community Assistance, Education and Fire Prevention:* Fire Prevention Strategies: pg. 38

Monitoring & Environmental Analysis Objectives & Strategies

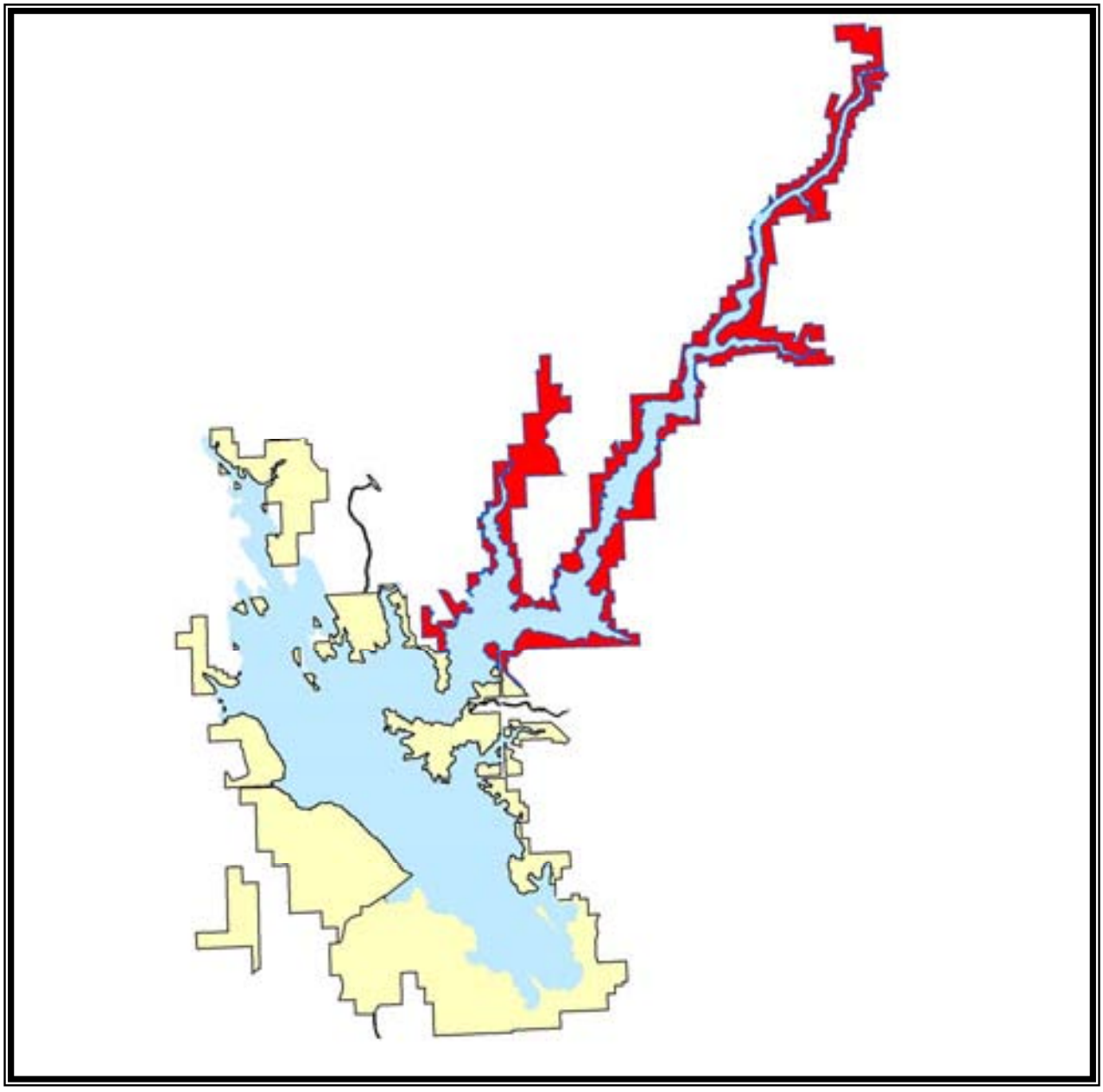
Detailed information for this FMU referencing site monitoring and NEPA documentation is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs;* Monitoring and Environmental Analysis (NEPA): pg. 38


New Melones
Fire Management Unit
Redhill
Area of Detail
New Melones Reservoir
Legend
Fire Management Unit
Road
New Melones Reservoir
AGENCY
Bureau of Reclamation
Bureau of Land Management
State
Private
State Hwy 49
NEW MELONES RESERVOIR
0
1
2
Miles
N
Prepared by Envrionmental Restoration Technology Ltd.


New Melones FMU
Ignitions by Section
1994-2003
Legend
PLSS Section Boundary
Ignitions 1994-2003
Count of Fires per Section
1
2
3
4
5 - 6
Fire Management Unit
Road
New Melones Reservoir
AGENCY
Bureau of Reclamation
Bureau of Land Management
State
Private
Area of Detail
New Melones Reservoir
NEW MELONES RESERVOIR
State Hwy 49
02N13E6
02N13E5
02N13E4
02N13E3
02N13E7
02N13E8
02N13E9
02N13E10
02N13E11
02N13E16
02N13E15
02N13E14
02N13E20
02N13E19
02N13E21
02N13E22
02N13E23
02N13E24
02N14E19
02N14E20
02N13E30
02N13E29
02N13E28
02N13E27
02N13E26
02N13E25
02N14E30
02N14E29
02N13E31
02N13E32
02N13E33
02N13E34
02N13E35
02N13E36
02N14E31
02N14E32
01N13E6
01N13E5
01N13E4
01N13E3
01N13E2
01N13E1
01N14E6
01N14E5
01N13E7
01N13E8
01N13E9
01N13E10
01N13E11
01N13E12
01N14E7
01N14E8
01N13E18
01N13E17
01N13E16
01N13E15
01N13E14
01N13E13
01N13E20
01N13E21
01N13E23
01N13E24
01N14E19
01N14E20
0
1
2
Miles
Prepared by Envrionmental Restoration Technology Ltd.


New Melones FMU
Vegetation
Area of Detail
New Melones Reservoir
Legend
Fire Management Unit
Road
New Melones Reservoir
GAP Vegetation
Vegetation Type
Annual Grassland
Blue Oak-Foothill Pine
Chamise-Redshank Chaparral
Lacustrine
Montane Chaparral
Montane Hardwood
Urban
Redhill
State Hwy 49
NEW MELONES RESERVOIR
0
1
2
Miles
N
Prepared by Envrionmental Restoration Technology Ltd.

02 - STANISLAUS FMU



FMU I.D.: 02 - STANISLAUS

1. FMU Type: High Value Watershed and Wildland Urban Interface

2. FMU Location Information

Geographic boundaries

- Stanislaus National Forest lands to the North
- Stewetts Point and Stanislaus National Forest lands to the East
- Highway 49, Tuttletown, and New Melones FMU to the South
- Bald Mountain and State Highway 4 to the West

3. FMU Area Acre Total: Bureau of Reclamation Ownership: **4,341 acres**

4. FMU Characteristics

Topography

- **Elevation Range:** 1275-2346 feet
- **Slope:** 0-100%
- **Aspect:** All
- **Major topographical features:** General topography of the FMU includes flat expanses along lower to mid slopes and along ridge tops, steep upland slopes, intermittent drainages, perennial watercourses, and seeps. The New Melones Lake and the Stanislaus River are also part of the hydrologic topography located in this FMU.

Resource Use

- Critical Watershed
- Municipal Water Supply
- Critical Deer Winter Range
- Water-related Recreation
- Developed Campgrounds
- Hunting
- Federal administrative sites
- Grazing
- Dispersed General Recreation

Hydrology & Water Quality

- The Stanislaus River is the primary hydrological river feature in this FMU.
- One large reservoir exists in this unit, New Melones Lake, which is surrounded by Reclamation land as well as adjacent to BLM and USFS lands. New Melones Lake operations provide releases for downstream fishery requirements, water quality, water rights, and also functions as a municipal water supply.

Access: This FMU has limited access. Many of Reclamation's land parcels in this FMU are not readily accessible by vehicle. When access can be achieved it is by network of state and county roads. Those areas that are accessible are often accessible only over narrow, two track roads. Around the periphery of the New Melones Project Area, Reclamation lands are often directly adjacent to housing subdivisions, high-use rural roads, county roads, and a State Highway.

Air Quality Characteristics & Issues

- The New Melones Project Area is under the air quality management jurisdiction of the Mountain Counties Air Basin District.
- Emissions in the northern counties in the San Joaquin Valley are approximately 10 times the emissions from the 5 northern counties that comprise the Mountain Counties Air Basin District. Emissions from some southerly counties in the San Joaquin Valley contribute to some of this transport by way of the Fresno Eddy. The Fresno Eddy is a counterclockwise circulation pattern that transports morning emissions from the Fresno area northward along the eastern side of the Valley and potentially into the Mountain Counties Air Basin. Research has indicated that on some days, a significant component of the emissions that are transported from the Valley to the Mountain Counties Air basin originated in the Bay Area.
- The wind flow patterns in the project area are typically daytime, up-slope and nighttime, down-slope/down-canyon drainage winds. The air mass from the San Joaquin Valley encounters few emissions from the Mountain Counties Air Basin District before reaching the sites where the violations of the ozone standard were measured. The transport impacts identified at the higher elevations are believed to be due to transport aloft.
- During fire season, prevailing southwest, west, and northwest winds tend to blow the smog generated in the valley into the Mountain Counties Air Basin District. Smoke generated from wildfires that occur in the area adds to the already stagnant air conditions. Low inversion layers reduce the air quality further by trapping the smoke closer to the ground.

Soils: Soils in this FMU include serpentine and plutonic soils, metamorphic, marine sedimentary and volcanic flow.

Cultural values: (To be added as appropriate)

Sensitive species & habitats, T&E species & habitat

- Special status plant species known to occur on Reclamation land in this FMU:
  - *Allium jepsonii* - Jepson's onion
  - *Allium tuolumnense* - Rawhide Hill onion
  - *Chlorogalum grandiflorum* - Red Hills soaproot
  - *Cryptantha mariposae* - Mariposa cryptantha
  - *Erythronium tuolumnense* - Tuolumne fawn lily
  - *Horkelia parryi* - Parry's horkelia
  - *Lomatium congdonii* - Stebbins' lomatium
  - *Mimulus pulchellus* - Pansy monkeyflower
- Special status animal species:
  - Bat species
  - California spotted owl
  - Northern goshawk
  - Foothill yellow-legged frog
  - California red-legged frog
  - Valley elderberry longhorn beetle
  - Vernal pool invertebrates

5. FMU Fire Occurrence & History

02 - FMU Decadal (94-03) Fire Occurrence & Ignition Cause			
Number of Fires	42	Natural	3
		Camp Fire	1
Largest Fire (Acres)	14,280	Smoking	2
		Fire Use	4
		Incendiary	6
Total Acres Burned	16,144	Powerline	0
		Equipment	10
		Vehicle	0
Average Fire Size (Acres)	384	Juveniles	0
		Unidentified	0
		Miscellaneous	16

02 - FMU Fire History Ignitions by Size Class		
Size Class (Acres)	**Number of Ignitions**	**Number of Acres**
A (0.0 - 0.2)	20	1
B (0.3 - 9.9)	15	23
C (10 - 99.9)	2	40
D (100 - 299.9)	1	100
E (300 - 999.9)	3	1,700
F (1000 - 4999.9)	0	0
G (5000+)	1	14,280

6. FMU Fuel Models, Fire Behavior, Fire Weather & Climate Related Impacts:

Heavy fuels and steep topography are the main influences on fire behavior in this FMU.

Fuel models and/or vegetation types within the FMU

- Fuel Model 1 – Annual grasses
- Fuel Model 2 – Herbaceous and grass vegetation under a timber overstory
- Fuel Model 4 – Heavy shrubs such as chaparral
- Fuel Model 6 – Moderate shrubs such as intermediate chamise or chaparral
- Fuel Model 9 – Closed stands of long-needle pine

Live fuel moisture characteristics: Fuel model 4 has an important live fuel moisture component that heavily influences fire behavior. This moisture content typically drops to critical levels in late spring or early summer.

General Vegetation Types: General vegetation types found in this FMU includes grasslands, oak woodlands and forests, pine and oak forests, chaparral, and deciduous shrublands. A type-specific list of primary vegetation types is listed below:

- Mixed Conifer - Pine
- Interior Live Oak
- Blue Oak
- Black Oak
- Oak / Grass savannah
- Valley Oak
- Interior Live Oak

- Poison Oak
- Chamise
- Wedge Leaf Ceanothus
- Buckeye
- Mixed Riparian Shrub
- Native Wet Perennial Grassland
- California Annual Grasslands
- Native Xeric Herbaceous shrubs
- Star thistle, medusahead and other invasive/non-native species

02 - FMU Vegetation/Fuel Types		
Veg/Fuel Type	**Acres**	**Percent**
Blue Oak Woodland	50	1
Blue Oak-Foothill Pine	2,964	68
Chamise-Redshank Chaparral	940	22
Montane Hardwood	129	3
Montane Hardwood-Conifer	85	2
Ponderosa Pine	173	4
Total	**4,341**	**100%**

7. FMU Values at Risk

Primary values to be protected

- Water quality
- Watershed values
- Private property
- Special Status Species
- Wildlife Habitat
- Critical Deer Winter Range
- Cultural resources
- Recreation
- Vegetation values
- Air quality

- Visual resources

8. FMU Communities at Risk/WUI Areas

- Forest Meadows
- Vallecitos
- Columbia
- Italian Bar
- Clark Flat
- Jackass Hill
- Skunk Ridge
- Natural Bridges
- Douglas Flat
- Murphys

9. FMU Objectives & Strategies

Fire Management Objective Priority Statement

The fire management goal in this FMU is the protection of life and property, to gradually restore conditions approximating the Fire Regime, and to lower the potential for large, uncharacteristically severe wildfires. The management objective is to enhance fire suppression capabilities by decreasing fire behavior inside the unit and to provide a safe and effective area for possible future fire suppression activities. The primary strategies to achieve these objectives include an aggressive suppression response to all wildfires and strategically placed hazardous fuel reduction treatments.

Wildland Fire Objectives & Strategies

Wildland Fire Burned Acre Targets:

- FMU target individual wildfire size: **10 acres or less at a 90% success rate**
- FMU Target acres burned per decade: **1,000 acres**

Wildfire Suppression/Protection Priorities: Wildland Fire Suppression/Protection Priority information for this FMU is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Fire Suppression;* Wildfire Suppression/Protection Priorities: pg 28

Wildfire Suppression Strategies:

- Once the decadal wildfire acre-burned target has been reached at **1,000 acres** from wildfire events, a review of the FMU objectives and strategies will be initiated to develop new suppression criteria for wildfire events.
- Additional Wildfire Suppression Strategy information for this FMU is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Fire Suppression;* Wildfire Suppression Strategies: pg 29

Wildfire Suppression Constraint Strategies: Wildfire Suppression Constraint Strategy information for this FMU is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Fire Suppression;* Wildfire Suppression Constraint Strategies: pg. 30

Prescribed Fire Objectives & Strategies

Prescribed Fire Acre Targets:

- Prescribed Fire Annual Acre Target: **50 acres to 250 acres**
- Prescribed Fire Decadal Acres Burned Target: **1,500 acres**

Prescribed Fire Objectives and Strategies: Additional Prescribed Fire Objectives and Strategy information for this FMU is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Fire and Non Fire Fuels Treatments:* Prescribed Fire Objectives ; Prescribed Fire Strategies: pg. 32

Non-Fire Fuels Treatment Objectives & Strategies

Non-Fire Fuels Treatment Acre Targets:

- Non-Fire annual acre target: **10 acres**
- Non-fire treatment decadal acres target: **100 acres**

Non-Fire Fuels Treatment Objectives and Strategies: Additional Non-Fire Fuels Treatment Objectives and Strategy information for this FMU is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Fire and Non Fire Fuels Treatments:* Non-Fire Fuels Treatment Objectives and Non-Fire Fuels Treatment Strategies: pg. 34

Post Fire Rehabilitation & Restoration Objectives & Strategies

Detailed information for this FMU referencing post fire stabilization and rehabilitation (including ESR and long term rehabilitation/restoration) objectives and strategies is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Post Fire Stabilization and Rehabilitation:* Post Fire Stabilization, Rehabilitation and Restoration Objectives and Strategies: pg. 36

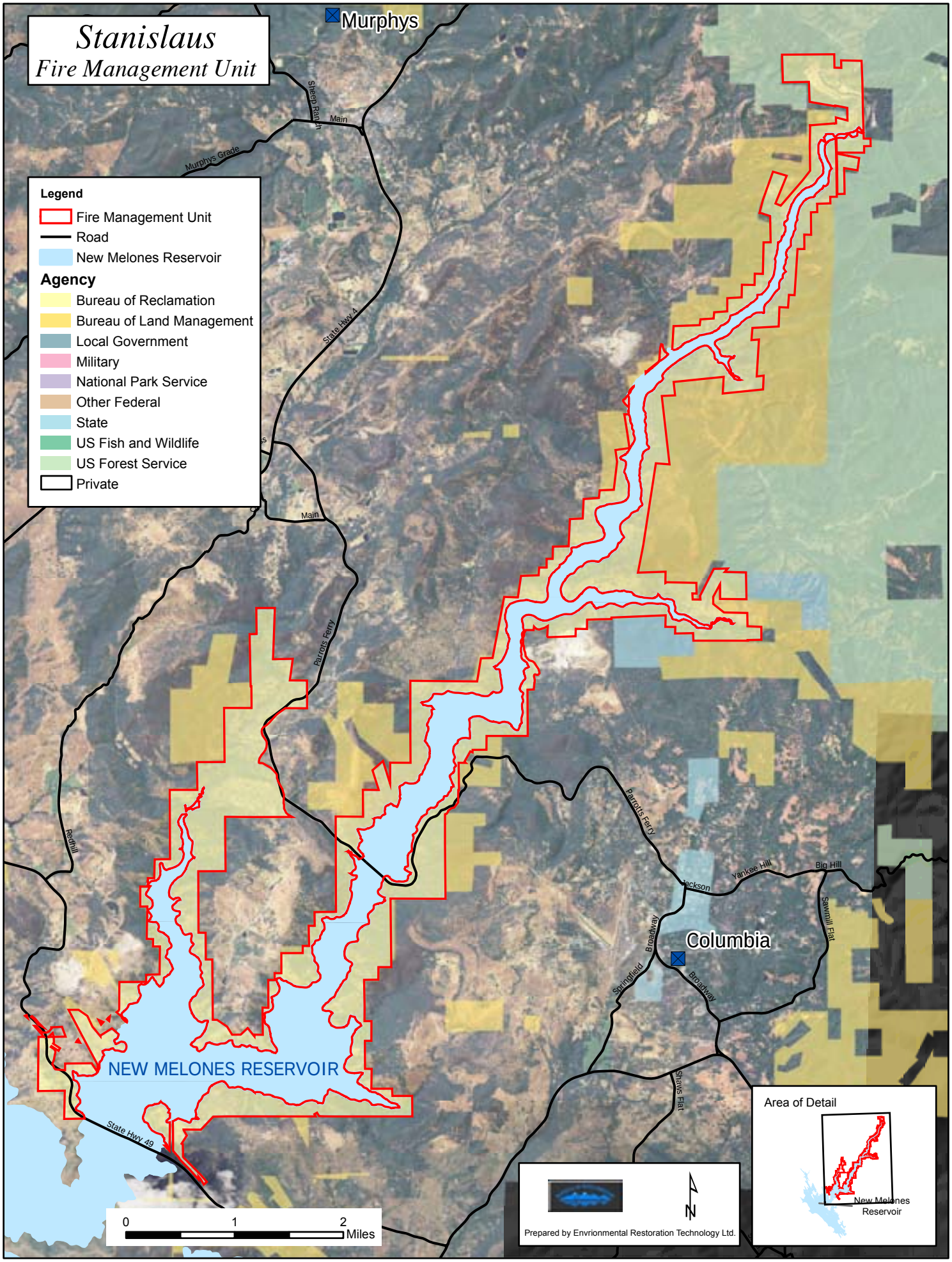
Community Protection/Community Assistance & Fire Prevention Objectives & Strategies

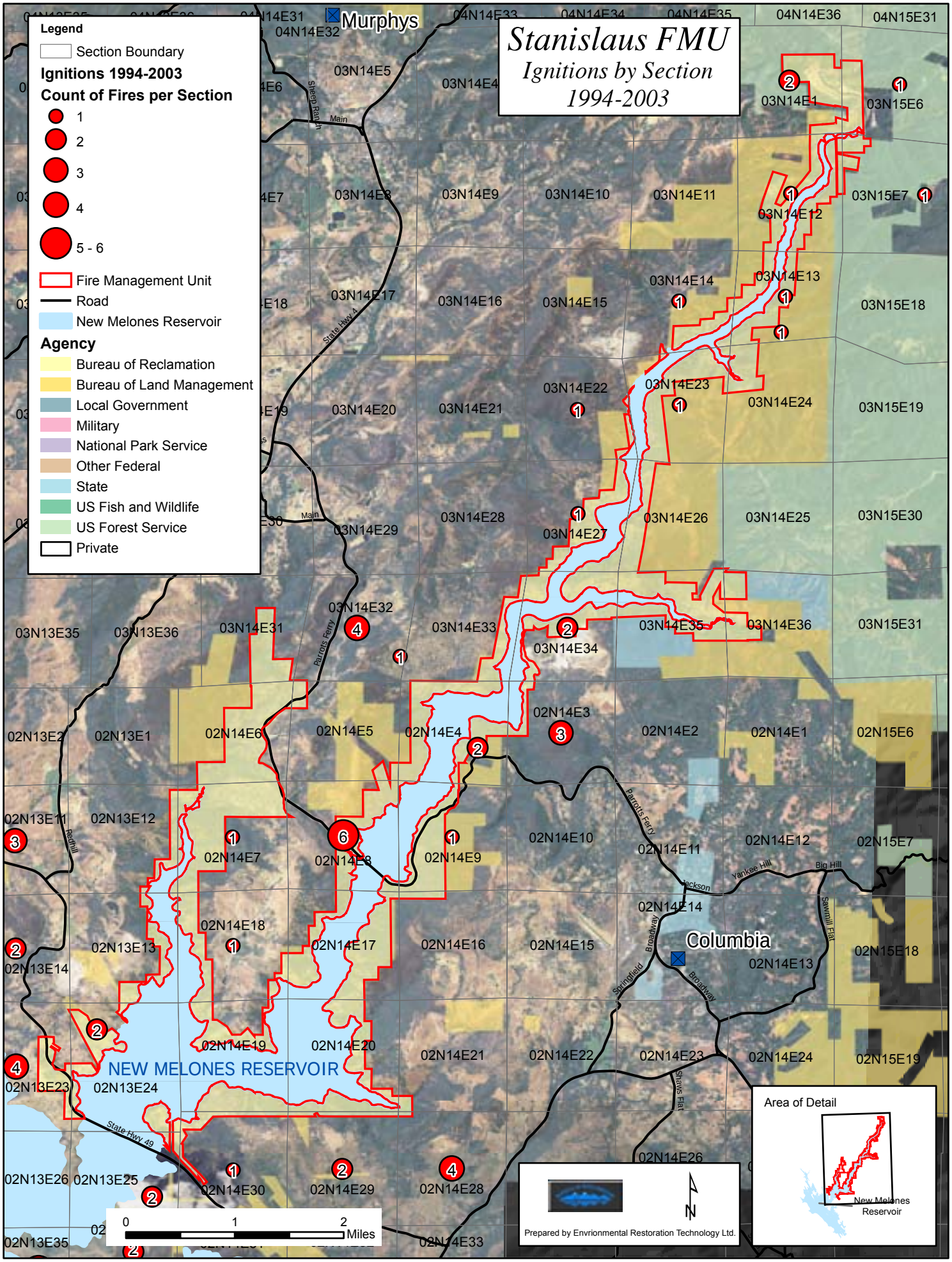
Community Protection/Community Assistance Objectives & Strategies: Community Protection/Community Assistance Objectives and Strategy information for this FMU is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Community Assistance, Education and Fire Prevention:* Community Protection/Community Assistance Objectives and Community Protection/ Community Assistance Strategies: pg. 35

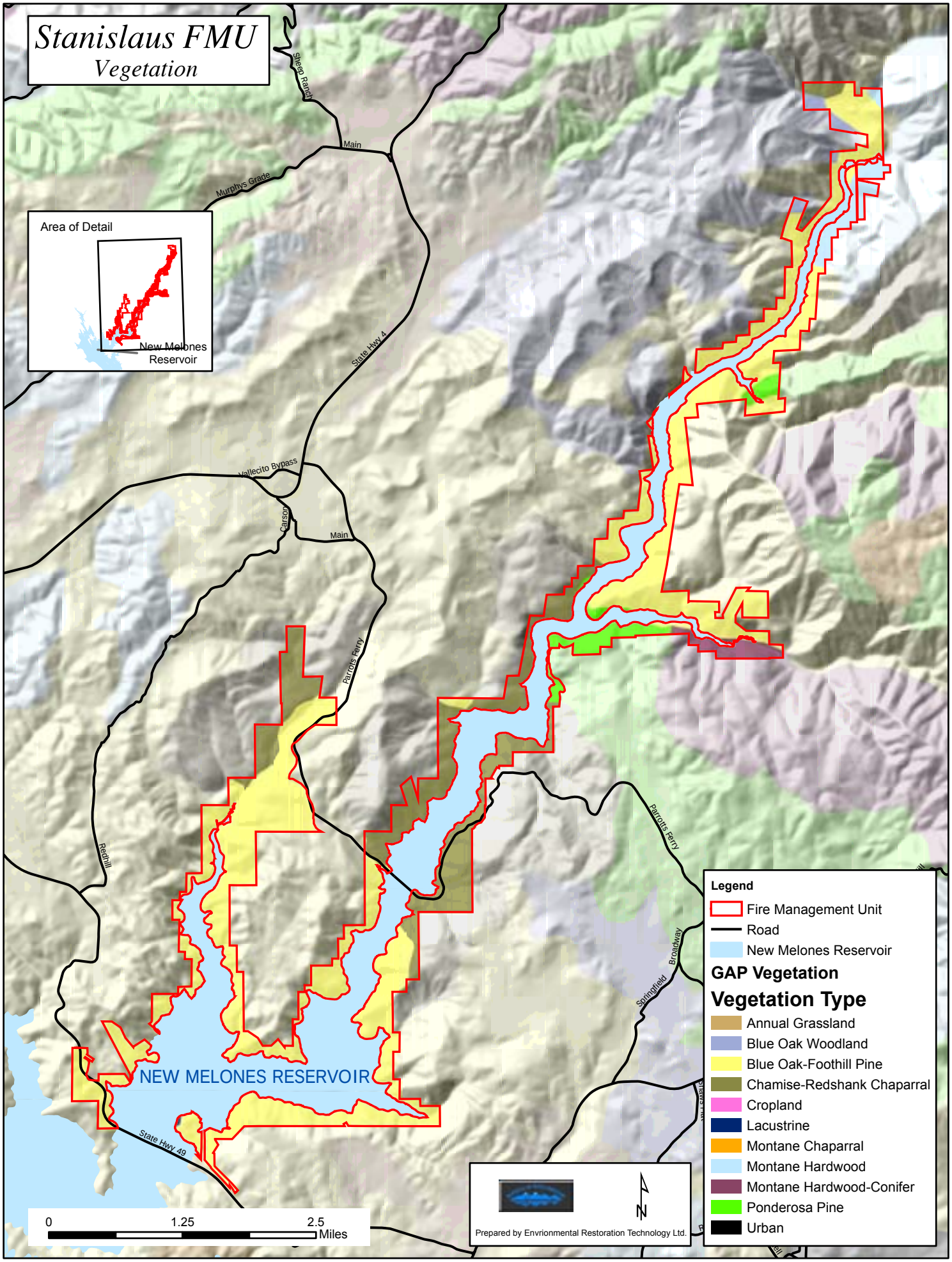
Fire Prevention Strategies: Fire Prevention Strategy information for this FMU is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Community Assistance, Education and Fire Prevention:* Fire Prevention Strategies: pg. 38

Monitoring and Environmental Analysis Objectives & Strategies

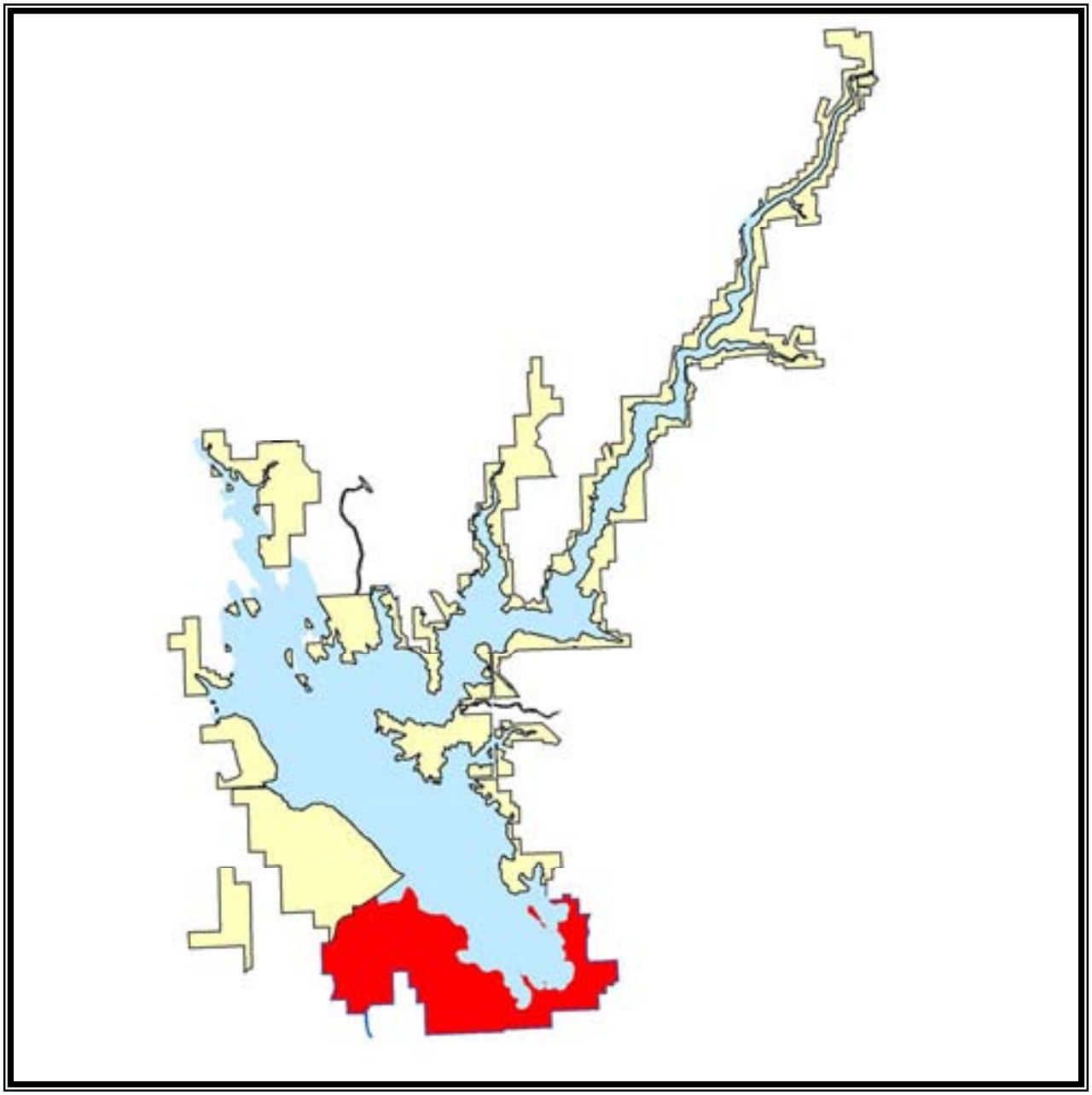
Detailed information for this FMU referencing site monitoring and NEPA documentation is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs;* Monitoring and Environmental Analysis (NEPA): pg. 38


Stanislaus
Fire Management Unit
Murphys
Sheep Ranch
Main
Murphys Grade
State Hwy 4
Main
Patrots Ferry
Redhill
Patrots Ferry
Yankee Hill
Big Hill
Jackson
Broadway
Columbia
Sawmill Flat
Springfield
Broadway
Shaws Flat
NEW MELONES RESERVOIR
State Hwy 49
Legend
Fire Management Unit
Road
New Melones Reservoir
Agency
Bureau of Reclamation
Bureau of Land Management
Local Government
Military
National Park Service
Other Federal
State
US Fish and Wildlife
US Forest Service
Private
0
1
2
Miles
Prepared by Envrionmental Restoration Technology Ltd.
Area of Detail
New Melones Reservoir


Stanislaus FMU
Ignitions by Section
1994-2003
Legend
Section Boundary
Ignitions 1994-2003
Count of Fires per Section
1
2
3
4
5 - 6
Fire Management Unit
Road
New Melones Reservoir
Agency
Bureau of Reclamation
Bureau of Land Management
Local Government
Military
National Park Service
Other Federal
State
US Fish and Wildlife
US Forest Service
Private
Murphys
Columbia
NEW MELONES RESERVOIR
Area of Detail
New Melones Reservoir
Prepared by Envrionmental Restoration Technology Ltd.
0
1
2
Miles


Stanislaus FMU
Vegetation
Area of Detail
New Melones Reservoir
Sheep Ranch
Main
Murphys Grade
State Hwy 4
Vallecito Bypass
Carson
Main
Parrotts Ferry
Redhill
Parrotts Ferry
Broadway
Springfield
NEW MELONES RESERVOIR
State Hwy 49
0
1.25
2.5
Miles
N
Prepared by Envrionmental Restoration Technology Ltd.
Legend
Fire Management Unit
Road
New Melones Reservoir
GAP Vegetation
Vegetation Type
Annual Grassland
Blue Oak Woodland
Blue Oak-Foothill Pine
Chamise-Redshank Chaparral
Cropland
Lacustrine
Montane Chaparral
Montane Hardwood
Montane Hardwood-Conifer
Ponderosa Pine
Urban

03 - PEORIA FMU



FMU I.D.: 03 - PEORIA

1. FMU Type: High Value Habitat, WUI, and High Value Watershed

2. FMU Location Information

Geographic boundaries

- New Melones FMU to the North
- State Highway 108 and Table Mountain to the East
- Peoria Flat and Yosemite Junction to the South
- Stanislaus River and Obyrnes Ferry Road to the West

3. FMU Area Acre Total: Bureau of Reclamation Ownership: **3,788 acres**

4. FMU Characteristics

Topography

- **Elevation Range:** 260 - 1475 feet
- **Slope:** 0-100%
- **Aspect:** All
- **Major topographical features:** General topography of the FMU includes flat expanses along lower to mid slopes and along ridge tops, steep upland slopes, intermittent drainages, perennial watercourses, and seeps. Table Mountain, a volcanic plateau, borders the FMU on the east.

Resource Use

- Critical Watershed
- Municipal Water Supply
- High Value Habitat
- High Value Habitat Impact Mitigation Area
- Critical Deer Winter Range
- Water-related Recreation
- Developed recreation sites
- Hunting
- Grazing
- Dispersed General Recreation

- State administrative site – CDF fire suppression facility

Hydrology & Water Quality

- The Stanislaus River is the primary hydrological feature in this FMU.
- One large reservoir occurs in this unit, New Melones Lake, surrounded by Reclamation land.

Access: This FMU is accessed by an all-purpose dirt road, which bisects the Peoria FMU along the Peoria Mt. ridge, and connects with a County road on the east side of the Unit. Access to Reclamation and public land in the majority of this Unit is difficult, and can be controlled through a locked gate. Many of the Reclamation and public land parcels are not readily accessible by vehicle. Those that are accessible are often accessible only over narrow two track roads, requiring four- wheel drive. In other cases, Reclamation and adjacent public lands are ringed by housing subdivisions and infrastructure, and are accessible by a network of county roads and State highways.

Air Quality Characteristics & Issues

- The New Melones Project Area is under the air quality management jurisdiction of the Mountain Counties Air Basin District.
- Emissions in the northern counties in the San Joaquin Valley are approximately 10 times the emissions from the 5 northern counties that comprise the Mountain Counties Air Basin District. Emissions from some southerly counties in the San Joaquin Valley contribute to some of this transport by way of the Fresno Eddy. The Fresno Eddy is a counterclockwise circulation pattern that transports morning emissions from the Fresno area northward along the eastern side of the Valley and potentially into the Mountain Counties Air Basin. Research has indicated that on some days, a significant component of the emissions that are transported from the Valley to the Mountain Counties Air basin originated in the Bay Area.
- The wind flow patterns in the project area are typically daytime, up-slope and nighttime, down-slope/down-canyon drainage winds. The air mass from the San Joaquin Valley encounters few emissions from the Mountain Counties Air Basin District before reaching the sites where the violations of the ozone standard were measured. The transport impacts identified at the higher elevations are believed to be due to transport aloft.
- During fire season, prevailing southwest, west, and northwest winds tend to blow the smog generated in the valley into the Mountain Counties Air Basin District. Smoke generated from wildfires that occur in the area adds to the already stagnant air conditions. Low inversion layers reduce the air quality further by trapping the smoke closer to the ground.

Soils: Soils in this FMU include serpentine and plutonic soils, metamorphic, marine sedimentary and volcanic flow.

Cultural values: (To be added as appropriate)

Sensitive species & habitats, T&E species & habitat

- Special status plant species known to occur on Reclamation land in this FMU:
  - *Allium jepsonii* - Jepson's onion
  - *Allium tuolumnense* - Rawhide Hill onion
  - *Chlorogalum grandiflorum* - Red Hills soaproot
  - *Cryptantha mariposae* - Mariposa cryptantha
  - *Erythronium tuolumnense* - Tuolumne fawn lily
  - *Horkelia parryi* - Parry's horkelia
  - *Lomatium congdonii* - Stebbins' lomatium
  - *Mimulus pulchellus* - Pansy monkeyflower
- Special status animal species:
  - Bat species
  - California spotted owl
  - Northern goshawk
  - Foothill yellow-legged frog
  - California red-legged frog
  - Valley elderberry longhorn beetle
  - Vernal pool invertebrates

Special Fire Mgt. Considerations/Areas: The *Jepson's onion population* on Table Mountain west of Jamestown is the only known population of this Onion species south of El Dorado County. The top of the volcanic table has a scattering of homes at its edge. Vegetation on the table top is sparse due to surface rock and shallow soils.

5. FMU Fire Occurrence & History

03 - FMU Decadal (94-03) Fire Occurrence & Ignition Cause			
Number of Fires	11	Natural	1
		Camp Fire	0
Largest Fire (Acres)	6	Smoking	0
		Fire Use	1
		Incendiary	0
Total Acres Burned	10	Powerline	0
		Equipment	5
		Vehicle	0
Average Fire Size (Acres)	1	Juveniles	1
		Unidentified	0
		Miscellaneous	3

03 - FMU Fire History Ignitions by Size Class		
Size Class (Acres)	**Number of Ignitions**	**Number of Acres**
A (0.0 - 0.2)	5	0
B (0.3 - 9.9)	6	10
C (10 - 99.9)	0	0
D (100 - 299.9)	0	0
E (300 - 999.9)	0	0
F (1000 - 4999.9)	0	0
G (5000+)	0	0

6. FMU Fuel Models, Fire Behavior, Fire Weather & Climate Related Impacts:

Heavy fuels and steep topography are the main influences on fire behavior in this FMU.

Fuel models and/or vegetation types within the FMU

- Fuel Model 1 – Annual grasses
- Fuel Model 2 – Herbaceous and grass vegetation under a timber overstory
- Fuel Model 4 – Heavy shrubs such as chaparral
- Fuel Model 6 – Moderate shrubs such as intermediate chamise or chaparral
- Fuel Model 9 – Closed stands of long-needle pine

Live fuel moisture characteristics: Fuel model 4 has an important live fuel moisture component that heavily influences fire behavior. This moisture content typically drops to critical levels in late spring or early summer.

General Vegetation Types: General vegetation types found in this FMU includes grasslands, oak woodlands and forests, pine and oak forests, chaparral, and deciduous shrublands. A type-specific list of primary vegetation types is listed below:

- Mixed Conifer - Pine
- Interior Live Oak
- Blue Oak
- Black Oak
- Oak / Grass savannah
- Valley Oak
- Interior Live Oak

- Poison Oak
- Chamise
- Wedge Leaf Ceanothus
- Buckeye
- Mixed Riparian Shrub
- Native Wet Perennial Grassland
- California Annual Grasslands
- Native Xeric Herbaceous shrubs
- Star thistle, medusahead and other invasive/non-native species

03 - FMU Vegetation/Fuel Types		
Vegetation/Fuel Type	**Acres**	**Percent**
Annual Grassland	89	2%
Blue Oak-Foothill Pine	3,673	96%
Chamise-Redshank Chaparral	18	1%
Montane Chaparral	8	1%
Total	**3,788**	**100%**

7. FMU Values at Risk

Primary values (resource values and private property) to be protected

- Private property
- Federal and State infrastructure (Reclamation administrative sites, developed recreational sites and a CDF fire and inmate facility)
- Water quality
- Watershed values
- Special Status Species
- Critical and high value wildlife habitat
- Cultural resources
- Vegetation values
- Air quality
- Visual resources
- High Value Habitat Impact Mitigation Area

- Critical Deer Winter Range
- Developed recreation sites/access
- Grazing

8. FMU Communities at Risk/WUI Areas

- Peoria Flat
- Rawhide Flat
- Copperopolis
- Scattered rural housing developments located north and east of the Peoria FMU boundary.

9. FMU Objectives & Strategies

Fire Management Objective Priority Statement

The fire management goal in this FMU is the protection of life and property, to gradually restore conditions approximating the Fire Regime, and to lower the potential for large, uncharacteristically severe wildfires. The management objective is to enhance fire suppression capabilities by decreasing fire behavior inside the unit and to provide a safe and effective area for possible future fire suppression activities. The primary strategies to achieve these objectives include an aggressive suppression response to all wildfires and strategically placed hazardous fuel reduction treatments.

Wildland Fire Objectives & Strategies

Wildland Fire Burned Acre Targets:

- FMU target individual wildland fire size: **10 acres or less at a 90% success rate**
- FMU Target acres burned per decade: **500 acres**

Wildfire Suppression/Protection Priorities: Wildland Fire Suppression/Protection Priority information for this FMU is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Fire Suppression;* Wildland Fire Suppression/Protection Priorities: pg 28

Wildfire Suppression Strategies:

- Once the decadal wildfire acre-burned target has been reached at **500 acres** from wildfire events, a review of the FMU objectives and strategies will be initiated to develop new suppression criteria for wildfire events.

- Additional Wildfire Suppression Strategy information for this FMU is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Fire Suppression;* Wildfire Suppression Strategies: pg 29

Wildfire Suppression Constraint Strategies: Wildfire Suppression Constraint Strategy information for this FMU is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Fire Suppression;* Wildfire Suppression Constraint Strategies: pg. 30

Prescribed Fire Objectives & Strategies

Prescribed Fire Acre Targets:

- Prescribed Fire Annual Acre Target: **50 acres to 250 acres**
- Prescribed Fire Decadal Acres Burned Target: **1,500 acres**

Prescribed Fire Objectives and Strategies: Additional Prescribed Fire Objectives and Strategy information for this FMU is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Fire and Non Fire Fuels Treatments:* Prescribed Fire Objectives; Prescribed Fire Strategies: pg. 32

Non-Fire Fuels Treatment Objectives & Strategies

Non-Fire Fuels Treatment Acre Targets:

- Non-Fire annual acre target: **75 acres**
- Non-fire treatment decadal acres target: **750 acres**

Non-Fire Fuels Treatment Objectives and Strategies: Additional Non-Fire Fuels Treatment Objectives and Strategy information for this FMU is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Fire and Non Fire Fuels Treatments:* Non-Fire Fuels Treatment Objectives and Non-Fire Fuels Treatment Strategies: pg. 34

Post Fire Rehabilitation & Restoration Objectives & Strategies

Detailed information for this FMU referencing post fire stabilization and rehabilitation (including ESR and long term rehabilitation/restoration) objectives and strategies is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Post Fire Stabilization and Rehabilitation:* Post Fire Stabilization, Rehabilitation and Restoration Objectives and Strategies: pg. 36

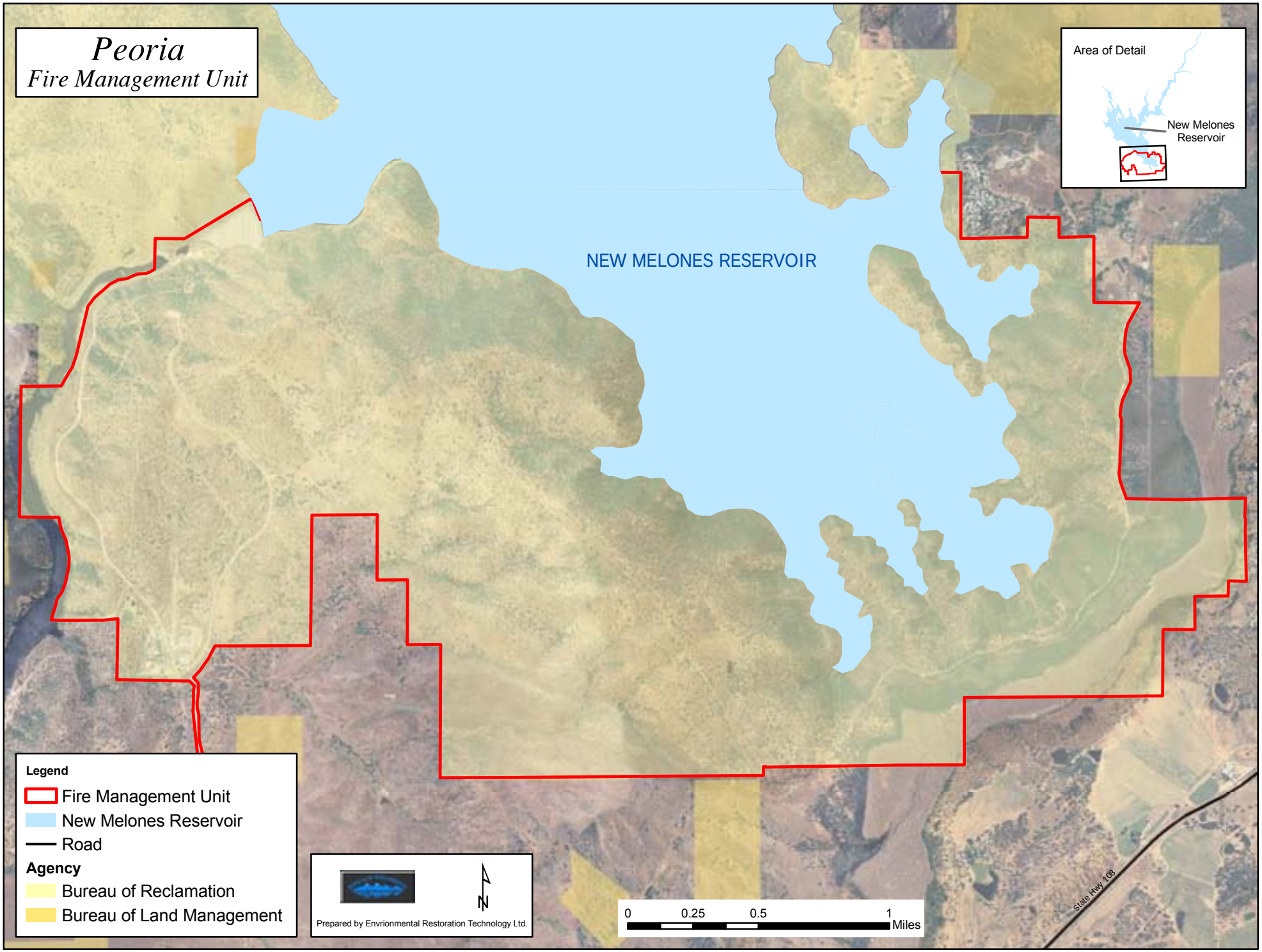
Community Protection/Community Assistance & Fire Prevention Objectives & Strategies

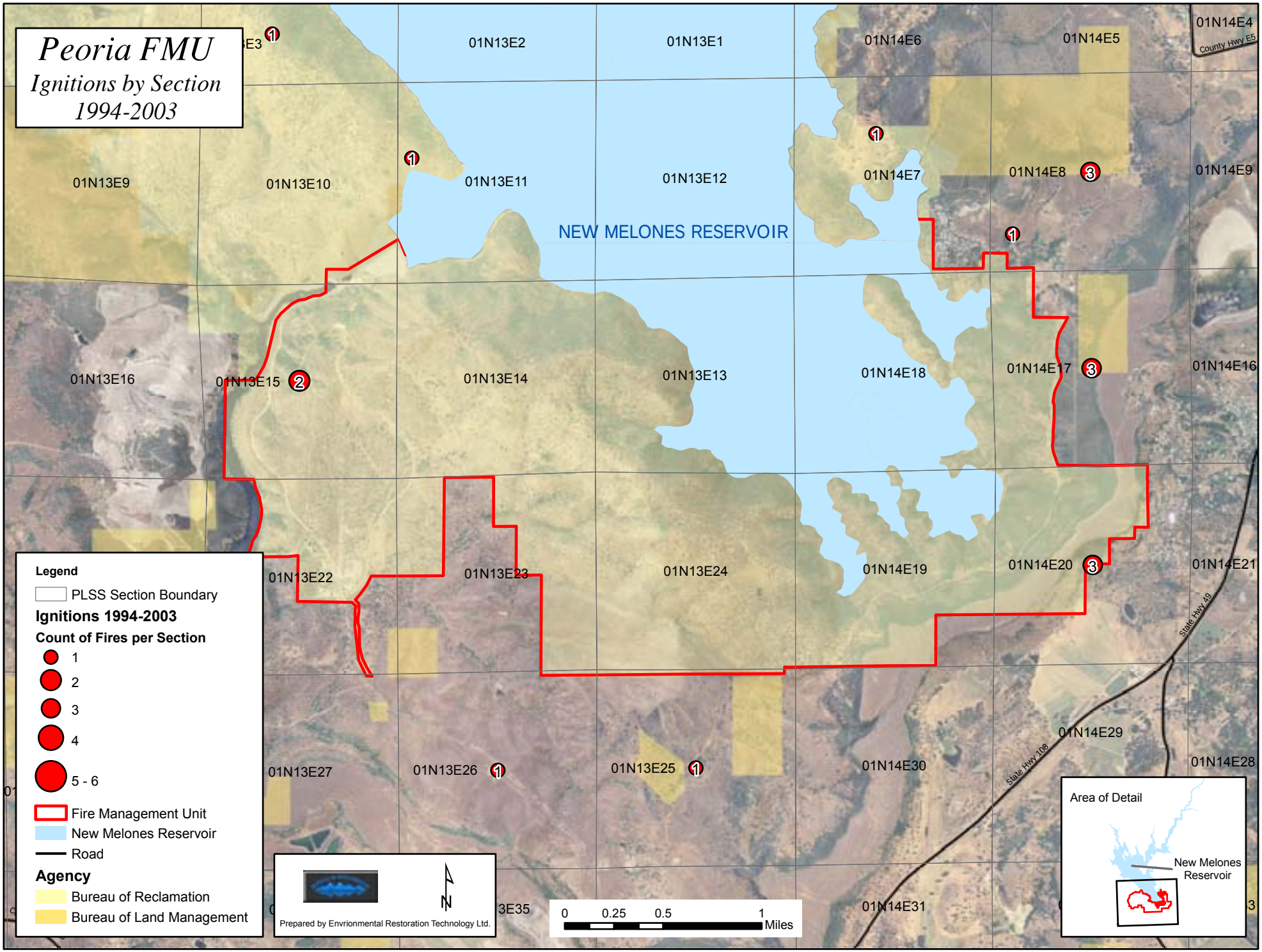
Community Protection/Community Assistance Objectives & Strategies: Community Protection/Community Assistance Objectives and Strategy information for this FMU is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Community Assistance, Education and Fire Prevention:* Community Protection/Community Assistance Objectives and Community Protection/ Community Assistance Strategies: pg. 35

Fire Prevention Strategies: Fire Prevention Strategy information for this FMU is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs; Community Assistance, Education and Fire Prevention:* Fire Prevention Strategies: pg. 38

Monitoring and Environmental Analysis Objectives & Strategies

Detailed information for this FMU referencing site monitoring and NEPA documentation is found in; Section D. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU); *Fire Management Objectives and Strategies Common to All New Melones Project Area FMUs;* Monitoring and Environmental Analysis (NEPA): pg. 38


Peoria
Fire Management Unit
NEW MELONES RESERVOIR
Area of Detail
New Melones Reservoir
Legend
Fire Management Unit
New Melones Reservoir
Road
Agency
Bureau of Reclamation
Bureau of Land Management
Prepared by Envrionmental Restoration Technology Ltd.
N
0
0.25
0.5
1
Miles
State Hwy 108


Peoria FMU
Ignitions by Section
1994-2003
01N13E2
01N13E1
01N14E6
01N14E5
01N14E4
County Hwy E5
01N13E9
01N13E10
01N13E11
01N13E12
01N14E7
01N14E8
01N14E9
NEW MELONES RESERVOIR
01N13E16
01N13E15
01N13E14
01N13E13
01N14E18
01N14E17
01N14E16
01N13E22
01N13E23
01N13E24
01N14E19
01N14E20
01N14E21
State Hwy 49
01N13E27
01N13E26
01N13E25
01N14E30
01N14E29
01N14E28
State Hwy 108
01N14E31
Legend
PLSS Section Boundary
Ignitions 1994-2003
Count of Fires per Section
1
2
3
4
5 - 6
Fire Management Unit
New Melones Reservoir
Road
Agency
Bureau of Reclamation
Bureau of Land Management
Prepared by Envrionmental Restoration Technology Ltd.
N
0 0.25 0.5 1
Miles
Area of Detail
New Melones
Reservoir

Peoria Vegetation

NEW MELONES RESERVOIR

0 0.25 0.5 Miles

New Melones Reservoir
Peoria Fire Management Unit
Roads

PI, VEG_TYPE

1201, Xeromorphic Sclerophyll Woodland
1202, Xeromorphic Sclerophyll Woodland
1203, Xeromorphic Sclerophyll Woodland
1205, Xeromorphic Sclerophyll Woodland
2101, Rounded Crown Forests & Woodlands (Pines & Cypress)
2102, Rounded Crown Forests & Woodlands (Pines & Cypress)
2103, Rounded Crown Forests & Woodlands (Pines & Cypress)
2104, Rounded Crown Forests & Woodlands (Pines & Cypress)
2106, Rounded Crown Forests & Woodlands (Pines & Cypress)
3101, Deciduous Forests & Woodlands
3102, Deciduous Forests & Woodlands
3103, Deciduous Forests & Woodlands
3105, Deciduous Forests & Woodlands
3106, Deciduous Forests & Woodlands
3109, Deciduous Forests & Woodlands
3110, Deciduous Forests & Woodlands
4005, Evergreen Shrubland
4301, Evergreen Shrubland
4302, Evergreen Shrubland
4303, Evergreen Shrubland
4304, Evergreen Shrubland
4306, Evergreen Shrubland
4307, Undocumented
4308, Evergreen Shrubland
4401, Microphollous Shrubland
5401, Deciduous Shrubland
5500, Seasonally Flooded Deciduous Shrubland
5501, Seasonally Flooded Deciduous Shrubland
6101, Perennial Herbaceous (Graminoid – Forbs)
7000, Annual Herbaceous (Graminoid – Forbs)
7100, Annual Herbaceous (Graminoid – Forbs)
7101, Annual Herbaceous (Graminoid – Forbs)
7102, Annual Herbaceous (Graminoid – Forbs)
7103, Annual Herbaceous (Graminoid – Forbs)
7106, Annual Herbaceous (Graminoid – Forbs)
7110, Annual Herbaceous (Graminoid – Forbs)
7111, Annual Herbaceous (Graminoid – Forbs)
7200, Seasonally Flooded Grasslands & Forbs
7202, Seasonally Flooded Grasslands & Forbs
7203, Seasonally Flooded Grasslands & Forbs
9001, Rock Outcrop
9002, Rocky Streambeds
9100, Urban or Built Up
9200, Agriculture
9401, Water
9402, Water
9999, Unknown

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State Hwy 108

Area of Detail
New Melones Reservoir

IV. FIRE MANAGEMENT COMPONENTS

A. Fire Suppression

All suppression activities on public lands managed under Reclamation are conducted under a cooperative fire protection agreement with California Department of Forestry and Fire Protection (CDF). This protection is provided through strategically located fire stations, crew camps and air bases throughout the Fire Planning Unit area. The New Melones Project Area lies totally within the CDF Toloumne-Calaveras Ranger Unit, which provides fire protection for the Project Area. Additional federal agencies such as the US Forest Service and the Bureau of Land Management may also provide assistance as needed to CDF TCU for fires on public lands. Reclamation will provide CDF with Agency Representatives and Environmental Specialists/ Resource Advisors on Reclamation fires threatening to escape initial attack and exceed 5 acres in size.

Wildfire Suppression

Wildfire suppression objectives in this FMP are predicated on the concept that all wildfires will be subject to an aggressive initial attack. For the New Melones Project Area, the first priority in fire suppression is providing for public and firefighter safety, with secondary priorities of protecting adjacent property and natural resources. Suppression response by CDF will be determined by current fire conditions, fire location, and resource availability. Due to the amount of urban interface and the high number of communities at risk adjacent to the New Melones Project Area, aggressive initial attack will be the most common form of suppression. Fires outside wildland urban interface areas will be suppressed using strategies and objectives in accordance with the existing New Melones Draft Resource Management Plan and fire management/ fire suppression objectives identified in the FMP.

The operational role of the Reclamation in adjacent wildland/urban interface areas is largely focused on hazardous fuels reduction activities on Reclamation lands and cooperative/ interagency fire prevention and education activities within local communities. Structural fire suppression within the Project Area is the responsibility of the California Department of Forestry and other local government fire protection organizations.

Prevention, Community Assistance, and Education

Prevention is an active and integral part of the New Melones Project Area fire management program. Increasing populations and development of the wildland urban interface has created an increased threat of wildfire on private and public land. With this increased threat comes a need for a heightened level of awareness which is best achieved by public education. This public education is accomplished by cultivating local fire safe councils, participating in community events, and most importantly, personal contacts. With expected future growth in the wildland urban interface areas, fire prevention will be a key element in reducing catastrophic fire potential.

It is important to note the prevention program is a collaborative effort including local, state and federal fire agencies. This partnership allows for community risk assessments, mitigation and education activities to be conducted each year.

Preparedness

Reclamation personnel will insure their capability to provide safe, cost effective fire management in support of land and resource management plans through appropriate planning, staffing, training, equipment, and oversight. Operating plans and preparedness planning will be accomplished on an annual basis.

The New Melones Resource Manager and appropriate staff will ensure employees are trained, certified and available to participate in the wildland fire program locally, regionally, and nationally as appropriate. Fire qualifications are described in the Interagency Standards for Fire and Fire Aviation Operations.

Fire Training

Qualifications and Fireline refresher – Training and fitness requirements for all Reclamation New Melones personnel involved in fire suppression and support can be found in the Interagency Standards for Fire and Fire Aviation Operations Handbook. New Melones Project Area personnel will meet NWCG PMS 310-1 Manual requirements for all employees and positions and as appropriate attend annual fire refresher training and complete the appropriate level of Work Capacity Test (WCT).

Initial Attack

Initial Attack is provided by CDF-TCU through a fire suppression agreement between the Bureau of Reclamation and CDF. All fires within Reclamation FMUs will be suppressed by CDF through actions and operations consistent with preplanned dispatch protocols, the annual operating plan, and in conformance with fire suppression objectives identified in this plan.

Extended Attack

Extended wildfire suppression operations are a function of CDF-TCU. If a fire extends beyond the first 24 hours, the New Melones Resource Manager will prepare a Wildland Fire Situation Analysis (WFSA) which gives authority to CDF to attack the fire in a manner appropriate to the situation and following Reclamation policy and recommendations where appropriate.

B. Wildland Fire Use

Wildland Fire Use is not an appropriate strategy for this area due to close proximity of houses, infrastructure, scattered ownership parcels, and high visitor use on entire landscape.

C. Prescribed Fire

New Melones Project Area prescribed fire program is undertaken on an interagency basis treating natural fuel accumulations to meet resource management objectives, standards and guidelines as outlined in the RMP and VMP. Reasons for treatments have traditionally included wildlife habitat enhancement, site preparation for artificial and natural regeneration, range habitat improvement, and hazardous fuels reduction. Further priorities for treatments will be developed using the USDI Risk Assessment Mitigation Strategies (RAMS) assessment process.

Project level analysis through the NEPA process and other state and federal regulatory compliance processes document the purpose and need for treatment and identify the goals and objectives that the prescribed fire treatment is intended to achieve.

Vegetative Benefits of Prescribed Burning

Prescribed burning should only be used in an ecologically appropriate season and with an appropriate interval between burns to promote the health of native plant communities.

Prescribed burning may be used to achieve the following vegetation management goals, objectives, and benefits:

- Reduce biomass accumulation
- Reduce populations of invasive exotics
- Enhance biodiversity including diversity in structure and age composition
- Rejuvenate aged chaparral and grasslands/oak woodlands affected by brush encroachment
- Enhance wildlife habitat by increasing access and diversity
- Rejuvenate chaparral for wildlife forage
- Enhance forage production

Prescribed Fire Planning, Execution and Personnel Qualifications

Individual burn plans will be completed for all prescribed burns. Writing a burn plan is required to ensure that the necessary preparation is completed to meet the goals of the burn safely. Only qualified personnel will participate in the implementation of prescribed fire and fuels implementation projects as outlined in the NWCG 310-1. Burn projects will only occur when there are sufficient and qualified personnel on scene as specified in the burn plan.

When implementing prescribed fire activities, Reclamation fire management and resource management personnel will:

- Ensure that individual burn plans are prepared and approved for all prescribed burns.

- Ensure that all prescribed burning is planned and executed by persons specifically trained and experienced in fire ecology and prescribed burning and that the plan is coordinated with, or executed by, CDF-TCU.
- Secure burn notification and coordinate all prescribed burning with the Mountain Counties Air Basin District personnel, the Calaveras County Air Pollution Department at (209) 754-6504 and/or Tuolumne County Air Pollution Department at (209) 533-5693, whichever is appropriate to the county that the project will occur in.
- Provide a copy of the burn conditions report to New Melones resource specialists for later use in analyzing the fire's effects on the vegetation and re-growth.
- If appropriate, participate in the Interagency Agreement for Cooperative Use of Prescribed Fire in California. CDF has developed this prerequisite agreement to allow Federal agencies to enter into prescribed burn project agreement with CDF. This agreement is currently utilized by the BLM, Fish and Wildlife Service, National Park Service, US Forest Service, and Bureau of Indian Affairs.

Prescribed Fire – Five Year Program of Work

The New Melones Project Area will develop a five-year program of work and associated budget document for prescribed fire treatments in accordance with the preferred alternative in the New Melones Resource Management Plan. The five-year program of work is developed in the USDI's Risk Assessment Mitigation Strategy (RAMS) and/or FuelsPro programs.

Air Quality and Smoke Management

The goals of air resource management in the New Melones Project Area is to mitigate air pollutants related to fire management activities and to cooperate with the California Air Resources Board and the Mountain Counties Air Basin District in monitoring and regulating air pollution sources. Emphasis is placed on air quality-related values in Class I airsheds and communities. The objective is to maintain or improve air quality to meet requirements under the Clean Air Act. Mitigating the effects of fire and fuels management on air quality include "remedying impairment of visibility in mandatory Class I federal areas which impairment results from manmade air pollution" (Clean Air Act Visibility Protection, Subpart II, 42 U.S.C. & 7491 et seq.) There are two Class I Airsheds in the FPU, which are up-canyon from New Melones. The likelihood of potential smoke impacts from Reclamation land to the National Park or Emigrant Wilderness Area is minimal, although can occur in wildfire situations.

A burning permit from the Mountain Counties Air Basin District will be obtained as necessary. In accordance with the project plan and smoke management permit, a monitoring plan will be established and reviewed for air quality conformance when required.

Prescribed Fire Project Coordination, Documentation and Reporting

Coordinate with those staff and members of the public that would be potentially affected by a prescribed fire. Reclamation staff will prepare pre/post project news releases. Additional coordination will include informing all staff members and affected local and state agencies.

Coordinate prescribed burn planning with CDF-TCU. Identify special/sensitive areas, such as wetlands that can be damaged by heavy equipment impacts and any known locations of special status species.

***New Melones Project Area Office will retain the following documentation for all prescribed fire** projects:*

- A copy of the NEPA documents.
- Prescribed Fire Plan including all attachments.
- Maps and photos pre/post burn.
- Applicable agreements.
- Prescribed fire report go/no go checklist, briefing checklist and test fire documentation.
- All weather forecast information including observations, field moistures, and unit logs,
- Fire report DI 1202
- Resource monitoring reports and post-incident evaluation.
- Names and locations of pertinent GIS files.

Pre and Post-Prescribed Burning Implementation Action Items

- Record the pre-burn resource conditions for all areas planned to be burned with photo points and written report documenting the vegetative conditions.
- Review the FMP, VMP and the individual burn plan to validate compliance with VMP objectives. Prior to approval of the burn plan, the New Melones Resource Manager should ensure that measurable ecological benefits will result from the burn, and that resource benefits are reasonably commensurate with the potential risk of fire escape.
- Field inspect the burn site 2 to 3 months after the burn and the first spring following the burn, at a minimum. Subsequent field inspections of the burn site should be 6 months and 1 year after the burn, then annually for the next 2 years minimum, to note recovery processes and vegetative changes. If funding is available, annual monitoring should be continued indefinitely.
- Provide a written summary report of each burn site inspection. The report should document whether the actual burn was in compliance with vegetation management objectives and whether vegetation management goals were met. The report should include color photographs taken from previously established and permanently marked locations. The summary reports will serve as a reference for planning future projects.

D. Non-Fire Fuels Treatments

Non-Fire Fuel Management Treatments– Five Year Program of Work

Reclamation will develop a five-year program of work and associated budget document for all non-fire fuel treatments in accordance with the preferred alternative in the New Melones Resource Management Plan. The five-year program of work is developed in the USDI's Risk Assessment Mitigation Strategy (RAMS) and/or FuelsPro programs.

Non-Fire Fuel Treatment Implementation Activities

The development of non-fire treatment project proposals are typically accomplished one to three years in advance of planned treatments. Field reconnaissance and interdisciplinary analysis are completed one to two years in advance of project implementation. Pre and post treatment activities include but are not limited to:

- Inventory and identify fuel treatment units
- Participate in interdisciplinary teams
- Complete required NEPA documentation and other requirements as mandated by environmental law
- Prepare project plan and layout
- Prioritize proposed projects based on current budget year allocation
- Award contracts and implement projects
- Complete required monitoring
- Report accomplishments

Non-Fire Treatment Equipment and Seasonal Use Restrictions:

Non-fire treatment equipment and associated seasonal use restrictions are identified in the New Melones RMP and VMP. Specific project area restrictions will be identified in site-specific project plans. All non-fire fuel treatments will comply with the equipment and seasonal use restrictions identified and described in the New Melones VMP.

Effects Monitoring Requirements:

Monitoring requirements are developed in response to resource management and project objectives from interdisciplinary input. For information on the requirements refer to the individual project plans.

E. Emergency Stabilization and Rehabilitation

New Melones Project Area stabilization and rehabilitation program is undertaken to prevent further and unacceptable resource damage from soil erosion due to the effects of wildfire. For information see DOI Manual 620 DM 3 and Army Corps of Engineers Nationwide Permit http://www.usace.army.mil/inet/functions/cw/cecwo/reg/nw2002dd/NW_37_20022.pdf.

The Bureau of Reclamation's Commissioner is responsible for burned area stabilization and rehabilitation activities on Reclamation lands but may obtain assistance through an approved and signed agreement or when contracted for, in whole or in part, with other agencies or tribes under the statutes cited in 620 DM 3.2.

The development and implementation of an emergency stabilization plan and its associated treatments and activities are the responsibility of the local Agency Administrator. The administrator may rely on BAER teams and qualified personnel from other bureaus or agencies to perform identified work as established in a signed agreement.

The emergency stabilization plan must contain:

- A description of each treatment or activity; and
- A discussion demonstrating how the specifications are consistent and compatible with approved land use plans, and how the proposed treatments and activities are related to damage or changes caused by the wildfire; and
- An explanation of how a treatment or activity is reasonable and cost effective relative to the severity of the burn; and
- Provisions for monitoring and evaluation of treatments and activities (including criteria for measuring a successful treatment or activity) and techniques, and
- A procedure for collecting, archiving, and disseminating results; and
- Clear delineation of funding and responsibilities for implementation, operation, maintenance, monitoring, and evaluation throughout the entire life of the project, and
- Criteria for determining failure of a treatment or activity.

An Emergency Stabilization and Rehabilitation Handbook (Handbook) is available and provides operational guidance for applying emergency stabilization and rehabilitation policy. It includes a common cost-effectiveness analysis for evaluating proposed actions, a standard project accomplishment report format, and a mechanism for archiving and broadly disseminating the results of monitoring treatment effectiveness.
(http://www.fws.gov/fire/rehab/Guidance/BAERGuidebook.pdf)

New Melones Project Area ESR treatments may include, as appropriate, aerial seeding, ground seeding, construction of protective fences, and construction of soil erosion and sediment control structures. Rehabilitation will only be required where the impacts of the wildfire itself or the associated suppression actions are significant and can be mitigated. No rehabilitative action will be taken which could cause further damage to the environment. When no human life or property

is threatened, it may be preferable to use natural barriers for firelines even if more acres will be burned. Efforts to rehabilitate the direct impacts of fire suppression activities will begin as soon as possible, at times even before the fire is declared out. This will allow for the use of assigned suppression resources and potentially reduce rehabilitation costs and expedite completion. Funding for Reclamation projects will be from Reclamation funds only. Selection of projects to be funded will be determined by Reclamation management.

Project specific analysis through the NEPA process documents the purpose and need for treatment and identifies the goals and objectives that the treatment is to accomplish. Rehabilitation and restoration efforts will be undertaken to protect and sustain ecosystems, public health and safety, and to help communities protect infrastructure. Reclamation will develop program planning and budgeting information for rehabilitation treatments in accordance with the preferred alternative in the New Melones Resource Management Plan.

F. Communities at Risk/Community Assistance

Communities at-Risk

The current federal register shows that there are twenty communities at risk that are potentially affected by Reclamation land. They are individually listed under their respective FMU.

Community Assistance Programs

The project area contains five Fire Safe Councils. These groups provide community guidance regarding fire prevention, fuel reduction, and fire education. The following are the names of the councils within the Project Area.

Tuolumne/Calaveras Counties Fire Safe Councils

- Calaveras Foothills Fire Safe Council
- Highway 108 Fire Safe Council
- Sierra Highway 4 Fire Safe Council
- Tuolumne Calaveras Ranger Unit
- Yosemite Foothills Fire Safe Council

V. ORGANIZATION, BUDGET, AND AGREEMENTS

A. Organization and Budget

Since New Melones Project Area employs CDF as the protecting agency, Reclamation has only a small organization with no fire suppression resources. However, the lead natural resource specialist position will execute all functions of a fire program manager, including fire and fuels project planning and implementation, fire prevention planning, wildland fire reporting and budget tracking. This position will also function as the primary Duty Officer and Agency Representative for wildfires that occur in the Project Area.

B. Assistance Agreements and Intra/Interagency Agreements

Policy - *Fire suppression is generally handled by the agency/entity responsible for fire protection of the lands on which the fire occurs. However, undue delay in dispatching initial attack crews is not warranted simply because land ownership cannot be immediately determined.*

The Interagency Agreement for Fire Management states "*that among the Federal Wildland Fire Management Agencies, the Interagency Agreement for Fire Management provides the framework and authority for cooperative arrangements for initial attack efforts by fire suppression forces that can arrive at a fire first, regardless of agency ownership. A Federal agency performing the initial attack will notify the agency that is responsible for the land as soon as ownership is determined, and will continue suppression pursuant to the procedures outlined in the Federal National Interagency Mobilization Guide. Additional provisions for fire suppression efforts are provided for emergency or a declared major disaster through United States Code. Assistance Agreements, which includes Cooperative Agreements and Grants with state, local and non-profit entities provides for mutual or reciprocal fire protection assistance.* "

- Original copies of U.S. Code applicable to wildland fire are provided in *A Reference Guide to Principal Wildland Fire Laws for the Bureau of Reclamation.*
- Copies of the *Federal Interagency Agreement for Fire Management* are kept at Reclamation's Western Pacific Regional Office.
- Copies of Assistance Agreements are generally kept at Reclamation's Western Pacific Regional Office.
- Cooperative fire management agreements exist between Reclamation and the following agencies:
  - National Weather Service - Interagency Fire Management (2000), interagency agreement for Weather Service assistance during prescribed fires and regular fire season.
  - State of California: Interagency Fire Agreement between the Reclamation and State of California, CDF.

C. Equipment Rental Agreements

Copies of the Interagency Emergency Equipment Rental Agreements are available from the CDF TCU Emergency Command Center and the Stanislaus National Forest Dispatch Center.

D. Contract Resources

Contract resources are available from the CDF TCU Emergency Command Center, the Stanislaus National Forest Dispatch Center, and the BLM Folsom Field Office.

E. Contract Suppression and Prescribed Fire Resources

There are no Contract Suppression and Prescribed Fire Resources at this time. Prescribed fire resources will be determined on site specific burn plans for projects. The use of local, state (CDF), and regional (BLM, USFS, FWS, NPS) resources will be used in prescribed fires.

VI. MONITORING AND EVALUATION

A. Annual Program Assessment

This FMP is a working reference for wildland fire management and hazardous fuels treatments within the New Melones Project Area. It will be reviewed annually and revised as needed to ensure that the strategic guidance provided in the plan is assisting New Melones personnel in meeting the resource management and fire/fuels management goals and objectives in the New Melones Lake RMP. Revisions, additions, and adjustments that are in conformance with the RMP may be incorporated into the FMP. Monitoring and evaluation play a central role in adaptive management and are conducted for three primary purposes:

- Ensure appropriate implementation of standards and guidelines (implementation monitoring)
- To track resource conditions and mark trends toward or away from desired conditions (status and change monitoring)
- To deal with uncertainties regarding the effectiveness and effects of land management activities (cause and effect monitoring)

Any major changes may require amending the RMP. The review will also ensure that the fire/fuels program is being implemented in a safe, cost effective manner and as directed in this fire management plan. As national wildland fire performance measures are issued, monitoring and evaluation protocols will be developed to meet those requirements and follow Department and Bureau guidelines.

B. Project Monitoring

It is important that baseline inventory efforts at the New Melones Project Area level take place prior to any vegetation treatments associated with prescribed fire and non-fire fuels treatments. Effectiveness monitoring following treatment, assesses whether objectives have been met, and allows comparison of pre-treatment and post-treatment conditions. Objectives of prescribed fires and other treatments are substantially compromised if the effects of these management actions are ecologically undesirable. A comprehensive monitoring program may entail photo points and some form of vegetation sampling prior to implementation of fuels or vegetation treatments. Monitoring of weather, fire behavior, and fuel consumption should also take place during implementation of prescribed fire. After all treatments, effectiveness monitoring should continue for a minimum of two years.

Monitoring will ensure the treatments/actions meet the purpose and need for the project. Monitoring reports will be prepared and filed with the project specific plan.

The following are activity specific monitoring strategies:

Prescribed Fire - Prescribed burn bosses are required to evaluate prescribed burns each day upon completion of burning to assess results and effectiveness of the burn as implemented. These evaluations are maintained as part of the project file. Long term effectiveness monitoring may be accomplished by the Resource staff in New Melones Project Area by analysis of study transects established prior to treatment. These transects are subsequently studied every year for the first five years then every other year after that. This data is stored in electronic format.

Non-fire Fuels Treatments - All field units with fuels treatment programs are required to establish monitoring programs. The objective of the program is to determine if treatments are meeting the objectives as outlines in the NEPA analysis and project plans. The overall scope of the monitoring program is left to the New Melones Project Area staff. All objectives and constraints presented in NEPA documents and carried forward to project plans should be monitored. Monitoring responsibilities should be tied to the function that established the objective. All projects do not need complete programs. Numerous projects with similar objectives in similar vegetation types may be grouped under a single monitoring program. It is recognized that the volume of monitoring needs to remain within the available staff time and financial constraints.

Monitoring is also the consistent collection and analysis of repeated observations or measurements to evaluate changes in condition and progress toward meeting management objectives. Fuel treatment monitoring can be defined as a systematic process for collecting and recording information to provide a basis for evaluating and adjusting resource and treatment objectives, methods and implementation practices.

The minimum monitoring requirements established for individual prescribed fire projects include weather during the fire, observed fire behavior, and whether fire treatment objectives have been met. If slowly changing moisture values, such as live fuel, 1,000 hour fuel moisture, or soil moisture, are included in the prescription, actual values should also be documented. Additional monitoring will be needed to determine if the specific resource and fire treatment objectives have been met.

Monitoring is required whenever formal Section 7 consultation occurs during the project planning phase. The presence of Threatened or Endangered species during environmental analysis triggers a heightened scrutiny from regulatory agencies, such as National Marine Fisheries Service and/or U.S. Fish and Wildlife Service. Generally, a Biological Opinion (BO) is issued which will have some effect on project implementation. It is critical then to evaluate whether Reclamation projects comply with the BO, and if the standards spelled out in the BO are consistent with protecting the species at risk and attaining project objectives.

Emergency Stabilization and Rehabilitation - Reclamation's New Melones staff are responsible for monitoring effectiveness of emergency stabilization (ES) and rehabilitation (R) treatments. New Melones staff will prepare separate Emergency Stabilization and Rehabilitation Plans for funding approval by the Regional Director or WO Emergency Stabilization Coordinator. Approved plans may contain up to three years of monitoring for treatment effectiveness. Results

of monitoring for treatment effectiveness must be reported each year for ES and R by September 30.

Both ES and R projects must be documented in National Fire Plan Operations Reporting System (NFPORS).

Emergency Stabilization Strategies:

- Stabilize and prevent unacceptable degradation to natural and cultural resources
- Minimize threats to life and property resulting from the effects of a fire
- Repair/replace/construct physical improvements necessary to prevent degradation of land or resources
- Actions must be taken within one year following containment of a wildfire

Rehabilitation Strategies:

- Specify treatments required to implement post-fire rehabilitation policies
- Repair or improve fire-damaged lands unlikely to recover naturally to management approved conditions
- Repair minor facilities damaged by fire
- Actions must be taken within three years of containment of a wildfire

New Melones staff are responsible for monitoring both implementation of the rehabilitation and stabilization activities, monitoring for species recovery, and for noxious weeds. It is anticipated that New Melones Project Area will receive funding for implementation monitoring under emergency stabilization for one year from the control date of the fire and then for emergency rehabilitation up to three years, with the request for funding coming in every year by the end of the fiscal. Reporting is also due by the end of the fiscal for emergency rehabilitation.

Documentation requirements will be established by the resource staff will be identified by site specific fires. They include identification of projects in the National Fire Plan Operations Reporting System (NFPORS).

Short-term monitoring requirements include evaluation of treatment implementation and its initial effectiveness. Post-treatment monitoring may include vegetative transects or the establishment of permanent photo points depending on specific project objectives.

Resource Specialists with GIS Specialist support conduct long term monitoring at the FMU level.

C. Reporting

Wildland Fire

All future Reclamation wildland fires will be documented on the DI-1202 (DOI's Fire Report System) as appropriate.

Prescribed Fire/Non-fire Treatments

Accomplishments of fire and fuels hazard reduction projects will be reported in the National Fire Plan Operations and Reporting System (NFPORS). All fuels projects will meet the standards and guidelines as outlined in Chapter 18 of the "Interagency Standards for Fire and Fire Aviation Operations" (NFES 2724).

The Hazardous Fuels module of NFPORS has been selected as the national interagency standard for:

- Submitting proposed projects for funding,
- Tracking and managing the program,
- Reporting performance, measuring accomplishments and accountability.

New Melones Project Area staff will have a designated NFPORS coordinator to ensure that all data entry into NFPORS is correct, timely and compliant with national standards.

- National Fire Plan Operations and Reporting System (NFPORS) http://www.nfpors.gov/)

Prevention & Mitigation

Accomplishments of WUI mitigation activities will be reported in the National Fire Plan Operations and Reporting System (NFPORS).

WUI mitigation targets and accomplishments should be supported by New Melones Project Area RAMS report and relate to WUI mitigation activities such as fire safe council meetings, Firewise workshops, home assessments, etc.

The Community Assistance module of NFPORS has been selected as the national interagency standard for:

- Submitting proposed projects for funding
- Tracking and managing the program
- Reporting performance, measuring accomplishments, and accountability

Emergency Stabilization and Rehabilitation (ES&R)

ES&R information is tracked in NFPORS. Initial submission for request is due 7 days after the containment of the fire, this is normally done via email to the state coordinator. ESR due dates for funding requests and reporting accomplishment in NFPORS are due by the end of the fiscal year for out year funding.

Glossary of Terms

After Action Review – A professional discussion of an event, focused on performance standards, that enables Agency Administrators and firefighters to discover for themselves what happened, why it happened, and how to sustain strengths and improve on weaknesses.

Appropriate Management Response (AMR) –

1.) The Appropriate Management Response (AMR) is any specific action suitable to meet Fire Management Unit (FMU) objectives. Typically, the AMR ranges across a spectrum of tactical options (from monitoring to intensive management actions). The AMR is developed by using FMU strategies and objectives identified in the Fire Management Plan.

2.) The response to a wildfire, based on an evaluation of risks to firefighter and public safety, the circumstances under which the fire occurs, including weather and fuel conditions, natural and cultural resource management objectives, protection priorities, and values to be protected. The evaluation must also include an analysis of the context of the specific fire within the overall local, geographic area, or the national wildfire situation.

Condition Class – The Condition Class concept was most recently described by Hardy et al. (2001) and Schmidt et al. (2002). These descriptions are based upon the "relative risk of losing key ecosystem components". In certain cases, Condition Classes can be assigned when ecosystems have crossed ecological thresholds. For the purposes of Condition Class description, ecological risks are determined by contrasting current with historical conditions. Condition Classes are then described qualitatively in terms of alteration from the historical range and risks associated with those departures.

The Condition Class concept helps describe alterations in key ecosystem components such as species composition, structural stage, stand age, canopy closure, and fuel loadings. These alterations may be caused by fire suppression, timber harvest, livestock grazing, exotic plant species, insects/disease, and other disturbances.

An interagency working group has completed a Condition Class Guidebook, which provides worksheets and assist field units to accurately assign Condition Classes at multiple scales. Field Units should utilize the following definitions synthesized from the Cohesive Fuels Treatment Strategy (February 2006) and Coarse-Scale Spatial Data for Wildland Fire and Fuel Management (April 2002).

Condition Class 1: Fire Regimes are within an historical range, and the risk of losing key ecosystem components is low. Vegetation attributes (species composition and structure) are intact and functioning within an historical range. Fires burning in CC1 lands pose little risk to the ecosystem and have positive effects to biodiversity, soil productivity, and hydrologic processes.
Example of typical management: Historical Fire Regime is replicated through periodic application of prescribed fire or through fire use.

Condition Class 2: Fire Regimes have been moderately altered from their historical range. The risk of losing key ecosystem components is moderate. Fire frequencies have departed from historical frequencies by one or more return intervals (either increased or decreased). This results in moderate changes to one or more of the following: fire size, intensity and severity, and landscape patterns. Vegetation attributes have been moderately altered from their historical range. Wildfires burning in CC2 lands can have moderately negative impacts to species composition, soil conditions, and hydrological processes.
Example of typical management: Moderate levels of restoration treatments are required, such as a combination of prescribed fire with mechanical/hand treatment.

Condition Class 3: Fire Regimes have been significantly altered from their historical range. The risk of losing key ecosystem components is high. Fire frequencies have departed from historical frequencies by multiple return intervals. This results in dramatic changes to one or more of the following: fire size, intensity, severity, and landscape patterns. Vegetation attributes have been significantly altered from their historical range. Wildfires burning in CC3 lands may eliminate desired ecosystem components, exacerbate the spread of unwanted non-native species, and result in dramatically different ecological effects compared to reference conditions.
Example of typical management: High levels of restoration treatments, such as mechanical treatments, are required before fire can be used to restore desired ecosystem function. Intensive efforts, which may include seeding, herbicide application, biomass removal, and other types of rehabilitation, are required for lands in Condition Class 3.

Contained/Containment – The status of a wildfire suppression action signifying that a control line has been completed around the fire, and any associated spot fires, which can reasonably be expected to stop the fire's spread.

Contingency Actions – A back-up plan of action when actions described in the primary plan are no longer appropriate. Contingency actions are required to be taken when the project exceeds its intent. Actions are taken to return the project to its intended design.

Critical Habitat – Under the Endangered Species Act, critical habitat is defined as habitat of federally listed threatened or endangered species where those physical and biological features essential to conservation of the species are found and which may require Special management considerations or protection. This habitat may currently be occupied or determined by the Secretary of the Interior to be essential for areas outside the species' current range.

Ecosystem - 1) A community of living plants and animals interacting with each other and with their physical environment; a geographic area where it is meaningful to address the interrelationships with human social systems, sources of energy, and the ecological processes that shape change over time. 2) The complex of a community of organisms and its environment functioning as an ecological unit in nature.

Ecosystem Sustainability – A concept that promotes the use of natural resources to benefit humans while conserving and wisely managing natural ecosystems for the future.

Emergency Stabilization – Strategies to stabilize and prevent unacceptable degradation to natural and cultural resources, to minimize threats to life or property resulting from the effects of a fire, or to repair/replace/construct physical improvements necessary to prevent degradation of land or resources.

Endangered Species – Any species of animal or plant in danger of extinction throughout all or a significant portion of its range and so designated by the Secretary of Interior in accordance with the 1973 Endangered Species Act.

Environmental Assessment (EA) – Environmental Assessments were authorized by the NEPA of 1969. They are concise, analytical documents prepared with public participation that determine if an Environmental Impact Statement (EIS) is needed for a particular project or action. If an EA determines an EIS is not needed, the EA becomes the document allowing agency compliance with NEPA requirements.

Environmental Impact Statement (EIS) – A detailed public document which complies with NEPA law and regulation; an EIS describes a major Federal action which significantly affects the quality of the human environment, provides alternatives to the proposed action, and analyzes the effects of the proposed action.

Extended Attack – Suppression activity for a wildfire that has not been contained or controlled by initial action and for which more firefighting resources are arriving, en route, or being ordered by the initial attack incident commander

Fire Frequency (Fire Return Interval) - How often fire burns a given area; often expressed in terms of fire return intervals (e.g., fire returns to a site every 5-15 years).

Fire Management Plan (**FMP**) – A plan which identifies and integrates all wildland fire management and related activities within the context of approved land/resource management plans. It defines a program to manage wildland fires (wildfire, prescribed fire, and wildland fire use). The plan is supplemented by operational plans, including but limited to preparedness plans, preplanned dispatch plans, prescribed fire burn plans and prevention plans. Fire Management Plan's assure that wildland fire management goals and components are coordinated.

Fire Management Unit (FMU) – An FMU is any land management area definable by objectives, management constraints, topographic features, access, values to be protected, political boundaries, fuel types, major Fire Regime groups, and so on, that set it apart from the management characteristics of an adjacent FMU. The FMU's may have dominant management objectives and pre-selected strategies assigned to accomplish these objectives.

Fire Planning Unit (FPU) – A Fire Planning Unit consists of one or more Fire Management Units. Fire Planning Units are the geographic scope of the landscape defined for the fire management analysis. Fire Planning Units may relate to a single administrative unit, a sub-unit, or any combination of units and sub-units. Fire Planning Units are scalable, and may be

contiguous or non-contiguous. Fire Planning Units are not predefined by Agency administrative unit boundaries, and may relate to one or more agencies. They may be described spatially.

Fire Regime – Describes the patterns of fire occurrence, frequency, size, and severity - and sometimes, vegetation and fire effects as well - in a given area or ecosystem. A Fire Regime is a generalization based on fire histories at individual sites. Fire Regimes can often be described as cycles because some parts of the histories usually get repeated and the repetitions can be counted and measured, such as fire return interval.

The Fire Regime concept is used to characterize the personality of a fire in a given vegetation type -- how often it visits the landscape, the type of pattern created, and the ecological effects. The following Fire Regimes are arranged along a temporal gradient, from the most frequent to the least frequent fire return interval.

REGIME	FIRE FREQUENCY	FIRE EFFECT TO DOMINANT ABOVEGROUND VEGETATION	REPRESENTATIVE ECOSYSTEM
Fire Regime I	0-35 years	Low severity	Dry pine and oak forests, Pinyon-juniper forests
Fire Regime II	0-35 years	Stand replacement	Grasslands, many shrub communities
Fire Regime III	35-100+ years	Mixed severity	Shrublands, mixed conifer forests
Fire Regime IV	35-100+ years	Stand replacement	Certain lodgepole pine, dry Douglas-fir forests
Fire Regime V	200+ years	Stand replacement	High elevation whitebark pine, spruce-fir, and Pacific coastal forests

Fire Regime and Condition Class (FR/CC) – A Fire Regime is a general classification of the role fire would play across a landscape in the absence of modern human mechanical intervention, but including the influence of aboriginal burning. It includes the combination of fire frequency, predictability, intensity, seasonality, and extent. Condition Class is a classification of the amount of departure from the Fire Regime.

Fire Severity – Denotes the scale at which vegetation and a site are altered or disrupted by fire, from low to high. It is a combination of the degree of fire effects on vegetation and on soil properties.

Fire-Adapted Ecosystem – An ecosystem with the ability to survive and regenerate in a fire-prone environment.

Fireline Intensity Level (FIL) – The rate of heat energy released during combustion per unit length of fire front. It is usually expressed in BTUs/second/foot.

Fuel Model – A combination of vegetation types for which all fuel descriptors required for the solution of a mathematical rate of spread model have been specified.

Fuel Type – An identifiable association of fuel elements of distinctive species, form, size, arrangement or other characteristics that will cause a predictable rate.

Fuel Reduction – Manipulation, including combustion, or removal of fuels to reduce the likelihood of ignition and/or to lessen potential damage and resistance to control.

Hazardous Fuels – A fuel complex defined by kind, arrangement, volume, condition, and location that forms a threat of ignition or of suppression difficulty.

Initial Action – The actions taken by the first resources to arrive at a wildfire.

Initial Attack – An aggressive suppression action taken on a wildfire.

Interdisciplinary Team – A group of individuals with different specialized training assembled to solve a problem or perform a task. The team is assembled out of recognition that no one discipline is sufficiently broad to adequately solve the problem; through interaction, participants bring different points of view and a broader range of expertise to bear on the problem.

Land/Resource Management Plan (L/RMP) – A document prepared with public participation and approved by an agency administrator that provides general guidance and direction for land and resource management activities for an administrative area. The L/RMP identifies the need for fire's role in a particular area and for a specific benefit. The objectives in the L/RMP provide the basis for the development of fire management objective and the fire management program in the designated area.

Noxious Weeds – Any plant designated by a federal, state, or county government to be injurious to public health, agriculture, recreation, wildlife, or any public or private property. Noxious weeds generally possess one or more of the following characteristics: aggressive and difficult to manage, poisonous, toxic, parasitic, a carrier or host for serious insects or diseases, and generally non-native.

Preparedness – Activities that lead to a safe, efficient, and cost-effective fire management program in support of land and resource management objectives through appropriate planning and coordination.

Preparedness Level – Increments of planning and organizational readiness commensurate with increasing fire danger.

Prescribed fire (Rx) – Any fire ignited by management actions to meet specific objectives. A written, approved prescribed burn plan must exist and NEPA requirements must be met prior to ignition.

Prescribed Burn Plan – This document provides the prescribed fire burn boss information needed to implement an individual prescribed fire project.

Prescription – Measurable criteria that define conditions under which a prescribed fire may be ignited, guide selection of appropriate management responses, and indicate other required actions. Prescription criteria may include safety, economic, public health, environmental, geographic, administrative, social, or legal considerations.

Prevention – Activities directed at reducing the number of person-caused fires, including public education, law enforcement, dissemination of information, and the reduction of hazards.

Project Objectives – The specific results expected from completing a project.

Rehabilitation – Efforts undertaken within three years of a wildfire to repair or improve fire damaged lands unlikely to recover to a management approved conditions, or to repair or replace minor facilities damaged by fire.

Restoration – The continuation of rehabilitation beyond the initial three years or the repair or replacement of major facilities damaged by the fire.

Special Status Species/Sensitive Species – Those plant and animal species identified by USFWS as sensitive, usually in cooperation CDF&G. Sensitive species are also defined as those (a) which are under status review by the USFWS or NOAA Fisheries; or (b) whose numbers are declining so rapidly that Federal listing may become necessary; or (c) with typically small and widely dispersed populations; or (d) inhabiting ecological refugia of other Specialized or unique habitats.

Suppression – All the work of extinguishing or containing a fire, beginning with its discovery.

Threatened Species – Any species likely to become endangered within the foreseeable future throughout all or a significant portion of its range and that has been designated in the Federal Register by the Secretary of Interior as such.

Watershed – The area of land bounded by a divide, that drains water, sediment, and dissolved materials to a common outlet at some point along a stream channel, or to a lake, reservoir, or other body of water; also called drainage basin or catchment.

Wildfire – An unplanned and unwanted wildland fire including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to put the fire out.

Wildfire Suppression – an Appropriate Management Response to wildfire (or an escaped wildland fire use or prescribed fire) that results in curtailment of fire spread and eliminates all identified threats from the particular fire.

Wildland – An area in which development is essentially non-existent, except for roads, railroads, powerlines, and similar transportation facilities; structures, if any, are widely scattered.

Wildland Fire – Any non-structure fire that occurs in the wildland.

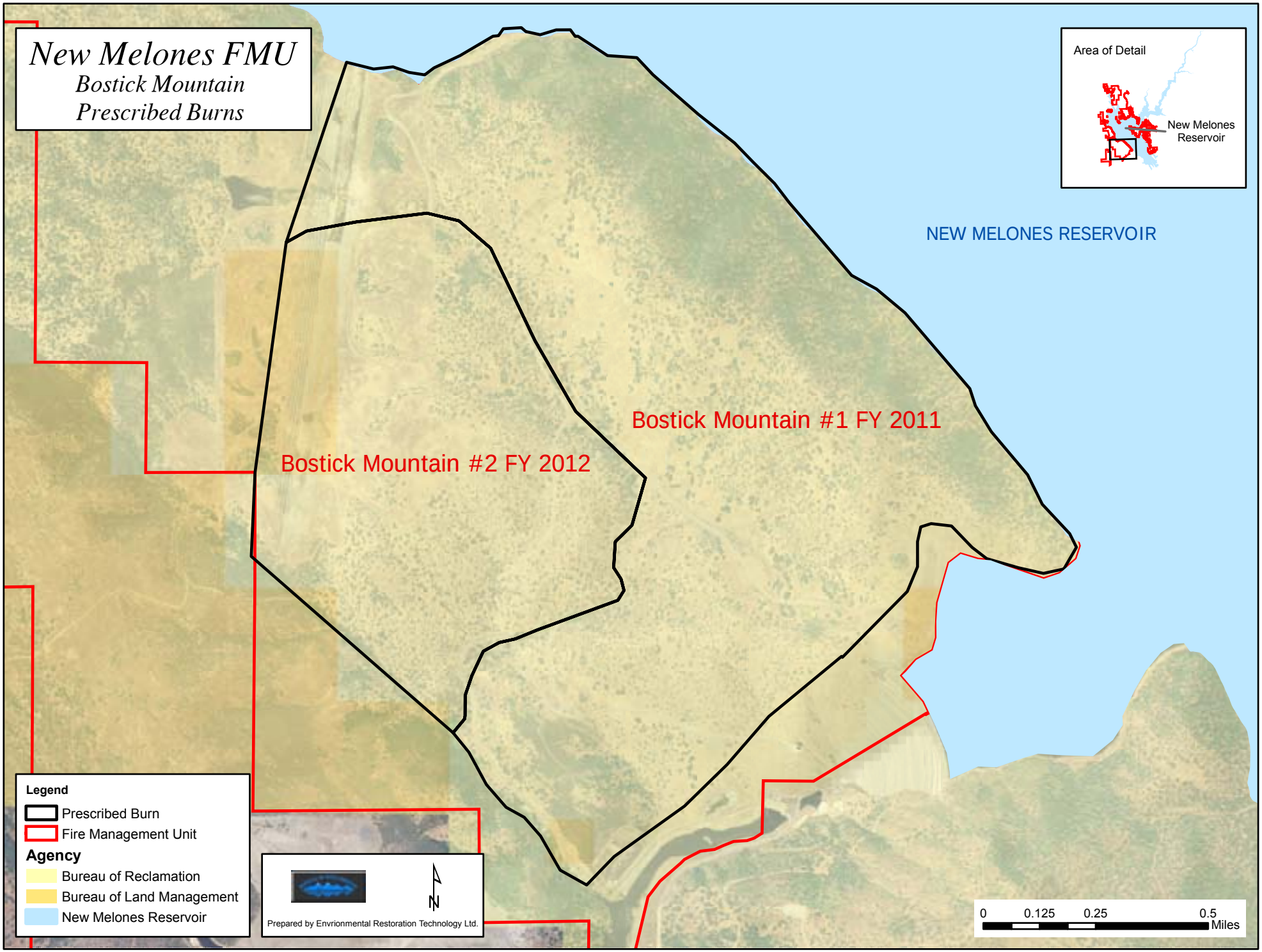
Wildland Fire Situation Analysis (WFSA) – A decision-making process that evaluates alternative wildfire suppression strategies against selected environmental, social, political, and economic criteria, and provides a record of those decisions.

Wildland Fire Use (WFU) – The application of the Appropriate Management Response to naturally-ignited wildland fires to accomplish specific resource management objectives in predefined designated areas outlined in Fire Management Plans.

Wildland Urban Interface (WUI) – WUI is the line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels (SAF, July 1990). It is synonymous with the term "intermix."

APPENDICES

Appendix A – New Melones Fuels Management Projects


New Melones FMU
Bostick Mountain
Prescribed Burns
Area of Detail
New Melones Reservoir
NEW MELONES RESERVOIR
Bostick Mountain #1 FY 2011
Bostick Mountain #2 FY 2012
Legend
Prescribed Burn
Fire Management Unit
Agency
Bureau of Reclamation
Bureau of Land Management
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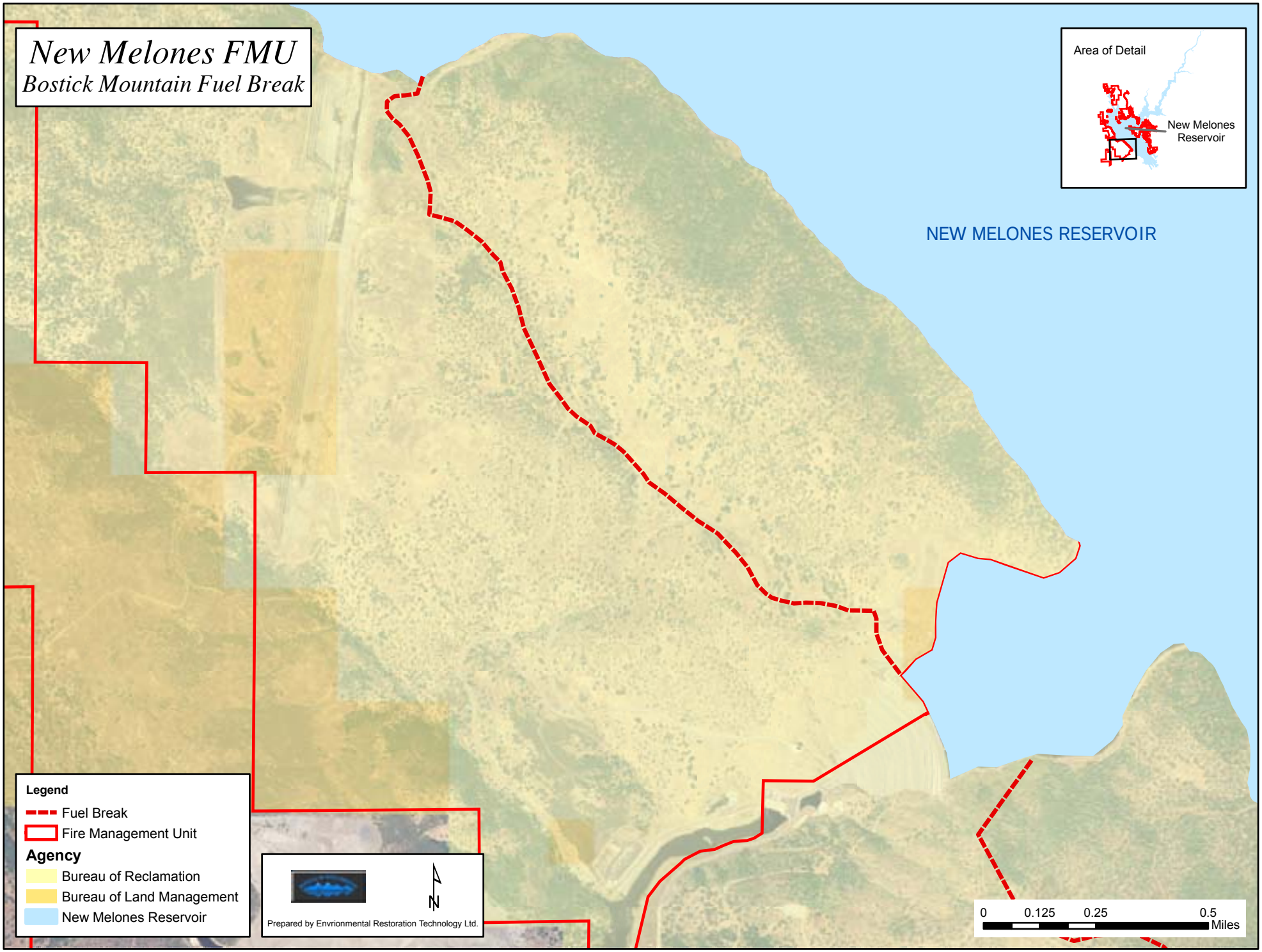
New Melones FMU
Bostick Mountain Fuel Break
Area of Detail
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Fire Management Unit
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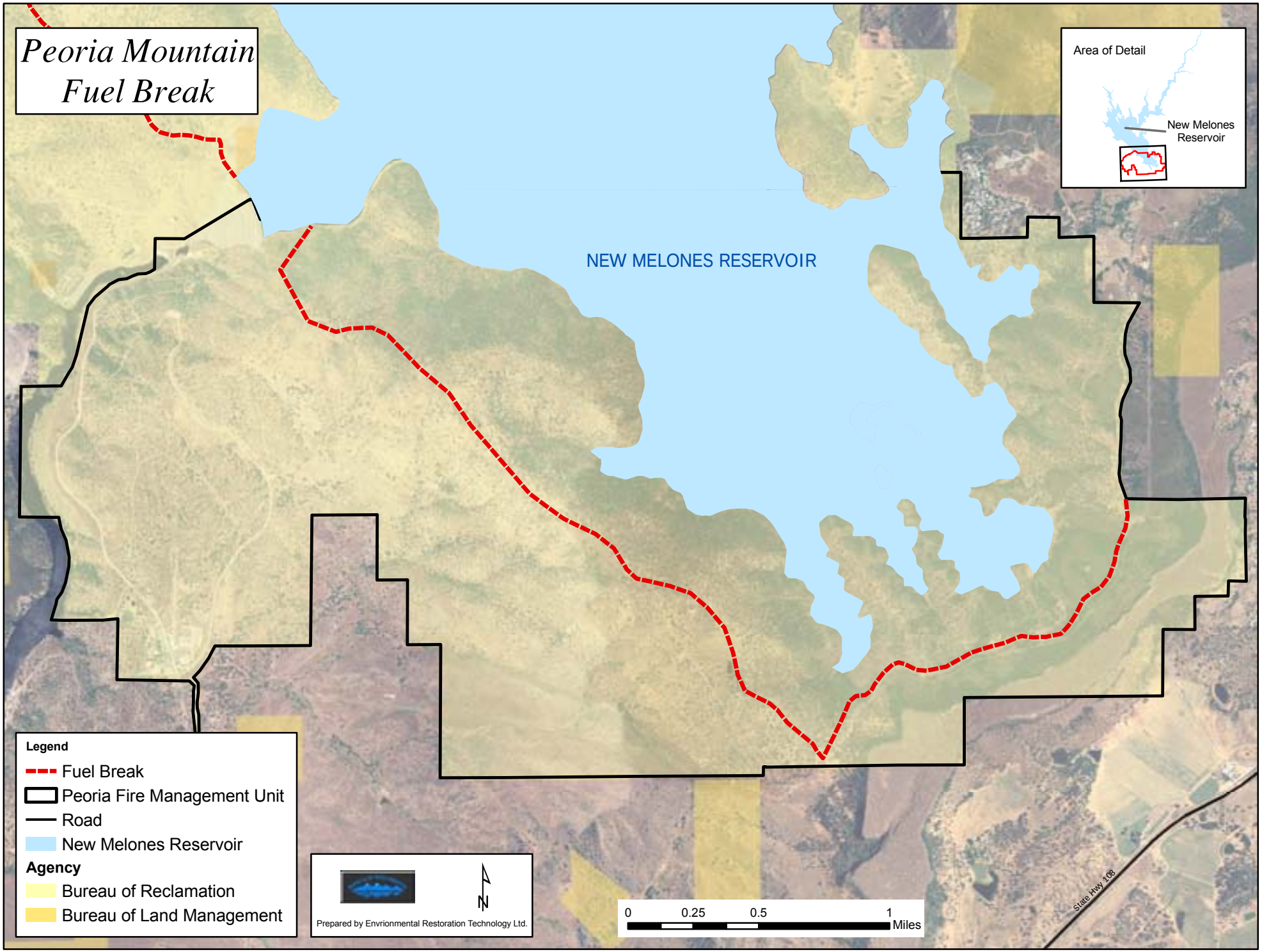
Peoria Mountain
Fuel Break
Area of Detail
New Melones
Reservoir
NEW MELONES RESERVOIR
Legend
Fuel Break
Peoria Fire Management Unit
Road
New Melones Reservoir
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Bureau of Reclamation
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APPENDIX E
NEW MELONES LAKE POLICY

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Note to reader:

Please be advised that the following documents are examples of policies, which are representative of the type of management that Reclamation would implement under this RMP/EIS. These policies are subject to modification, due to changing conditions, regulations, and direction from Reclamation.

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United States Department of the Interior

BUREAU of RECLAMATION
New Melones Lake
6850 Studhorse Flat Road
Sonora, Ca. 95370

IN REPLY
REFER TO: CC-460
LND-8.00

APR 11 2006

MEMORANDUM FOR RECORD

From: Peggi Brooks, Resource Manager, New Melones Lake

Date: April 11, 2006

Subject: Establishment of Special Use Area

a. The New Melones Lake Project is hereby designated in its entirety as a Special Use Area. This action is necessary for the protection of public health and safety, the protection and preservation of cultural and natural resources, the protection of environmental and scenic values, scientific research, the security of Reclamation facilities and the avoidance of conflict among visitor use activities.

b. Within the New Melones Special Use Area, Reclamation has established schedules of visiting hours, public use limits, special uses and other conditions, restrictions and prohibitions on particular uses or activities. These are described in the attached statement of policies, and are also contained in written management plans, brochures, websites, maps, displays, signs, bulletin boards, public notices, etc.

c. Reclamation may occasionally need to revise the boundaries of the special use area, and may revise or terminate previously imposed schedule of visiting hours, public use limits, special uses and other established conditions, restrictions and prohibitions on public uses or activities.

Att: 1

NOTICE. IF YOU DETACH
ENCLOSURE PLEASE INSERT
CODE NO. _____
INITIAL _____

Classification LND 8.00

New Melones Lake Policy

As a United States Department of Interior, Bureau of Reclamation Project, New Melones Lake is administered in accordance with 43 Code of Federal Regulations (CFR) Part 423 Public Conduct on Bureau of Reclamation Facilities, Lands, and Waterbodies. All applicable federal, state and local laws and regulations are also in effect. In addition to the general public conduct requirements, 43 CFR Part 423 Subpart E provides for the establishment of specific policies for a designated Special Use Area. The New Melones Lake Project is a Designated Special Use Area. The following policies have been developed for common activities to ensure a safe and enjoyable experience for all visitors and to protect the resources of New Melones Lake. Additional policies may be in effect for other activities. To obtain a copy of 43 CFR 423, please visit: http://www.usbr.gov/mp/ccao/new_melones/docs/camping_43cfr_parts423_429.pdf

Please contact the Park Ranger on duty for information or to report any violations. Or call the New Melones Lake Office at (209) 536-9094 (Mon.-Fri. 8:00am to 4:30 pm). For emergency assistance dial 911. Your cooperation and consideration is appreciated.

Section 1. Camping

1.1 Standard Campsites: Maximum of 2 motor vehicles and a maximum of 8 persons per standard campsite.

1.2 Walk-In Campsites: Maximum of 1 vehicle and 4 persons at all walk-in sites.

1.3 Camping is permitted only in designated areas.

1.4 Campsites purchased on a first-come, first-serve basis must be occupied overnight.

1.5 Campground showers are for the use of registered campers only.

1.6 Reservable campsites, not currently reserved, may be purchased on a first-come first-serve basis for a maximum of two nights. Campers wishing to stay in a non-occupied, reservable campsite should pay for the first two nights using the self-deposit fee box and should also immediately make a reservation for the extra nights.

1.7 For purposes of campsite vehicle restrictions, 2 motorcycles will be the equivalent of 1 car. For purposes of campsite vehicle restrictions, a motor home/RV towing another vehicle will be considered 1 car so long as the motor home/RV is parked in the campsite and not moved during the course of the camper's stay.

1.8 Users will not exceed person/vehicle occupancy limits of group campsites.

Section 2. Noise

2.1 Quiet shall be maintained in all public use areas between the hours of 10:00 pm and 8:00 am. Excessive noise during such times which unreasonably disturbs persons is prohibited.

2.2 Audio devices or other noise producing devices should be used at a volume that does not disturb others. The sound produced from audio devices or other noise producing devices cannot be audible at a distance in excess of 50 feet. Applies during all hours in campgrounds, day use areas, vehicles and on vessels.

Section 3. Disorderly Conduct

3.1 Individuals who are boisterous, rowdy, disorderly or otherwise disturb the peace on project lands or water may be requested to leave the project.

3.2 Individuals will obey all posted restrictions. These restrictions may be temporary traffic control, regulatory buoys, seasonal closures, etc.

New Melones Lake Policy (cont'd)

Section 4. Fires

4.1 Fires must be confined to designated fire rings and BBQ grills in the campground or day use area. Size/height of fires in fire rings and BBQ grills may be restricted at any time for safety reasons.

4.2 Personal BBQ grills are only permitted in designated campgrounds and picnic areas within an area cleared of vegetation, or on a vessel or houseboat Personal BBQ grills are not permitted in the launch ramp parking lots or on the shoreline. Ashes/charcoal from personal BBQ's will be transported off of project lands. Ashes/charcoal will not be placed in project refuse containers or dumped on project lands or into project waters.

4.3 No open flame devices are permitted, e.g. Tiki torches

4.4 Unattended fires are prohibited. Fires must be completely extinguished before departure.

Section 5. Vehicles

5.1 Maximum speed limit is 15 mph in campground and day use areas or as posted.

5.2 Vehicle traffic is restricted to designated paved and gravel roads. Vehicles may not be operated off road.

5.3 Vehicle parking is permitted in designated areas only. Vehicles may not be parked off road.

5.4 Vehicles and loaded boat trailers must be parked on pavement/parking spur without impeding traffic in the roadway. Empty boat trailers, small pop-up tent trailers, and small utility trailers must also be parked on the pavement/parking spur.

5.5 Towing a trailered vessel containing a passenger is not permitted per State law.

Section 6. Animals

6.1 Pets must be on a leash 6 feet or less in length or otherwise physically restrained at all times.

6.2 Pets may not be left unattended. Noisy pets will not be permitted.

6.3 No pets are permitted on the swim beach in Angel's Cove. Pets are permitted in the beach parking area and at adjacent picnic sites.

6.4 Persons bringing or allowing pets in designated public use areas shall be responsible for proper removal and disposal, in sanitary facilities, of any waste produced by these animals.

6.5 Livestock are not allowed to occupy Reclamation lands or waters without a valid grazing permit issued by Reclamation.

Section 7. Recreational Devices

7.1 Dirt bikes, ATV's or other off-road vehicles are not permitted.

7.2 Bicycles are allowed on designated roadways, fire roads and trails in accordance with posted restrictions and state and local laws.

7.3 Bicycles must yield to pedestrians and equestrian riders.

New Melones Lake Policy (cont'd)

Section 8. Wood Gathering

8.1 Wood gathering is restricted to dead and down trees, for use while camping. Wood gathered at New Melones may not be removed from the Project for any purpose.

8.2 Chain saws are prohibited at New Melones Lake.

Section 9. Projectile Firing Devices

9.1 Loaded projectile firing devices are not permitted in the developed recreation areas and other "no hunting areas" designated in section 10.1. These include, but are not limited to, firearms, bows, air rifles, sling shots, paintball guns, and toy/replica weapons.

Section 10. Hunting and Fishing

10.1 Hunting is not permitted in developed recreation areas, security areas, or specially designated "no hunting" areas. "No hunting" areas include Glory Hole Recreation Area, Tuttletown Recreation Area, New Melones Administration and Mark Twain area, Dam and Powerhouse area, Spillway.

10.2 No fishing is allowed downstream of New Melones Dam between the dam and the downstream buoy line.

Section 11. Launch Ramps

11.1 Courtesy docks are restricted to boating traffic only. Vessels may be moored to the courtesy docks for a maximum of 10 minutes.

11.2 No fishing or swimming within 100 feet of the launch ramps, public docks, or marina docks.

11.3 No swimming within 100 feet of the launch ramps or public docks. No swimming within the entire marina mooring/concession area.

11.4 No parking on launch ramps except to launch or retrieve vessels/passengers.

Section 12. Houseboats/vessels

12.1 Houseboats are not permitted to use the public docks at the boat ramps. Houseboats are permitted to use the Marina docks only.

12.2 No houseboat/vessel maintenance/repairs will be allowed on Reclamation lands or waters, except at authorized concession facilities. Maintenance and repairs include body or engine repair, interior and exterior renovation, painting, welding, or any work that includes or produces hazardous materials, hazardous energy, or poses a safety or health risk to the public.

12.3 Houseboat owners must obtain all necessary permits, including a permit from Reclamation, prior to launching, retrieving or transporting a houseboat on Reclamation property.

12.4 Houseboats or overnight occupancy vessels with or without an authorized mooring space at the marina may be occupied overnight on the lake for a maximum of 14 days, except within ¼ mile of any campground or other prohibited area. Overnight occupation of houseboats/vessels at the marina must be in accordance with the marina concession agreement and vessel mooring permit.

12.5 Houseboats and other vessels without an authorized mooring space at the marina must be removed from the lake and from the New Melones Project after 14 days.

New Melones Lake Policy (cont'd)

Section 13. Sanitation

13.1 Salvaging items or materials from refuse containers is not permitted.

Section 14. Gold Panning and Dredging

14.1 Commercial gold panning and dredging (including commercial tours) is not permitted. Recreational, by-hand gold panning by individuals is permitted except in closed areas, provided that the activity does not create or accelerate turbidity, bank erosion, or damage natural or cultural resources. Recreational dredging is permitted, except in closed areas, with a valid dredge permit from the Department of Fish and Game. Dredging must be in streams above the current pool level of New Melones Lake and must use a dredge nozzle no greater than 6" in diameter. All panning or dredging must be done within the water of an active stream/river. Digging in the banks or nearby areas is not allowed.

Section 15. Lost and Found

15.1 Items found on project lands or waters shall be brought to the Park Administration Office and processed according to lost and found procedures.

Section 16. Aircraft

16.1 Parasailing, paragliding, and hang gliding are not permitted.

16.2 The airstrip located on the north side of the California Department of Forestry's Baseline Conservation Camp is designated as a Special Use Area for flying radio-controlled model aircraft. Model aircraft may be operated only in this location and only in accordance with rules established as a part of the license to use this area.

16.3 Seaplane use is permitted at New Melones Lake with the following restrictions:

(a) Seaplanes may not be operated from 1 hour after sunset to 1 hour before sunrise. Overnight moorage is permitted in developed marinas only.

(b) Seaplane operation is prohibited within 1,500 feet of New Melones Dam and within 500 feet of a beach frequented by bathers or other recreationists.

(c) Landings and takeoffs will be permitted only on water at least 1000 feet from any shoreline.

(d) The operation of seaplanes for other than recreational purposes (e.g. pilot training or instruction) is prohibited.

(e) Seaplanes, except during takeoff and landing, will abide by the California Boating Law in their movement on the lake.

16.4 Airplane overflights at New Melones Lake are permitted with the following restrictions:

(a) Aircraft must maintain a minimum of 500 feet of altitude above any land or water, except when a seaplane is landing or taking off.

(b) Aircraft must not fly directly over the dam, the Highway 49 Bridge and Administration area, Tuttletown Recreation Area or Glory Hole Recreation Area.

New Melones Lake Policy (cont'd)

Section 17. Equestrian Use

17.1 Equestrians are permitted only in the Peoria Wildlife Management Area, Chaparral Basin, French Flat and Bear Creek areas. Equestrian use is not permitted in the developed recreation areas.

17.2 Overnight use of the Peoria Wildlife Management Area equestrian staging area is allowed by permit only.

Section 18. RV Dump Stations

18.1 Fees are required for the use of any RV Dump Station.

18.2 Users must follow instructions and restrictions posted at the RV Dump Station.

18.3 Black or gray water may not be disposed of except at a designated RV Dump Station.

Section 19. Day Use Areas

19.1 Group picnic sites with posted and/or confirmed reservations may not be occupied except by the reserving party. Users will not exceed occupancy limits of group picnic sites.

19.2 Day use areas are closed at dusk.

Section 20. Smoking

20.1 Smoking or use of tobacco products is not permitted within 25 feet of any playground, amphitheater, restroom, or public building.

20.2 Improper disposal of smoking or tobacco products is prohibited.

Section 21. Fees

21.1 Failure to pay authorized use or permit fees and/or properly display applicable receipt, permit or pass is prohibited.

21.2 Camping fees must be paid within 30 minutes of arrival.

21.3 RV Dump Station use fees must be paid prior to using an RV dump station.

21.4 Boat launch fees must be paid upon arrival into a fee area.

21.5 Daily amenity fees must be paid upon arrival into a fee area.

21.6 All other standard or expanded amenity fees must be paid upon arrival into a fee area.

Central California Area Office
Special Event Classification and Fees

Schedule of Fees for Special Events Conducted on Reclamation Lands and Waters Managed by the Central California Area Office.

PURPOSE

To provide standard criteria for the Special Event permitting process at Lake Berryessa and New Melones Lake. In addition, these guidelines will establish fair and equitable guidelines for rate setting. This document will serve as guidance as a supplement to 43 CFR Part 429.

PROCEDURE

Individuals or groups requesting use of Reclamation lands, waters and/or facilities at Lake Berryessa and New Melones Lake, for short-term special events or activities, usually associated with recreation, as described below and that are not inherently commercial activities, must submit the stated fee at the time of application. The use fees and administrative costs specified for events/activities defined below include expenses incurred for agency administration, processing and monitoring of the event, as well as the fair market value and/or reasonable and customary use fees for like events, activities, or land uses charged by other agencies or entities in the market area. Use fees are per day unless otherwise specified. All revenues received under this fee activity guideline will be credited as incidental revenues.

Use fees do not include provision of any extra facilities, services or costs borne by Reclamation as a result of the event/activity. Use fees do not include costs for environmental compliance such as environmental review or permits. Such administrative costs must be paid by the permittee directly. Special events or activities which do not fit within the criteria described below are required to comply with all requirements in 43 CFR Part 429. A special event permit will not be issued until all appropriate fees and administrative costs have been paid.

Events that are within the normally occurring/approved range of activities authorized by concession contracts may not require a permit. Reclamation will evaluate the concession sponsored event/activity and determine the need for permits.

Application Materials should be received a minimum of 45 days in advance for a reservation to be considered. Exceptions may apply at Reclamation's discretion.

Special activities or events that are considered commercial must comply with the Right of Use permit process and are not eligible for the special event classification fee schedule.

The special event fees described below do <u>not include</u> any other established fees such as boat launching, overnight camping, sanitary dumping, etc. These other established fees are payable by each participant in the requested special event.

The applicant is responsible for any other permits or licenses needed for the activity as required by law and regulation, e.g., food handling permit, fishing license, etc.

SPECIAL EVENT CLASSIFICATION AND FEE SCHEDULES

<u>Special Event 1</u>. Fee: $75.00
<u>Involves up to 50 people. including the audience</u>, and meets all of the following criteria:
(Examples include- birthday parties, and group day use etc.)

- Is free and open to the public (excluding private family picnics/gatherings).
- Does not alter public access.
- Involves no equipment, signage, decorations or furnishings.

- Is not an athletic event/competitive event.
- Does not require a parking plan.
- Does not require event management by park staff.
- Does not involve overnight use.
- Involves the use of 25 boats or less during event.

Special Event 2, Fee: $75.00 (this category may be in addition to # 1 and/or #3)
Involves a Short-Term Activity associated with Recreation, such as a temporary use (1 -3 days) of Reclamation property for necessary activities:

- Houseboat Launching, Retrieving or Transporting on Reclamation Roadways.
- Parking or staging of large equipment or vehicles.
- Temporary parking for off-project events such as school events, etc.

Special Event 3. Fee: $ 100.00
Involves fewer than 100 people, including the audience, and meets one or more of the following criteria: (Examples include- weddings, and athletic events etc.)

- Requires a simple parking plan.
- Involves short-term alteration of public access to areas such as parking lots, roadways, picnic sites, campsites or trails.
- Requires special access by the permittee, such as setup after normal operating hours.
- Is an Athletic or Competitive event with start and/or finish celebration on Reclamation property.
- Involves catering.
- Involves 26-49 boats during the event.
- Requires equipment, decorations or furnishings, for example, up to 5 tents no larger than 20' x 20' with a small P.A. or finish line banner, up to 10 tables, and up to 100 chairs etc.
- Involves short-term overnight use.

Special Event 4. Fee: Waived.
Fees may be waived at Reclamation's discretion if the event meets the criteria for a Special Event 1 or 2 and is a short-term use by a public agency or nonprofit group for the purposes of one or more of the following: (Examples include- Government agency event, or non-profit event etc.)

- Training. Examples include Search and Rescue training, fire training, law enforcement team building event, etc.
- Education. Examples include college class field coursework or excursions, water safety demonstrations, vessel safety checks, etc.
- Interpretation of natural or cultural resources which complements Reclamation's mission. Examples include guided walks or hikes facilitated or led by Audubon Society, Native Plant Society, etc.
- Volunteer workday or event which complements Reclamation's mission. Examples include trail maintenance workdays, youth group service projects, community service group projects, etc.
- Certain fund-raisers for Non-Profit organizations, with prior park staff approval.

If the event does not fall in any of the above categories the following steps are required to obtain a Special Event Permit:

1. Complete a Right of Use Application (7-2540)
2. Pay a $200.00 initial deposit for administrative costs in accordance with 43 CFR 429 (Procedure to Process and Recover the Value of Rights-Of-Use and Administrative Costs Incurred in Permitting Such Use).

Additional information on this process may be obtained by contacting the local Reclamation office or going on-line to: http://www.usbr.gov/pmts/lands/.

United States Department of the Interior

BUREAU of RECLAMATION
New Melones Lake
6850 Studhorse Flat Road
Sonora, Ca. 95370

IN REPLY
REFER TO:

APR 11 2006

CC-460
LND-8.00

MEMORANDUM FOR RECORD

From: Peggi Brooks, Resource Manager, New Melones Lake

Date: April 11, 2006

Subject: Current Closures

The following areas within the New Melones Lake Project have been, and will continue to remain in a closed status until further notice. Note that the type of closure varies by location.

a. New Melones Powerplant and Vicinity: including outlet works and river downstream to buoy line, and Visitor overlook, and area leased to and occupied by California Division of Forestry, Baseline Conservation Camp. Closed to public vehicles, hunting and fishing

b. New Melones Dam and Spillway. Closed to all public access.

c. Old Parrotts Ferry Road. Closed to public vehicles.

d. Peoria Wildlife Management Area. Closed to public vehicles.

e. Melones Recreation Area. Closed to public vehicles.

f. French Flat Recreation Area. Closed to public vehicles.

g. Bear Creek Recreation Area. Closed to public vehicles.

Classification LND 8.00

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APPENDIX F
CAVE CHARACTERISTICS

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Table F-1: Summary of Characteristics of Caves Identified within the Management Area

Cave Identification Number	Elevation	Description	Safety Issues/Existing Damage
Stanislaus River Canyon Study Area			
Cave 001	338 ± 2 m (1,110 ± 6 ft)	Round 50-cm-diameter entrance on a cliff face. The cave is a solution tube, 4m long.	None
Cave 003	236m (970 ft)	Entrance (2.5m X 4m), entrance room(2m x 2m), small crawlway at back of room (2m).	None
Cave 005	280 ± 6m (920 ± 20 ft)*	Consists of four prominent entrances at the base of a cliff. All lead 2m to 5m into the cliff face to a series of narrow passageways too small for human access.	No hazards. Graffiti is present at one location, broken formations in restricted passageway from attempted human penetration.
Cave 007	365 ± 10m (1,200 ± 30 ft)	The 3m high and 8m wide entrance extends into the cave for 3m.	Stalactites have been broken and "FI" has been scratched into the wall.
Cave 008	549m (1,800 ft)	A large crack emitting a large volume of air, a restriction 5 ft below the entrance make s access impossible.	Many formations in the entrance room are broken.
Cave 012	1,080 ft*	Entrance is 1m in height and 50cm in length. This passage widens to a room 4m long and 2m wide.	None
Cave 013	920 ft*	Entrance 1m in height and 2m in width and leads down a 30º slope for 3m to a room 5m long, 1.5m wide, and 2m high.	Trash has been dumped into the cave through restricted fissures.
Cave 014	951 ± 10 ft*	Entrance is 1.5m in height and 15 m in width extend 2m into a cliff face. Two small passages continue for 2m but are too small for human access.	None
Cave 019	910 ft*	The caves are a series of large fissures that have been exposed to mining.	None
Cave 020	955 ± 20 ft*	A 1m by 0.3m entrance leads 3m to a horizontal fissure that is 4m long.	None
Cave 021	1,400 ± 10 ft	Located high above the Stanislaus river in the cliff face. The impressive entrance is 14m high, 4m width, and 3m deep.	None
Cave 024	920 ± 9 ft*	A 5m high and 6m long entrance lead into two small rooms.	None

Table F-1: Summary of Characteristics of Caves Identified within the Management Area *(continued)*

Cave Identification Number	Elevation	Description	Safety Issues/Existing Damage
Cave 025	1,005 ± 5 ft*	A 2m x 2 m entrance leads to an entrance chamber with breakdown blocks and a massive flowstone slope leading to a 5m long chamber.	Graffiti is present at several places and about half of the stalactites have been broken.
Cave 031	1,450 ± 10 ft	A 1m wide and 1.5m tall entrance at the base of a steep cliff leads up into a tight chimney for 7m and pinches out.	None
Cave 032	905 ± 6 ft*	The 1.5m by 1m entrance is followed by a 6m cave which slopes back up to a second smaller entrance at ground level.	Graffiti and trash are present.
Cave 033	906 ± 5 ft*	The pit has a 2m by 3m entrance and is 4m deep. It appears to be a mined fissure.	None
Cave 036	1,180 ± 60 ft	The cave is located at the top of a talus cone, a room 1m high and 3m into the side of the gulch was found.	None
Cave 038	1,040 ± 30 ft*	The entrance is located in breakdown at the base of a cliff. A room 10m long and 5m wide extends into the mountainside. Maximum height is 1m.	None
Cave 039	955 ft*	Described by Squire (1975) as “a classic cave entrance 1½ ft by 2 ft leading downward on a slope for about 3 ft to a solution cavity filled with water”.	None
Cave 044	910 ± 6ft*	An “L” shaped passage way close to the waters edge. Total passage length about 4.5m.	None
Cave 046	968 ± 10 ft*	The entrance is 3m wide and 1m wide and ends with a flowstone plug.	None
Cave 047	1,000 ± 10 ft*	The cave is reached by a well developed trail and is a classic solution passage with flat ceiling and rounded sides. The passage is a “V” shape and has two entrances.	None
Cave 048	1,049 ft*	A small single room cave with a 4m by 4m entrance.	Many names have been carved into the wall, the earliest being from 1912.
Cave 054	1,008 ± 5 ft*	Two small, gated, entrances lead to a chamber 15m long and 6m wide. A short passage at the end of the	Moving from one level of the cave to another involves climbing over

Table F-1: Summary of Characteristics of Caves Identified within the Management Area *(continued)*

Cave Identification Number	Elevation	Description	Safety Issues/Existing Damage
		first chamber leads to another chamber 25m long and 4m wide. Each of the primary chambers has side passages leading to smaller rooms on either side.	dangerously exposed routes. Large loose rocks pose a threat. Becoming lost. Throughout the cave there are broken formations, litter, and inscriptions on the walls.
Cave 055	1,085 ± 40 ft*	A narrow entrance leads to a room 1m wide and 2m long.	None
Cave 056	943 ± 10 ft*	An entrance with a low ceiling in the side of the cliff leads to an 8m passage that terminates at the back of the cliff.	None
Cave 059	930 ± 3 ft*	Entrance is 1m high by 2m wide in the side of a small cliff. The passage continues for 6m where hole in the ceiling leads up another 4m.	Broken formations.
Cave 061	940 ft*	A small 1m by 0.5m entrance at the base of a cliff leads down a 4m passage to a small room.	None
Cave 063	1,200 ± 80 ft	The entrance is on a steep hillside overlooking the river and is 1.5m wide and 3m high. The entrance leads to a 4m x 4m x4m room.	None
Cave 067	978 ± 15 ft*	The entrance is 1.5m by 2m wide and is located at above a talus field at the base of a cliff. The cave is 7m long with a 15cm calcite band running the length of the cave.	None
Cave 068	980 ± 10 ft*	A narrow entrance leads to a 5m by 6m room. A tight squeeze leads to another room that is 8m by 12 m.	None
Cave 069	955 ± 10 ft*	A narrow entrance near the base of a cliff leads down a small passage for 11m to its end.	A 1946 signature is written on the wall.
Cave 070	980 ft*	Has three small entrances at the base of a cliff that lead to a small room.	None
Cave 071	1,015 ± 10 ft*	The 1m high and 3m wide entrance. A small crawlway leads 8m before coming to an end.	Broken formations.
Cave 074	920 ± 10 ft*	Located on shear cliff face. Entrance 1.5m by 4m wide leading to a solution pocket.	None
Cave 076	1,110 ± 20	A huge slab of limestone slid down	None

Table F-1: Summary of Characteristics of Caves Identified within the Management Area *(continued)*

Cave Identification Number	Elevation	Description	Safety Issues/Existing Damage
	ft	from the bedrock forming a cavity that was enlarged by solution.	
Cave 077	1,150 ± 40 ft	A small entrance leads to a small room 1.5m by 1m which joins a sloping 5m pit leading to a 5m by 5m room. A small passage from here connects with another small room.	The cave is very evident and the 5m pit might pose danger to visitors.
Cave 078	1,480 ft	Squire (1972) describes the cave as "an opening leading to a room 20 ft x 20 ft having a passage leading to an unexplored area".	None
Cave 080	1,550 ± 3 ft	A 2m x 2m entrance leads down a 2m crawlway leading to a small room.	
Cave 082	1,020 ± 20 ft*	Entrance 1.5m by 1.5m. Above a steeply sloping bedding plane. A small shelter.	None
Cave 083	906 ft*	Entrance is 3m by 1.5 m and leads to a triangular shaped passage for 5.5m. A side passage measures 4.5m.	None
Cave 084	1,000 ft*	Described by Squire (1975) as "a small drainage cavity about 10 ft in length with a 1 ft by 2 ft entrance".	None
Cave 086	1,000 ± 3 ft*	The cave is formed from large boulders in the bed of an intermittent stream.	None
Cave 087	1,090 ± 20 ft	A large 3m by 3m entrance leads to a small fissure 1m in width, 1.5 meters in height and 3m in length.	None
Coyote Creek Study Area			
Cave 010	1,520 ± ft	Entrance (1m wide by 1.5m long) slopes downward for 12m to a 5.5m pit. A passage leads from the pit to another 10m pit and ends a lower cave. The lower cave is a maze of steep fissures reaching a depth of 34 m.	The vertical nature and loose rock make this cave dangerous even for experienced cavers. Evidence of excavation or looting is present in the lower cave.
Cave 015	1,560 ± 40 ft	Small 0.4m by 0.8m entrance leads to a drop of 4m turning into a room 3.5m long and 2m wide.	None

Table F-1: Summary of Characteristics of Caves Identified within the Management Area *(continued)*

Cave Identification Number	Elevation	Description	Safety Issues/Existing Damage
Cave 016	1,560 ± 20 ft	The entrance is 1.75 m by .75m on the edge of a large karst outcrop. It begins with a corkscrew drop of 14m, then straight drop of 20m to the floor where a 5.5m by 2m room is found.	Cave drops vertically 34m from entrance. Litter near the entrance, names scratched on walls.
Cave 017	1,560 ± 40 ft	A 0.4m diameter solution tube leads downward to an enlarged joint system. A 1m by 2m room is 5m below the entrance.	None
Cave 026	1,500 ft	Not found, though Squire (1972) described a small cave on the Mitchell property.	None
Cave 029	1,560 ± 40 ft	The 0.5 m entrance leads to a narrow fissure with a dirt floor.	None
Cave 030	1,980 ± 20 ft	A small fissure leads into a slanting drop for 10m. A room 3m long continues into a small passage and terminates.	None
Cave 042	1,500 ft	The cave is described by Squire (1972) as a small cave located near the “rock pile”.	None
Cave 049	1,500 ft	The cave has been described by Squire (1972) as “a small cave within the rock pile”.	None
Cave 050	1,560 ± 20 ft	A long narrow fissure measuring 7m in length leads from the entrance into a 3m wide and 7m long room. Another restricted passage leads another 7m down where the cave dead ends.	Very narrow entrance in which a person could get stuck.
Cave 051	1,390 ± 20 ft	A horizontal entrance sloping down 8m to a 9m drop through a fissure. The fissure opens into an 8m by 4m chamber.	The vertical fissure leading into the cave poses a definite danger for inexperienced or under equipped persons. This cave is highly visited and many formations have been chipped and broken to allow for easier entrance.
Cave 052	1,100 ± 10 ft	This cave is a 60m stream passage that Coyote Creek flows through. This underground passage averages 10m wide and 3m in height.	Inscriptions on walls and formations. Most delicate formations have been broken.
Cave 053	1,200 ± 20	A sloping fissure 10m long, 8m tall	None

Table F-1: Summary of Characteristics of Caves Identified within the Management Area *(continued)*

Cave Identification Number	Elevation	Description	Safety Issues/Existing Damage
	ft	and 1m wide.	
Cave 057	1,500 ft	It was described by Squire (1972) as a small cave near the "rock pile".	None
Cave 058	1,560 ± 20 ft	A 1m wide 4m long fissure entrance leads down 15m to a room 5m long and 3m wide. Two long passage ways extend form the room for 22m and 12m. A short crawlway connects to another room 3m by 3m with a long "L" shaped passage 19m long.	Dangerous vertical fissure entrance. Recent inscriptions are written over historic signatures dating to 1851.
Cave 062	1,560 ± 40 ft	The 0.3m by 1m entrance leads into a fissure filled with soil.	None
Cave 072	1,420 ± 20 ft	A small entrance leads down a sloping passage 7m to a room 5m high. A tight passage leads to another small room.	
Cave 073	1,560 ± 10 ft	The 1m entrance slopes downward for 4m where three 12m drops are encountered and a final 13m drop.	The cave is vertical and very steep.
Cave 079	1,560 ± 40 ft	A 1.3m by 0.7m entrance lead down a tube for 2m to a dirt filled fissure 6m long, 7m wide, and 2m high.	None
Cave 085	1,060 ± 10 ft*	Coyote Creek flows through a bridge, the entrances are 8m by 7m and 8m by 3m. The passage is 70m in length.	Coyote Creek is deep and it is necessary to swim to enter this cave. The effects of visitation are present, Garbage, worn paths, and broken formations.
Skunk Gulch Study Area			
Cave 002	524 ± 1m (1,720 ± 2ft)	Tight entrance (50cm x 75cm), L shaped room (4m x 1.5m).	Cave 002 has a 16m drop requiring technical assistance.
Cave 004	479 ± 6m (1570 ± 20ft)	11.8m x 0.8m entrance drops to two separate passageways; lower passage is narrow 7m drop. Upper passage is narrow 20m drop.	Bad air was encountered 20m below the entrance.
Cave 006	473 ± 3m (1,560 ± 10ft)	Entrance (0.8m x 1.7m) leads to a tight squeeze followed by vertical 10m tube passage leads to a 1m wide 12m long fissure.	The entrance is a vertical passage 10m in depth.
Cave 011	1,570 ± 20 ft	Entrance 2m by 1m drops vertically to a ledge at the top of a dirt slope. A passage along the dirt slope is 3m to 5m in diameter and continues for 4m before pinching out.	None

Table F-1: Summary of Characteristics of Caves Identified within the Management Area *(continued)*

Cave Identification Number	Elevation	Description	Safety Issues/Existing Damage
Cave 018	1,640 ± 40 ft	Entered through a vertical fissure 1.5m wide and 2m long and drops 9m to the top of a talus cone where a large room is encountered.	The 9m drop from the entrance could be dangerous for casual unequipped visitors.
Cave 023	1,700 ± 25 ft	The 0.7m by0.5m entrance opens into a 7m drop. The drop leads to a room 5m long and 7m wide.	Names and dates have been inscribed in the wall ranging from 1902-1970.
Cave 027	1,800 ± 10 ft	The entrance is 1m high and .45m wide and leads to two short drops (6m deep) which connect to two small rooms. A series of 10m long drops lead to a large room at the bottom of the cave.	Dangerous for inexperienced climbers. A few broken stalactites and inscription on walls.
Cave 034	1,690 ± 25ft	The 0.8m by 0.3m entrance leads down a small vertical fissure for 7m to a room 3m long and 2.5m wide.	None
Cave 035	1,700 ± 10 ft	The small entrance drops vertically for 4m into a small room 2m wide and 4m long.	None
Cave 037	1,680 ± 10 ft	The 1m by 2m entrance drops 7m to a dirt slope. A room is located at the bottom of the slope.	The cave has a vertical drop of 7m.
Cave 041	1,740 ± 20 ft	The cave is series of vertically orientated fissures located in a 2m by 3m depression ion a hillside. About 30m below the entrance the cave terminates in a 4m by 1.5m room.	None
Cave 045	1,700 ± 25 ft	The 1.5m by .5 m entrance leads down a 10m passage down to a crack jammed with rubble. The rubble was removed to gain access and a passage 35m lead down to a 1m floor.	None
Cave 064	1,760 ± 10 ft	A large entrance pit 3m long, 2m wide, and 7.5m deep leads to a large room 9m in height and 6m wide.	Thee cave entrance has a 7.5 m drop. 35% of the stalactites have been broken off.
Cave 081	1,525 ± 3	A 2m wide entrance and 0.5 m high leading to a small crack that is too small for human access.	None
Grapevine Gulch Study Area			
Cave 009	1,980 ± 20 ft	The entrance is a sinkhole 3m by 3m, which leads through a crawlway to a large room, another passage leads into a low room 3m by 10 m.	Many formations in the entrance room are broken.

Table F-1: Summary of Characteristics of Caves Identified within the Management Area *(continued)*

Cave Identification Number	Elevation	Description	Safety Issues/Existing Damage
Cave 022	1,960 ± 20 ft	This cave is series of short drops entered though a 0.9m by 0.3m fissure and ending in a small room 20m below ground surface in a small room.	Hazards are vertical drops and rock fall.
Cave 028	1,875 ± 20 ft	The entrance is located at the bottom of a large sinkhole and is 4m wide and leads to a chamber 20m long. Two crawlways from this room each terminate.	None
Cave 040	1,910 ± 30 ft	The cave is a series of vertically orientated fissures dropping 3m to rubble and earth floor.	None
Cave 043	1,920 ± 10 ft	This cave is entered through a large dioline made of breakdown blocks. This entrance leads to a breakdown room with two passages. The passage straight from the entrance is 12m in length and ends in three small rooms. From the right in the breakdown room a passage leads 5m long leads to a large room 30m x 20m x 5m.	Many of the formations have been broken including stalactites and columns.
Cave 060	1,200 ± 6 ft	The 3 by 1m entrance leads to a single passage 4 m long.	None
Cave 065	1,790 ± 40 ft	The cave has an entrance at either end. The north entrance leads to a room with a sloping dirt floor which connects with another room7m long, then narrows. A small crawlway leads to another room leading to the south entrance.	Broken formations.
Cave 066	1,930 ± 15 ft	A 1m entrance leads to an 8m drop leading to a chamber 7m wide and 5m long.	Small entrance leads to an opening and 8m drop needing technical assistance.

* indicates caves that would be inundated at 1088 ft msl

Source: BLM 1978

APPENDIX G
HAZARD MARKING PROGRAM

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Note to reader:

Please be advised that the following documents are examples of policies, which are representative of the type of management that Reclamation would implement under this RMP/EIS. These policies are subject to modification, due to changing conditions, regulations, and direction from Reclamation.

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CC-160 CCAO Safety Letter No. 03-12
SAF-1.00 Expiration Date: 01-13-05

MEMORANDUM

To: Resource Managers

From: Thomas J. Aiken
Area Manager

Subject: Waterway Marking Plans

Purpose: To establish a policy for marking waterway hazards at Lake Berryessa and New Melones Lake.

Effective Date: June 1, 2003

Policy: Waterway markers as described in Title 14 of the California Code of Regulations, Section 7002(b) shall be used on Lake Berryessa and New Melones Lake. This uniform system employs regulatory markers (buoys and signs) with distinctive standard shapes to convey an official message to a boat operator.

A. A diamond shape of international orange with white center indicates danger. The nature of the danger may be indicated by words or well-known abbreviations in black letters inside the diamond shape, or above and/or below it on white background.

B. A diamond shape of international orange with a cross of the same color within it against a white center without qualifying explanation indicates a zone from which all vessels are excluded.

C. A circle of international orange with a white center will indicate a control or restriction. The nature of the control or restriction shall be indicated by words, numerals, and/or well-known abbreviations in black letters inside the circle. Additional explanation may be given above and/or below it in black letters on white background.

D. A rectangular shape of international orange with white center will indicate information, other than a danger, control or restriction, which may contribute to

health, safety, or well being. The message will be presented within the rectangle in black letters.

The uniform waterway markers are illustrated in the attached depiction published by the State of California, Department of Boating and Waterways.

Waterway Marking Plan: A written waterway-marking plan will be developed for Lake Berryessa and New Melones Lake. The plan will identify restriction zones, danger areas and, identify the types and locations of markers. The location of markers will be expressed in latitude and longitude, or in distance and direction from objects of known location.

The Resource Manager at each reservoir will ensure the plans are developed and updated as necessary.

Annual Survey of Hazards: Resource Managers will ensure an annual survey is performed to determine potential waterway hazards that need to be included in the plan. The survey will identify hazards that appear as lake water levels fall and rise. The survey should be accomplished and hazardous locations recorded utilizing the Geographic Information System and Global Positioning System.

All locations that meet the conditions described in item D below will be recorded.

Waterway Marker Placement: When markers are placed, they should be consistent with the written plan and identify the following areas.

A. Established No Wake Zones

B. Established No Boat Zones/No Motorized Boat Zones

C. Established Speed Zones

D. Established Danger Areas – Danger Areas may be established and marked if one or more of the following conditions exist:

(1) The waterway obstruction is located in the main body of the lake where boaters typically travel at cruising speed.

(2) The waterway obstacle is greater than 200’ from the shoreline.

(3) The waterway obstacle is a sub-surface landmass that is expected to be within 5’ of the surface during the recreation season.

(4) There is a history of boats striking the obstacle.

Maintenance of Waterway Markers: Waterway markers placed in accordance with written plans will be maintained in proper condition. If a marker is damaged or becomes ineffective, the

marker will be removed. The marker will be replaced provided funding and human resources are available to replace the marker.

If a marker cannot be replaced, documentation must be filed (with the plan) describing the reason(s) for the change. In addition, the plan will be updated.

Concession-Managed Areas: Concessionaires will be bound to identify hazards per concession agreements. Additional hazards that remain will be marked as above by Reclamation.

Department of Boating and Waterways Review: The waterway-marking plan will be sent to the Department for review and comment.

Local Law Enforcement: Written waterway marking plans will be shared with local law enforcement agencies that patrol Lake Berryessa or New Melones Lake.

Notification of Hazards: Established boat launching ramps will be signed to inform the visiting public of the potential hazards of fluctuating water levels and illustrate the types of waterway markers used on the lake.

Questions or comments on this policy should be directed to David Bishop at 916-989-7261.

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APPENDIX H
PHOTOGRAPHIC LOG

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Photograph 1. Oak woodland within the Texas Charlie Planning Area and Bear Mountain in the background.

Photograph 2. Steep slopes along the North Fork of the Stanislaus River near Rose Creek.

Photograph 3. Limestone formation in the North Fork of the Stanislaus River (primary location of caves).

Photograph 4. View of Table Mountain from the lake.

Photograph 5. Annual grassland and oak woodland in the Peoria Wildlife Management Area.

Photograph 6. Oak woodland and chaparral.

Photograph 7. Southeast slope of Table Mountain.

Photograph 8. View to the southeast on top of Table Mountain.

Photograph 9. View from Highway 49 Vista Point of the Highway 49 bridge and New Melones Lake.

Photograph 10. Upper Stanislaus River and riparian vegetation-Clark Flat Planning Area.

Photograph 11. Northwest view of Glory Hole Marina from the lake.

Photograph 12. View of New Melones Lake and powerline right-of-way from Table Mountain.

Photograph 13. View of the New Melones Dam.

Photograph 14. View of Carson Hill Mine from the New Melones Visitor Center.

Photograph 15.View of the western side of Table Mountain.

Photograph 16. Day Use Area.

Photograph 17. Water scars along shoreline of New Melones Lake.

Photograph 18. Glory Hole Marina.

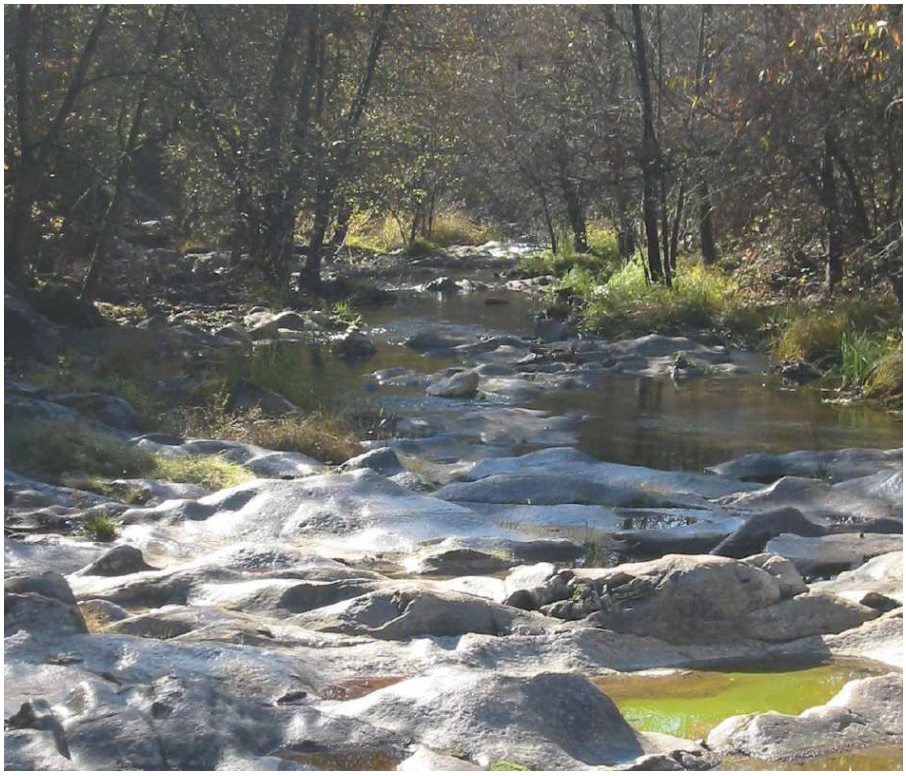
Photograph 19. New Melones Dam Spillway.

Photograph 20. Mined hillsides along the North Fork of the Stanislaus River.

Photograph 21. Bass Fishermen

Photograph 22. Tent Camping

Photograph 23. Crowded conditions at Natural Bridges.



Photograph 24. Limestone outcrop at Coyote Creek.

Photograph 25. Evidence of trespassing and vandalism damage at Shell Road.

Photograph 26. Illegal dumping.

Photograph 27. Annual Grasslands and Oak Woodland, Bowie Flat.

APPENDIX I
RECREATION FACILITIES 2007

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Note to reader:

Please be advised that the following document contains information about New Melones Lake Area recreation facilities as of 2007. Since that time, conditions have changed, such as Reclamation's addition of facilities that comply with the Americans with Disabilities Act. Although not up-to-date, this appendix provides a general idea of recreation facilities available in the New Melones Lake Area.

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Table I-1: New Melones Lake Area Recreation Facilities 2007

	Glory Hole Recreation Area												Tuttletown Recreation Area									HQ	Undeveloped Areas								
Facilities:	*New Melones Marina*	*Iron Horse Campground*	*Big Oak Campground*	*Tower Climb Trail*	*Carson Creek Trail*	*Buck Brush Day Use*	*Black Bart Day Use*	*Osprey Point Day Use*	*Angels Creek Swim Area*	*Angels Creek Boat Ramp*	*Angels Fish Cleaning Station*	*Glory Hole Point Boat Ramp*	*Acorn Campground*	*Manzanita Campground*	*Chamise Campground*	*Fiddleneck group camp*	*Oak Knoll group camp*	*Lupine Day Use Area*	*Heron Point Day Use*	*Eagle Point Group Picnic Area*	*Tuttletown Boat Ramp*	*New Melones Administration*	*Mark Twain*	*Old Town of Melones*	*Chaparral Basin*	*Peoria*	*Bear Creek*	*French Flat*	*Natural Bridges*	*Parrotts Ferry*	*Camp Nine*
Access and Parking																															
Paved Parking Spots (#)	97	10	24	0	0	20	44	39	0	196	118	126	12	2	6	0	10	44	40	96	141	31	0	10	0	0	0	0	30	0	0
Unpaved Parking Spots (#)	20	0	0	13	14	0	0	0	48	0	0	460 *	0	4	0	12	0	0	0	0	350 *	0	60 *	8	10	36	4	0	0	20	90
Access Roads Paved (P), Unpaved (U)	P/U	P	P	U	U	P	P	P	U	P	P	P	P	P/U	P/U	P	P	P	P	P	P	P	P	P/U	U	P/U	U	U	P	P/U	P
Launch ramp boat lanes (#)	0	0	0	0	0	0	0	0	0	6	0	7	0	0	0	0	0	0	0	0	7	0	2	2	0	0	0	0	0	2	0
Courtesy Docks (#)	0	0	0	0	0	0	0	0	0	2	0	3	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0
Day Use Facilities																															
Picnic sites with grills (#)	0	0	0	0	0	0	19	20	9	11	0	0	0	0	0	6	0	14	18	10	0	1	0	0	0	0	0	0	0	0	0
Picnic sites without grills (#)	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	2	0	0	0	0	0	0	4	0	0
ADA Picnic Area (Yes or No)	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Over Night Facilities																															
Standard Sites (#)	0	67	55	0	0	0	0	0	0	0	0	0	68	42	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk-in Sites (#)	0	20	0	0	0	0	0	0	0	0	0	0	0	12	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Group Sites (#)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	10	0	0	0	0	0	0	0	0	32	0	0	0	0	0
ADA Campsites (#)	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Camp Host Sites (#)	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Support Facilities																															
Restrooms with flush toilets (#)	1	4	3	0	0	1	1	1	0	nearby	1	0	1	2	2	nearby	0	1	1	nearby	1	1	0	0	0	0	0	0	0	0	0
Restrooms with showers (#)	0	3	2	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Portable Toilets (#)	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0
CXT Vault Restrooms (#)	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	1
Potable Water (Yes or No)	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	nearby	Yes	Yes	No	No	No	No	No	No	No	No	No
Dump Station (Yes or No)	No	No	No	nearby	No	No	No	No	No	No	No	No	No	No	No	nearby	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Fish Cleaning Station (Yes or No)	No	No	No	No	No	No	No	No	No	Yes	Yes	No	No	No	No	nearby	No	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No
Pay Phone (Yes or No)	Yes	No	No	No	Yes	No	No	No	No	No	No	No	No	No	No	nearby	No	Yes	No	No	No	Yes	No	No	No	No	No	No	No	No	No
Floating Lake Restrooms (#)	4 floating restrooms on the lake																														
Miscellaneous																															
Play Ground (Yes or No)	No	Yes	No	No	No	No	No	No	No	No	No	No	No	nearby	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Boat Rentals (Yes or No)	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Boat Mooring Facilities (Yes or No)	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Store (Yes or No)	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Amphitheater (Yes or No)	No	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Equestrian Staging area (Yes or No)	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No	No	No	No

* Indicates that these parking spaces are only used during lower lake levels

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APPENDIX J
COMMENTS RECEIVED ON NEW MELONES LAKE AREA DRAFT RMP/EIS

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J.1 Public Input on the Draft RMP/EIS

The Draft New Melones Lake Area RMP/EIS was released on October 30, 2009, and was made available for public review and comment until January 4, 2010. On December 2, 2009, Reclamation held two open houses to obtain public feedback on the alternatives and on the potential impacts that the alternatives would have on New Melones Lake area resources. In addition, individuals and representatives of organizations and agencies were invited to submit written comments. All comments, as well as Reclamation's responses, are included in this appendix.

By the end of the review period, 202 comments had been submitted, and 17 additional comments were received after the January 4, 2010 deadline. All 219 comments received have been incorporated into this comment appendix.

Changes to the text of the Draft RMP/EIS were made, where applicable, in response to comments received. An overview of revisions to the Draft RMP/EIS is included in Section J.2.

In compliance with NEPA regulations, this appendix also includes a list of agencies, organizations, and individuals that commented on the Draft RMP/EIS, copies of their comments, and the responses to these comments. Verbal comments received during the open houses are presented in Table J-1, and written comments follow.

Reclamation appreciates the participation of all those who commented, and while not all comments required changes to the Draft RMP/EIS, all comments are included in this document, as part of the public record.

Twenty-six percent of the comments received focused on access, and 25 percent focused on water-based recreation. Eight percent of comments were general, and another eight percent were regarding general recreation and land management. A smaller number of comments related to the following:

- Air quality;
- Biological resources;
- Caves;
- Cultural resources;
- Cumulative effects;
- Facilities;
- Fire management;
- Geologic resources;
- Hydrology/water resources;
- Interpretive services;
- Invasive species;
- Noise;

- Public health and safety;
- Land-based recreation;
- Socioeconomics; and
- Utilities.

Most of these issues were identified during the scoping process for this RMP/EIS. These and other impacts were thoroughly analyzed within the Final RMP/EIS.

J.2 Overview of Revisions to the Draft RMP/EIS

Reclamation revised the Draft RMP/EIS to incorporate responses to public comments. In addition, a number of revisions were incorporated into the Draft RMP/EIS to create a more complete document for the Final RMP/EIS. These revisions are listed and described below. Throughout the document, typographical errors were changed to reflect correct wording and grammar. In addition, several sentences were clarified by adding more descriptive language.

Executive Summary

- **Table ES-1, Access to Westside and Bowie Flat.** Alternative D was revised to include "*Should vehicle access be needed for recreation use or other project purposes, transportation routes may be considered.*"

Chapter 2

- **Figure 2-1.** The colors on this map were revised to reflect the correct WROS designations.

Chapter 3

- **Action C2.** This action was revised to include "*Should funding become available, Reclamation may develop an updated cave management plan by coordinating with other agencies to strengthen and protect cave resources.*"
- **Action WR 19C.** This action was revised to include "*Should funding become available, a composting toilet facility could be installed at Natural Bridges in the Coyote Creek Management Area, to accompany an existing facility.*"
- **Action TA 4A.** This action was revised to state that "the following areas are closed to public vehicles, *unless the current Closure Notice is changed (see page E-9).*"
- **Actions TA 4B and 4D.** These actions were revised to state that "the same areas would be closed to public vehicles as under Alternative A, *unless the current Closure Notice is changed (see page E-9).*"

- **Action TA 14D.** This action was revised to include "*Should vehicle access be needed for recreation use or other project purposes, transportation routes may be considered.*"
- **Topic: Seaplane Operation.** This topic was changed to "*Aircraft Operation.*"
- **Action PHS 15.** The following statement was added "*Encourage CDFG to enforce laws and regulations related to gold dredging*."
- **Figures 3-2, 3-3, 3-4, and 3-5.** These figures were revised to show the correct location of Texas Charlie Gulch.
- **Figures 3-4 and 3-5.** Zoning at Texas Charlie Gulch was revised from a "no motorized boat zone" to a "*no wake zone*."
- **Figure 3-8.** The New Melones boundary was revised to reflect the correct boundary. In addition, text at the bottom of the figure was revised to state "No hunting 150 yds *inside* Reclamation boundary...."

Chapter 4

- **Changes parallel Chapter 3.** Since this chapter reflects the preferred alternatives (Alternative D) in Chapter 3, any changes to Alternative D in Chapter 3 were also made in Chapter 4.

Chapter 5

- **Figure 5-7.** Colors on this map were enhanced for clarity. In addition, all land within the New Melones Lake Area was changed to reflect Reclamation's jurisdiction.
- **Figure 5-13.** The colors on this map were revised to reflect the correct WROS designations.
- **Section 5.2.20.** WROS designations were revised to reflect the correct WROS designations and to match Figure 5-13.

Chapter 6

- **Section 6.18, Cumulative projects.** The description of the West Side Road Project was revised to reflect updated information. Corresponding analysis in Sections 6.18.7 and 6.18.13 was revised.

Appendix C

- **Size limitations.** The following text was added to clarify how moored vessel size limits are determined: "*Size limitations are based on such factors as road and highway permit requirements, access routes, engineering design and construction of marina facilities and visitor use/capacity studies. Stated size limits are subject to revision as studies are updated and/or conditions change.*"

Appendix E

- **Signed memos.** Signed memos were incorporated into this appendix.

J.3 Comments Received

Verbal comments received during the open houses are presented in Table J-1; written comments are presented in the pages that follow.

Table J-1. Verbal comments received during the open houses

Comment	Response
Create more restricted areas (open to fishing on quiet waters) with better public education and "gentle reminders" to respect those areas.	Comment noted.
Expand existing mountain bike trails in Glory Hole to connect with potential trails that might be developed to the New Melones land boundary.	Comment noted. Actions LR 21 and 22 address this issue specifically.
Increase the availability of longer bike trails (20-30 miles ++).	Comment noted. Actions LR 21 and 22 address this issue specifically.
No spawning bed fishing – restrict during seasonal spawning periods.	Comment noted. This is included in Actions FW 22C and 23D.
Create a traffic pattern for boat and trailer parking at fish cleaning station. Need a better lane pattern and improve signage.	Comment noted.
Need better location of floating restrooms and more of them.	Comment noted. There is the potential for this to occur under Action LM 17.
Encourage multi-use trails, not specific activity trails.	It is Reclamation's goal to provide a range of recreation experiences for hikers, mountain bikers, and horseback riders. Action LR 18 addresses this specifically.
Improve boat access to/from ramp to reduce/avoid rock hazards at Tuttletown.	Comment noted. Access improvements are proposed in the RMP/EIS, particularly in Actions TA 1 through TA 11.
Improve the road to the lower boat ramp at Tuttletown.	Comment noted. Access improvements are proposed in the RMP/EIS, particularly in Actions TA 1 through TA 11.

Change houseboat size limitations to at least 16 feet width. Current Draft Moored Vessel Plan limits the size to 15 feet, which is less than the standard size for new houseboats.	The current size limitation of 15 feet by 65 feet is based on many factors, including entrance road size limitations, marina facilities and capacity studies. The 2002 Visitor Use Study established a capacity of 106 houseboats, in part based on current size limits. Increasing the maximum size of houseboats may have an impact on the overall capacity and range of recreation opportunities and visitor experiences on the lake. The preferred alternative seeks to maintain or enhance the existing capacity and range of recreation opportunities provided.
Encourage grazing leases for increasing economic impact and fuel (fire) management.	Comment noted. This is included in Actions LM 9B, C, and D.
Encourage more economic development throughout the project area, especially through the use or recreation-based projects.	Comment noted.
Fulfill the original commitments from the 1976 Master Plan.	Certain facilities planned in the 1976 Master Plan are no longer feasible, as explained in Section 1.9 (pages 1-16 through 1-18) and on page 2-27 of the Draft RMP/EIS.
No more development or access (especially on the Westside).	Comment noted.
Increase access for disabled/handicapped parking along boat ramps.	Reclamation will comply with all ADA requirements, as stated under Actions R 50 through R 53.
Extend current boat ramps rather than building new ones.	Comment noted.
Keep barriers closer to the water at Mark Twain for easier access to the water.	Comment noted.
Develop a turnkey concession for access to Parrotts Ferry.	Reopening Parrotts Ferry is included in Actions TA 4B and TA 4D.
Make repairs to access Parrotts Ferry.	Repairs for access to Parrotts Ferry are included in Action TA 4.
Create an equestrian center on the Calaveras County side of the lake.	Comment noted. There is the potential for this to occur under Action R 32. The feasibility of this will be assessed in a commercial services plan.
Sell open land in Glory Hole back to the landowners or manage it for invasive plants (yellow star-thistle, especially).	Comment noted.

INDEX OF COMMENTERS

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FEDERAL AGENCY COMMENTS

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Letter F-1 **Comments** **Responses**

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105
OFFICE: (415)947-8704 FAX (415)047-8026

COMMUNITIES AND ECOSYSTEMS DIVISION

FAX TRANSMISSION COVER SHEET

FROM

Number of Pages: 3

NAME: Laura Fujii DATE: January 8, 2010

TELEPHONE NO: 415-972-3852 FAX NO: (415) 947-8026

DEPARTMENT/OFFICER: Environmental Review Office, CED-2

TO

NAME: Ms. Melissa Vignau

TELEPHONE NO: 916-989-7182 FAX NO: 916- 989-7109

SUBJECT: US EPA comments on DEIS New Melones Lake Area RMP.

REMARKS: The signed letter is in the mail to you.

Letter F-1, Continued **Comments** **Responses**

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Melissa Vignau
Natural Resources Specialist
7794 Folsom Dam Road
Folsom, CA. 95630

Subject: Draft Environmental Impact Statement for New Melones Lake Area Resource Management Plan (CEQ# 20090381)

Dear Ms. Vignau:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. Our comments are provided in accordance with our December 17, 2009 agreement that EPA provide our comments no later than January 8, 2010. We appreciate the additional time to conduct our review.

F-1-1 Our review has not identified potential environmental impacts requiring substantive changes to the proposal. We recommend the final EIS (FEIS) include a clear commitment to additional project-level environmental review for new roads, facilities, services, and activities once site-specific project design alternatives are determined. Detailed comments are enclosed requesting additional information which may be of use to decision makers and the public.

In light of the above comments, we have rated the draft EIS (DEIS) as Lack of Objections (LO) (see enclosed "*Summary of Rating Definitions*"). We appreciate the opportunity to review this DEIS. When the FEIS is released for public review, please send one hard copy and one CD ROM to the address above (mail code: CED-2). If you have any questions, please contact me at (415) 972-3521, or contact Laura Fujii, the lead reviewer for this project. Laura can be reached at (415) 972-3852 or fujii.laura@epa.gov.

Sincerely,

Kathleen M. Goforth, Manager
Environmental Review Office
Communities and Ecosystems Division

Enclosure: Summary of Rating Definitions
Detailed Comments

F-1-1: Comment noted. As stated on pages 1-5 and 6-2, subsequent documents tiered to the RMP for activity- and project-level plans would be subject to NEPA analysis and compliance, containing greater detail as necessary.

Letter F-1, Continued **Comments** **Responses**

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

Letter F-1, Continued

Comments

EPA DETAILED DEIS COMMENTS FOR THE NEW MELONES LAKE AREA RESOURCE MANAGEMENT PLAN, CALAVERAS AND TUOLUMNE COUNTIES, CA., JAN 07, 2010

Additional Information Request

In the interest of full disclosure, and to aid the public and decision makers in their evaluation of the proposed resource management plan, we recommend the final EIS (FEIS) include the following information:

F-1-2 | 1. Describe management measures to minimize impervious surfaces and the reduction of water infiltration that may occur with implementation of Action WR 26. This action proposes to harden surfaces prone to erosion and subject to extensive visitor use through use of compacted aggregate, paving with asphalt or concrete, soil cement, or other hardening agent (p. 3-4).

F-1-3 | 2. Provide information on potential particulate matter emissions from the detonation of explosives at the nearby Carson Hill Mine and Blue Mountain Minerals Mine in River Canyon (p. 5-3). Describe whether these emissions adversely affect the New Melones Lake Area, and, if there is an effect, the measures that will be taken to try to reduce this effect.

F-1-4 | 3. Commit to working with Lower Stanislaus River stakeholders to address downstream water quality impairment. The Lower Stanislaus River below New Melones Lake is listed as impaired under the Clean Water Act, Section 303(d), for diazinon, group A pesticides and mercury. It will likely be included in the revised 303(d) list for the above pollutants, plus chlorpyrifos and water temperature. There are no established Total Maximum Daily Load requirements for this watershed (p. 5-20).

F-1-5 | 4. Consider conducting a study to evaluate the risk of mine-based pollution to New Melones Lake. Other reservoirs have reported pollution from historic mining sites. In addition, New Melones Lake is located in the heart of the Mother Lode gold mining region, and is in proximity to active and abandoned mines, increasing the chances that mine-based pollution will find its way into the lake (p. 5-20).

F-1-6 | 5. Identify in Table 3-1: List of Actions by Resource and Alternative, the implementation priority of the listed actions.

F-1-7 | 6. Provide a description of potential funding sources and the efforts to obtain funding, given that a 50% cost-share partner is required for recreational projects (p. 1-7).

Responses

F-1-2: Hardening these surfaces will have the beneficial effect of reducing erosion and sedimentation and thus protecting water quality. Use of compacted aggregate or soil cement are mitigation measures for minimizing impervious surfaces and maintaining water infiltration. Paving with asphalt or concrete would be done only where indicated by best management practices, Reclamation standards, and/or statutory requirements.

F-1-3: Comment noted. Reclamation will coordinate with the Air Quality Control Board to ensure that measures are being taken to prevent a significant adverse effect on air quality within the New Melones Lake Area.

F-1-4: Comment noted. The RMP/EIS is a programmatic document outlining management goals and objectives for Reclamation lands above the Dam and New Melones Reservoir. This is a reactive plan to the "Operations Plan" and will allow for change in guidance based on the decisions made under the "Operations Plan". Any current or future reservoir operational decisions are beyond the scope of the New Melones RMP, which does not propose operational changes or otherwise affect releases from New Melones Reservoir, or flows in the Stanislaus River. The New Melones RMP addresses management of reservoir area resources only, which are reactive to reservoir water elevations as Reclamation makes reservoir water operation decisions through other processes.

The RMP is a planning tool for managing the resources of the New Melones Lake Area. The RMP/EIS is not expected to affect any long-term operations of the Central Valley Project (CVP) as it is considered to be a reactive plan to the operations of the CVP.

F-1-5: Comment noted.

F-1-6: Comment noted.

F-1-7: The RMP outlines additional facilities that could be

Responses
(Continued from Previous Page)

F-1-7: constructed within the New Melones Lake Area. Any proposal for additional facilities would undergo a separate NEPA analysis and Reclamation would look closely at how proposed projects would impact maintenance, budget, and existing users.

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LOCAL AGENCY COMMENTS

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Letter L-1

Comments

Tuolumne County
Administration Center
2 South Green Street
Sonora, California 95370

Phone (209) 533-5521
Fax (209) 533-6549

Alicia L. Jamar
Clerk of the Board of Supervisors

Elizabeth Logan
Assistant Clerk

BOARD OF SUPERVISORS
COUNTY OF TUOLUMNE

December 15, 2009

Melissa Vignau
Natural Resources Specialist
Bureau of Reclamation
7794 Folsom Dam Road
Folsom, CA 95630

Dear Ms. Vignau:

As one of two Counties bordering New Melones Reservoir, Tuolumne County is interested in assuring continued and expanded use of this important resource. For this reason, the County is grateful to participate in this process and wishes to comment on the New Melones Lake Area Draft Resource Management Plan (RMP) and Environmental Impact Statement (EIS).

On February 13, 2007, the Tuolumne County Board of Supervisors adopted a letter which provided scoping comments on the yet to be developed RMP/EIS. The items below evaluate how the RMP/EIS addresses the Board of Supervisors comments.

1. Peoria Wildlife Management Area: This comment reinforced the importance of providing recreational access to this area over existing roads such as Rawhide and Shell Roads. Fire Department access to Peoria Flat was also a concern.

L-1-1

RMP/EIS Response: The plan is silent on re-opening access to Old Peoria Flat/Shell Road which is an historic road declared by the Tuolumne County Board of Supervisors as early as the 1860's. The lack of road maintenance in this area has severely limited access to fisherman, hikers and other groups that historically, have had full access to this area. None of the alternatives proposed in this Environmental Impact Statement acknowledge that the County preserves its rights under R.S. 2477 to the historical Old Peoria Flat/Shell Road. The increased access to the other areas of New Melones would be provided through the existing roads.

Classification

Responses

L-1-1: The preferred alternative adopts the Peoria Wildlife Area Interim Mgt. Plan Environmental Assessment FONSI dated June 2007. The other alternatives contain actions related to alternatives considered in that environmental assessment. Under the preferred alternative, this plan calls for Reclamation's management area to remain closed to public vehicles, but open to nonmotorized public access for dispersed recreation. A utility and emergency access road is to be maintained for vehicles of authorized personnel, where it passes through the Peoria Wildlife Management Area. Reclamation has worked with CAL-FIRE to make significant improvements to the utility road on Reclamation property. Portions of Shell and Old Peoria Flat Road outside of Reclamation's project boundary, which includes the access routes to Table Mountain Trailhead and Peoria Ridge, are on private property and cannot be maintained with federal appropriated funds. Emergency vehicles are authorized to access Reclamation lands and means of access have been provided by Reclamation.

Letter L-1, Continued **Comments** **Responses**

2. Roads: Commenting on overall road changes.

RMP/EIS Response: Alternatives B and D allow for greater road access to New Melones with Alternative B providing the most access. The RMP/EIS does not include a Traffic Study so there is no way to determine the potential traffic impacts of the various alternatives. It is likely that depending on which alternative is chosen, there will be a shift in the way local traffic and visitor traffic will access the lake. This shift in traffic could potentially have both a fiscal impact to Tuolumne County and a potentially significant increase or decrease in traffic on O'Bynres Ferry Road and/or Rawhide Road. Without a traffic study for each alternative it is impossible to determine the magnitude of the potential impacts.

L-1-2

3. Recreational Enhancements: Increase recreational opportunities such as trails, campgrounds, and other enhancements, particularly in Tuolumne County.

RMP/EIS Response: Alternatives B, C and D allow for expanding recreation services. However, Alternative B provides far more future recreational opportunities than any other option with D as the second most. After this RMP/EIS process is complete, a commercial services plan will be written which will determine which recreational services will be feasible and implemented. Tuolumne County formally requests to be integrally involved in development of the commercial services plan.

L-1-3

Tuolumne County would like to see the siting of a marina on its side of the lake as was contained in the 1976 New Melones Master Plan. The current draft RMP/EIS moves the new marina to the west side of the lake in Calaveras County. When New Melones Dam was constructed, the Federal government promised that in exchange for the enormous loss of private land, they committed to a major expansion of recreation opportunities. Much of the recreational promises made in that 1976 plan remain unfulfilled. It is imperative that these improvements be balanced throughout the lake area providing equal access and economic opportunities in both Tuolumne and Calaveras Counties.

L-1-4

4. Fire: Vegetation and fuels management-access for fire fighting.

RMP/EIS Response: Each of the four alternatives address fire prevention and fire fighting, including the use of fire breaks. Alternative D is the only one which speaks to improving Shell Road for fire access. All alternatives should include all reasonable fire prevention methods as well as maximized access for fire fighting equipment and personnel. Consider the use of grazing to effect fuels reduction.

L-1-5

L-1-6

5. Law Enforcement: Funding of one resident sheriff deputy and establishment of a regional sheriff substation which includes boat storage.

RMP/EIS Response: Both alternatives B and D include the same language about law enforcement. Contained in Action PHS 16B on page 3-15 of the RMP/EIS, it reads, "As

L-1-2: The RMP/EIS is intended to provide a programmatic level of analysis. The alternatives in the RMP identify various locations where new routes could be considered. Any new access routes would be subject to further project level NEPA review, including a traffic study if warranted.

L-1-3: Comment noted. Local agencies will be able to participate through the public involvement process for the commercial services plan.

L-1-4: The feasibility of potential future commercial services will be assessed during the commercial services planning process. However, certain facilities planned in the 1976 Master Plan are no longer feasible, as explained in Section 1.9 (page 1-16 through 1-18) and on page 2-27 of the Draft RMP/EIS.

L-1-5: Comment noted. Improving Shell Road through the Peoria Wildlife Management Area as a utility access (not for public vehicles) for fire and emergencies is included in Reclamation's preferred alternative.

L-1-6: Comment noted. This is included in Actions LM 9B, 9C, and 9D.

Letter L-1, Continued **Comments** **Responses**

part of the working relationship with Tuolumne and Calaveras Counties, explore the feasibility of siting a sheriff's substation with lake access to each county, which would decrease the response time for sheriff to respond to disturbances in the New Melones Lake Area." The plan should also address funding for siting and staffing the sheriff substations. The document does not address the need for the purchase of patrol boats and increased staffing.

L-1-7

6. Tuolumne Public Power Agency (TPPA): Take into account Tuolumne County's First Preference Power allocation to ensure there would be no negative impacts on same.

RMP/EIS Response: The plan is silent on this topic. It is imperative that the plan address this specifically and guarantee no negative impacts.

L-1-8

7. Water: Consider existing and future water rights to New Melones.

RMP/EIS Response: The plan is silent on this topic and should not impact the County's existing or future water rights. The plan should specifically state that it is not impacting access to or operation of the existing pumping station owned by the Tuolumne Utilities District.

L-1-9

The County also notes a section discussing aircraft. The alternatives range from monitoring to restricting enforcement of no fly zones. It is important to maintain historic, reasonable access to Columbia Airport. The County recommends you strive for a balance between New Melones visitors, nearby residences, and airport needs. All need to work in harmony for the overall enjoyment, productive use, and economic benefit of the area. Please see the attached memorandum dated November 11, 2009 regarding noise sensitive areas.

L-1-10

Filming is an important industry within Tuolumne County and the RMP/EIS currently does not address it. Consider supporting the film industry in and around the lake with expeditious review and approvals of filming permits.

L-1-11

The plan does not speak to fees to help fund the proposed improvements. To the extent that user fees might be mentioned in the RMP/EIS, the County proposes that they be developed in a manner that is consistent with a prior Tuolumne County Board of Supervisors letter dated May 13, 2008 with ample opportunity for public review and comment.

L-1-12

Based on the initial review of available alternatives and the information contained in the draft RMP/EIS, the Tuolumne County Board of Supervisors recommends adoption of an amended Alternative B which emphasizes active management for access, economic development, and recreation. The expansion of developed and motorized recreational opportunities within Tuolumne County would increase the number of County jobs, allow for improved facilities, and increase the County's tax base.

L-1-13

L-1-7: The RMP is intended to provide a programmatic level of analysis. Issues such as funding and staffing would be addressed during subsequent review by Reclamation prior to implementation of such a facility.

L-1-8: Water and power operations are out of the scope of the RMP/EIS.

L-1-9: Water and power operations are out of the scope of the RMP/EIS.

L-1-10: Through the preferred alternative, Reclamation would strive to balance competing needs and uses of the New Melones Lake Area. Management actions within the RMP must be consistent with Reclamation's goals and objectives, and Reclamation must consider resource use, resource protection, and public safety in managing the New Melones Lake Area.

L-1-11: Comment noted. The RMP is separate from the filming permit process. The specific permitting process is identified under 43 CFR 429.

L-1-12: The RMP does not address fees associated with the recreation fee program. Fees are currently collected under the Federal Lands Recreation Enhancement Act, which includes opportunities for public involvement in the establishment or revision of recreation fees.

L-1-13: Comment noted.

Letter L-1, Continued **Comments** **Responses**

Promises were made as part of the 1976 New Melones Master Plan that have never been fulfilled. This is the opportunity for the Bureau of Reclamation to fulfill those promises made in the past.

The County of Tuolumne requests an additional 60 days to provide comments on the draft RMP/EIS. A number of factors result in this request. In addition to the report being lengthy and complex, the County recently took a week of furloughs and is facing two more weeks during the holidays. Additional time would allow the County to have the plan thoroughly reviewed by the appropriate County agencies.

Tuolumne County looks forward to working with you to see that the recommendations contained in this letter are addressed in the final draft of the RMP/EIS.

Sincerely,

Teri A. Murrison, Chair
Board of Supervisors

Enclosure

Letter L-1, Continued **Comments** **Responses**

County Administrator's Office

Craig L. Pedro
County Administrator

Tuolumne County Administration Center
2 South Green Street
Sonora, CA 95370
Phone (209) 533-5511
Fax (209) 533-5510
www.tuolumnecounty.ca.gov

November 13, 2009

TO: Aircraft Owners, FBO's and PML Airpark Residents

FROM: Craig L. Pedro, County Administrator

SUBJECT: Noise Sensitive Areas

I would like to start by thanking each of you for your contributions to the health, safety and economic vitality of the Columbia and PML Airports. Both airports are important assets to our community and it takes all of us working together to ensure their continuation as the recreational, commercial and public safety hubs they are today.

The purpose of this memorandum is to remind you of the importance of being good neighbors to the communities surrounding the airports. One of the biggest issues that can lead to conflict between airports and the communities that surround them is that of excessive noise caused by aircraft. This issue has proven significant enough throughout the country that the FAA has issued Advisory Circulars on this topic. Please see the most recent of such circulars, AC No. 91-36D and the voluntary flight practices aimed at reducing noise related concerns near airports and other noise sensitive areas. Why should pilots care and follow such practices? I believe the following sentence found in the attached circular sums this up well:

"Adherence to these practices is a practical indication of pilot concern for the environment, which will build support for aviation and alleviate the need for any additional statutory or regulatory actions."

Consistent with this circular, the County of Tuolumne has established noise sensitive areas in the vicinity of both of the Columbia and PML Airports. Please see the attached noise sensitive area maps for both airports. It is the County's request that you familiarize yourself with these noise sensitive areas and attempt to avoid them altogether as well as exercise good noise mitigation flight practices in general.

Thanks again for your contributions to our airports and your cooperation in being good neighbors to the communities surrounding them. By doing so, you will be helping to *build support for aviation* in our County.

Questions and/or clarifications with respect to the County's noise sensitive areas and noise mitigation best practices should be directed to Airport Manager Jim Thomas at 533-5685.

...serving the Board of Supervisors, departments, and the community as good stewards of the County's fiscal and human resources through collaborative, professional and ethical leadership.

Attachment to Letter L-1. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter L-1, Continued **Comments** **Responses**

U.S. Department of Transportation

Federal Aviation Administration

ADVISORY CIRCULAR

Subject: VISUAL FLIGHT RULES (VFR) FLIGHT NEAR NOISE-SENSITIVE AREAS **Date: September 17, 2004** **AC No: 91-36D**

Initiated by: ATO-R

1. PURPOSE. This Advisory Circular (AC) encourages pilots making VFR flights near noise-sensitive areas to fly at altitudes higher than the minimum permitted by regulation and on flight paths that will reduce aircraft noise in such areas.

2. EFFECTIVE DATE. This advisory circular is effective on September 17, 2004.

3. CANCELLATION. Advisory Circular 91-36C, Visual Flight Rules (VFR) Flight Near Noise Sensitive Areas, dated October 19, 1984, is cancelled.

4. AUTHORITY. The FAA has authority to formulate policy regarding use of the navigable airspace (Title 49 United States Code, Section 40103).

5. EXPLANATION OF CHANGES. This AC has been updated to include a definition of "noise-sensitive" area and add references to Public Law 100-91; the FAA Noise Policy for Management of Airspace Over Federally Managed Lands, dated November 1996; and the National Parks Air Tour Management Act of 2000, with other minor wording changes.

6. BACKGROUND.

a. Excessive aircraft noise can result in annoyance, inconvenience, or interference with the uses and enjoyment of property, and can adversely affect wildlife. It is particularly undesirable in areas where it interferes with normal activities associated with the area's use, including residential, educational, health, and religious structures and sites, and parks, recreational areas (including areas with wilderness characteristics), wildlife refuges, and cultural and historical sites where a quiet setting is a generally recognized feature or attribute. Moreover, the FAA recognizes that there are locations in National Parks and other federally managed areas that have unique noise-sensitive values. The Noise Policy for Management of Airspace Over Federally Managed Areas, issued November 8, 1996, states that it is the policy of the FAA in its management of the navigable airspace over these locations to exercise leadership in achieving an appropriate balance between efficiency, technological practicability, and environmental concerns, while maintaining the highest level of safety.

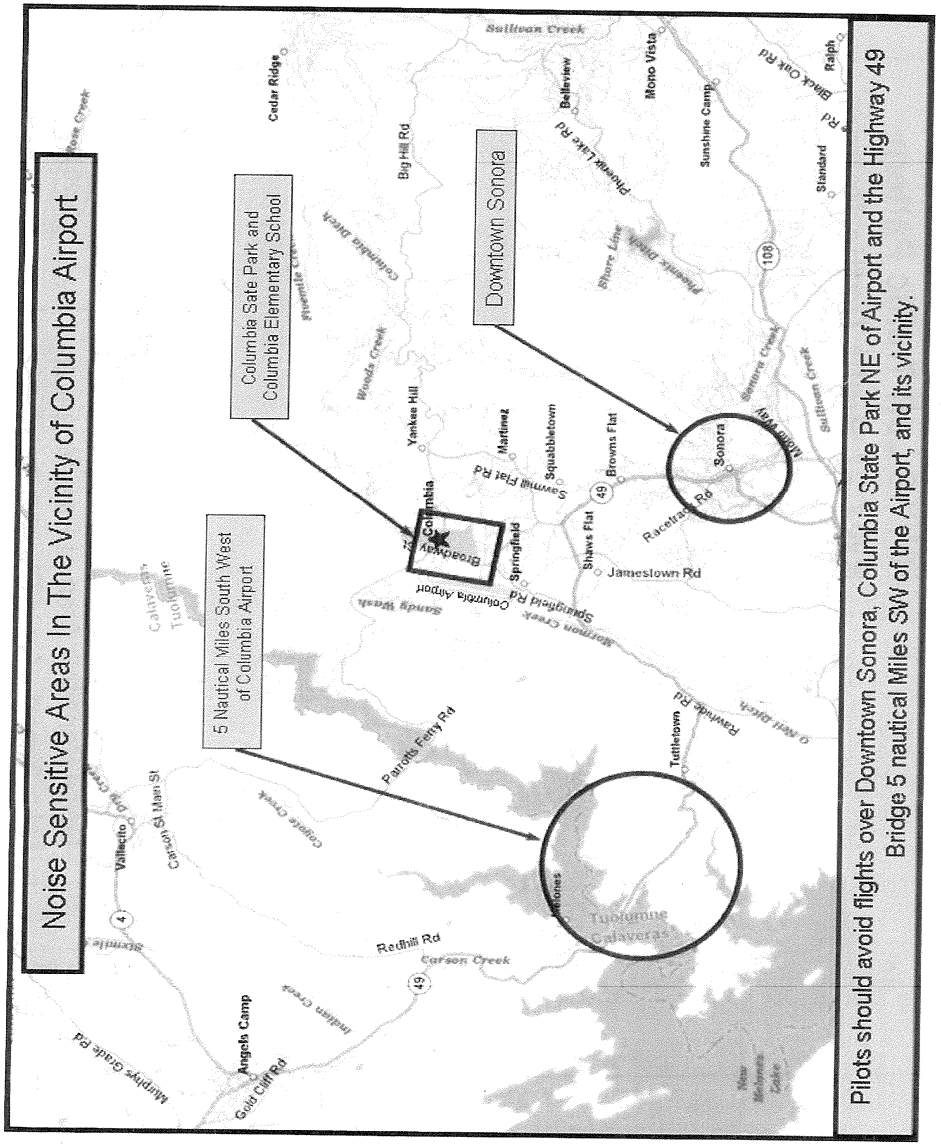
b. The Federal Aviation Administration (FAA) receives complaints concerning low flying aircraft over noise sensitive areas such as National Parks, National Wildlife Refuges, Waterfowl Production Areas and Wilderness Areas. Congress addressed aircraft flights over Grand Canyon National Park in Public Law 100-91 and commercial air tour operations over other units of the National Park System (and tribal lands within or abutting such units) in the National Parks Air Tour Management Act of 2000.

c. Increased emphasis on improving the quality of the environment requires a continuing effort to provide relief and protection from low flying aircraft noise.

d. Potential noise impacts to noise-sensitive areas from low altitude aircraft flights can also be addressed

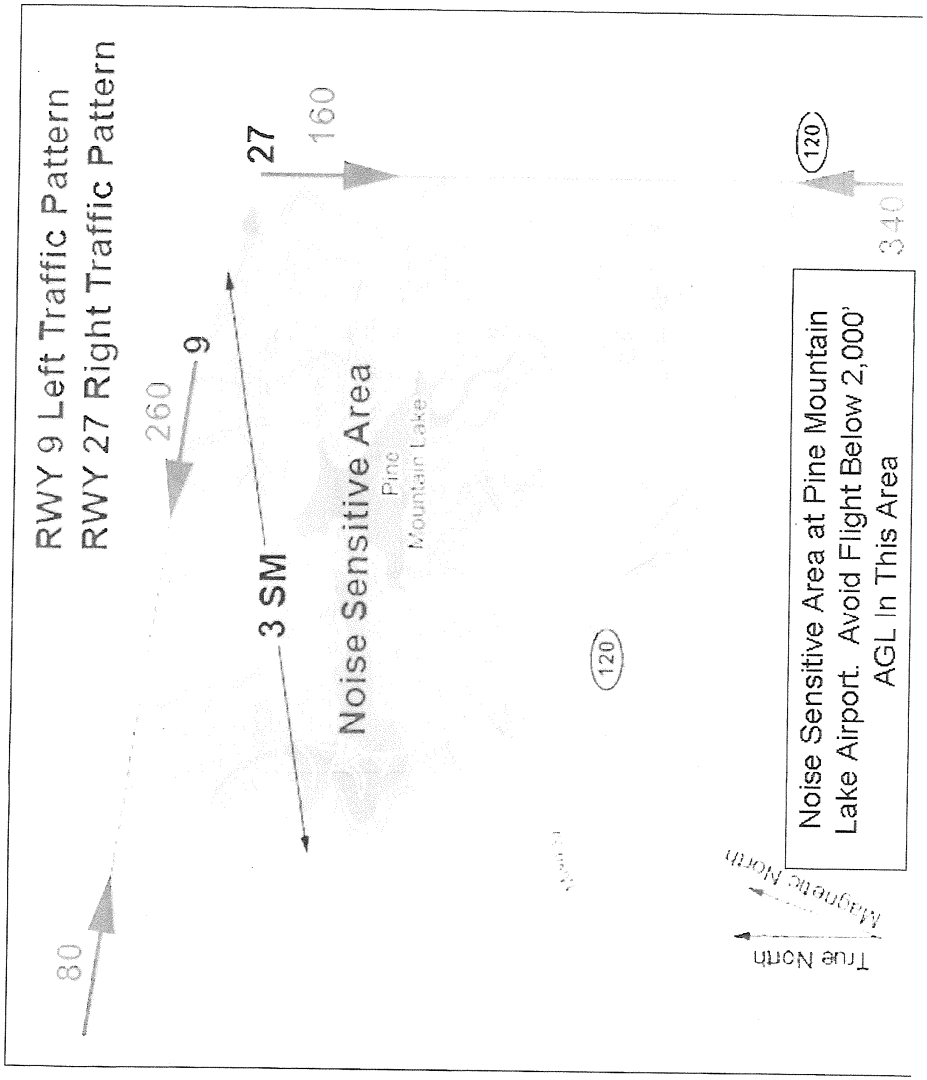
Attachment to Letter L-1. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter L-1, Continued **Comments** **Responses**



Attachment to Letter L-1. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter L-1, Continued **Comments** **Responses**



Attachment to Letter L-1. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter L-2

Comments

PAOLO MAFFEI
DISTRICT 2 SUPERVISOR
County of Tuolumne

2 South Green Street
Sonora, CA 95370
(209) 533-5521
pmaffei@co.tuolumne.ca.us

December 16, 2009

Melissa Vignau, Natural Resource Specialist
Central California Area Office
U.S. Bureau of Reclamation
7794 Fulsom Dam Road
Fulsom, CA 95630

RE: Management Plan

Dear Ms. Vignau,

This is to add my own comments to the Board letter, which I did support.

With respect to Shell Road, the Board letter states that the County does not wish to relinquish any rights. However, the Tuolumne County Transportation Commission, a JPA of the City of Sonora and the County and the recognized authority with the State, took the formal position that there is no need to push a major connector through from Rawhide to Peoria Flat.

L-2-1 There is an understandable traffic safety concern of a potential 108 blockage and the need for an alternate route. But rather than impacting a sensitive wildlife area and degrading a natural recreational opportunity, this should in my view be addressed by making Hwy 108 a fully dual highway. However, in any case, this is a very long-term issue.

The argument can be made that some improvement should be made for emergency vehicle access, especially in the event of wildfire. I would not have a problem with this myself, if the road were maintained and improved only to the level really needed, perhaps a gravel road with gates at each end. Shell Road to the second gate is barley passable, with multiple muddy diversions. However, you are fully aware of the resource damage, garbage dumping and even safety concerns of neighboring ranchers when the entire road was open to vehicles.

L-2-2 I was involved some years ago in the building of the Table Mountain trail, a project for which current TUD Director Dr. Ralph Retherford took the lead. This trail is the only public access in the County to any Table Mountain environment that I am aware of and it is used extensively, especially in winter and during the spectacular spring wildflower season. CalTrans is in the process of acquiring mitigation property, presumably to be added to the Bureau area. (I am also on the Tuolumne County Land Trust). Eventually one may hope that the otherwise unusable Bank of America parcel could also be added. With a better defined trail on the top of Table Mountain, so as to avoid entry into the corner of the Rosasco ranch parcel, the opportunities for enjoyable, minimum impact visitor experience can be further improved. But hikers, horseback riders and climbers are not clamoring for a major road. Better parking and turnarounds, especially for horse trailers, would be welcome.

Responses

L-2-1: Comment noted. Improving Shell Road through the Peoria Wildlife Management Area as a utility access (not for public vehicles) for fire and emergencies is included in Reclamation's preferred alternative.

L-2-2: Comment noted.

Letter L-2, Continued

Comments

L-2-3 I brought up the issue of grazing with respect to fire safety. Perhaps because revenue from grazing allotments goes into the Federal general fund rather than to New Melones, there seems to have been little interest in grazing as an integral component of a management plan. This would seem to be a win-win opportunity with the ranchers and horse stable owners. At the same time, you could address the unauthorized barbed wire fencing on Bureau property.

L-2-4 If recreational facilities such as marinas need to be improved and made accessible, there needs to be enforcement. We need functioning facilities in Tuolumne County. In this regard, it was disturbing to see even the limited facilities at Angel Creek closed some years ago due to vandalism. I fully support all efforts in regards to improved law enforcement.

I did feel the need to clarify my position in support of the Board letter. I also hope you will also be able to listen to the Board deliberations on the enclosed tape.

Sincerely,

Paolo Maffei
District 2 Supervisor

c: Board of Supervisors
Craig Pedro, County Administrator
Gregory Oliver, County Counsel
Peter Rei, Director of Public Works
Duke York, Deputy Director of Public Works
Marilyn Fitzsimmons, Deputy Surveyor
Peggi Brooks, USBR Resource Manager

Responses

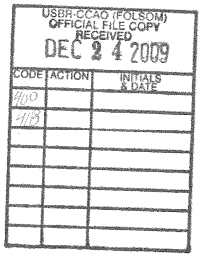
L-2-3: Comment noted.

L-2-4: Comment noted. Reclamation would consider enforcement needs and abilities prior to re-opening closed facilities or developing new facilities.

Letter L-3 **Comments** **Responses**

TUOLUMNE COUNTY CHAMBER OF COMMERCE

222 South Shepherd Street, Sonora, CA 95370 · (209) 532-4212 · Fax (209) 532-8068
Web page: http://www.tcchamber.com · email: info@tcchamber.com



December 23, 2009

Mrs. Melissa Vignau
c/o Central California Area Office
U.S. Department of the Interior
Bureau of Reclamation
7794 Folsom Dam Road
Folsom, CA 95630-6610

Subject: Comment on New Melones Resource Management Plan and Environmental Impact Statement

L-3-1 The Tuolumne County Chamber of Commerce supports the actions taken by the Tuolumne County Board of Supervisors regarding comments on the New Melones Resource Management Plan EIS.

L-3-2 Representing businesses employing over 5,000 workers in Tuolumne County, the Chamber believes Alternative B, the Increased Use Alternative, best serves Tuolumne County and the general public. This Alternative encourages economic development around the Lake while protecting natural and cultural resources. Alternative B would improve visitor opportunities, which is the backbone of the local economy.

L-3-3 The Chamber would also like to emphasize the need to change the minimum size currently in place for houseboats on New Melones. The 15' X 56' restriction is curtailing the use of the Lake by most new houseboats that have a size of 16' X 70' long. With the 5th largest water storage area in California it seems inconsistent with other lakes that permit the larger and more comfortable boat size while New Melones does not.

Thank you for your time and consideration.

George Segarini
President & CEO

L-3-1: Comment noted.

L-3-2: Comment noted.

L-3-3: The current size limitation of 15' x 65' is based on many factors, including but not limited to entrance road size limitations, marina facilities and capacity studies. The 2002 Visitor Use Study established a capacity of 106 houseboats, in part based on current size limits. Increasing the maximum size of houseboats may have an impact on the overall capacity and range of recreation opportunities and visitor experiences on the lake. The preferred alternative seeks to maintain or enhance the existing capacity and range of recreation opportunities provided.

Letter L-4 **Comments** **Responses**

Calaveras County Chamber of Commerce

December 29, 2009

Mrs. Melissa Vignau
c/o Central California Area Office
U.S. Department of the Interior
Bureau of Reclamation
7794 Folsom Dam Road
Folsom, CA 95630-6610

Dear Mrs. Vignau:

The Calaveras County Chamber of Commerce would like to express its concern over the size restrictions on Houseboats on Lake New Melones that have been placed by the Bureau of Reclamation.

L-4-1

Houseboats are an important part of the lake usage but it is being penalized by the boat size restriction of 15' x 56' long. New houseboats being built are at least 16' wide by 70' long. The Lake is 2.4 million acre feet and can accommodate large houseboats very easily.

We believe that the Lake has the potential for greater economic impact to our County than we are currently experiencing. We would like to lessen the restrictions and encourage more visitors to experience the lake. We believe that you can enhance the opportunity for Calaveras and Tuolumne Counties to improve the recreation on the lake and we respect that you take this opportunity to do so.

Sincerely,

Diane Gray
Executive Director

Cc: John Kautz

209/736-2580 ❖ Fax 209/736-2576 ❖ 1211 South Main Street ❖ Post Office Box 1145 ❖ Angels Camp, California 95222
www.calaveras.org ❖ Email chamber@calaveras.org

L-4-1: The current size limitation of 15' x 65' is based on many factors, including but not limited to entrance road size limitations, marina facilities and capacity studies. The 2002 Visitor Use Study established a capacity of 106 houseboats, in part based on current size limits. Increasing the maximum size of houseboats may have an impact on the overall capacity and range of recreation opportunities and visitor experiences on the lake. The preferred alternative seeks to maintain or enhance the existing capacity and range of recreation opportunities provided.

Letter L-5 **Comments** **Responses**

CALAVERAS COUNTY
BOARD OF SUPERVISORS
891 Mountain Ranch Road
Government Center
San Andreas, Ca 95249
(209) 754-6370
(209) 754-6733 FAX

FAX TRANSMITTAL SHEET

FROM: Madaline R. Krska
Deputy Clerk
Calaveras County Board of Supervisors

DATE December 30, 2009

TO: Melissa Vignau
% Central California Area Office
U. S. Department of the Interior
Bureau of Reclamation
916-989-7109

NO. COPIES 9 (Including Transmittal Sheet)

SUBJECT: Comments on the development of the New Melones Resource Management Plan and Environmental Impact Statement.

COMMENTS:

***If text does not transmit properly please call (209) 754-6370.

Letter L-5, Continued **Comments** **Responses**

CALAVERAS COUNTY

BOARD OF SUPERVISORS

891 Mountain Ranch Road San Andreas, California 95249 (209) 754-6370 FAX (209) 754-6733

December 30, 2009

Mrs. Melissa Vignau
c/o Central California Area Office
U.S. Department of the Interior
Bureau of Reclamation
7794 Folsom Dam Road
Folsom, CA 95630-6610

Dear Mrs. Vignau:

Enclosed is a Resolution adopted by the Calaveras County Board of Supervisors providing comment on the Bureau of Reclamation 's DRAFT Resource Management Plan (RMP) and Environmental Impact Statement (EIS) for Reclamation managed lands located at the New Melones Lake Area.

In 2007, the County of Calaveras accepted the Bureau's invitation to be a Cooperating Agency for the New Melones RMP/EIS (see attached copy of letter dated 9/12/07). Since that time, the County has disbanded its Community Development Agency and the employee that had been designated as the official contact is no longer employed by Calaveras County. Until further notice and for the immediate future, please send notices to: George White, Director, Calaveras County Planning Department, 891 Mountain Ranch Road, San Andreas, CA 95249. He may be reached by phone at (209) 754-6394 or email: gwhite@co.calaveras.ca.us.

Calaveras County appreciates the opportunity to provide comment on the Bureau's Draft RMP and EIS. Thank you.

Sincerely,

Russ Thomas
Chair

Enc.
cc: Board of Supervisors
Jeanne M. Boyce
George White

Letter L-5, Continued **Comments** **Responses**

BOARD OF SUPERVISORS, COUNTY OF CALAVERAS
STATE OF CALIFORNIA

December 15, 2009

RESOLUTION **Resolution requesting the Bureau of Reclamation to adhere to its 1976**
09- 227 **New Melones Lake Area Master Plan which was the foundation for planning future expansion of recreational and economic development opportunities in exchange for Calaveras County's support for the 1976 New Melones Lake Area and Reservoir project.**

WHEREAS, in 1976, the U.S. Department of Interior, Bureau of Reclamation (Bureau) approved the New Melones Lake Area Master Plan (Master Plan) which provided a set of land use allocations and development recommendations, including potential future recreational and business opportunities, as part of the Bureau's commitment to the County in exchange for support of the New Melones Lake area and reservoir project; and

WHEREAS, in 1976, Calaveras County residents and businesses were skeptical about the Bureau's New Melones Lake project as they foresaw a potential negative impact upon the local economy, including a potential loss of tourism and recreational business opportunities; and

WHEREAS, the Bureau assured the County that the Master Plan provided a strong foundation and framework to support future public access, development, recreational activities and expanded business opportunities; and

WHEREAS, despite the Bureau's Master Plan projections of three million visitors annually, the lake has not exceeded 800,000 visitors per year and the anticipated expansion of increased public access, recreational activities and business opportunities has not be realized to date; and

Letter L-5, Continued **Comments** **Responses**

WHEREAS, for example, houseboats are an important part of the lake usage yet New Melones' houseboat size restrictions of 15' x 56' long, as opposed to other federally managed reservoirs which allow houseboats at least 16' wide by 70' long, discourage visitors who wish to use or rent newer houseboats, thus negatively impacting annual visitor patronage; and

WHEREAS, the Bureau has prepared a New Melones Lake Area Draft Resource Management Plan (RMP) and Environmental Impact Statement (EIS) that includes a range of alternatives, which appear to ignore or eliminate historical provisions in the 1976 Master Plan; and

WHEREAS, one of the Bureau's alternatives (Alternative B) indicates that there would be a focus on increasing access (roads and trails) and expansion of facilities with future economic benefits for Calaveras and Tuolumne counties, which would be derived from increased public access to New Melones' recreational facilities - a point upon which the Board is in complete agreement; and

WHEREAS, the Bureau's preferred alternative (Alternative D) would constrain certain recreational activities and limits updating and modernizing roads, access areas and facilities which the Board believes is shortsighted and not in adherence with commitments made by the Bureau in the 1976 Master Plan ,which supported a diversity of uses and increased visitor patronage; and

WHEREAS, the Board is aware that opportunities have been presented to the Bureau including but not limited to a connecting route to O'Byrne's Ferry Road, across private property, that could provide an additional public access point to encourage increased visitor patronage as anticipated in the 1976 Master Plan that would benefit the local economy.

Letter L-5, Continued

Comments

NOW THEREFORE BE IT RESOLVED that the Calaveras County Board of Supervisors requests the Bureau of Reclamation to keep its commitment to the citizens of Calaveras County as expressed in the 1976 Master Plan by supporting an alternative in the 2009 New Melones Lake Area Draft Resource Management Plan and Environmental Impact Statement that provides future increased public access and expanded recreational and business opportunities on the lake, shoreline and surrounding area; and

L-5-1

BE IT FURTHER RESOLVED that in accordance with the 1976 Master Plan, the Board continues to support increased tourism and annual visitor patronage, new business opportunities, and the expansion of diverse recreational activities including but not limited to, boating, hiking, pedestrian trails, bicycling, equestrian access and trail systems, among others; and

FURTHERMORE BE IT RESOLVED, that the Board requests the Bureau to acknowledge that houseboats are an important part of the lake usage and yet restrictions on the size of houseboats unfairly disadvantage the economic opportunities at New Melones in comparison to other federally managed lakes and reservoirs; and

L-5-2

FURTHERMORE BE IT RESOLVED that the Board requests the Bureau to set aside an area for increased public access within the project boundary that could be connected to a proposed route to O'Byrne's Ferry Road indicating its commitment and support for public access that will encourage an increase in visitors, originally projected to reach three million people annually; and

L-5-3

FUTHERMORE BE IT RESOLVED, the Board recommends that the Bureau revise its preferred alternative in the 2009 New Melones Lake Area Draft Resource Management Plan and Environmental Impact Statement to include the opportunities as described above.

Responses

L-5-1: Comment noted. It is Reclamation's goal to provide a range of recreation opportunities on the lake. Reclamation must consider resource use, resource protection, and public safety in managing the New Melones Lake Area. These considerations may constrain the extent, location, or type of recreational development in certain areas. Reclamation's preferred alternative would, in general, increase access, recreation, and business opportunities at New Melones Lake.

L-5-2: The current size limitation of 15' x 65' is based on many factors, including but not limited to entrance road size limitations, marina facilities and capacity studies. The 2002 Visitor Use Study established a capacity of 106 houseboats, in part based on current size limits. Increasing the maximum size of houseboats may have an impact on the overall capacity and range of recreation opportunities and visitor experiences on the lake. The preferred alternative seeks to maintain or enhance the existing capacity and range of recreation opportunities provided.

L-5-3: The RMP/EIS will allow for the possibility of a road to access the management areas on the west side of New Melones Lake, such as the Westside, Bowie Flat, and Greenhorn Creek Management Areas. Implementation-level projects will undergo a separate NEPA analysis.

Letter L-5, Continued **Comments** **Responses**

ON A MOTION BY Supervisor Tryon , seconded by

Supervisor Wilensky , the foregoing Resolution was duly passed and

adopted this 15th day of December , 2009, by the following vote:

AYES: Supervisors Tofanelli, Wilensky, Callaway, Tryon and Thomas

NOES: None

ABSENT: None

ABSTAINED: None

Russ Thomas, Chair

ATTEST:

County Clerk and Ex-Officio Clerk to the Board
of Supervisors, County of Calaveras, State of California

Letter L-5, Continued

Comments

County of Calaveras
Board of Supervisors
Steve Wilensky, Chair
Russ Thomas, Vice Chair
891 Mountain Ranch Rd
San Andreas, CA 95249
(209) 754-6370 / (209) 754-6733 (FAX)
www.co.calaveras.ca.us

Board of Supervisors
Steve Wilensky
District 2, Chair
Russ Thomas
District 5, Vice-Chair
Merita Callaway
District 3
Bill Claudino
District 1
Tom Tryon
District 4
Assessor
Grant W. Metzger Jr
Auditor Controller
Linda S. Churches
Clerk-Recorder
Karen Varni
Coroner
Kevin Raggio
District Attorney
Jeffrey E. Tuttle
Sheriff
Dennis Downum
Treasurer-Tax Collector
Lynnette Norfolk
County Administrator
Robert C. Lawton
County Counsel
James C. Jones
Calaveras Works/
Human Services
Mary Sawicki
Community Development
John E. Taylor (Interim)
Environmental Management
Brian S. Moss
Health Services Agency
Jeanne Boyce
Human Resources
Francine Osborn
Farm Advisor
Ken Churches
Library
Maurie Hoekstra
Probation
Michael Krilanich
Public Works
Mike H. Miller (Interim)
Technology Services
Howard Stohlman Jr.

VIA EMAIL, ORIGINAL BY MAIL

September 17, 2008

Ms. Melissa Brockman
US Department of Interior
Bureau of Reclamation
Central California Area Office
7794 Folsom Dam Road
Folsom, CA 95630

Re: New Melones Resource Management Plan/Environmental Impact Statement

Dear Ms. Brockman:

Calaveras County submits the following comments on the "New Melones Lake Area Resource Management Plan (RMP) and Environmental Impact Statement" (EIS) dated August 2008.

- The purpose of the RMP is to establish a conceptual plan detailing the management framework for the conservation, preservation, enhancement, development and use of New Melones resources. The County strongly believes that expanding the recreational offerings on the western shore of the reservoir would enhance the public's ability to use the reservoir. The County and the Bureau of Reclamation should work together to create access to the western portion of the lands and waters of New Melones.

- A new access road to this area would provide current and future residents of Calaveras County and the Central Valley enhanced opportunities to use this valuable recreational amenity.

- A new public access road beginning at the existing roadway from O'Byrnes Ferry Road leading to a point near the California Asbestos Monofill / Waste Management facility and then following the best northerly route to an acceptable access point on the shoreline at Texas Charlie gulch should be considered as a method of increasing public use of the facility.

- The construction of a boat launch, marina, parking and day use recreational facility at the new access point would provide enhanced recreational opportunities to the public.

Responses

Attachment to Letter L-5. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter L-5, Continued **Comments** **Responses**

- Additional hiking, biking, and equestrian trail systems in the western portion of New Melones Lake area, limited to those locations where the Resource Management Plan allows for those types of recreational uses, would provide enhanced recreational opportunities to the public.

- Operation of the enhanced recreational opportunities, including a future marina, would be operated by a duly selected concessionaire.

- The County would study all available sources of funding to help fund the acquisition and construction of a new access road.

As the EIS notes in Section 3.2.11 Access and Transportation, use of the New Melones Lake area is expected to increase 20 percent over the Bureau's planning period and will result in increased demand on the existing access roads. The County is supportive of new access to the facility to accommodate the anticipated increased demand and to provide additional recreational opportunities to the public. The County requests that the Bureau include new access as a concept in the RMP as feasible *mitigation* to address *increased* demand for use of the facility in the future.

We respectfully request your timely consideration and response.

Steve Wilensky
Chair

Attachment to Letter L-5. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter L-5, Continued **Comments** **Responses**

12-23-09A08:41 RCVD

CALAVERAS COUNTY

BOARD OF SUPERVISORS

891 Mountain Ranch Road San Andreas, California 95249 (209) 754-6370 FAX (209) 754-6733

September 12, 2007

VIA FACSIMILE

Michael R. Finnegan, Acting Area Manager
Bureau of Reclamation
Central California Area Office
7794 Folsom Dam Road
Folsom, CA 95630-1799

RE: CC-419/ENV-.60

Dear Mr. Finnegan:

The County of Calaveras hereby accepts the Bureau's invitation to be a Cooperating Agency for the New Melones Lake RMP/EIS. By accepting this offer, Calaveras County agrees it:

- is accepting the bulleted responsibilities outlined in your letter dated August 1, 2007;
- will not be reimbursed for our staff costs associated with review of documents and attendance at meetings;
- will not be asked to share in the Bureau's cost of the preparation of the NEPA document;
- may be able to provide additional data to support our request for an access point on the western portion of the lake.

The following employee has been designated as the official county contact for this process:

Lynn O'Connor, General Plan Coordinator
Calaveras County Community Development Agency
891 Mountain Ranch Road
San Andreas, CA 95249
209-754-2848
loconnor@co.calaveras.ca.us

Per your request, staff is available between October 10 - 12, 2007, to attend a meeting to further discuss the county's participation in the project. Please feel free to let us know if you need to consider alternative dates.

Sincerely,

Supervisor Bill Claudino, Chair

cc: Stephanie Moreno, Director of Community Development
Lynn O'Connor, General Plan Coordinator
Shirley Ryan, Principal Administrative Analyst, County Administrative Office

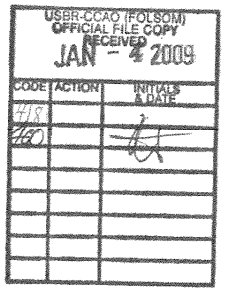
COPY

Bill Claudino	Steve Wilensky	Merita Callaway	Thomas Tryon	Russell L. Thomas
District 1	District 2	District 3	District 4	District 5
754-3754	293-7907	728-3800	736-4845	785-2020

Attachment to Letter L-5. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter L-6 **Comments** **Responses**

Teri
Murrison
Tuolumne County Supervisor, District 3



December 30, 2009

Mrs. Melissa Vignau
c/o Central California Area Office
US Dept. of Interior
Bureau of Reclamation
7794 Folsom Dam Road
Folsom, CA 95630-6610

Re: Comment on Draft Resource Management Plan and EIS

Dear Mrs. Vignau:

Home:

PO 802
Tuolumne, CA 95379
209.928.1965

Work:

2 South Green Street
Sonora, CA 95370
20.533.5525

L-6-1

I am writing to express my concern that the permitted size of houseboats on New Melones Reservoir is restricted to 15'x56'. You may be aware that the standard size for new houseboats is a minimum of 16'x70'. This restriction unduly penalizes visitors to New Melones and consequently, our local economy.

The RMP should allow for these larger houseboats since visitors have shown a preference for the larger houseboats. If they are not available on New Melones, visitors will rent houseboats, recreate, and spend their recreation dollars elsewhere in the state.

Thank you for this opportunity to comment.

Sincerely,

TERI MURRISON

L-6-1: The current size limitation of 15' x 65' is based on many factors, including but not limited to entrance road size limitations, marina facilities and capacity studies. The 2002 Visitor Use Study established a capacity of 106 houseboats, in part based on current size limits. Increasing the maximum size of houseboats may have an impact on the overall capacity and range of recreation opportunities and visitor experiences on the lake. The preferred alternative seeks to maintain or enhance the existing capacity and range of recreation opportunities provided.

Letter L-7 **Comments** **Responses**

CITY of ANGELS

Community Development Department
Post Office Box 667 • 571 Stanislaus St J
ANGELS CAMP, CALIFORNIA 95222
Phone (209) 736-1346 • Fax (209) 736-9048
www.angelscamp.gov

January 4, 2010

U.S. Dept. of Interior--Bureau of Reclamation
Central Californian Area Office
C/ Melissa Brockman-Vignau
7794 Folsom Dam Road
Folsom, CA 95630

RE: New Melones Lake Area Resource Management Plan/Environmental Impact Statement (EIS) – Comments

Dear Mrs. Brockman-Vignau:

In reviewing the EIS, the City has the following comments:

L-7-1 1. The Bureau of Reclamation (BOR) should select Alternative D as the preferred alternative.

L-7-2 2. The BOR should continue to support no motorized vehicles in the Westside and Bowie Flat areas.

L-7-3 3. The BOR should continue to support the expansion of the Glory Hole Marina through the Commercial Services Plan (CSP).

L-7-4 4. The BOR should continue to work with the City of Angels in coordinating trail heads in the Greenhorn Creek and Glory Hole areas.

L-7-5 5. The BOR should work with the local agencies in developing the CSP for the New Melones Lake Area.

L-7-1: Comment noted.

L-7-2: Comment noted.

L-7-3: Comment noted. This option will be explored through the commercial services planning process.

L-7-4: Comment noted. Reclamation will continue to coordinate with the City of Angels, and other entities, on regional planning efforts, as applicable.

L-7-5: Comment noted. Local agencies will be able to participate through the public involvement process for the Commercial Services Plan.

Letter L-7, Continued **Comments** **Responses**

Page 2,
Response to New Melones
Resource Management Plan
& Environmental Impact Statement
January 4, 2010

If you have any questions or need clarification, please contact me at (209) 736-1346, or by email at davidhanham@angelscamp.gov.

Sincerely,

David Hanham
Planning Director

Letter L-8 **Comments** **Responses**

Date: January 4, 2009

To: Melissa Brockman Vignau
Project Manager, New Melones Lake Area Draft RMP/EIS

From: Russell L. Thomas
District 5 Supervisor
Calaveras County

Dear Melissa,

Our Board of Supervisors has previously submitted its own Resolution to you. In addition to having that document on file, I wanted to also personally communicate how disappointed I've become, learning that the Bureau's Preferred Alternative "D" seems to have eliminated the increased economic benefits that would come to Calaveras County (and other citizens of the state) by opening up some additional recreational opportunities at New Melones.

Sections of the document seem to try to explain the rationale of seeking "a balance" between all options, but I'm convinced that the Bureau's conclusions have been based on some significant errors in analysis.

In the following paragraphs, I've attempted to point-out where the Bureau's analysis contains a significant amount of miss-information and/or flaws. I'm very hopeful that you and others will take the time to read and evaluate my corrections and comments. My purpose will be to try to convince the Bureau that your environmental and cost concerns are overstated, while the economic benefits are grossly understated.

As you can see, I've copied and pasted excerpts from the Draft RMP/EIS, then I've highlighted my associated comments in **Red**.

I've also attached a map that corrects the alignment of the road, and it also gives a clearer picture of the extent to which Bureau lands would be impacted. If Reclamation's final version of Alternative D would allow access to the Westside, our road would be built without Bureau funds, and we feel confidant that state funds could be obtained to construct the required parking lots and launch ramp facilities.

Further, I know that the Bureau is concerned about future management responsibilities, so I've had conversations with your current marina concessionaire, learning that their company would be anxious to bid for the contract for managing these additional facilities. In fact, Mr. Dave Smith, with houseboats.com, has expressed the opinion that an additional marina is sorely needed on New Melones, stressing how vulnerable the existing location is to storm conditions.

Thank you for your time in considering my comments.

Respectfully,

Russ Thomas, Supervisor District – 5
Calaveras County

Letter L-8, Continued **Comments** **Responses**

Page 2. Russ Thomas Comments

****

Management Alternatives.....Page ES-5

Alternative B (Increased Use)

Alternative B emphasizes active management for access and recreation. Protecting other resources would be secondary to accommodating recreational interests, although all resources would be managed, at minimum, to the levels required by law. This alternative also emphasizes opportunities for developed and motorized recreation. Alternative B would focus on increasing access (roads and trails) and expanding facilities (such as concessions and fish cleaning stations). The key components of this alternative are evaluating the addition of recreation facilities at Glory Hole, Tuttletown, *Bowie Flat*, Westside, French Flat, Bear Creek, Parrotts Ferry, Mark Twain, and Greenhorn Green Management Areas; *allowing increased levels of houseboat, water vessel, and equestrian use*; and relocating the equestrian staging area.

L-8-1 **Any reference to developing a road through Bowie Flat should be immediately dropped. Our only proposed route would be built on the approximate alignment shown on the Pastizzo map. This road would be built without any financial obligation from the Bureau. Yes, we'd expect that a Public/Private Partnership would be established to manage the launching ramp, marina, and additional houseboat mooring facilities. In order to illustrate the concept, we've indicated parking lots that we've "borrowed" from the Tuttletown Recreation Area, recognizing that the size would have to be adjusted to fit the terrain at Texas Charlie Gulch. The launch ramp is shown as being extended to a point that would accommodate launching even in extremely low water level conditions. The configuration of the facilities are based upon my personal on-site observations.**

6.10.6.3 Effects from Lands, Transportation, and Access Management.. Page 6-91

Maintenance of right-of-way utility crossings would be coordinated with Reclamation before any land alterations. Also, Reclamation would avoid or minimize future easements and rights-of-way over Reclamation lands. As a condition of approval, new easements (e.g., roadways, electrical transmission lines, pipelines, structures, and facilities) must adhere to applicable guidelines to avoid potential operational and resource impacts.

If you look closely at our conceptual map, you'll see that our proposed new easement would be limited to approximately ½ mile inside the Bureau's existing gate. The path would follow the alignment of the historic road from Copperopolis to Sonora. Comments have been made that this alignment would be too steep, however, the 8% to 9% gradient down toward the water's edge would accommodate all proposed traffic. As mentioned above, the configuration of the parking and launch-ramp facilities are "borrowed" from the Tuttletown Recreation Area.

L-8-1: Analysis in Draft RMP/EIS was based on the most recent information that had been provided to Reclamation at the time. The description of the proposed Westside Road project in Section 6.18, Cumulative Effects, has been revised accordingly.

Letter L-8, Continued **Comments** **Responses**

Page 3. Russ Thomas Comments

Thisaction would continue to ensure the use of Reclamation lands complies with
39 Reclamation's mission. Also, the condition of approval would hold new easement
40 developers responsible for keeping Reclamation land in a condition appropriate for
41 Reclamation's mission. **If (as is claimed) reclamation's mission is to support the objectives in the 1976 Master Plan, then the proposed new access road and proposed improvements in Texas Charlie Gulch would, indeed, be appropriate.**

West Side Road Project...Page 6-179

23 A developer in Copperopolis would like to create access to the Westside Management
24 Area on the western shores of New Melones Lake.

L-8-2 **This is not a developer-driven concept. This phrase must be dropped because the idea of the road from Copperopolis was formulated by members of the Copperopolis Community Plan Advisory Committee during our deliberations, which began in 1999. (Please note that I relinquished the chairmanship of this committee when I was elected to the office of County Supervisor.)**

The draft Copperopolis Community
25 Plan has been submitted to the Calaveras County Board of Supervisors. Within that
26 document the land use map has two routes for the proposed road. The first route is
27 accessed via O'Byrnes Ferry Road near Tulloch Reservoir and crosses through Bowie
28 Flat and the Westside Management Areas to Texas Charlie gulch. The second route
29 follows a portion of Loliando Road from O'Byrnes Ferry Road through the Morrissey
30 Ranch to the Westside Management Area and Texas Charlie gulch (Pastizzo 2009).
This is a huge misunderstanding. Several years ago, we thought that the only possible route for an access road was through Bowie Flat, but when the Morrisseys offered a route through their ranch, we immediately recognized the wisdom of dropping the Bowie Flat alignment. The only reason that the Community Plan map shows two routes, is that we were told that the environmental review would require a preferred route and an alternative. Therefore, please immediately eliminate all references to the problems associated with a route through Bowie Flat! We absolutely agree that the Bowie Flat route would be very disruptive to the lands of a number of Government Agencies – not to mention that the road would be impossible to build.

6.18.7 Fish and Wildlife.....Page 6-189

A developer in Copperopolis is proposing to construct a road that would provide access
43 to the western shores of New Melones Lake.
Again, please drop this reference to a non-existent developer.

L-8-2: Comment noted. References in text has been corrected.

Letter L-8, Continued

Comments

Page 4. Russ Thomas Comments

Construction of this road would likely increase access to the reservoir and result in habitat loss and fragmentation where the road is built, disturbance to wildlife along the road, including the possibility of mortality from vehicle strikes, and increased disturbance to wildlife at the reservoir from more visitation due to improved access.

Yes, we would certainly expect that construction of this road would increase access to the reservoir. That's exactly the point that we've been trying to make for several years, now.

L-8-3 **We do not believe, however, that a ½ mile of road and approximately 15 acres of parking area would constitute a measurable "disturbance" to wildlife at the reservoir.**

Cultural Resources..... Page 6-194

A project proposed by the Copperopolis Community Plan developer proposes roads that 13 would traverse portions of the Westside and Bowie Flat Management Areas.

Again, please eliminate the reference to the Copperopolis developer.

The roads would likely affect five known cultural resources within the Westside Management Area, five cultural resources within the Bowie Flat Management Area, and an unknown number 16 of cultural resources outside of the New Melones Lake Area. Additionally, the Westside 17 Management Area is considered to have a high potential for unrecorded sites (Pacific 18 Legacy 2008). Therefore, the road project would likely have an even greater effect on 19 cultural resources in this area. The Bowie Flat Management Area has a low potential for 20 unrecorded cultural resources as the entire area has been inventoried (Pacific Legacy 21 2008).

Our proposed road alignment would be miles away from the Bowie Flat Management Area, so we'd have no impacts. We understand that a CEQA review would be required for the portion of the road outside the New Melones Lake Area. When entering the Westside

L-8-4 **Management Area, if recorded or unrecorded cultural resources are encountered along the ½ mile length of road, or within the footprint of the approximately 15 acres of our proposed improvements, then we'd expect that any impacts could be sufficiently mitigated by simply moving the footprint.**

6.11.5.3 Effects on Access and Transportation under Alternative B.....Page 6-97

Under Alternative B, Reclamation could develop an access road to the Westside 22 Management Area, which would provide motorized access to this area. 23 Optimizing the connectivity between the existing fire road and trail system in the Glory 24 Hole, Greenhorn Creek and Westside Management Areas, and developing new trailheads 25 to access Greenhorn Creek and the Westside areas would enhance access for visitors and 26 fire management personnel compared to Alternative A

We have never suggested that Reclamation would "develop" an access road. We just want Reclamation to allow us to build it. We agree that fire protection and emergency response times could be improved as a result of this Westside access.

Responses

L-8-3: Analysis in Draft RMP/EIS was based on the most recent information that had been provided to Reclamation at the time. The analysis and conclusions are appropriate from a programmatic viewpoint. Any consideration of implementing such a project would involve detailed project level analysis by Reclamation of potential impacts on fish and wildlife, based on the extent and types of facilities developed as well as the proposed areas of impact. A formal proposal has not yet been brought before Reclamation for consideration.

L-8-4: Analysis in Draft RMP/EIS was based on the most recent information that had been provided to Reclamation at the time. The analysis and conclusions are appropriate from a programmatic viewpoint. Any consideration of implementing such a project would involve detailed project level analysis by Reclamation of potential impacts on fish and wildlife, based on the extent and types of facilities developed as well as the proposed areas of impact. A formal proposal has not yet been brought before Reclamation for consideration.

Letter L-8, Continued **Comments** **Responses**

Page 5. Russ Thomas Comments

6.11.7.3 Effects from Lands, Transportation, & Access Management.....Page 6-100
Under Alternative D, Reclamation would allow access to the Westside Management Area via hiking, horseback, or boat; however, these may not be viable forms of access for all visitors.

L-8-5 **We firmly believe that Alternative D should include the proposed access road, so that hiking, bicycle riding, horseback riding, and boating could be made available to a greater number of visitors. We've visualizing trails that would allow visitors to walk or ride bicycles from Copperopolis to Angels Camp.**

6.12.7.5 Effects from Recreation Management.....Page 6-112
Reclamation would implement additional lake zones to protect public safety and natural resources. For example, Reclamation would designate additional swimming areas, and areas appropriate for nonmotorized boating, houseboats, and seaplanes, and, designate no-wake zones to prevent shore erosion. Zones may include, but would not be limited to, designated areas of Greenhorn Creek, Westside, Glory Hole, Coyote Creek, Parrotts Ferry, Tuttletown, French Flat, Mark Twain, Stanislaus River Canyon, and Camp Nine Management Areas. This would increase public protection by assessing growing, incompatible aquatic activities, and then establishing boundaries to keep the activities apart.

L-8-6 **We enthusiastically endorse Reclamation's proposal to designate the upper portion of Texas Charlie Gulch for non-motorized boating. We relish the prospects of hauling our kayaks or canoes from Copperopolis to our proposed Westside access point. However, we're having a hard time figuring out how Reclamation is proposing for visitors to get their non-motorized vessels safely across the 1.75 miles of open water that lies between the marina at Glory Hole and the proposed non-motorized area. If public safety is a primary concern, then with our proposal a large portion of Texas Charlie Gulch would be a no-wake zone, further assuring the safety of non-motorized vessels.**

6.14.3 Effect on Cultural Resources Common to All Alternatives.....Page 6-121
Chapter 5 indicates the existing site density of each management area and the potential for new sites to be identified in future surveys. With higher site density and new site potential, the potential for effects on cultural resources increases. Additionally, effects on sites included in the NRHP-eligible New Melones Lake Area Archaeological District could be adverse effects under Section 106. The management areas are listed below, from greatest to least potential for effects on cultural resources, identified and unknown, should the management actions discussed in the following sections occur within the management area boundaries:
1. Stanislaus River Canyon
2. Mark Twain
3. Parrotts Ferry
4. French Flat

L-8-5: Comment noted. Alternative D would allow Reclamation to consider outside proposals for an access road to management areas on the west side of New Melones Lake, such as the Westside, Bowie Flat, and Greenhorn Creek Management Areas.

L-8-6: The proposed designation of the upper portion of Texas Charlie Cove for non-motorized boating was an error on the map. There is no such designation proposed. The preferred alternative calls for "no-wake" boating restriction for this area, in order to protect sensitive natural and cultural resources. The map has been revised.

Letter L-8, Continued **Comments** **Responses**

Page 6. Russ Thomas Comments

5. Camp Nine
6. Carson
7. Coyote Creek
8. Tuttletown
9. Bear Creek
10. Peoria Wildlife Area
11. Glory Hole
12. Bowie Flat
13. Westside
14. Dam and Spillway
15. Greenhorn Creek

If the Westside area is listed 13th out of 15 for having the least potential for effects on cultural resources, identified and unknown, then why has the Westside been put to the top of the list of places where Reclamation wants to allow access?

6.17.7.5 1 Recreation.....Page 6-173

The effects on recreation of the provision and maintenance of facilities under Alternative
27 D would be the same as those described under Alternative B.

We were encouraged when we saw that Alternative B would provide for the construction of additional marina(s) and provide for additional marina amenities.

Alternative D would concentrate future facilities development in specific areas, including French Flat, Bear Creek, Parrotts Ferry, Natural Bridges, Westside, Bowie Flat, Mark Twain, Camp Nine, Greenhorn Creek, Tuttletown and the Glory Hole Recreation Area. These areas cover most of the land-based recreation areas within the New Melones Lake Area.

L-8-7 **We were dismayed to see that any possibility for our proposed Westside access road, marina, and launch facilities were eliminated under the Alternative D development options. What a lost opportunity!**

Land-Based Recreation.....Page 6-174

The effects from optimizing the connectivity between the existing fire road and trail system
22 for a variety of uses in Glory Hole, Greenhorn Creek, Westside, Tuttletown, Bear Creek,
23 French Flat, and Peoria management areas and from developing new trailheads to access
24 the Greenhorn Creek, Westside, Tuttletown, Bear Creek, French Flat, and Peoria areas
25 are the same under Alternative D as under Alternative B.

L-8-8 **We submit that it is only by allowing a new access road to the Westside, that optimizing the connectivity of the existing fire road and trail system can be achieved. We believe that building a narrow trail from Texas Charlie Gulch to the Angels Creek area could provide an opportunity to connect to propose trails coming from Angels Camp. We sense that the thrust of Reclamation's plan is to suppress anything that might be looked upon as being new and exciting, but we're thinking that being able to safely ride a bike from Copperopolis to Angels Camp would be a very desirable outcome.**

L-8-7: Alternative D does not eliminate the possibility for such facilities.

L-8-8: Comment noted.

Letter L-8, Continued **Comments** **Responses**

Page 7. Russ Thomas Comments

6.18.6 Vegetation.....Page 6-188

Along with population increases, a road from the Westside Management Area to
30 Copperopolis would facilitate a large increase in recreation use. This road would
31 permanently remove vegetation in previously undisturbed areas, would disturb vegetative
32 patterns, would allow weeds to be introduced and spread, and would allow unauthorized
33 uses. Effects from population growth and increased recreation would be similar to those
34 described in Effects Common to All Alternatives from Recreation Management. In
35 addition, the proposed roadway location contains extremely steep terrain, and removing
36 vegetation for road construction would increase erosion and would affect water quality in
37 the Texas Charlie Gulch Area, a known fish spawning location.

Again, we sense that the thrust of Reclamation's plan is to suppress anything that might be looked upon as being new and exciting. Before concluding that huge quantities of vegetation will be lost, one should consider that a large portion of our proposed alignment is already being used as existing ranch roads. This particular route was the old stagecoach road, so we firmly believe that the slopes and terrain are quite manageable. Of course, all construction would be conducted using Best Management Practices, so water quality concerns within Texas Charlie Gulch would be minimized.

L-8-9

6.18.12 Fire.....Page 6-193

Proposed new roads in the Westside Management Area would provide additional access,
34 which would improve access for fire suppression, and also increase the chance for
35 human-cause wildland fire.

We are very proud of the firefighters in the Copperopolis Fire Protection District. We've heard reports that our engines have previously responded to fires within the New Melones Lake Area, and we're certain that they'd quickly respond to any future fire and/or medical emergencies that might be encountered.

6.18.16 Recreation.....Page 6-195

Construction of new roads within and near the New Melones Lake Area would result in greater access for recreationists. In particular, the proposed road from Copperopolis would provide additional access to the Westside Management Area. Increasing access would result in more recreational opportunities for the general public but could result in decreased experiences for those seeking a more primitive type of recreation including solitude.

Solitude? The citizens of Calaveras County and Tuolumne County had solitude back before the river canyon was flooded and before all the promises of enhanced recreational opportunities were made in the 1976 New Melones Lake Area Master Plan.

L-8-10

L-8-9: Analysis in Draft RMP/EIS was based on the most recent information that had been provided to Reclamation at the time. The analysis and conclusions are appropriate from a programmatic viewpoint. Any consideration of implementing such a project would involve detailed project level analysis by Reclamation of potential impacts, based on the extent and types of facilities developed as well as the proposed areas of impact. A formal proposal has not yet been brought before Reclamation for consideration.

L-8-10: Not all recreationists support more developed recreation opportunities and the analysis considers this as well as interests for more developed recreation. The impacts stated for noise are general to future development in the vicinity of the planning area and are not exclusive to the Westside area.

Letter L-8, Continued **Comments** **Responses**

Page 8. Russ Thomas Comments

Increased housing development in the area would result in more people living near the New Melones Lake Area and using it for recreation. Both the construction of new roads and new housing developments would result in increased noise levels. This would affect the recreational experience for all visitors, especially those seeking quiet and tranquility.

L-8-10 (Continued)

The beauty of our proposal is that there would be no increased housing development near New Melones. The Copperopolis Community Plan is based upon the expectation that our eventual population will approach 40,000, however, none of this future housing is expected to be built upon the Morrissey Ranch. Therefore, Reclamation's concerns about future increased in noise levels are unwarranted.

In conclusion, wouldn't you agree that we can be certain that the population of our state and region will continue to grow? I take that as a given, and as a community leader and elected official in Calaveras County, I feel that it is my duty to make every effort to help to plan for a reasonably proportional increase in future recreational opportunities. Therefore, if I can convince Reclamation to add the proposed road to Westside Management area to their Alternate D, then my job will have been accomplished.

I appreciate your willingness to digest my comments.

Sincerely,

Russell L. Thomas
District 5 Supervisor
Calaveras County

L-8-10: Not all recreationists support more developed recreation opportunities and the analysis considers this as well as interests for more developed recreation. The impacts stated for noise are general to future development in the vicinity of the planning area and are not exclusive to the Westside area.

Letter L-9

Comments

From: Russ [mailto:rthos2020@caltel.com]
Sent: Wednesday, January 06, 2010 1:19 PM
To: Brockman, Melissa A
Subject: RE: Comments -- New Melones Lake Area Draft RMP/EIS

Melissa,

After getting your email this morning, I was reminded that there were several important points that I forgot to include in my comments:

L-9-1
- In regards to Reclamation's concerns about recovering their costs for managing new facilities in the Westside:
  If the "Copperopolis Gate" comes to fruition, we'd expect that gate to be at or near O'byrnes Ferry Road. Further, all entrants would pay an annual or a daily fee to the BOR. And, just like Glory Hole, we'd want to have time restrictions on entry through the gate.

L-9-2
- In regards to Reclamation's concerns about the potential for trespass, and the unintended consequences of opening up an access road across this previously inaccessible property:
  In our discussions with the private land-owner, we recognize their requirements that the new road would not disrupt their cattle ranching operation. Accordingly, our plan would be to fence both sides of the road (like the road going to Glory Hole); making it unlikely that citizens using of the new road would trespass upon their private property.

L-9-3
- In regards to Reclamation's potential concerns about the availability of electricity, water, and sewage disposal:
  Looking closely at our newest map, you'll see that Shetland Court, of the Bar XX subdivision, reaches a point that is about ½ mile from our proposed facilities at Texas Charlie Gulch. PG&E electricity and fiber/optics telephone cable (from Calaveras Telephone) can be obtained at or near the end of Shetland Court. As for water --homes in the area operate on domestic wells, so we're confident that a well and water distribution system could be easily developed. As for sewage disposal --we would not advocate for an onsite septic system. Therefore, there would be two remaining options. We understand that the effluent from the existing campground bathrooms and floating bathrooms is trucked (by Foothill Sanitary) to Reclamation's waste water treatment facilities. Option A would be to issue a contract to a company like Foothill Sanitary to provide a pumping-vessel for transporting effluent from our proposed new facilities, and combine this new waste stream with the waste stream that is currently being transported to Reclamation's waste water treatment facilities. Option B would be to issue a contract to Foothill Sanitary to pump and transport the new waste stream to CCWD's facilities in Copperopolis.

If you or others have additional concerns that you'd like to discuss, please know that I am available to answer any and all questions.

Responses

L-9-1: Comment noted.

L-9-2: Comment noted.

L-9-3: Comment noted.

Letter L-9, Continued **Comments** **Responses**

Thanks again,

Russ Thomas
Supervisor District 5
Calaveras County
Cell 209-480-8968
Phone 209-785-2020
Email rthos2020@caltel.com

Letter L-10 **Comments** **Responses**

TUOLUMNE COUNTY ECONOMIC DEVELOPMENT AUTHORITY

RECEIVED
JAN 12 2010

Melissa Vignau
Natural Resources Specialist
Bureau of Reclamation
7794 Folsom Dam Road
Folsom, CA 95630

January 8, 2010

Dear Ms. Vignau:

On behalf of the Board of Directors for the Tuolumne County Economic Development Authority (TCEDA), this Letter of Support reflects our input regarding the New Melones Lake Area Draft Resource Management Plan (RMP) and Environmental Impact Statement (EIS).

L-10-1 Based on the initial review of available alternatives and the information contained in the draft RMP/EIS, the TCEDA Board of Directors recommends adoption of Alternative B, which emphasizes active management for access, economic development, and recreation. The expansion of developed and motorized recreational opportunities within Tuolumne County would increase the number of County jobs, allow for improved facilities, and increase the County's tax base.

Promises were made as part of the 1976 New Melones Master Plan that have never been fulfilled. This is the opportunity for the Bureau of Reclamation to fulfill those promises made in the past.

Thank you for your considering our recommendation to approve Alternative B.

Respectfully Submitted,

Hank Russell, Board Chairman
Tuolumne County Economic Development Authority
99 N. Washington Street,
Sonora, CA 95370
(209) 989-4058

99 North Washington Street, Sonora, California 95370
P: 209.989.4058 – F: 866.285.2674
www.tceda.net

L-10-1: Comment noted.

Letter L-11 **Comments**

OAKDALE IRRIGATION DISTRICT

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CODE	ACTION	INITIALS & DATE
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418	✓	11/20/09

November 19, 2009

Ms. Melissa Brockman-Vignau
Bureau of Reclamation
Mid-Pacific Region/Central California Area Office
2800 Cottage Way
Sacramento, CA 95825-1898

Classification	ENV-6.00
Project	214
Control No.	09079037
Folder I.D.	1105531

Subject: New Melones Lake Area
Draft Resource Management Plan and Environmental Impact Statement

Dear Ms. Brockman-Vignau:

L-11-1 Oakdale Irrigation District (OID) was recently notified of the availability and release of the Draft Resource Management Plan (DRMP) and Environmental Impact Statement (EIS) for New Melones Reservoir. In reading the draft it is apparent that one key element of assessment is missing in the DRMP and in the EIS. That is how the Bureau intends to address lake management issues under the recently released National Marine Fisheries Service's (NMFS) Biological Opinion for the OCAP?

The Bureau's decision to implement the flawed Reasonable and Prudent Alternatives (RPA) provided by NMFS without a full understanding of the impacts for such action is unfortunate. What will be equally unfortunate is if the Bureau releases a DRMP for the New Melones Reservoir area without doing a full assessment of those impacts in the EIS. Under the changed reservoir operations required to meet the RPAs, many of the goals, objectives and planning criteria in the RMP cannot be met. Without an assessment of these changed conditions, a huge waste of taxpayer money will have been spent without benefit.

While OID has provided the modeling runs to substantiate its claims to the Bureau's Commissioner, the Regional Director and Area Manager, we are unsure if that data has been made available to you for incorporation into your planning document. The model used to arrive at the dismal future for New Melones is the temperature model that was developed for

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www.oakdaleirrigation.com

Responses

L-11-1: The RMP/EIS has no effect on the Biological Opinion released by the National Marine Fisheries Service nor will it create a change in the Operation of New Melones Dam. The operations of this dam are currently being re-evaluated. The RMP/EIS is a programmatic document outlining management goals and objectives for Reclamation lands above the Dam and New Melones Reservoir. This is a reactive plan to the Operations Plan and will allow for change in guidance based on the decisions made under the Operations Plan. Any current or future reservoir operational decisions are beyond the scope of the New Melones RMP, which does not propose operational changes or otherwise affect releases from New Melones Reservoir, or flows in the Stanislaus River. The New Melones RMP addresses management of reservoir area resources only, which are reactive to reservoir water elevations as Reclamation makes reservoir water operation decisions through other processes.

The RMP is a planning tool for managing the resources of the New Melones Lake Area. The RMP/EIS is not expected to affect any long-term operations of the Central Valley Project (CVP) as it is considered to be a reactive plan to the operations of the CVP. Furthermore no discussion about the Reasonable and Prudent Alternative actions identified in the Biological Opinion is included in the RMP/EIS.

Letter L-11, Continued **Comments** **Responses**

the Stanislaus River. A model developed, adopted and paid for by the Bureau, OID and others. Please contact your management group to obtain copies of full submittals OID has provided, or if need be, OID can provide them again.

To summarize the impacts we are talking about; an 80 year trace history of New Melones on the Stanislaus River was run under the 1997 Interim Plan of Operations (IPO) and under the RPA criteria. Under the 1997 IPO New Melones would have been less than 500,000 acre feet of storage 3 times during that period but would never have gone dry. Under the recent RPA criteria adopted by the Bureau for future operations of the lake, during that same period, New Melones would fall below 500,000 acre feet of storage 35 times over that same 80 year period and have actually gone dry (zero storage) 13 times.

I would think it essential if the Bureau continues down this illogical path, that it at least have the forethought to develop a planning document to account for the 40% of time the lake will have no cold water pool to support cold water fisheries and a lakeshore management plan that addresses the benefits of recreating in a dry lake. I realize you won't assess the economic impact to the local businesses or community in your RMP, but as a business decision, you should evaluate the investment of taxpayer dollars in a lake that will be unusable 40% of the time for recreation.

I request this letter be included as a public comment to the draft EIS document for New Melones.

Sincerely,

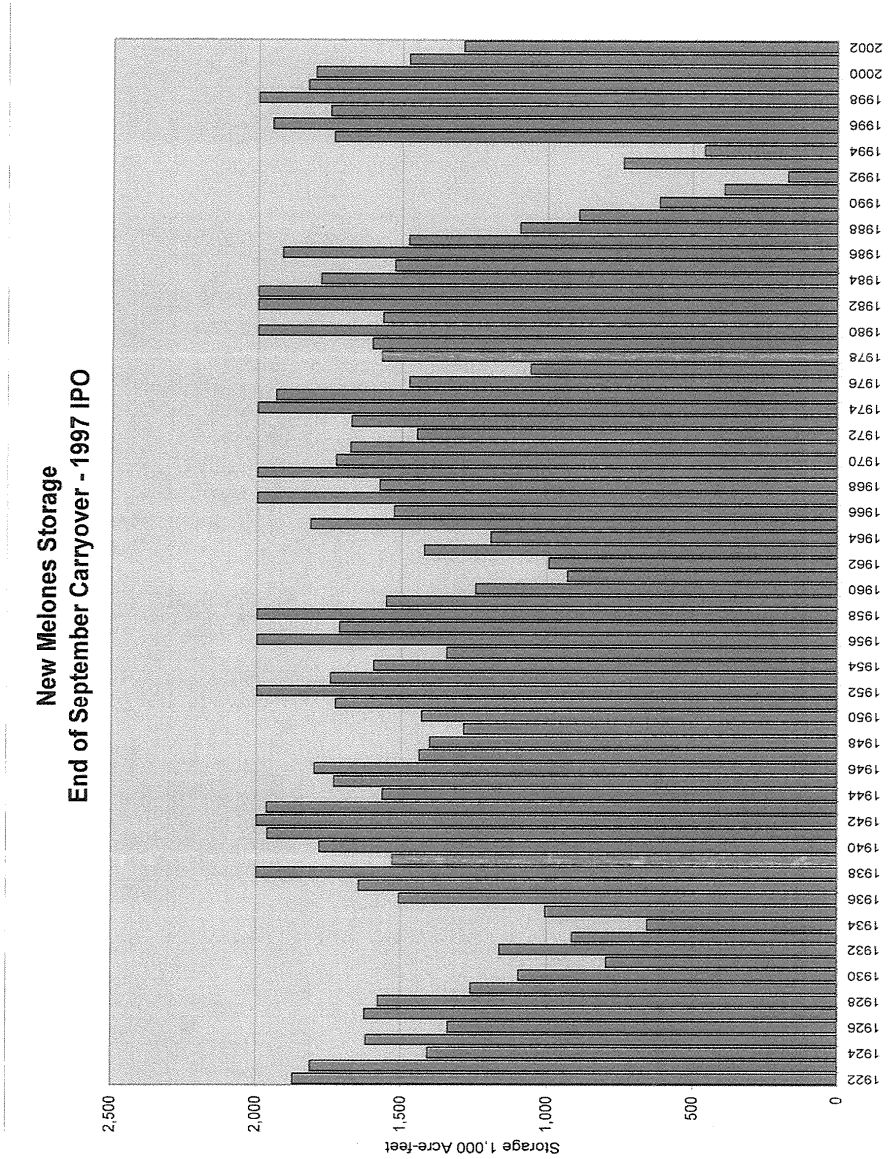
OAKDALE IRRIGATION DISTRICT

Steve Knell, P.E.
General Manger

Enclosures

cc OID Board of Directors
SSJID Board of Directors
The Oakdale Leader
The Union Democrat

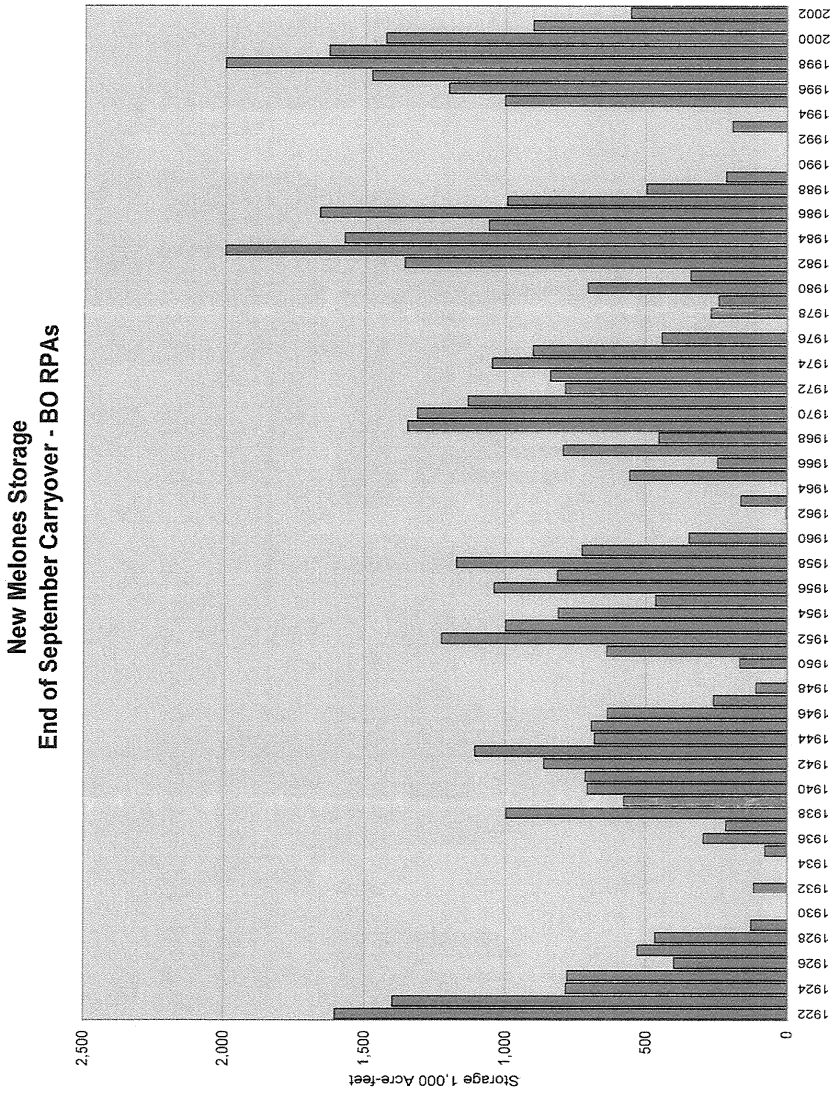
Letter L-11, Continued **Comments** **Responses**



Attachment to Letter L-11. Not a comment letter on the New Melones Lake Area Draft RMP/EIS

Letter L-11, Continued

Comments



Responses

Attachment to Letter L-11. Not a comment letter on the New Melones Lake Area Draft RMP/EIS

Letter L-11, Continued **Comments** **Responses**

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A Century of Service

SSJID
SOUTH SAN JOAQUIN
IRRIGATION DISTRICT

November 19, 2009

Mr. Donald R. Glaser
Regional Director, Mid-Pacific Region
Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825-1898

Re: OCAP-BO

Dear Mr. Glaser:

Thank you for your response of October 13, 2009 to our letter to you of August 27, 2009, regarding the OCAP-BO. On behalf of OID and SSJID, we are pleased to see the USBR will abide by the terms of the 1988 Agreement and Stipulation. As we expressed to Commissioner Michael Conner on our trip to Washington D.C., the Districts have had a very good working relationship with the USBR on the Stanislaus River. We look forward to continuing our relationship to address and resolve issues as they arise.

We are perplexed, however, by your statement you will "abide" by the 1988 Agreement and yet you will "use the IPO for guidance and the NOAA fisheries BO OCAP-BO operations." Shouldn't that statement be, "IPO for operations and BO for guidance"? Otherwise, we need you to explain this further as it does not answer our questions on how the USBR will operate New Melones. The OCAP-BO is not an operations plan. The Bureau as part of the project description for the BA set forth an operation plan. The OCAP-BO RPAs are predicated on the USBR operating New Melones as set forth in the BA--an operation plan you now say the USBR will not follow. The OCAP-BO RPA is not an "operation plan". It only says that if you have that BA operation plan then you need to do these additional actions. What is the Operation Plan for New Melones in 2010? Beyond 2012?

We are also greatly concerned if the USBR intends to use the modeling runs done for the OCAP-BO RPA as the guidelines or operation plan for the Bureau's operations at New Melones. The model assumes an average year reduction of 29,000 af to the Districts. The 1988 Agreement says 600,000, it doesn't say 571,000 af. The model should show the Districts taking 600,000. Secondly, the model takes additional water from the Districts in critical years. The Districts are

Attachment to Letter L-11. Not a comment letter on the New Melones Lake Area Draft RMP/EIS

Letter L-11, Continued

Comments

limited to 400,000 af in critical years based on the BA operation plan. The 1988 Agreement has no such provision. In some years this would amount to a 200,000 af reduction to the Districts.

Given current carryover storage in New Melones and the unprecedented dry antecedent conditions within the system, the Bureau may be standing on the precipice of 1987-92 or 1928-34 droughts right now. So, how does the Bureau plan to get through such a drought and abide by the 1988 Stipulation Agreement and operate pursuant to the OCAP-BO?

The following are several other comments and inquires regarding your response letter and how the USBR will operate in 2010.

We conclude from the modeling done for the OCAP-BO RPA's that certain required operational criteria were conditioned in order to produce a viable reservoir operation through all drought periods. In certain runs NMFS turns off meeting the SWRCB D-1641 flow requirements at Vernalis, Dissolved Oxygen requirements at Ripon, and as stated above takes water from OID and SSJID. So, how will the USBR meet D-1641 and its permit conditions for New Melones and the OCAP-BO RPAs? How will the F&G Agreement integrate into the RPAs? What will be the allocation to CVP contractors? Will it be BA allocations, 1997 IPO, or something else? In the past the Stanislaus River Stakeholders have understood the protocols for the water allocations under the IPO. What are the protocols (triggers) for next year's allocations and operation?

We now know that the NMFS did not run its OCAP-BO RPA's through the Stanislaus River Temperature Model, even though CDF&G, USFWS and USBR recommended NMFS to do so. Some questions arise from our temperature analysis that we gave Commissioner Michael Conner when we were in Washington, D.C. We have attached additional copies in case you have not received them.

The temperature modeling shows that the temperature objective at Knights Ferry in the month of May cannot be met 90% of the time and in the month of April it cannot be met 80% of the time, no matter how much water is released. How will the Bureau know if it can, or cannot meet the temperature objective? Under what conditions will the Bureau offramp from attempting to meet the temperature objective? We also understand that the temperature objective for Orange Blossom Bridge in October can only be met 50% of the time. Under what conditions will the Bureau stop releasing water to try to meet a temperature objective that cannot be met in October 2010?

We understood the flow releases made this summer to meet the temperature objective in summer at Orange Blossom Bridge were done based on a "Daily Maximum". Page 620 of the OCAP-BO says "seven-day average daily maximum temperature". Is the USBR operating pursuant to a "Daily Maximum" or "seven-day average daily maximum temperature" for meeting temperature objectives?

Responses

Attachment to Letter L-11. Not a comment letter on the New Melones Lake Area Draft RMP/EIS

Letter L-11, Continued **Comments** **Responses**

Based on temperature modeling we have done, flows above 2,000± at Tulloch Dam actually increase the temperature of the water below Goodwin in April, May and October. Is the Bureau going to sacrifice meeting flow objectives (Appendix 2E) in the RPA for the sake of meeting temperature objectives? Or vise-versa, not meet the flow objectives because it would degrade temperatures. What has priority? Does the USBR no longer consider itself subject to the flow limitation in the lower Stanislaus that it has observed in the IPO and before that?

Please provide us with the Orange Blossom Bridge temperature data (daily maximums) for June 1st through October 31st. Did the USBR meet the OCAP-BO RPA's temperature objectives for Orange Blossom Bridge June 1st through October 1st? For October 1st through October 31st?

Are current operations at New Melones tied to a New Melones Index (NMI)? Will the New Melones operations for 2010 be done under a New Melones Index? If yes, can you please provide us with your assumptions for the index and a copy of the index? If the 2010 operation is based upon the NMI, what will be the allocation protocols for Appendix 2E and the Vernalis 60-day flows? If the allocations are based on the SJR Basin 60-20-20 index, what will be the allocation protocols for 2010? After the interim period?

Table 2e is predicated upon a 50% forecast of the New Melones Index. Are all allocations, CVP, Dissolved Oxygen, D-1641, etc. also now done under a 50% forecast on March 1st?

Thank you for your prompt response to our inquiries. We are assuming you had this information available to you when the Bureau "provisionally" accepted the OCAP-BO. We look forward to your earliest response as the 2010 water year is almost upon us. We thank you for allowing Mr. Paul Fujitani of your staff, to respond to our inquiries.

Sincerely,

OAKDALE IRRIGATION DISTRICT

Jack D. Alpers, DVM
Board President

SOUTH SAN JOAQUIN IRRIGATION DISTRICT

Dave Kamper
Board President

Attachment to Letter L-11. Not a comment letter on the New Melones Lake Area Draft RMP/EIS

ORGANIZATION COMMENTS

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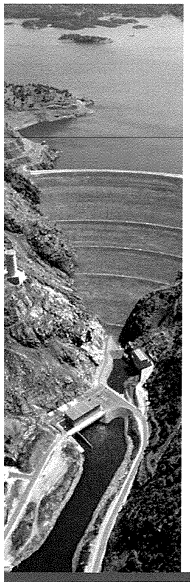
Letter O-1

Comments



RECLAMATION

Managing Water in the West

Comment Sheet for the New Melones Draft RMP/EIS

Written comments may be submitted at the Comment Table or are due to the Bureau of Reclamation by close of business Monday, January 4, 2010.

Comments may also be mailed to the address on the back, or faxed to 916-989-7109, or e-mailed to mbrockman@.usbr.gov. Thank you.

(Please print clearly)

Name John Fuller

Organization and Address Pantechnicon Aviation Ltd.
2207 Bellanca Street
Minden, NV 89423

Phone ( )775-720-5252 FAX ( )775-618-9208 E-mail jmfuller@ix.netcom.com

Comment here: December 10, 2009
Date

I write regarding continued seaplane access to New Melones Reservoir, which we strongly support. I was fortunate in being able to use New Melones Reservoir during my seaplane training, and continue to periodically enjoy its use. I am always pleased to see the local boating community enjoying watching our activities, often with interested questions.

O-1-1 I note that there are four alternatives offered in the Draft RMP/EIS. We are very much in favor of Alternative B, which would allow a seaplane school which, of course, would provide additional jobs in the area. Alternatives A and D are acceptable, but

O-1-2 we are strongly opposed to Alternative C, which would close the lake to all seaplanes.

Seaplanes are less polluting than most power boats, and our local pilots go to great pains to be good neighbors. As with personal watercraft, there is a large number of small personal seaplanes that are specifically designed for recreational use on inland lakes such as New Melones Reservoir. We look forward to working with you to ensure continued access of these specialized "aerial watercraft" to New Melones as well as other BOR lakes.

Many thanks for considering our comments.

All comments become part of the public record.

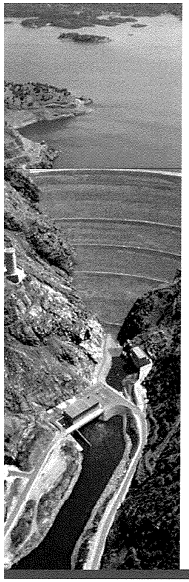
Responses

O-1-1: Comment noted. Commercial operation of seaplanes on Reclamation water bodies is not permitted under 43 CFR Part 423.41.

O-1-2: Comment noted.

Letter O-2

Comments



RECLAMATION

Managing Water in the West

Comment Sheet for the New Melones Draft RMP/EIS

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Comments may also be mailed to the address on the back, or faxed to 916-989-7109, or e-mailed to mbrockman@.usbr.gov. Thank you.

(Please print clearly)

Name William R. Borgsmiller

Organization and Address Aviation Consultants, Inc.

945 Airport Drive

San Luis Obispo, CA 93401

Phone ( )805-782-9722 FAX ( )805-545-9225 E-mail wborgsmiller@acijet.com

Comment here: December 11th, 2009
Date

O-2-1 As a seaplane owner and operator, I would like to express my strong support of Option B and my extreme opposition to Option C. Seaplanes have a long history of safe operation at the New Melones reservoir and many other BOR waterways. While not common in CA, seaplanes are safely and widely used in our neighboring states of OR and WA on some of the busiest waterways in the country. I cannot think of any possible reason or benefit to the public that would be great enough to justify restricting a citizen's rights to operate a seaplane onto our out of this reservoir. Under Federal Law, a seaplane is considered to be a vessel ("boat") when it is operating on the water. Provided that seaplanes continue to exhibit a safety

O-2-2 record that is far better than that of recreational boats and personal watercraft, I would consider any laws restricting seaplane use to be discriminatory and a violation of the public trust doctrine. I strongly urge anyone deciding on this issue to look at the facts that surround seaplane use and operation. Generally speaking, seaplane pilots as a group are educated and responsible tax paying individuals that should be entitled to enjoy this country's natural resources in their own special way just like any

O-2-3 other citizen. Considering their exemplary safety record and minimal environmental impact (no discharge, 2 stroke engines, or underwater propellers), I urge you to defend the rights of this small but valuable segment of the population.

All comments become part of the public record.

Responses

O-2-1: Comment noted.

O-2-2: Management actions within the RMP must be consistent with Reclamation's goals and objectives. Reclamation must consider resource use, resource protection, and public safety in managing the New Melones Lake Area. Reclamation's preferred alternative would continue to implement the current policy for non-commercial seaplane use of New Melones Lake.

O-2-3: Management actions within the RMP must be consistent with Reclamation's goals and objectives. Reclamation must consider resource use, resource protection, and public safety in managing the New Melones Lake Area. Reclamation's preferred alternative would continue to implement the current policy for non-commercial seaplane use of New Melones Lake.

Letter O-3

Comments

RECLAMATION

Managing Water in the West

Comment Sheet for the New Melones Draft RMP/EIS

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Comments may also be mailed to the address on the back, or faxed to 916-989-7109, or e-mailed to mbrockman@.usbr.gov. Thank you.

(Please print clearly)

Name Charles Hartwell

Organization and Address Hartwell construction
1001 Cliff Dr.
Newport Beach California

Phone ( ) 949-246-6467 FAX ( ) 949-722-7516 E-mail Chartwell@roadrunner.com

Comment here: December 12, 2009
Date

Seaplanes and seaplane pilots are a symbol of American freedom. To ban seaplane use in New Malones Lake would be a catastrophe. I have landed and enjoyed New Malones Lake for the past 12 years

O-3-1 I say to people that have concerns about safety you really need to go up in a sea plane

The perspective you have on the downwind and turned for a approach is 180°

Much more than you would have driving a car or driving in a boat

From the air there really is no conflict with boating "a sailboat is more dangerous"

O-3-1 (Continued) The splendor of seaplane is such a wonderful and popular attraction that only benefit local tourism and businesses

You ban seaplanes now what's next? why don't we just ban everything?

No boating, no fishing, no sailing, no people, that'll work

All comments become part of the public record.

Responses

O-3-1: Comment noted. Reclamation's preferred alternative would continue to implement the current policy for non-commercial seaplane use of New Melones Lake.

Letter O-4 **Comments** **Responses**

VINTAGE
REALTY
1301 S. Main Street
P.O. Box 369
Angels Camp, CA 95222-0369
Bus. 209-736-9191
Fax 209-736-6811
info@vintage-realty.com

Vintage Realty
Nancy Whittle & Janet Cuslidge
1301 S. Main Street
P.O. Box 369
Angels Camp, CA 95222

December 23, 2009

Mrs. Melissa Vignau
c/o Central California Area Office
U.S. Department of the Interior
Bureau of Reclamation
7794 Folsom Dam Road
Folsom, CA 95630-6610

Dear Mrs. Vignau,

O-4-1 We have read that you are considering restricting the size of houseboats at New Melones Reservoir and believe this would be a big mistake. In Calaveras County, our local economy is reliant on tourism and as such we strive to offer the best recreational opportunities we can.

We use the houseboats on New Melones Reservoir for business gatherings and when choosing a rental, we always go with the largest available; the larger houseboats offer more luxury for the money and make our trips very memorable.

Our 2.4 million acre foot lake is so large that we've never had a problem with congestion or traffic and we are fully capable of driving the larger 16' wide by 70' long houseboats on New Melones Reservoir.

The freedom to rent larger houseboats for use on New Melones Reservoir benefits both local residents and visitors alike. We sincerely hope you won't penalize us and do

O-4-1: Comment noted. Houseboat size limits have been in effect since 1986. The preferred alternative would continue to implement the same size limitation. The current size limitation of 15' x 65' is based on many factors, including but not limited to entrance road size limitations, marina facilities and capacity studies. The 2002 Visitor Use Study established a capacity of 106 houseboats, in part based on current size limits. Increasing the maximum size of houseboats may have an impact on the overall capacity and range of recreation opportunities and visitor experiences on the lake. The preferred alternative seeks to maintain or enhance the existing capacity and range of recreation opportunities provided.

Letter O-4, Continued **Comments** **Responses**

VINTAGE
REALTY
1301 S. Main Street
P.O. Box 369
Angels Camp, CA 95222-0369
Bus. 209-736-9191
Fax 209-736-6811
info@vintage-realty.com

damage to our local economy by restricting houseboat size in Calaveras County.

Sincerely,

Nancy Whittle
Janet Cuslidge

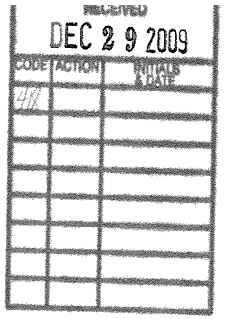
Nancy Whittle, Owner
Janet Cuslidge, Owner

Letter O-5

Comments

Responses

Gold Star Plumbing
PO Box 1705
Murphys CA 95247
(209) 728-3210



December 28, 2009

Mrs. Melissa Vignau
C/0 Central California Area Office
US Department of the Interior
Bureau of Reclamation
7794 Folsom Dam Rd
Folsom CA 95630-6610

Mrs. Vignau,

O-5-1 I would like to express my support for increasing the size restrictions on house boats for the New Melones water ways. At present they are limited to 15' x 56'. All new house boats are around the 16' x 70' size. This is the size that people want because of the amenities they provide. I do not feel the added size impacts the water, but it does impact peoples decision on where to spend their disposable income. As tough as times are now, it is important to let all businesses play on a level field and prosper as well as they can. I hope to see this restriction lifted. If you have any comments, questions or concerns I would love to hear from you.

Thank you for your help,

Jonathan Ingber

O-5-1: The current size limitation of 15' x 65' is based on many factors, including but not limited to entrance road size limitations, marina facilities and capacity studies. The 2002 Visitor Use Study established a capacity of 106 houseboats, in part based on current size limits. Increasing the maximum size of houseboats may have an impact on the overall capacity and range of recreation opportunities and visitor experiences on the lake. The preferred alternative seeks to maintain or enhance the existing capacity and range of recreation opportunities provided.

Letter O-6

Comments

Castle & Cooke
CALAVERAS, INC.

December 30, 2009

Ms. Melissa Vignau
C/o Central California Area Office
U.S. Department of the Interior
Bureau of Reclamation
7794 Folsom Dam Road
Folsom, CA 95630-6610

Fax: 916-989-7109

Re: New Melones Resource Management Plan and Environmental Impact Statement

Dear Ms. Vignau,

O-6-1 We are requesting a revision to the Bureau of Reclamation policy on the size limit of house boats allowed on New Melones Lake. The current policy limits houseboat width to 15' and length to 56'. Our request is to increase the size limit to accommodate the newer houseboats of at least 16' in width and 70' in length.

Considering the New Melones Lake size of 12,000 surface acres and its importance to our Calaveras County economic and recreation needs, it is imperative that we offer the boating public the ability to use the latest state of the art houseboats.

Our experience in discussing the houseboat size issue with interested boaters is that they would use New Melones Lake if they accepted the larger houseboats, but due to the current size limits they have no interest. This attitude in part hurts our ability to increase the economic viability of our County.

In addition, our company is in the business of building commercial business and residential home opportunities in Calaveras County. The importance for us to be competitive with other regions that have lake access for the larger boats is critical to the success of our region.

Sincerely,

Dave Haley
Vice President, Division Manager

100 Town Square Road, Copperopolis, CA 95228 • (209) 785-8550 • Fax (209) 785-8551

Responses

O-6-1: The current size limitation of 15' x 65' is based on many factors, including but not limited to entrance road size limitations, marina facilities and capacity studies. The 2002 Visitor Use Study established a capacity of 106 houseboats, in part based on current size limits. Increasing the maximum size of houseboats may have an impact on the overall capacity and range of recreation opportunities and visitor experiences on the lake. The preferred alternative seeks to maintain or enhance the existing capacity and range of recreation opportunities provided.

Letter O-7 | **Comments** | **Responses**

Central Sierra Environmental Resource Center
Box 396 • Twain Harte, CA 95383 • (209) 586-7440 • FAX (209) 586-4986
Visit our website at: www.cserc.org or contact us at: johnb@cserc.org

January 3, 2010

Ms. Melissa Brockmam-Vignau
Project Manager, New Melones RMP
Bureau of Reclamation
Central California Area Office
7794 Folsom Dam Road
Folsom, CA 95360

Re: New Melones Lake Area Resource Management Plan/EIS

Dear Ms. Brockman-Viganu:

As you and New Melones officials already know, the Central Sierra Environmental Resource Center (CSERC) has been an active, science-based advocate and respectful participant in planning at New Melones for more than a decade. CSERC has been involved throughout the entire planning process for the New Melones Resource Management plan. Our staff has attended all public meetings, and we have engaged in all opportunities to provide input. After reviewing the Draft Management Plan and EIS, CSERC submits these final detailed comments. We also ask that all of CSERC's previous submitted written comments provided previously in this process be included as part of the legal record for purposes of CSERC's legal standing.

Air Quality:

In one of the only major legal deficiencies in the current Resource Management Plan, the Bureau has failed to provide a reasonable range of alternatives under NEPA in terms of the significant impact of Greenhouse Gas (GHG) emissions and the need to reduce carbon contributions to climate change. The State of California (as well as the federal government) has determined that climate change and GHG emissions are creating significant negative impacts for the environment. Thus, it is not legally permissible for the Bureau to sidestep this significant impact without providing a range of potential strategies to reduce the

Letter O-7, Continued **Comments**

significance of the impact. Accordingly, any major land management plan requires appropriate consideration of GHG emissions and feasible mitigation measures to reduce carbon emissions.

O-7-1 In one of the major gaps of information considered in the current plan, sources of greenhouse gases and appropriate mitigation measures are not considered under the Air Quality section. It is important to quantify and mitigate the effect that motorized boats, RV's, cars, construction of new complexes, and other activities occurring at New Melones have on air quality as well as climate change due to greenhouse gases. The federal government issued a mandate on October 5, 2009 stating that the heads of all federal agencies must account for their contribution of greenhouse gases and by January 3, 2010 have a "a percentage reduction target for agency-wide reductions of scope 1 and 2 greenhouse gas emissions in absolute terms by fiscal year 2020, relative to a fiscal year 2008 baseline of the agency's scope 1 and 2 greenhouse gas emissions."[1] CSERC strongly urges the Bureau to not only include New Melones in their plan to decrease greenhouse gas emissions created by activities occurring within BLM property, but to also appropriately analyze the impact that proposed expansions of recreation facilities may have on accomplishing reduction goals.

O-7-2

O-7-3

O-7-4 In the final EIS and in the final selected alternative, the Bureau should either discuss differing options and alternatives for reducing GHG emissions, or at a minimum the Bureau must identify how appropriate mitigation will be adopted for not only the predicted increase in GHG emissions tied to management approval, but also for the cumulative GHG emission impacts that the new emissions combined with existing emissions collectively produce. **The FEIS and final Decision should spell out how mitigation is planned to reduce the level of significance of climate change impacts from management activities, and assure that future site-specific actions based on this programmatic plan will only be approved if GHG emission reduction mitigations are determined to be adequate and sufficient.**

O-7-5

Noise:

Alternative C requires mandatory compliance with boat and visitor noise, whereas the propsed action does not. CSERC believes that it is critical to have mandatory compliance to ensure that noise restrictions are enforced if regulations are going to be effective. Without mandatory compliance, the sole incentive for compliance will depend upon the desire by visitors to respect rules. In reality those who are causing the greatest noise problems are unlikely to comply with any noise restriction requirements unless there is some clear consequence**. In this case CSERC encourages the adoption of Alternative C – mandatory compliance with noise regulations**. How those noise regulations are designed and how they are enforced can provide the Bureau with flexibility based on an awareness of the limits of agency personnel and staffing capacity.

O-7-6

Responses

O-7-1: Sources of greenhouse gas emissions are considered in the air quality cumulative impacts (Section 6.18.1). The analysis concludes that no cumulatively significant effects on air quality are expected from implementing the New Melones RMP. Because the RMP is a programmatic document and the analysis broad-scale, quantification of emissions that may result from implementing actions in the RMP would be speculative and was not conducted. Available information was insufficient to develop quantitative greenhouse gas emissions for activities addressed by RMP alternatives; however, qualitative analysis was provided. Impacts on air quality would be further assessed during NEPA review at the project implementation level, and appropriate mitigation measures would be proposed, as warranted.

O-7-2: Reclamation will comply with the Executive Order and any future requirements for all future actions as required.

O-7-3: Impacts on air quality would be further assessed during NEPA review at the project implementation level, and appropriate mitigation measures would be proposed, as warranted.

O-7-4: Because the RMP is a programmatic document and the analysis broad-scale, quantification of emissions that may result from implementing actions in the RMP would be speculative and was not conducted. As such, specific mitigation measures were not proposed. Impacts on air quality would be further assessed during NEPA review at the project implementation level, and appropriate mitigation measures would be proposed, as warranted, to address project-specific and cumulative effects.

O-7-5: Analysis in the RMP/EIS concludes that climate change impacts from management activities would be less than significant. Impacts on air quality would be further assessed during NEPA review at the project implementation level, and appropriate mitigation measures would be proposed, as warranted.

O-7-6: Comment noted.

Letter O-7, Continued

Comments

Geologic Resources (excluding caves):

CSERC generally supports the Bureau's plans for managing geologic resources, and the continued restriction of mining within the study area, as well as the involvement of New Melones in any proposed mining plans that may affect the New Melones watershed. However, in section 6.4.3.3 of the EIS the environmental effects of grazing on geologic resources are described. Because grazing can affect soil and watershed values, it may be appropriate for the Bureau to include strategies for management of grazing impacts in the Goals or Actions in this section since in the Bureau's proposed alternative, grazing will be brought back into the New Melones Lake Area as described in Table 3-1 Action ISC 4D and Action LM 9B.

O-7-7

Caves:

CSERC supports the Bureau's goals to comply with cave management regulations and the resources within caves. The Center strongly encourages the Bureau to strengthen these goals by including language in the Resource Management Plan that demonstrates that strict measures will be taken to protect the resources and habitats within significant caves identified (specifically Caves 25, 54, 77, 52, 85, and Dragon's Breath caves, and those that may be identified in the future) on New Melones land including "restriction of use of significant caves" [2] in accordance with the 1988 Federal Cave Resources Protection Act. The species specially evolved to live in and dependant on these delicate ecosystems and the extreme vulnerability of these habitats to alteration due to human contamination and destruction is why CSERC supports the adoption of Alternative C with an inclusion of a detailed management strategy for cave management.

O-7-8

Hydrology/Water Quality:

The goals and general actions described in Table 3-1 are intended to manage the water quality, water resources, and aquatic habitats in a way that supports water and ecosystem health, conservation, and quality. CSERC supports those goals and the general actions spelled out. However, CSERC notes that the language put forth in this section is generally vague when describing new facilities and that the need for greater detail is necessary to ensure that these goals are truly realized with the least possible impacts to affected resources. For example, Action WR1 states that minimum basic facilities such as parking and restrooms will be updated in Rural Developed and Rural Natural Management Areas to protect water quality and ecosystem protection. Without specific details on how these expansions will be done in a way that protects the resources described, CSERC opposes Action WR1 due to the potential harm that any new development may have on existing habitat and wildlife. In the final plan and FEIS, such information and criteria should be spelled out.

O-7-9

Responses

O-7-7: Actions ISC 4B-4D state that grazing would be allowed upon the approval of grazing plans; grazing plans would include measures to minimize impacts to geologic resources.

O-7-8: Comment noted. Should funding become available, Reclamation may develop an updated cave management plan by coordinating with other agencies to strengthen and protect cave resources. Action C 2 has been revised to reflect this information.

O-7-9: The implementation of WR1 would vary on a case-by-case basis, depending on the nature or location of facilities being updated. Impacts on existing habitat and wildlife would be addressed during environmental review at the project implementation level; however, the overall intent of this management action includes ecosystem protection.

Letter O-7, Continued

Comments

Sanitation: CSERC supports the Actions described for Sanitation management that are universal to all of the proposed actions. Additionally, CSERC supports all of the actions proposed under Alternative D, while noting that installing a sign at Coyote Creek that indicates the lack of restroom facilities at Natural Bridges along with using BMPs (Action WR 19C) is generally vague and greater detail on how this will accomplish sanitation goals is needed.

O-7-10

Erosion: While CSERC strongly supports the actions that are universal to all of the proposed alternatives in this section, our Center notes that Action WR24 stating the Bureau will "Prohibit discharge of sediment to any water body" is contradictory to many of the proposed new and expanded activities that the Management Plan is proposing. This includes grazing, which is known to create soil erosion problems[2] and discharge of sediment. CSERC urges the Bureau to include specific regulations that will ensure that activities that lead to erosion and sedimentation are properly planned and mitigated for in order to reduce their impact to the maximum extent feasible.

O-7-11

For the Actions proposed in WR28, CSERC supports Alternative C as this alternative addresses the existing problems of erosion through closures of degrading roads instead of updating roads and minimizing the erosion new construction creates (as will happen in the proposed action Alternative D), as well as restricting and reducing vehicle use in vulnerable areas.

O-7-12

Contaminants: CSERC recognizes that it is necessary in some circumstances to use chemical controls for invasive plant removal when biological and mechanical controls are no longer effective in halting the spread and reproduction of non-native plant species. Consequently, CSERC supports the proposed Alternative D, Action WR 35D, while urging the Bureau to use chemical controls responsibly and as a last resort for difficult invasive species (for example, yellow star thistle).

O-7-13

Vegetation:

Under all topics within this section, CSERC strongly supports the Bureau adopting the Alternative C actions, as it considers and mitigates for the environmental effects that activities such as burning, grazing, moving the Baseline Conservation Camp, and human activity have on existing vegetation and habitats. All the topics under the section discuss the importance of education to the public in order to raise awareness of the value of certain habitats, as well as avoiding certain sensitive and easily impacted environments during proposed project developments or activities. However Alternative C is the only one that takes the extra precautions to consider and minimize the impact that these activities may have on vegetation and habitat in the long run, and truly allows the Bureau demonstrate its stated values which it strives to educate the public about, while reaching other goals listed in other categories within Table 3-1. For example, under the Hydrology/Water Quality category, Goal 3 states the Bureau will work to "Maintain the ecological health of aquatic habitats on New Melones Lake lands, for example riparian and wetlands". In section

O-7-14

Responses

O-7-10: Should funding become available, installation of a compost facility could be placed at Natural Bridges in the Coyote Creek Management Area, to accompany an existing facility. Action WR 19C has been revised to reflect this information.

O-7-11: Measures to minimize and mitigate erosion/sedimentation impacts would be addressed at the project implementation level.

O-7-12: Comment noted.

O-7-13: Comment noted.

O-7-14: Comment noted.

Letter O-7, Continued

Comments

6.7.3.3 of the EIS, the indirect effects of livestock grazing are described: "livestock grazing deteriorates stabilizing vegetation, erodes banks, and causes decline in water storage capacity and quality." These impacts clearly work against the described goal. According to Section 6.7.6 *Effects of Vegetation under Alternative C*, only under Alternative C will BMPs be implemented to protect water quality, which would "protect riparian vegetation from degradation resulting from grazing use". Clearly with instances such as this the Conservation Alternative not only would protect the habitats and water that help to create a healthy ecosystem, but the Conservation Alternative approach also aligns with the goals put forth by the Bureau of Reclamation.

Fish and Wildlife:

In the goals listed by the Bureau under the section of Fish and Wildlife, it is emphasized that the main objectives of the Resource Management Plan are to maintain or improve biological diversity, reduce disruption and loss of sensitive wildlife habitat, to enhance wildlife habitat overall, and to restore wildlife habitat that has been damaged through restoration and revegetation. CSERC strongly supports these goals, recognizing that the continued use of the New Melones Lake area for recreational and other purposes inadvertently impacts the diversity and stability of wildlife populations and habitat. Of all the strategies each alternative takes to mitigate for these impacts, CSERC supports the adoption of actions under Alternative C as well as the all of the actions that are universal under all of the alternatives, in order to provide the most protection of wildlife resources. Alternative D allows room for undefined development in the Peoria Wildlife Management Area with the expansion of the Baseline Conservation Camp "if needed". Without any description of where or what type of expansion this development project would be, CSERC opposes the expansion due to the impact that this may have on the surrounding habitat. Additionally, no matter what alternative the Bureau ultimately adopts, CSERC urges that the prohibitions and restrictions on vehicle usage in designated areas be enforced to a greater extent by increasing the severity of the fine or punishment for violators, and that these penalties be described in the final management plan.

O-7-14 (Continued)

O-7-15

O-7-16

Special Status Species:

CSERC supports the Bureau's recommendation of Alternative C for Action SSS 1D, which states that the Bureau will work to "conserve sensitive wildlife habitats", specifying the protection of raptors and bats during breeding periods. **Our Center urges the Bureau to expand upon the details of this action in the final management plan, describing the specific locations and the actions that will be taken at these locations to conserve and protect these habitats that special status species** (including flora as well as fauna) depend upon so greatly. Additionally, there is no mention of specific measures that may be taken to protect special status species other than bats or raptors that have had confirmed sightings in the New Melones Lake area. Species of concern includes fauna such as the tri-

O-7-17

O-7-18

Responses

O-7-14: Comment noted.

O-7-15: Comment noted. Since there is currently no detailed project description, further environmental review would be conducted prior to the implementation of any expansion, even if such actions occur within the existing footprint.

O-7-16: Comment noted. As Reclamation lands are owned under proprietary jurisdiction, Reclamation relies on enforcement of federal, state and local laws and regulations by authorized enforcement officers of those agencies. Reclamation is working with law enforcement officials in both Tuolumne and Calaveras Counties to enforce regulations and to mirror ordinances between both counties to increase the ability to cite and fine violators. Fines and bail schedules are not set by Reclamation.

O-7-17: The action states that Reclamation will "conserve sensitive habitats… by minimizing disruption and loss". Reclamation's measures to minimize habitat disruption and loss would vary on a case-by-case basis depending on the project or activity being implemented. Measures to adequately minimize habitat disruption and loss would be determined during additional environmental review prior to the implementation of any project or activity that could impact sensitive wildlife habitat.

O-7-18: Although the RMP does not identify specific management actions for all special status species that may be present in the New Melones Lake Area, Reclamation would, in general, manage public use and operations and maintenance to contribute to the conservation of special status species. Reclamation would conduct additional environmental review prior to the implementation of any activity or project that could impact special status species; impacts would be minimized to the extent possible and mitigation measures implemented as warranted.

Letter O-7, Continued

Comments

color blackbird, the burrowing owl, and the double crested coromont, as well as flora such as *Chlorogalum grandiflorum* and *Lomatium congdonii*. These species are at risk of habitat disturbance from a variety of activities on Bureau land (e.g. invasive species, grazing, fire, and so on), therefore CSERC urges that all special status species be included and protected in the final management plan. For the rest of the actions proposed under this category, CSERC supports Alternative C's approach because the actions described under this alternative take the highest measures to protect raptors and bats through restricting access to their nesting areas during mating season.

O-7-18 (Continued)

O-7-19

General Land Management:

Alternative C (along with B and D) advocates for moving the Baseline Conservation Camp (which is located within Peoria WMA) to "existing Equestrian Area away from the Stanislaus River area of the Peoria Wildlife Management Area". Alternative B,C, D say they would restore open areas formerly used by the Baseline CC, but leave the facilities available for future use. Alternatives B, C, and D also want to exclude Baseline from the PWMA boundaries "offsetting with equivalent or more acreage for wildlife mitigation adjacent to the (PWMA) in other areas". CSERC recognizes the realities of needing to provide valuable facilities for Baseline operations. Nevertheless, it is essential that the Management Plan provides for adequate long-term protection for the wildlife habitat areas that are so important to the overall ecosystem of the lands.

Under the topic "Rights of Use," CSERC supports Action LM7D for continued assessment by the Bureau of how lands are used within New Melones Lake Area, as well as the guidelines that new easements will have to adhere to. CSERC also supports the universal action LM8 and the continued prohibition of certain activities without a permit.

Action LM9 recommends the return of livestock grazing "in appropriate areas" for Alternatives B, C, and D to "control invasive plant species and to reduce fire danger". While CSERC does not argue against the use of grazing on federal multi-use land when environmental impacts are not significant, we argue that the phrasing in this action is vague and allows too much discretion in classifying locations that are suitable for range management. **CSERC urges the Bureau to clearly define circumstances and locations where grazing is deemed to be appropriate.** For example, in areas with limited invasions of noxious weeds, livestock grazing may be appropriate if those specific species of weeds are clearly diminished by a level of livestock grazing that does not wipe out all available forage. Some species (such as star thistle) only are effectively constrained by grazing if grazing utilization is so severe that the pasture areas are nearly denuded. Only at that point do the star thistle plants get heavily grazed. Since at New Melones, watershed and soil protection objectives will not be met by that level of intensive grazing, livestock may not be appropriate for constraining start thistle. Additionally, while grazing may, to a limited degree, help reduce the fuel load of non-native grasses prone to burning, CSERC emphasizes that this tactic does not address the underlying ecological issues that have created the present landscape, nor does it contribute to returning the landscape to its

O-7-20

Responses

O-7-18: Although the RMP does not identify specific management actions for all special status species that may be present in the New Melones Lake Area, Reclamation would, in general, manage public use and operations and maintenance to contribute to the conservation of special status species. Reclamation would conduct additional environmental review prior to the implementation of any activity or project that could impact special status species; impacts would be minimized to the extent possible and mitigation measures implemented as warranted.

O-7-19: Comment noted.

O-7-20: As noted in your letter, the effects of grazing can vary greatly depending on a number of factors, including the location to be grazed, the nature of vegetation communities present, and the extent the area would be grazed. As stated in LM 9, Reclamation would require a grazing plan and permit prior to allowing grazing; the grazing plan and permit process would consider items such as borders and buffers to protect sensitive resources. Additional environmental review would be conducted before authorizing grazing at a particular location to analyze the environmental benefits and potential adverse impacts.

Letter O-7, Continued

Comments

natural former state. The impacts of cattle grazing on existing wildlife, vegetation, and water quality often outweigh any benefit that their use for "mowing down" grasses can provide. Without the inclusion of how and where buffers and borders will be established to prevent cattle from accessing areas most vulnerable to livestock damage, CSERC opposes the reintroduction of cattle to the New Melones Lake Area, and supports Action LM9A- the continued effort to eliminate unpermitted grazing on Reclamation land.

O-7-21

In the topics of Trespass and Unauthorized Use and Utilities, CSERC supports all proposed actions under the Alternative D as well as all actions that are unanimous to all the alternatives, with the exception that any proposed expansion of minimal facilities (Action LM17) should be described in greater detail as to their location so that the potential environmental impact of any expansion can be considered before action is approved.

O-7-22

Lastly, in the instance of enforcing illegal OHV use (Action LM13), CSERC again urges the Bureau to strengthen the penalties for violators in order to truly discourage this damaging activity.

O-7-23

Access and Transportation:

Recognizing the need to maintain and modernize roads and parking facilities, CSERC tentatively supports the Actions proposed under Alternative D for this category. However if maintenance and updating includes the rerouting or expansion of these areas, CSERC urges the Bureau to analyze and outline the mitigation of the impact that the construction of more impervious surfaces will have to the surrounding environment and water quality before the approval of any project.

O-7-24

CSERC generally opposes for multiple reasons building new roads at New Melones, especially to access areas that are presently valuable to wildlife in part because there is limited vehicular access. Vehicle access brings increased risk of poaching, greater potential for the introduction of non-native plants, increased noise, increased disturbance, and increased risk of road kill for wildlife species. For all of these reasons, CSERC strongly encourages the Bureau to protect and preserve the existing roadless areas within the project area.

O-7-25

In terms of the issue of seaplane use, the matter is primarily a question of whether or not seaplanes are truly necessary to allow at New Melones, or whether the noise and potential safety risks associated with seaplanes is simply not necessary to allow at New Melones. CSERC supports Alternative C with its restrictions on access for seaplanes, but we defer to the judgment of Bureau staff on this matter.

O-7-26

There are already many heavily used locations surrounding the New Melones Lake Area that are challenging in themselves to maintain and manage adequately. There are many miles of trails and roads already easily accessed by outdoor enthusiasts, and the Bureau proposes increasing the footprint of most of these areas with expanded and new facilities, more campgrounds, increased RV access, etc. Westside and Bowie Flat are some of the less

Responses

O-7-21: Comment noted.

O-7-22: Environmental impacts from implementation of LM 17 would be addressed during environmental review at the project implementation level.

O-7-23: Comment noted. As Reclamation lands are owned under proprietary jurisdiction, Reclamation relies on enforcement of federal, state and local laws and regulations by authorized enforcement officers of those agencies. Reclamation is working with law enforcement officials in both Tuolumne and Calaveras Counties to enforce regulations and to mirror ordinances between both counties to increase the ability to cite and fine violators. Fines and bail schedules are not set by Reclamation.

O-7-24: Site-specific NEPA will be conducted for all project-level implementation plans. This will include analyzing all impacts associated with the proposed project, to include the maintenance and modernization of roads and parking facilities.

O-7-25: Comment noted.

O-7-26: Comment noted.

Letter O-7, Continued

Comments

Responses

accessed and therefore more natural areas surrounding the lake. Due to the already significant impact that humans have on the environment surrounding New Melones Lake, CSERC questions the need for the increase in trail use by mountain bikers and equestrian users as well as the construction of new trails, trailhead staging, and campgrounds proposed in the Westside and Bowie Flat Management Area. We instead suggest that the objective be to more effectively maintain the trails already in existence, and to keep other areas as natural as possible so that equestrian users, hikers, and others can have natural area options to compliment available trail locations.

O-7-27

Public Health and Safety:

CSERC supports all universal actions described in the category of Public Health and Safety, with the exception of Action PHS 16 under the topic of Law Enforcement. CSERC recognizes the need for accessible and adequate law enforcement, however there is no mention of the area where the substations described in Alternative B and D would be located. Our Center stresses the importance of designating areas appropriate for proposed development sites before their approval so as to not create the potential degradation of valuable habitat due to loose regulations. Therefore, CSERC supports Alternative C for Action PHS 16 in order to protect potentially sensitive habitat from undesignated development projects.

O-7-28

Invasive Species Control

CSERC notes that this category has not been included in the Environmental Consequences section (Chapter 6), which hints that the Bureau has not properly analyzed the actions in this category. As raised previously in earlier comments, this is of concern to CSERC because of the inclusion of grazing as a method of controlling invasive plant species.

O-7-29

CSERC opposes the all-inclusive allowance of grazing "in all areas permitable for this type of use except high density recreation areas", as stated in all Alternatives except A for Action ISC 4. The implementation of industry standard BMPs are not mandatory[3] and thus do not establish strict enough regulations for the protection of water quality and aquatic ecosystems as well as other sensitive habitats.

O-7-30

When considering the usage of pesticide application as a means to control invasive species, CSERC urges the Bureau to consider including "preventative" measures in order to stop the continued introduction of unwanted flora and fauna species. For example, raising public awareness of how invasive species are introduced and spread through educational signs may help reduce contamination. Additionally, creating a regulation that mandates all boats entering New Melones are cleaned properly before entering the lake will help reduce the introduction of marine species such as quagga/zebra mussels and the New Zealand mud snail.

O-7-31

O-7-32

Action ISC Alternative C provides: "Implement a project-wide Fire Management Plan targeting late spring or early summer burning to control or eliminate invasive plants such

O-7-27: Comment noted.

O-7-28: Prior to development, further site-specific review would be conducted to assist in determining the most suitable locations for such facilities that would consider minimization of impacts to sensitive habitats.

O-7-29: As indicated on page 6-1, effects from implementing invasive species control management actions has been addressed, where applicable, under the Effects from Natural Resources Management headings within the 16 resource topics analyzed in Chapter 6.

O-7-30: Comment noted. Actions ISC 4B-4D state that grazing would be allowed upon the approval of grazing plans; grazing plans would include measures to minimize adverse environmental impacts.

O-7-31: Comment noted.

O-7-32: Reclamation can establish policies with proper approvals, but does not have the authority to develop new regulations without legislative approval.

Letter O-7, Continued

Comments

as yellow star thistle. Rehabilitate all burn areas to prevent infestation of invasive plant species". Alternative D provides the same with the addition of: "...work with CAL FIRE and federal agencies to coordinate rehabilitation efforts on moderate to large fire areas to prevent invasive plant infestation." CSERC believes that realistically the Bureau may not have either the personnel nor the budget to consistently utilize prescribe burning for ecological purposes and species-specific invasive plant control. We suggest that whatever final wording is approved, the program needs to be realistic and to recognize the high risk of escape when burning to reduce invasive species such as star thistle.

O-7-33

Cultural Resources:

CSERC supports all actions proposed under the Cultural Resources category, while noting that Action CR21 proposes the construction of a new Archaeological Storage Facility in a new location for Alternatives B, C, and D. However, as with other facilities proposed in this programmatic document, CSERC urges the Bureau to include protocols for approval of the new facility within the final Resource Management Plan that includes language that will ensures that sensitive habitats, wildlife, and the watershed are all protected from contamination and disturbance that would be generated by facilities.

O-7-34

Socioeconomic and Environmental Justice:

CSERC supports the actions proposed under the Socioeconomic and Environmental Justice category.

Indian Trust Assets:

CSERC supports the action proposed under the category Indian Trust Assets.

General Recreation:

Under the category of General Recreation there are many new proposed developments that are on the roster under Alternative D that would significantly alter the environmental landscape, habitat, and impact at New Melones Lake Area. While CSERC recognizes the reasons that the Bureau desires to expand facilities and services to reach the goal of meeting public desires for recreation accessibility, CSERC raises a number of concerns about the high level of expansion that is presently envisioned in the proposed action. The plans for expansion of facilities and recreational opportunities may be valuable from a visitor service perspective, but CSERC emphasizes that (1) visitor satisfaction is tied to having lands that are ecologically healthy, and (2) increased crowding, noise, disturbance, and pollution from expanding recreation will result in a lower level of satisfaction for those

Responses

O-7-33: Comment noted.

O-7-34: Prior to development, further site-specific review would be conducted to assist in determining the most suitable locations for such facilities that would consider minimization of environmental impacts.

Letter O-7, Continued

Comments

O-7-35 who come to recreate at New Melones. Accordingly, in this programmatic document, it is important for the final decision to limit development tied to Recreation with constraints that ensure that basic essential resources, including wildlife habitat, water quality, watershed values, and quiet recreation, are all sustainably protected.

CSERC makes these recommendations for the following actions and urges the Bureau to include them in the final Resource Management Plan:

O-7-36
- In Action R16, any proposed relocation of the Glory Hole marina should be tied to language that describes how the new location will be selected in regards to the potential for impacts water quality and aquatic habitat. For example, at this programmatic level, the final plan could include language such as: "Any relocation of the Glory Hole marina shall fully evaluate the new development's potential impacts not only on environmental resources (air quality, water quality, wildlife, plants), but also on dispersed recreation, potential intrusion into presently wild areas, and the ability for the new site to sustain administrative functions."

O-7-37 Additionally, in the current document, there is no mention of any new roads that would need to be built in order to access the new marina -- and a major road extension or construction would have both direct and indirect consequences. If one or more new roads may be needed to reach a new marina location, language should be included in the action that spells out programmatic constraints that would be feasible and reasonable to mitigate for and reduce road impacts. (Again, an example might be: "Any new road or roads tied to the relocation of the marina will only be approved if road construction or the extension of an existing road can be designed and sited in such fashion that no significant resource impacts occur.")

O-7-38
- In Action R 16D, the proposed expansion of marina services in Tuttletown and Glory Hole is tied to the potential addition of motorized boats rentals that would be available for visitor use. Any approval of such services (motorized boat rentals) should be tied to language that ensures appropriate mitigation for the increased pollution and increased GHG emissions that a higher number of motorized boats on the water would create within the management area.

O-7-39
- In action R17 D, the proposed action is to build seasonally operated marina services in various locations in Rural Natural Management Areas for rental of non-motorized boats. As with the comment provided above, CSERC again emphasizes the need to include language in any approval of this programmatic plan that assures mitigation for impacts. For example, any approval of this concept should include condition language requiring that any new boat rental facility shall only be allowed in location where the facility can be assured to create no more than a minimal impact on sensitive habitats and water quality and the surrounding environment.

- Action R 20D proposes the construction of floating campsites with yurts and restrooms. CSERC points out that despite the best intentions of the Bureau, it is almost certain that the Bureau will not have the fully desirable level of staffing and

Responses

O-7-35: Comment noted. Through the preferred alternative, Reclamation aims to achieve a balance between public use and conservation.

O-7-36: As stated on pages 1-5 and 6-2, subsequent documents tiered to the RMP for activity- and project-level plans would be subject to NEPA analysis and compliance, containing greater detail as necessary. By stating this in the introduction to the RMP/EIS (Chapter 1) as well as in the introduction to the environmental consequences chapter (Chapter 6), Reclamation conveys that further environmental review will be conducted prior to activity or project implementation without including repetitive and redundant language for each applicable case throughout Chapter 6.

O-7-37: Environmental impacts associated with the development of commercial services and concessions, including new or additional marina facilities, will be addressed in further detail in a subsequent Commercial Service Plan being prepared by Reclamation (see pages 2-25 through 2-26, which also indicates criteria that will be considered in planning such facilities).

O-7-38: Impacts on air quality would be further assessed during NEPA review at the implementation level, and appropriate mitigation measures would be proposed, as warranted.

O-7-39: Environmental impacts associated with the development of commercial services and concessions will be addressed in further detail in a subsequent Commercial Service Plan being prepared by Reclamation (see pages 2-25 through 2-26, which also indicates criteria that will be considered in planning such facilities).

Letter O-7, Continued

Comments

funds to fully monitor and ensure that floating campsites are not causing resource impacts -- in particular to water quality. Approving the concept of encouraging this type of service without assurance that strict monitoring is mandated will likely to end up affecting water quality and increase the contamination of New Melones Lake.

O-7-40 With the strong likelihood of such incidences of pollution occurring, CSERC supports Alternative C - no similar action, unless language can be added that ensures that floating campsites will not be allowed to be used unless fully sufficient staffing to monitor and maintain the floating campsites is assured.

- The addition of scenic cruises at New Melones Lake in Action R 21 is included in all of the Alternatives except A. CSERC notes that throughout the new proposed action, there is already a significant increase in the amount of motorized boats that would be provided and/or allowed onto New Melones. The addition of even more large vessels creates the potential for not only direct impacts through increased pollution, disturbance of wildlife, noise, etc., but the cumulative impacts of all of this increased level of use needs to be appropriately evaluated and mitigated for in the final plan.

O-7-41 CSERC suggests adding language in the final Resource Management Plan that requires there to be feasible, effective mitigation for the polluting effects that such cruise vessels would have on water and air quality as well as the impacts generated by increased greenhouse gases.

- Actions R 22, R 24, R 25, R 26, R 27, R 33, and R 34 in Alternatives B and D all propose construction of new facilities that will ultimately increase the Bureau's footprint on the land. These actions include the construction of full hook-up RV parks, new lodging facilities, new campgrounds, new amphitheaters, new restaurants, new camp stores, and new facilities for adventure guide businesses. When reading through the list of proposed expansions and developments, it is clear

O-7-42 that if approved they will have combine to create a significant, cumulative unavoidable impact on the surrounding water, habitats, and wildlife. This will be caused through the conversion of natural habitat, the higher frequency of disturbances to wildlife by increased volumes of people recreating, erosion created by runoff from more impervious surfaces, pollution from more motorized vehicles within the New Melones area, and many other direct and cumulative impacts.

O-7-42 (Continued) CSERC does not oppose the programmatic approval of a plan to allow numerous new facilities. However, due to the minimal regulatory language used to describe the way that these new developments will avoid or reduce impacts to sensitive habitats and water quality, CSERC at this time supports Alternative C for all of the above listed actions. However CSERC understands the desire of the Bureau to provide long-term opportunities for facility expansion and new development where

O-7-43 appropriate. Thus, CSERC urges the Bureau to include restrictive conditions for the selection of the site or construction of any new development -- such as the new facilities for an outdoor school described under Action R 33C.

Responses

O-7-40: Comment noted. Monitoring and maintenance needs for protection of the environment associated with the development of commercial services and concessions will be addressed in further detail in a subsequent Commercial Service Plan being prepared by Reclamation.

O-7-41: Impacts would be further assessed during NEPA review at the implementation level, and appropriate mitigation measures would be proposed, as warranted.

O-7-42: The referenced actions are intended to cover the range of commercial services and concessions that may be considered by Reclamation; assumption of a significant cumulative impact is speculative at this time. The Commercial Services Plan being prepared by Reclamation will determine the number, type, and duration of concessions necessary to meet the public demand for services and quality recreation opportunities, in accordance with Reclamation management objectives, including natural resources protection.

O-7-43: Environmental impacts associated with the development of commercial services and concessions will be addressed in further detail in a subsequent Commercial Service Plan being prepared by Reclamation (see pages 2-25 through 2-26, which also indicates criteria that will be considered in planning such facilities).

Letter O-7, Continued

Comments

- CSERC supports horseback riding as a means of recreation within the New Melones Lake Area. However, CSERC does not support the construction of a new facility to support an equestrian trail riding business as proposed in Action R 32, due to the many likely detrimental environmental impacts such a business would produce for the environment on slopes that drain down into the reservoir. Having a daytime or round-the-clock stable facility would result in highly concentrated manure, water quality run-off problems, flies, smells, and other impacts on the public lands. As has been shown on US Forest Service and National Park Service lands, having an on-site stable increases risk of spreading non-native invasive plants, increases water quality concerns, and results in concentrated equestrian use, rather than dispersed use that reduces environmental impacts. Accordingly, for these reasons, **C**SERC supports Alternative A for Action R 32 - the no action alternative.

O-7-44

O-7-44 (Continued)

For the remainder of the Actions under the General Recreation Category that are not listed above, CSERC supports the actions proposed under Alternative D.

Aquatic Recreation:

CSERC supports the actions proposed under Alternative D for the Aquatic Recreation category, with the exception of the Actions discussed below:

- Noting that the wake from boats often results in additional shoreline erosion, CSERC supports the inclusion of additional no-wake zones in order to protect water quality in rural habitat areas. Therefore, CSERC supports Alternative C for Action AR 5, AR 15, and AR 24 because they have the most area included as a no-wake zone.

O-7-45

- Motorized watercraft emissions are a known environmental impact, and although newer vessels have made significant improvements in reducing emissions, this type of pollution still affects air and water quality. Watercrafts are also responsible for disturbing sediments in shallow waters, reducing the available oxygen for aquatic habitat. The noise from watercraft also often disturbs wildlife to varying degrees, depending not only on the size of the motor, but also on the activity and the speed of the watercraft. The addition of more motorized boats will contribute to the disturbance of land and aquatic based wildlife, and ultimately this will contribute to some degree to a potential degradation of the existing ecosystems within the affected areas. Before allowing the level of watercraft to substantially increase at New Melones, CSERC urges the Bureau to quantify and mitigate for the environmental impact that the current level of allowed watercraft creates for air quality, greenhouse gas emissions, and the rest of the affected environment. Due to the non-specific and non-environmental protocol established by the Bureau in determining the appropriate level of watercraft allowed at New Melones Lake, CSERC opposes the increase in level of water craft proposed in Alternative B and D in Action AR 22, and supports Alternative A (no increase in watercraft) or

O-7-46

O-7-47

Responses

O-7-44: Comment noted.

O-7-45: Comment noted.

O-7-46: Comment noted. Reclamation will comply with the Executive Order and any future requirements for all future actions as required.

O-7-47: Comment noted.

Letter O-7, Continued

Comments

O-7-48 Alternative C (a decrease in watercraft). However, if appropriate programmatic conditioning of mitigation is spelled out in the plan, then planning for some level of increase in watercraft would not be as negative for the affected environment.

- O-7-49 CSERC emphasizes that fish are especially vulnerable during spawning and their reproductive success is reduced by disturbances during spawning, CSERC supports the Bureau adopting Alternative C for Action AR 16 and 17- maximizing protection for trout and warm water fish spawning areas.

Land Based Recreation

CSERC supports the actions proposed under Alternative D as well as the universal actions described for the Land Based Recreation category, with the exception of the Actions discussed below:

- For reasons listed under the General Recreation comments in this letter for Action R 32, CSERC supports Alternative C for Action LR 16 - continued operation and maintenance of the existing equestrian staging area.

- O-7-50 Noting that Lower Natural Bridges is one of the caves designated as a significant cave by the Bureau, yet is difficult to restrict access to, CSERC urges the Bureau to take measures to protect the geologic and environmental values of this cave if Alternative D is accepted for Action LR 19. This could be done through increased education to the public at Natural Bridges with signs and increased patrols of the Natural Bridges Area by law enforcement, or it may necessitate a more assertive degree of fencing, penalties for trespass, etc.

- O-7-51 Without specific details how locations are chosen for new trails and the overall level of new trails and trailheads that is envisioned, as well as for reasons stated for the actions proposed under the topic Westside and Bowie Flat Management Area, CSERC supports Alternative C for Actions LR 21 and LR 22 - optimizing trail connectivity in the listed Management Areas.

- O-7-52 Actions LR 25 and LR 28 both propose the expansion of RV and campground facilities and services under Alternative D. As previously discussed in CSERC's comments on the proposed expansion and development of new facilities under the General Land Management category, without minimal regulatory language used to describe the way that these new developments will avoid or reduce impacting sensitive habitats and water quality, CSERC at this time supports Alternative C for both of the proposed actions.

- Repeating our Center's recommendation explained for Action SSS 5, CSERC urges the Bureau to adopt Alternative C- restricting access to climbing routes near sensitive bat species during bat habitation periods.

Responses

O-7-48: Comment noted.

O-7-49: Comment noted.

O-7-50: Comment noted.

O-7-51: Comment noted.

O-7-52: Comment noted. Impacts would be further assessed during NEPA review at the implementation level, and appropriate mitigation measures would be proposed, as warranted.

Letter O-7, Continued

Comments

- Repeating our Center's recommendation stated for Action C 4, CSERC urges the Bureau to adopt Alternative C for Action LR43 - controlling access to caves, as the extreme vulnerability of the ecosystems of significant caves may be impossible to recover once damaged.

Interpretive Services and Visitor Information:

CSERC supports the actions proposed under Alternative D as well as the universal actions described for the Interpretive Services and Visitor Information category, with the exception of the Action discussed below:

- In Action IS 7D, the potential development of an amphitheater in Tuttletown Management Area is proposed. Without regulatory language used to describe the way that this development will avoid or reduce impacts to sensitive wildlife areas and/or water quality, CSERC currently supports Alternative C for Action IS 7 - updating and modernizing the Glory Hole management Area outdoor amphitheater to ADA standards.

O-7-53

Political pressure to approve new road access from Copperopolis

As has been fully noted in local newspapers as well as observed by CSERC staff at Bureau meetings, it is apparent that real estate and development interests in Calaveras County as well as elsewhere are collaborating to pressure the Bureau to approve the concept of new road access into New Melones lands. Specifically, these pro-development interests are proposing a new road that would allow recreational and potential motorboat access from the Copperopolis area.

Such a new road has extremely high potential to create major new poaching, major new wildlife disturbance, major new sources of wildfire ignitions, major new sources of dumping, and a wide range of other negative resource impacts in an area that has long been identified as an important wildlife area within the New Melones management area. CSERC strongly, strongly advocates for the Bureau to remain firm in building upon the previous un-implemented management plan for New Melones, the current existing management direction, and the general objectives provided by Bureau staff at public meetings during this latest management plan process.

O-7-54

CSERC urges the Bureau to continue to design management direction at New Melones so that development and road access is concentrated in areas with the least value for at-risk or reclusive wildlife species. CSERC urges the Bureau to consider the administrative

Responses

O-7-53: Prior to development, further site-specific review would be conducted to assist in determining the most suitable locations for such facilities that would consider minimization of environmental impacts.

O-7-54: Comment noted.

Letter O-7, Continued **Comments** **Responses**

problems and potential increase of costs that would be associated with the need to have Bureau staff actively manage recreation and resource impacts on the west-southwestern block of lands in the management area if a new road was constructed -- in contrast to the current situation where motorized access is limited. For all of these and many additional management logistics reasons, CSERC urges the Bureau to reject the political pressures being brought to promote a new road from Copperopolis.

O-7-55

CSERC also urges the Bureau to reject pressure from Tuolumne County to provide a higher level of road access along the southern portion of New Melones lands in that county.

O-7-56

Closing summary

In conclusion, CSERC asks that as the Bureau works towards the final decision, that Bureau interdisciplinary team members keep in mind that with a shifting climate combining with the changing population dynamics of California, our aquatic and natural resources are more valuable and more in need of protection now than they ever have been. We urge the Bureau to fully consider the need to prudently balance management at New Melones by limiting recreational expansion, development, or other environmentally-harmful actions that may be enthusiastically supported by commercial or pro-use interests, but that would diminish the overall ecosystem health and visitor satisfaction that is important to the far larger majority of Americans who own New Melones management lands. We encourage the Bureau to limit approval of new expansion and new development to levels that can be assured to sustain the affected environment so that people can continue to visit and value New Melones for the beautiful and diverse place that it is.

Thanks you for considering CSERC's comments. Our Center looks forward to learning what decisions the Bureau makes for the future of New Melones Lake.

John Buckley, executive director Julia Stephens, staff associate

Appendix

1. The United States of America. The White House. Office of the Press Secretary. *EXECUTIVE ORDER: FEDERAL LEADERSHIP IN ENVIRONMENTAL, ENERGY,AND ECONOMIC PERFORMANCE.* 5 Oct. 2009. Web. 29 Dec. 2009.
2. Daniel, J. A., K. Potter, W. Altom, H. Aljoe, and R. Stevens. "Long-Term Grazing Density Impacts on Soil Compaction." *Transactions of the American Society of Agricultural Engineers* 45.6 (2002): 1911-915. Print.
3. "APPENDIX D: BEST MANAGEMENT PRACTICES." *Bureau of Land Management.* Web. 30 Dec. 2009.

O-7-55: Comment noted.

O-7-56: Comment noted.

Letter O-8

Comments

From: Zephyr Whitewater [zrafting@sbcglobal.net]
Sent: Monday, January 04, 2010 3:29 PM
To: Brockman, Melissa A
Subject: New Melones input

Dear Melissa,

O-8-1 I would like to support alternative D. And I also would like to request that the Bureau consider multiple use for reserrecting the rafting industry if conditions permitted. As you know, the rafting industry was huge prior to the completion of New Melones dam, and this brought millions of dollars annually into the local economies of Calaveras and Tuolumne counties.

O-8-2 Rafting recreation can exist with New Melones, as long as New Melones is kept moderately low until flood control was needed. The best way to guarantee flood control is to have a low reservoir so that if space is needed to store water, it is there. And a low reservoir would allow for whitewater recreation which would benefit the local economies far more than the erronous estimated of the use of New Melones back when the powers that be were trying to sell the concept.

Multiple use is possible, and would be the best alternative for the local economies and for the general public. Both flat water and whitewater recreation can co-exist.

Bob Ferguson
President
Zephyr Whitewater Expeditions
www.zrafting.com
1-800-431-3636

Responses

O-8-1: Comment noted.

O-8-2: While Reclamation may consider developing whitewater rafting opportunities, the RMP will be reactionary to Reclamation's operational needs regarding water levels; the RMP does not address management of water levels or flows.

Letter O-9

Comments

From: George Wendt [georgew@oars.com]
Sent: Monday, January 04, 2010 4:21 PM
To: Brockman, Melissa A
Cc: tylerw@oars.com
Subject: Resource Management Plan and Environmental Impact Statement (RMP/EIS) for the New Melones Lake Area

Dear Mr. Vignau:

I understand that you need our input regarding the New Melones Resource Management Plan today. Accordingly, personally and on behalf of O.A.R.S., I would like to record this input for your consideration.

O-9-1 Overall, we are satisfied with the current level of access for motorized boats at Glory Hole and Tuttletown. Nevertheless, we are in favor of **Alternative B** – Increased Access – with the proviso that choosing this alternative does not mean that we are in favor of new reservoir access from the west or from the Copperopolis area. Visitation at the reservoir, apparently, has never exceeded 800,000 people per year. Angels Camp is very concerned that if you open up the western end of the reservoir, this will just cannibalize existing usage which would take the small existing reservoir usage and hurt the existing marina facilities economically.

O-9-2 We suggest that the Glory Hole Point area be made more accessible for people with physical disabilities. We are in favor of supporting the existing mountain biking areas and we encourage you to work with the City of Angels

O-9-3 to facilitate a trail, likely following Angels Creek, from Angels Camp to New Melones. I understand that this trail would be roughly 4.5 miles long and it could help the economy of Angels Camp and all of Calaveras County and it would be a valuable resource for hikers, bicyclists, and possibly equestrians. This could help visitation to the reservoir at a modest cost and would help serve a more diverse population of outdoor visitors.

We also suggest, that – in view of the information that I read in your report regarding rivers and whitewater rafting:

7.1.1 Introduction
Lakes and rivers have always been a primary focus for outdoor recreation activities, and many outdoor recreational activities are considered water dependent or water enhanced.

7.2.1 Aquatic Recreation
Current Conditions
New Melones Lake Area is most popular with visitors for its aquatic recreation opportunities. There are approximately 12,500 surface acres of water (at full capacity) available for aquatic recreation. Activities such as fishing, boating, kayaking, whitewater rafting, houseboating, and water skiing all occur on the lake.

O-9-4 that it would be desirable to make rafting more accessible at the eastern end of your resource. Currently, with the Stanislaus River flowing over 3 miles from the Camp Nine Powerhouse to the point where it meets the reservoir just west of Rose Creek, it would be feasible for private or commercial rafters to float that section of river. As you may remember, the Bureau of Reclamation allowed commercial rafting companies to run that section of river from 1990 through 1995 when the reservoir receded because of drought and thousands of visitors per year took advantage of this opportunity. We don't know how this year's snowpack will impact reservoir level for 2010, but I do anticipate that within the next 10 years, we will see periods where the

Responses

O-9-1: Comment noted.

O-9-2: Comment noted.

O-9-3: Comment noted.

O-9-4: Comment noted. The permit process is described under 43 CFR 429. Further, this option is currently being analyzed in the development of the Commercial Services Plan.

Letter O-9, Continued

Comments

O-9-4 (Continued)

Stanislaus River run extends beyond Rose Creek – and possibly as happened in the early 1990s - rafting might be possible all the way to Parrotts Ferry. Accordingly, we urge you to plan for how the road at Parrotts Ferry can be stabilized and reopened to some point along the existing roadway. Possibly there should be a provision for a parking area and picnic facility in the area just above a point which could be impacted by a full reservoir. Or, possibly, it might be appropriate to provide a temporary parking facility in the area that might be flooded again if the reservoir refills.

Assuming that the old Stanislaus River and New Melones will share the section of canyon between Camp Nine and Parrotts Ferry for many years – with a fluctuating boundary between the two - I think that it would be desirable to make provision to allow individuals and outfitters to raft as far down the river as possible before they switched either to sea kayaks or a motorized boat. Last year, my son and I paddled sea kayaks between Rose Creek and Parrotts Ferry where we had to carry the boats up the locked gate at the top of the paved road where it intersects Parrotts Ferry Road in Tuolumne County. This was very difficult! Although improving the access road, which has sustained some damage from mud and from subsidence, will likely require some significant construction dollars, I believe that this is essential as part of a long-term use plan for New Melones Recreation Area – which should be utilized for more than its reservoir recreation potential.

Thank you for considering our input and please let me know if you would like any further input from us about the potential for recreational rafting and sea kayaking at the eastern end of the New Melones Lake Area. We would like to talk with you about offering some trips there during the 2010 season as we help build a long-term asset for the benefit of visitors to Calaveras and Tuolumne counties.

Sincerely yours,
George Wendt
The O.A.R.S. Family of Companies
PO Box 67 Angels Camp, CA 95222
Phone: 209-736-4680
Phone: 209-736-4677 ext. 714
Fax: 209-736-2902
www.oars.com
Defining Adventure since 1969

Responses

O-9-4: Comment noted. The permit process is described under 43 CFR 429. Further, this option is currently being analyzed in the development of the Commercial Services Plan.

Letter O-10

Comments

houseboats.com

Water Resorts Inc.
New Melones Lake Marina
1110 W. Kettleman Lane, #20B, Lodi, CA 95240
phone: 209.333.8500
fax: 209.333.1753

January 4, 2010

Mrs. Melissa Vignau
c/o Central California Area Office
U.S. Department of the Interior
Bureau of Reclamation
7794 Folsom Dam Rd
Folsom, CA 95630-6610

RECEIVED
JAN 5 2009

Dear Mrs. Vignau,

We operate the concession for New Melones Lake Marina and were recently made aware of the production of the **New Melones Lake Area Draft Resource Management Plan & Environmental Impact Statement** and its impending comment period deadline. We look forward to working with the BOR on the more specific plan for the concession at the resort, and at that time we will have input as to the operations on the lake.

O-10-1

So at this time, we would like comment that the BOR review and amend its limit as to the number of houseboats allowed on the lake as well as their size. There is demand for more houseboat and outdoor enthusiasts to enjoy the lake and bring their vessels to the lake if it were allowed to expand large vessel storage opportunities. Nearby Lakes McClure and Don Pedro both accommodate nearly twice the number of houseboats but are smaller reservoirs. In addition, there is demand by the public for larger vessels than the current 15' x 56' size limitation. Many houseboats are safely built to 16' x 70' and are popular on several lakes, not only in California but throughout the U.S. (including BOR operated Lake Berryessa).

Thank you for the opportunity to comment on the **Draft Resource Management Plan** for New Melones Lake.

Sincerely,

David M. Smith
President, Water Resorts Inc.
Shasta Lake Resorts, LP
New Melones Lake Marina

Responses

O-10-1: Comment noted. The current size limitation of 15' x 65' is based on many factors, including but not limited to entrance road size limitations, marina facilities and capacity studies. The 2002 Visitor Use Study established a capacity of 106 houseboats, in part based on current size limits. Increasing the maximum size of houseboats may have an impact on the overall capacity and range of recreation opportunities and visitor experiences on the lake. The preferred alternative seeks to maintain or enhance the existing capacity and range of recreation opportunities provided.

Letter O-11

Comments

RECLAMATION
Managing Water in the West

Comment Sheet for the New Melones Draft RMP/EIS

Written comments may be submitted at the Comment Table or are due to the Bureau of Reclamation by close of business Monday, January 4, 2010.

Comments may also be mailed to the address on the back, or faxed to 916-989-7109, or e-mailed to mbrockman@.usbr.gov. Thank you.

(Please print clearly)

Name WALTER G. WESTER AOPA, SEPPLANE PILOTS ASSOC., EAA

Organization and Address

32 BOARDWALK ONE

LARKSPUR CA 94939

Phone (415) 927 2446 FAX ( ) E-mail WALTWESTER @EARTHLINK . NET

Comment here: December 20, 2009 *Date*

O-11-1 As a user of Bureau of Reclamation Recreational Resources, I would like to comment that I support continued seaplane access to New Melones Reservoir. Of the alternatives in the Draft RMP/EIS I prefer Alternative B and strongly oppose Alternative C. Seaplanes have safely used the waters of the BOR, where permitted, throughout the west for as long as the BOR has managed them. At New Melones, western seaplane pilots have long enjoyed access without conflict with the local boating community and are a popular attraction for the local tourism industry.

O-11-2 The operation of a seaplane school on New Melones would bring additional benefits to the local business community with minimal impact to the environment. Seaplanes do not use Reservoir waters for engine cooling, do not stir sediments with their propellers, do not carry invasive species in their bilges or bait buckets and produce far less noise than any ski or bass boat at full throttle.

The local seaplane community is tightly knit and organized, ready to work closely with the local Resource Managers to address and mitigate any issues arising from seaplane operations on New Melones, or any other BOR resource in the West!

Thank you for your consideration and acceptance of these comments. W G Wester

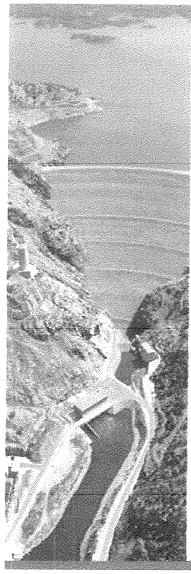
All comments become part of the public record

Responses

O-11-1: Comment noted. Management actions within the RMP must be consistent with Reclamation's goals and objectives. Reclamation must consider resource use, resource protection, and public safety in managing the New Melones Lake Area. Reclamation's preferred alternative would continue to implement the current policy for non-commercial seaplane use of New Melones Lake.

O-11-2: Comment noted. Operation of a seaplane school is included under Alternative B (Action R 31B).

Letter O-12 | **Comments** | **Responses**



RECLAMATION

Managing Water in the West

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Comments may also be mailed to the address on the back, or faxed to 916-989-7109, or e-mailed to mbrockman@.usbr.gov.

Thank you.

(Please print clearly)

Name Jerome Gerald
Organization and Address Safe Seawing LLC.
101 Sun Shine Coast Ln
Las Vegas NV 89148
Phone (702) 2344737 FAX ( ) E-mail Rosehouse Co.Cox.

Comment here: December 20, 2009
Date

O-12-1 As a user of Bureau of Reclamation Recreational Resources, I would like to comment that I support continued seaplane access to New Melones Reservoir. Of the alternatives in the Draft RMP/EIS I prefer Alternative B and strongly oppose Alternative C. Seaplanes have safely used the waters of the BOR, where permitted, throughout the west for as long as the BOR has managed them. At New Melones, western seaplane pilots have long enjoyed access without conflict with the local boating community and are a popular attraction for the local tourism industry.

O-12-2 The operation of a seaplane school on New Melones would bring additional benefits to the local business community with minimal impact to the environment. Seaplanes do not use Reservoir waters for engine cooling, do not stir sediments with their propellers, do not carry invasive species in their bilges or bait buckets and produce far less noise than any ski or bass boat at full throttle.

The local seaplane community is tightly knit and organized, ready to work closely with the local Resource Managers to address and mitigate any issues arising from seaplane operations on New Melones, or any other BOR resource in the West!

Thank you for your consideration and acceptance of these comments.

All comments become part of the public record.

O-12-1: Comment noted. Management actions within the RMP must be consistent with Reclamation's goals and objectives. Reclamation must consider resource use, resource protection, and public safety in managing the New Melones Lake Area. Reclamation's preferred alternative would continue to implement the current policy for non-commercial seaplane use of New Melones Lake.

O-12-2: Comment noted. Operation of a seaplane school is included under Alternative B (Action R 31B).

INDIVIDUALS COMMENTS

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Letter I-1

Comments

RECLAMATION

Managing Water in the West

Comment Sheet for the New Melones Draft RMP/EIS

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Comments may also be mailed to the address on the back, or faxed to 916-989-7109, or e-mailed to mbrockman@.usbr.gov. Thank you.

(Please print clearly)

Name Paul Behee

Organization and Address Box 1624

Twain Harte CA. 95383

Phone (209) 770-1855 FAX ( ) E-mail paulbehee@gmail

Comment here: 12-2-09
Date

I support the Multiple Use Alternative for many reasons. Being a life long resident of Tuolumne county, this Alternative seems to both protect the lake's natural interests enough, and facilitates more Recreation. We are hoping to propose an 18 hole disc golf course, which goes along perfectly with the Multiple use Alternative.

I-1-1

All comments become part of the public record

Responses

I-1-1: Comment noted. Reclamation is developing a Commercial Services Plan for New Melones which will assess the feasibility of additional recreation facilities.

Letter I-1, Continued

Comments

Web site Info on Hogan Res. Disc Golf Course from dgcoursereview.com

Misc. Info.:

Camping Nearby Pay to play $4/day/vehicle

Description: On Army Corp of Engineers property. Fun layout with awesome views of reservoir. Huge campground, fishing, boating, etc. #17 is 700' downhill to lake's edge.

From 4 different users:

Pros: Well designed course. No crowd whatsoever. We were the only golfers on a Saturday afternoon! 17 is epic. Other than the valley heat, a great afternoon of disc golfing. Camping on the lake. Would be a great winter course. Picnic area on hole 7/8 is awesome.

Pros: Amazing use of the land with near optimal flow starting and finishing at the same spot and no long walks to the next tee. beautiful scenery with wild life and great views. signage was great, even indicating a notch in a rock formation to show where the pin would be located. 18 very diverse holes with no issue of being repetitive, every hole is different from the last. very obvious paths lead from pin to next tee which is also indicated on the tee sign at the start of the hole. satellite course map provided at 1st tee which is located right next to the huge parks sign at the end of the parking lot. tall grass off the beaten path will promote an accurate tee shot adding some difficulty. picnic tables, running water, on site bathrooms, and tons of parking. never an issue of being overcrowded here.

Pros: Very nice course with a great view of the lake. when I played it was just a 9 hole course. I did enjoy the time I spent there. Also has a camp site just a cross the lake

Pros: Bathrooms, Water, Tables, Garbage can, camping, boating. Satellite map of the course. Good mix of challenging and straight throws. A couple holes are blind but most have a rock or tree screen that if you throw your pathway you're golden. The rock rings are scary at first but once you get there the rocks are only waste high so you throw for bird or par no prob. The are 2x par four and 1x par five. The par five hole 17 is over 700ft. Wow down hill to the lake. At par five it's forgiving enough for newbies and old hand can throw birds.

Responses

Attachment to Letter I-1. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-2

Comments

RECLAMATION
Managing Water in the West

Comment Sheet for the New Melones Draft RMP/EIS

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(Please print clearly)

Name LANCE KIMBALL

Organization and Address 17341 JEANESE DR.
JAMESTOWN CA. 95327

Phone (209) 768 3096 FAX ( ) E-mail TABLETOP209@YAHOO

Comment here: 12/2/09
Date

I-2-1 "I Support The MULTIPLE USE ALTERNATIVE"

I WOULD LIKE TO COMMENT ON the Possibility of PUTING IN AN
18 HOLE DISC GOLF COURSE IN The TUTTLE TOWN Rec AREA.
There ARE MANY Spots THAT WOULD offer A GREAT COURSE
I-2-2 FOR The Public to ENJOY. The cost of A COURSE is LOW, AND
The MAINTENANCE WOULD Be FROM LOCAL USERS.
There ARE NO COURSES IN TUOLOMNE.
DISC Golf IS A LOW IMPACT recreation.
The COURSE WOULD GENERATE MONEY FROM DAY USE fees.

All comments become part of the public record.

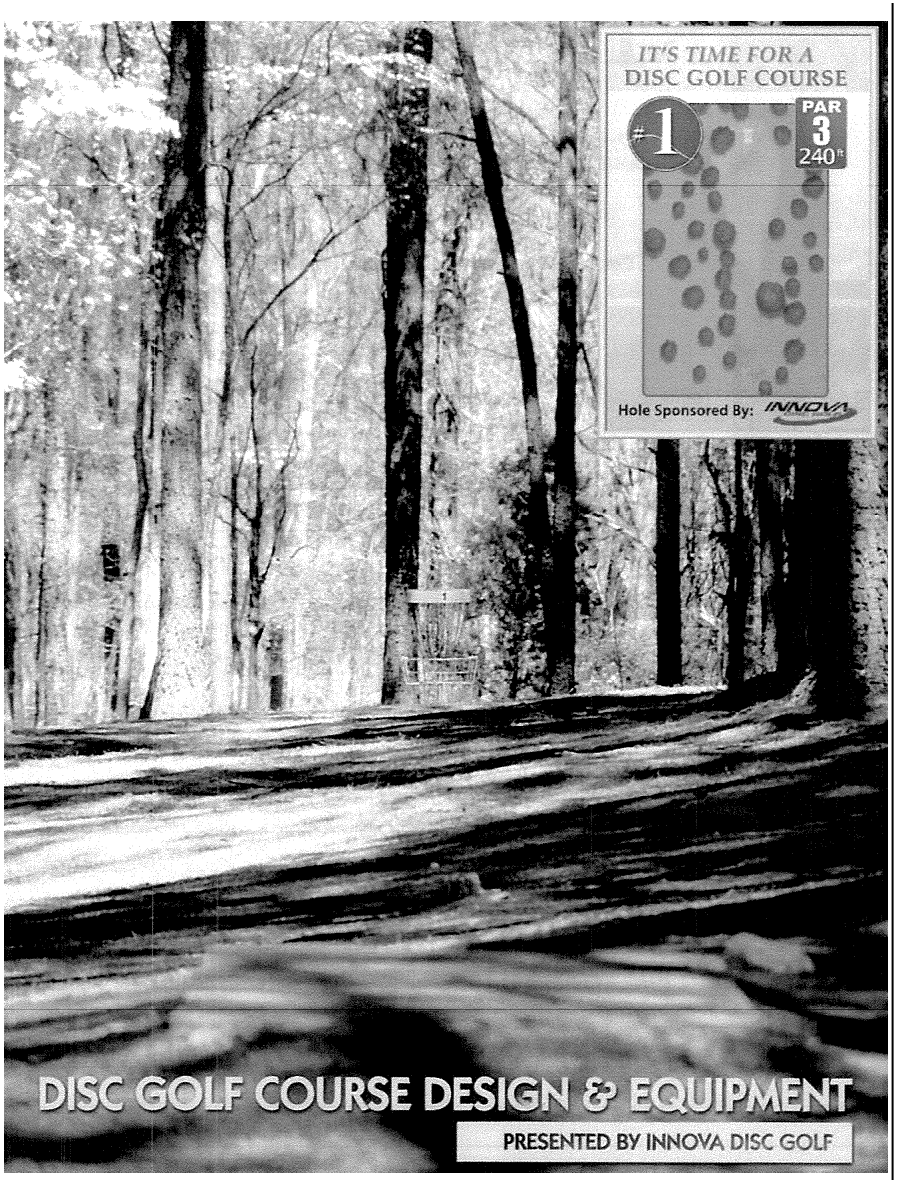
Responses

I-2-1: Comment noted.

I-2-2: Comment noted. Reclamation is developing a Commercial Services Plan for New Melones which will assess the feasibility of additional recreation facilities.

Letter I-2, Continued

Comments



Responses

Attachment to Letter I-2. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-2, Continued

Comments

A minute to learn.
A lifetime to enjoy.

Table of Contents

Topic	Page
Disc Golf: Play the Game, Build a Course	2-3
Disc Golf Facts	4-5
Where is Disc Golf Played?	6-7
Who Plays Disc Golf?	8
Disc Golf Programs - EDGE Program	9
Disc Golf Programs - Recreational	10
Disc Golf Programs - Professional	11
Course Design - Introduction	12-13
Course Equipment - Introduction	14
Course Pricing	15
Equipment - DISCatcher Targets	16-17
Equipment - Tee Pads	18
Equipment - Signs	19
Installation - Targets	20-21
Installation - Tee Pad Tips	22
Everything For Disc Golf	23
Target Specification	Back Cover

Easy as 1, 2, 3!

Drive

Approach

Putt

Low cost, high value.
Disc Golf is a winner.

Build a course!

Design

Install

Play!

Responses

Attachment to Letter I-2. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-2, Continued

Comments

Responses

Attachment to Letter I-2. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

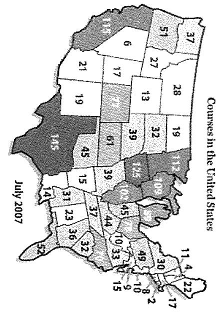
Letter I-2, Continued

Comments

Where is Disc Golf Played?

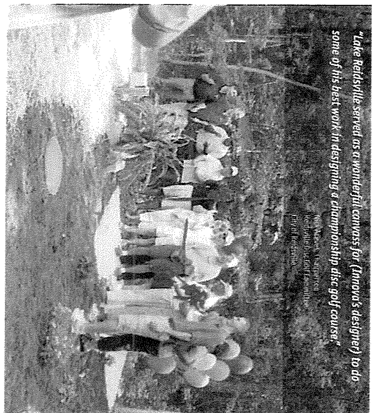
Disc Golf Course Growth

Disc Golf has grown dramatically in the past 10 years. Permanent Disc Golf courses have more than tripled over the period from 1997 to 2007. More players will be introduced to the game than ever before. Are you going to be ready when Disc Golf hits your region?



Top 20 states for Disc Golf

1.	Texas	145
2.	Iowa	125
3.	California	115
4.	Minnesota	112
5.	Wisconsin	109
6.	Illinois	102
7.	Michigan	89
8.	Ohio	78
9.	Colorado	77
10.	N. Carolina	70
11.	Kansas	61
12.	Florida	52
13.	Oregon	51
14.	Pennsylvania	49
15.	Indiana	45
	Oklahoma	45
17.	Kentucky	44
18.	Nebraska	39
	Missouri	39
20.	Tennessee	37
	Washington	37



Top 15 Reasons to Install a Disc Golf Course

15. Disc Golf is a low impact, economical activity that can be added to most parks in as little as a week.
14. A Disc Golf course can be designed into under-utilized areas of your facility.
13. The process of organizing and ordering everything you'll need requires just a few easy choices.
12. Disc Golf tends to decrease undesirable activity in under-utilized areas of a park.
11. Disc Golf is a sport that everyone can play, regardless of age, ability, or gender.
10. A single Disc Golf course can entertain ninety or more people at one time.
9. Disc Golf is great for those not interested in team sports, yet are driven to compete.
8. Disc Golf is a great lifetime sport.
7. Disc Golf is so much fun, you won't even realize you are exercising.
6. Disc Golf attracts people from other areas of the state and country to your park.
5. Park departments are pleasantly surprised at the volunteer spirit of disc golfers.
4. Disc Golf is easy to learn but provides a lifetime of challenge to master.
3. Disc Golf is inexpensive to play. You can start playing with a single disc for less than $10.
2. Disc Golf can be a source of revenue for a park department or a pay-to-play facility.

...and the number one reason to build a Disc Golf course...

1. If you build it, they will come.

Disc Golf Around the World

The sport of Disc Golf has spread to many counrtries. Sweden and Japan both have a long history of enjoying the sport. Both Europe and Asia should see growth in the coming years as more people experience the sport. Japan has installed many Disc Golf courses in relatively small parks. Sweden has been a hotbed of Disc Golf activity for nearly 30 years.

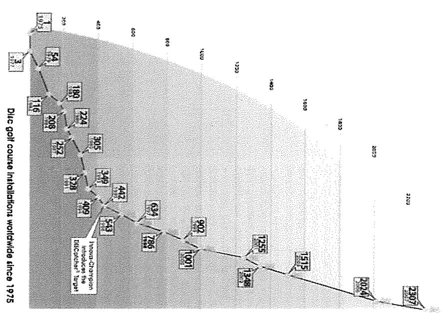
The future of Disc Golf around the world is promising. With many countries just discovering the sport, Disc Golf is truly becoming an international game.

Top Countries for Disc Golf

1.	USA	2012
2.	Sweden	90
3.	Canada	75
4.	Japan	37
5.	Finland	24
6.	Switzerland	21
7.	Denmark	19
8.	Germany	18
9.	Norway	15
10.	New Zealand	12
11.	Australia	11
12.	England	9
13.	Netherlands	6
14.	Antarctica	1

"Disc Golf courses have been installed in National Government Parks across Japan. Disc Golf is recognized as a "Sport for All" and was honored by being introduced at the 2001 World Games in Akita, Japan. Despite the challenges of land shortages and limited days off to play, people continue to enjoy and discover Disc Golf in Japan."

Mr. Kozo Shimbo
President of Hero Disc Japan



Disc golf course installations worldwide since 1975

Rapid Growth in Courses

With the introduction of the Innova DISCatcher Target in 1995, new Disc Golf course growth got a shot in the arm. Within 4 years, permanent Disc Golf courses would double. By 2005, It would double again.

The future of course growth is just as promising. Where in the past the majority of people pushing for disc golf courses were the players themselves, we are starting to see a shift. Park managers are seeing Disc Golf as an inexpensive and popular addition to a park. Cities with a single course are looking to add more courses in the future. Some parks are planning disc golf into their first phases. Disc Golf is being heralded as a great addition to almost any park.

Responses

Attachment to Letter I-2. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-2, Continued

Comments

Responses

Attachment to Letter I-2. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-2, Continued

Comments

Recreational Programs: Activities For Your Course

Recreational Disc Golf

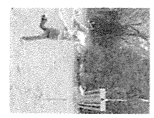
Park departments across the country have been pleasantly surprised at the level of enthusiasm shown by most Disc Golf clubs. Many clubs often engage in park clean up, course maintenance, and charity work related to their local events. Weekly and monthly singles and doubles tournaments bring golfers out to the course to challenge their fellow players. Handicap based competitions are becoming popular and provide beginners, amateurs, and pros a way to compete fairly against others of similar and diverse skill levels.

Weekly league events will increase traffic to your course. If you schedule weekly league play events, with a set day and time, the word will spread.

Handicapped Leagues – DGU

If your community is interested in offering organized Disc Golf play, hosting Handicap leagues or events allows players of all skill levels to enjoy fun and fair competition. Disc Golf United (DGU) is a handicap service that can provide everything you need to run a successful handicap league or tournament event at your course. Visit discgolfunited.com or call 1-800-476-3968 for complete details on how to add this program to your parks activities schedule.

Youth Programs – EDGE



EDGE (Educational Disc Golf Experience) is a non-profit organization dedicated to bringing Disc Golf to youth. (see page #11) If you are interested in a youth activity for summer programs or after school activities, EDGE can provide all the materials and equipment needed to introduce disc golf to the youth in your community.

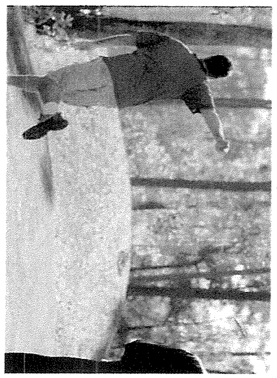
For more information visit edgediscgolf.org

Tournament play –

Many events are run by local clubs and organizations. If you are interested in hosting a tournament at your disc golf course, check with the local club to find qualified volunteers who have experience running events. Events can be run in co-operation with your park department and can be used to increase awareness of the disc golf course or to target youth and/or family groups.

Disc Golf has two annual global events. The World's Biggest Disc Golf Weekend takes place on nearly 200 courses around the world in Mid-May. The Ice Bowl happens in late January and early February to promote Disc Golf solidarity and raise funds for local food banks and charities.

Whether it is a local league or a global event, INNOVA stands ready to share its expertise and promotional tools to help your local Disc Golf program thrive.



www.discgolfunited.com

-10- INNOVA DISC F West: 800-408-8449 East: 800-476-3968 www.innovadiscs.com

Professional Disc Golf: A Lot of Fun and Action

As the sport of Disc Golf grows, so does tournament participation. In some areas, you can go to a tournament every weekend for 8 months out of the year.

Professional Disc Golf

PDGA PROFESSIONAL DISC GOLF ASSOCIATION

Founded in 1976, the Professional Disc Golf Association is a non-profit organization dedicated to promotion of the sport of Disc Golf worldwide. Its 30,000 plus members live and play in more than twenty countries on five continents. The PDGA writes the rules for Disc Golf, provides members with a full-color magazine called Disc Golf World, and is a source of information about the sport.

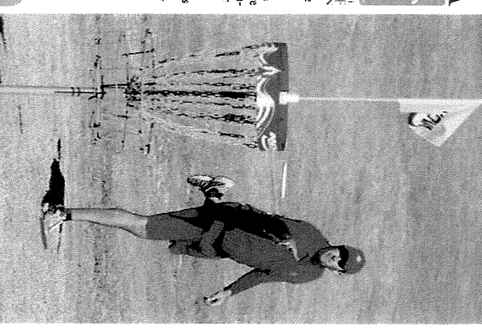
Every year the PDGA sanctions competitions for professional and amateur players. Competitors earn points by participating in these events.The points are tabulated by the PDGA and used to determine invitations to the annual World Professional and Amateur Disc Golf Championships.

The PDGA is the governing body for the sport. Besides scheduling the Pro Tour, the PDGA provides rules of play, equipment specifications, a newsletter, and a directory of the more than 2000 Disc Golf courses world wide.

As more players discover Disc Golf tournaments, more players are attracted to competitive events. This increases the demand for more PDGA sanctioned events around the country.

Benefits of joining the PDGA

- A frequently updated player rating that allows you to compare to both amateurs and professionals
- Over 10000 current members to compete against
- Ratings based invitations to World Championships
- Save on entry fees at every PDGA tournament
- Yearly subscription to Disc Golf World magazine
- PDGA message board posting privileges - get answers to your questions from the pros



Top professional, Brian Schweberger shows good form at the US Disc Golf Championship in SC

For information visit the PDGA web site or send an E-mail:

Professional Disc Golf Association

E-mail: office@pdga.com
Web site: www.pdga.com

-11-

Responses

Attachment to Letter I-2. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-2, Continued

Comments

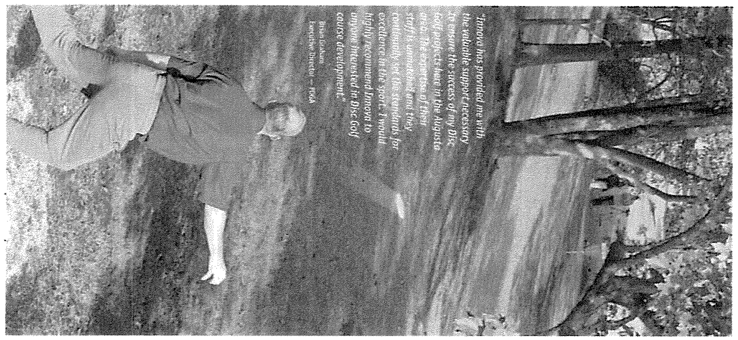
Course Design: What Makes a Course Great

Course Design

Laying out a Disc Golf course can be a daunting task. While finding a good flow, negotiating obstacles, creating intriguing holes, and designing a fair course are important, safety should always be the top priority. Getting the most pleasing and safe (to both players and park users) course requires careful planning.

Why Good Design Is Important

Design is a critical factor in the long-term success of any Disc Golf course. The designer starts by recommending an ideal location for a course, taking into account terrain, unique features, and other park activities. A qualified designer will then produce an overall layout, set the hole lengths, and determine the pars – all based on what's best for your site and player base. The skilled course designer will then maximize your Disc Golf investment within the constraints you establish.



Course Design: Planning Your Course

Good Course Design Should Take Into Account Several Factors.

Safety –

- A well-designed course lowers the risk for disc golfers and non-disc golfers alike.
- Don't throw towards paths if possible. Design holes to play away from active areas.
- Fairways should never cross each other nor cause players to throw towards other fairways, baskets or tees.
- Never play toward playgrounds.

Fairness –

- A fair course rewards good throws, punishes bad throws, and provides varying degrees of success for throws in between.
- Good course design doesn't accentuate the element of chance.
- Placing targets too close to out-of-bounds areas can punish good throws and lead to frustrated players.
- Tunnel shots reward accuracy, but should leave room for good recovery shots for those who don't execute the drive.

Balance –

- A well-balanced course will have a mix of long and short, open and tight, left, right and straight fairways.
- Remember that players are both right and left handed, and throw backhand and forehand.
- Try not to string together holes that require the same shot over and over.

Variety –

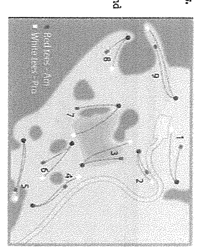
- The course should require a wide variety of different skills (shots) to avoid obstacles, to negotiate terrain challenges and to score well.
- Route players up, down and across terrain. Mix wide open holes with tighter fairways. Place baskets to the left, right and center of the fairway.
- More variety means players become well rounded playing your course.

Strategy –

- The design should cause players to put a premium on correct shot selection and placement.
- A par four hole adds more strategy than a par three.
- Save some strategic choices for your last four holes, where heated contests can be won.

Character –

- Course design should highlight the special features and inherent beauty of the land itself.
- Find a unique obstacle, tree, or land feature and create a great hole around it.
- A string of holes that utilize a unique aspect to your course can make it memorable.
- Emphasize the local flora on your course if possible.



"The best designs feature distinctive holes and innovative layouts that are scenic and fair. But the bottom line is the playing experience: it must include shot-making options, opportunities for risk management, and the need for a variety of shots... and it has to be enough fun to keep players coming back."

– John Houck, designer of the W. R. Jackson Memorial course at the International Disc Golf Center in Appling, GA

"A good course designer has detailed knowledge of the flight patterns of modern discs, keeps up with trends in course design, and is familiar with top courses around the world."

– Harold Duvall, designer of more than 20 courses, including the famous Winthrop Gold Course, home of the US Disc Golf Championship

Responses

Attachment to Letter I-2. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-2, Continued

Comments

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Planning your Budget

Disc Golf course designs are very flexible. The scope of your project, target audience, and your imagination all play an important role in defining the "personality" of your course. A simple 9-hole course can be built on as little as two acres for around $3000. Championship caliber courses typically require one to two acres per hole.

Disc Golf courses can be installed in phases and upgraded over time. Concrete tees, benches, trash cans, practice targets, alternate pin placements, and bridges are all features that can be added after your course is first established.

Volunteer Labor

Local disc golfers are often willing to volunteer with course installation. They can help install targets and tee pads as well as widen wooded fairways. Disc golfers will give their time to see a new course opened. Planned workdays with free lunch can get you a lot of enthusiastic helping hands for the price of some food and drinks.

Targets

Targets are the most important piece of equipment for your course. Innova targets are highly visible, good looking, great catching and long-lasting. The DISCatcher® Pro is approved by the Professional Disc Golf Association.

Tees

Tees provide a surface from which disc golfers "tee off". Tees should be as maintenance-free and slip-resistant as possible. Choose a tee—natural, recycled rubber, or concrete—that suits the needs of your course and budget. Innova does not offer any tee options, just suggestions and instructions for installation.

Signs

Tee signs at each hole provide information about the par, distance, and any obstacles for the hole being played. Tee signs also help players navigate the course. There is a tee sign option to fit every budget.

Materials and Expenses

Bags of concrete, weedkiller, wood for tee forms, gas for power equipment, chainsaw blades. Depending on your course location, added expenses can be low or high. Wooded holes that require tree cutting and clearing should budget more time and money than wide open holes.

Four Potential Disc Golf Course Packages

ECO Course

The ECO Course is a no-frills option that is both Economical & Ecological. This course package features minimal environmental impact as DISCatcher Pro Targets are the only additions to the land.

Basic Course	9-Hole	18-Hole
Equipment:		
DISCatcher Pro Targets	$2700	$5400
Freight	$275	$550
Equipment Total	$2975	$5950

Basic Course

The Basic Course is ideal for towns, camps, and schools looking for an economical Disc Golf solution. Costs are minimized through the use of basic Silver Level tee signs and natural tees.

Basic Course	9-Hole	18-Hole
Equipment:		
DISCatcher Pro Targets	$2700	$5400
Silver Level Tee Signs	$360	$720
Rules Sign	$125	$125
Freight	$275	$550
Equipment Total	$3460	$6795

Upgrades:

- Professional Course Design
- Concrete tees
- Practice target
- Benches
- Trash receptacles
- Alternate pin locations

Deluxe Course

The Deluxe Course provides more amenities than the basic course. Gold Level tee signs and a practice target add to the Disc Golf experience. The practice target is perfect for warm up before a round, and it shows beginners the general concept of Disc Golf. Larger, framed tee signs provide added protection against the elements and vandalism and provide space for hole sponsorship. A professional course designer will maximize the effectiveness of your investment.

Deluxe Course	9-Hole	18-Hole
Equipment:		
DISCatcher Pro Targets	$2700	$5400
Gold Level Tee Signs	$1125	$2250
Rules Sign	$125	$125
Practice Target	$300	$300
Freight	$350	$700
Equipment Total	$4600	$8775

Upgrades:

- Additional concrete tees
- Alternate target placements
- Information Kiosk
- Benches
- Trash receptacles

Championship Course

The Championship Course offers our nicest tee signs to accentuate your course and your sponsors. Framed 12" X 18" Platinum Level tee signs offer beautiful, full-color hole maps to enhance the disc golf experience. A Rules and Overview sign will introduce players to the course and game. A practice target allows players to practice putting before each round. Extra tees and/or extra pin positions allow a variety of layouts to challenge players throughout the year. Long tees may be used for tournaments and skilled players, while short tees are ideal for recreational players. A professional designer will maximize the effectiveness of your investment.

Championship Course	9-Hole	18-Hole
DISCatcher Pro Targets	$2700	$5400
Platinum Level Tee Signs	$1665	$3330
Rules Sign	$125	$125
Overview (course map) Sign	$265	$265
Practice Target	$300	$300
Freight	$400	$800
Equipment Total	$5455	$10220

Upgrades:

- Alternate concrete tees and target locations
- Benches
- Trash receptacles

Additional Expenses

The targets and tee signs that we can supply will get you started in establishing a potentially great course. Investing in permanent tees and professional course design may be the next best investment you make for your course. Installation materials include 4x4 posts or steel posts for tee signs, as well as lumber and screws for tee installation. Padlocks are recommended to secure the targets in place. All of these items can be viewed as investments in your course, and each of them will provide a positive return.

Additional Course Installation Costs: (estimated)		
Additional Item	9-Hole	18-Hole
Concrete Tees	$1800	$3600
Course Design	$2700	$5400
Installation Materials	$180	$360
(Padlocks, Concrete)	$150	$300
Additional cost (estimate)	$4830	$9660
Complete Course (Basic)	$8290	$16455
Complete (Deluxe)	$9430	$18435
Complete (Championship)	$10285	$19880

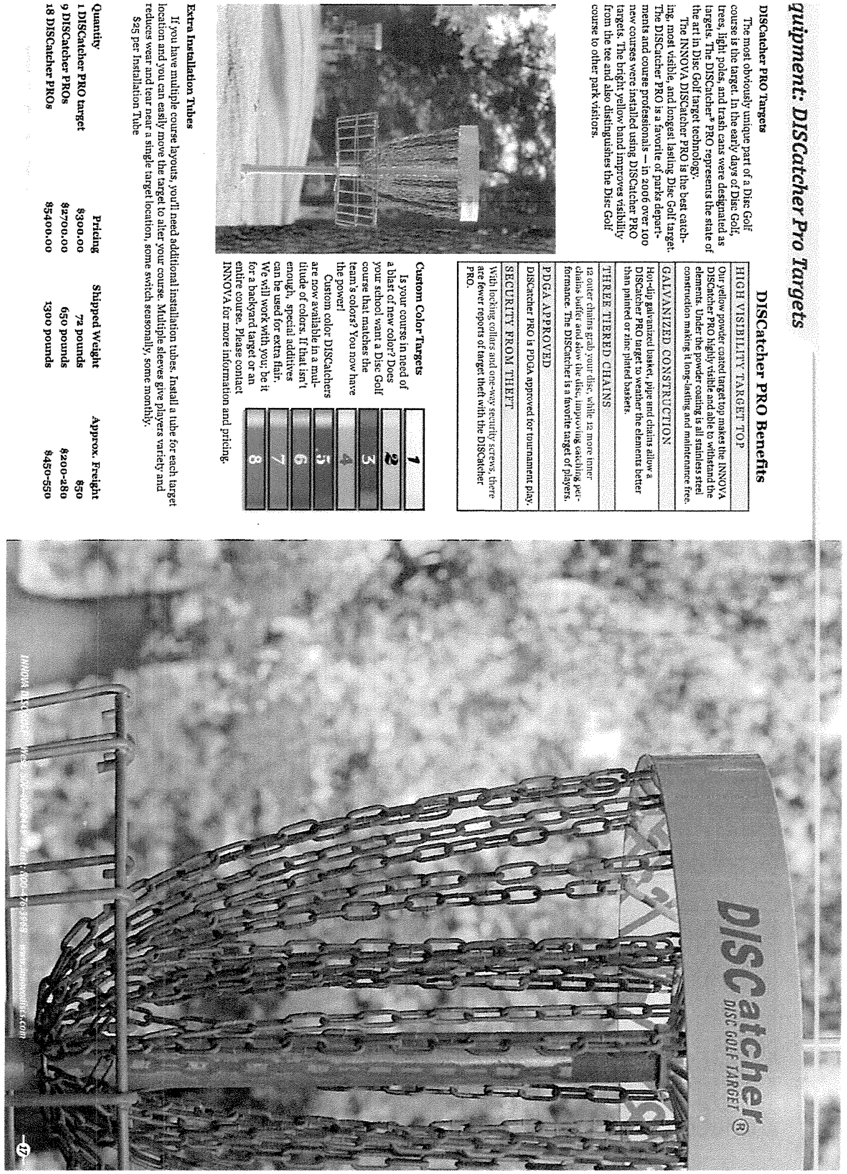
* Freight pricing is estimated. Please call for specific freight quotes

Responses

Attachment to Letter I-2. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-2, Continued

Comments



quipment: DISCatcher Pro Targets

DISCatcher PRO Targets

The most obviously unique part of a Disc Golf course is the target. In the early days of Disc Golf, trees, light poles, and trash cans were designated as targets. The DISCatcher® PRO represents the state of the art in Disc Golf target technology.

The INNOVA DISCatcher PRO is the best catching, most visible, and longest lasting Disc Golf target. The DISCatcher PRO is a favorite of parks departments and course professionals — in 2006 over 100 new courses were installed using DISCatcher PRO targets. The bright yellow band improves visibility from the tee and also distinguishes the Disc Golf course to other park visitors.

DISCatcher PRO Benefits

HIGH VISIBILITY TARGET TOP

Our yellow powder coated target top makes the INNOVA DISCatcher PRO highly visible and able to withstand the elements. Under the powder coating is all stainless steel construction making it long-lasting and maintenance free.

GALVANIZED CONSTRUCTION

Hot-dip galvanized basket, pipe and chains allow a DISCatcher PRO target to weather the elements better than painted or zinc plated baskets.

THREE TIERED CHAINS

12 outer chains grab your disc, while 12 more inner chains buffer and slow the disc, improving catching performance. The DISCatcher is a favorite target of players.

PDGA APPROVED

DISCatcher PRO is PDGA approved for tournament play.

SECURITY FROM THEFT

With locking collars and one-way security screws, there are fewer reports of target theft with the DISCatcher PRO.

Custom Color Targets

Is your course in need of a blast of new color? Does your school want a Disc Golf course that matches the team's colors? You now have the power!

Custom color DISCatchers are now available in a multitude of colors. If that isn't enough, special additives can be used for extra flair. We will work with you; be it for a backyard target or an entire course. Please contact INNOVA for more information and pricing.

1 2 3 4 5 6 7 8

Extra Installation Tubes

If you have multiple course layouts, you'll need additional installation tubes. Install a tube for each target location and you can easily move the target to alter your course. Multiple sleeves give players variety and reduces wear and tear near a single target location, some switch seasonally, some monthly.

$25 per Installation Tube

Quantity	Pricing	Shipped Weight	Approx. Freight
1 DISCatcher PRO target	$300.00	72 pounds	$50
9 DISCatcher PROs	$2700.00	650 pounds	$200-280
18 DISCatcher PROs	$5400.00	1300 pounds	$450-550

17

Responses

Attachment to Letter I-2. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-2, Continued

Comments

Course Equipment: Tees

Tees

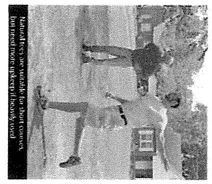
Each Disc Golf hole begins from a tee. Some courses have natural tees, but the preferred tee is a textured slab of concrete.

Proper Tee Design and Construction

Tees should always be as level as possible, not sloping more than 1/2 inch per linear foot, or no more than 6" from front to back of a 12 foot tee. Tees should also be level from side to side, and should not slope off sharply in front of the pad. Ideally, the pad is on flat level ground with three feet of flat level space in front and to the sides, and six feet to the rear for those who like to approach the pad with some momentum. Edges of the pad should not drop off sharply, especially on long open holes which may require a follow through. Proper design will dramatically reduce the potential for injury.

Natural Tees

Natural tees are the easiest to install, and cost little. With time, however, natural tees can wear if not maintained. Natural tees work best in dry climates and sandy soils. Areas that receive a lot of rain or have loose soil may want to consider concrete. Natural tees allow time to determine if a hole design is ideal before permanent tees are installed.



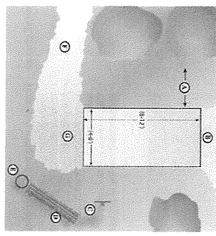
Natural tees are suitable for short courses, but need more upkeep if heavily used

Concrete Tees

Concrete tees with a coarse finish provide the best throwing surface for all types of Disc Golf drives. A firm, level, slip-free surface must be provided for long power drives. Concrete tees are the most maintenance free, long lasting tee surfaces. Properly installed concrete tees will last 15-20 years. For permanent courses, concrete is the logical choice to provide a consistent maintenance-free

2007 Womens World Champion, Valarie Jenkins drives on a concrete pad

Fig. 4: Tee area layout



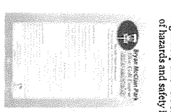
A: Minimum distance from edge of tee to an obstacle is three feet to prevent injury on follow-through.
B: Area in front of the tee should be a smooth transition to facilitate a smooth and complete follow-through.
C: Tee sign should face players approaching tee from previous hole. If possible, the tee sign should be visible from the tee.
D: Bench should be behind the tee. Not too close as some players use a longer "run-up" when they throw drives.
E: Trash cans will minimize litter.
F: Path to hole should be behind tee.
G: Run-up area.

For more information on installing concrete tee pads, **turn to page 22.**

Course Equipment: Signs

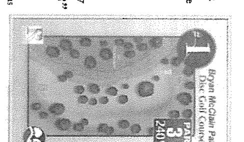
Tee & Course Signs

Signs are an important part of the character and community relations of a Disc Golf course. Overview and Rules signs educate players and visitors about safety and proper play. Individual tee signs keep throwers on target and aware of hazards and safety issues.



Rules & Safety *12" by 18"* **$125**

- Essential rules and courtesy of disc golf, plus your custom safety instructions
- Full-color layout, graphics, and logos
- .080" aluminum with UV-resistant inks; UV- and graffiti-resistant coating
- Optional frame and Lexan cover available

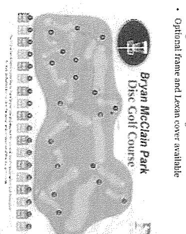


Platinum Level $185
12" by 18" Framed, with Lexan

The ultimate in disc golf mapping. Beautifully rendered and detailed.

- Full-color trees, rippling water, lush fairways
- All pertinent hole information: out-of-bounds, mandatories, hazards, paths and roads
- Two logos — appreciate your club and sponsor
- .080" aluminum sign with UV-resistant inks
- Galvanized steel frame, hardware, Lexan cover
- Includes attached mounting bracket for easy installation onto a standard pole
- Includes professional graphics design

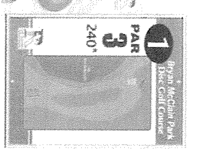
Cost: 18 holes $3330 9 holes $1665



Overview *24" by 36"* **$265**

Display your entire course. Orients players and enhances the experience.

- Huge map shows course flow, landmarks, restrictions, safety hazards, and roads
- Quick-reference distance and par for each hole
- Full-color custom graphics with room for logos
- Information for players to navigate the course... a MUST for tournaments!
- .080" aluminum with UV-resistant inks; UV- and graffiti-resistant coating
- Overview frame available, kiosk plans upon request

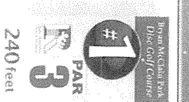


Gold Level $125
9" by 12" Framed, w/Lexan

Attractive hole maps with full-color graphics.

- Definitive map features like fairway shape and water
- One logo for city, parks dept., or club
- .080" aluminum sign with UV-resistant inks
- Galvanized steel frame, hardware, and Lexan cover
- Mounts easily onto a standard pole
- Includes professional graphics design

18 holes $2250 9 holes $1125



Silver Level $40
5" by 10" Unframed

- Key information for course navigation
- Full-color graphics
- Your full-color logo
- .060" aluminum sign can bolt onto a variety of posts
- UV-resistant inks and UV- and Graffiti-resistant coating

18 holes $720 9 holes $360

Call us for additional sign choices

Responses

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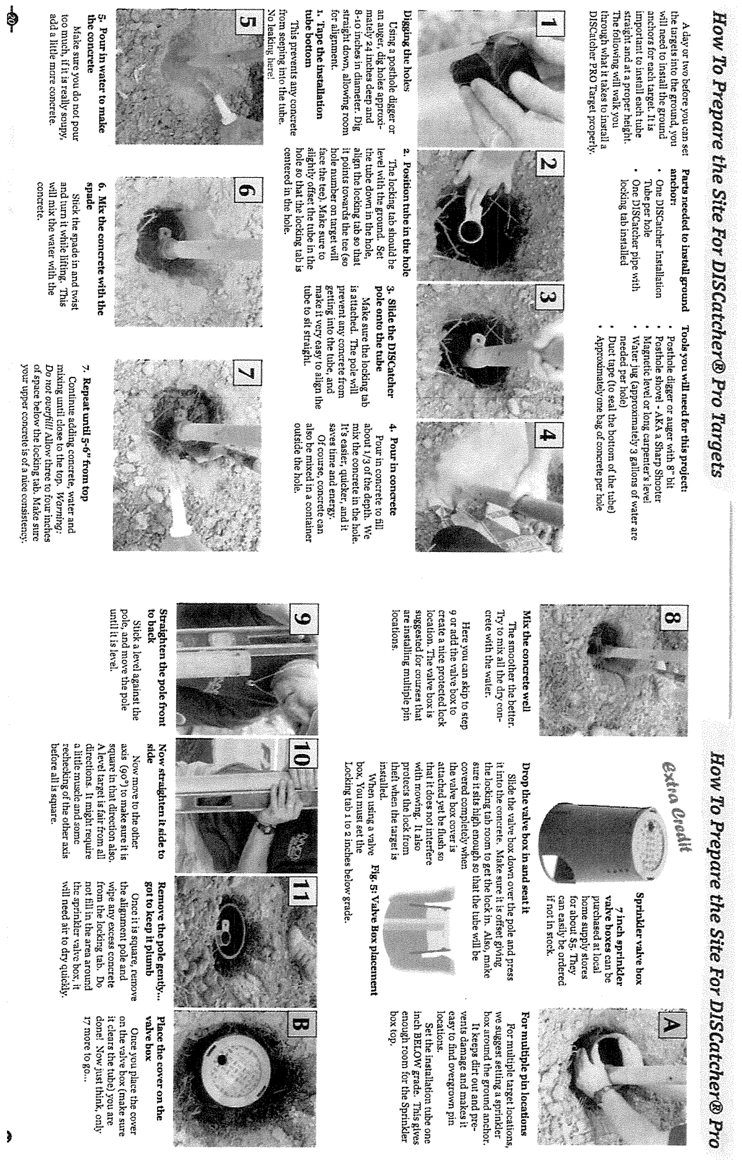
Letter I-2, Continued

Comments



How To Prepare the Site For DISCatcher® Pro Targets

A day or two before you can set the targets into the ground, you will need to install the ground anchors for each target. It is important to install each tube straight and at a proper height. The following will walk you through what it takes to install a DISCatcher PRO Target properly.

Parts needed to install ground anchor:
- One DISCatcher Installation Tube per hole
- One DISCatcher pipe with locking tab installed

Tools you will need for this project:
- Posthole digger or auger with 8" bit
- Posthole shovel - AKA a Sharp Shooter
- Magnetic level or long carpenter's level
- Water jug (approximately 3 gallons of water are needed per hole)
- Duct tape (to seal the bottom of the tube)
- Approximately one bag of concrete per hole

1 2 3 4

Digging the holes
Using a posthole digger or an auger, dig holes approximately 24 inches deep and 8-10 inches in diameter. Dig straight down, allowing room for alignment.

1. Tape the installation tube bottom
This prevents any concrete from seeping into the tube. No leaking here!

2. Position tube in the hole
The locking tab should be level with the ground. Set the tube down in the hole, align the locking tab so that it points towards the tee (so hole number on target will face the tee). Make sure to slightly offset the tube in the hole so that the locking tab is centered in the hole.

3. Slide the DISCatcher pole onto the tube
Make sure the locking tab is attached. The pole will prevent any concrete from getting into the tube, and make it very easy to align the tube to sit straight.

4. Pour in concrete
Pour in concrete to fill about 1/3 of the depth. We mix the concrete in the hole. It's easier, quicker, and it saves time and energy.
Of course, concrete can also be mixed in a container outside the hole.

5 6 7

5. Pour in water to make the concrete
Make sure you do not pour too much, if it is really soupy, add a little more concrete.

6. Mix the concrete with the spade
Stick the spade in and twist and turn it while lifting. This will mix the water with the concrete.

7. Repeat until 5-6" from top
Continue adding concrete, water and mixing until close to the top. *Warning: Do not overfill!* Allow three to four inches of space below the locking tab. Make sure your upper concrete is of a nice consistency.

-20-

How To Prepare the Site For DISCatcher® Pro

8

Mix the concrete well
The smoother the better. Try to mix all the dry concrete with the water.

Here you can skip to step 9 or add the valve box to create a nice protected lock location. The valve box is suggested for courses that are installing multiple pin locations.

Extra Credit

Sprinkler valve box
7 inch sprinkler valve boxes can be purchased at local home supply stores for about $5. They can easily be ordered if not in stock.

Drop the valve box in and seat it
Slide the valve box down over the pole and press it into the concrete. Make sure it is offset giving the locking tab room to get the lock in. Also, make sure it sits high enough so that the tube will be covered completely when the valve box cover is attached yet be flush so that it does not interfere with mowing. It also protects the lock from theft when the target is installed.
When using a valve box, You must set the Locking tab 1 to 2 inches below grade.

Fig. 5: Valve Box placement

A

For multiple pin locations
For multiple target locations, we suggest setting a sprinkler box around the ground anchor.
It keeps dirt out and prevents damage and makes it easy to find overgrown pin locations.
Set the installation tube one inch BELOW grade. This gives enough room for the Sprinkler box top.

9 10 11 B

Straighten the pole front to back
Stick a level against the pole, and move the pole until it is level.

Now straighten it side to side
Now move to the other axis (90°) to make sure it is square in that direction also. A level target is fair from all directions. It might require a little muscle and some rechecking of the other axis before all is square.

Remove the pole gently... got to keep it plumb
Once it is square, remove the alignment pole and wipe any excess concrete from the locking tab. Do not fill in the area around the sprinkler valve box, it will need air to dry quickly.

Place the cover on the valve box
Once you place the cover on the valve box (make sure it clears the tube) you are done! Now just think, only 17 more to go...

Responses

Attachment to Letter I-2. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-2, Continued

Comments

Tee Pad Installation Tips

Some helpful tips for getting your tee pads done right
- Make sure you have enough people and the right tools to get the job done quickly. Concrete sets fast.
- Entrust one person with the job of texturing the pads.
- You may want to break the work into two days.
- Bring at least 3 wheel barrows if you need to transport cement to far away tee pads.
- Lay down fencing or rebar before pouring to strengthen tee pads that are located near roads
- Hose down all your tools and wheel barrows when you are done.
- Always have a bit more concrete than you have calculated. Deeper tees, spillage, and math errors can often leave you short, so average in about 15% extra to make sure you are covered.
- In busy parks, you may want to have volunteers watch the pads for the rest of the day to prevent grafitti in your fresh concrete.

Teepad texturing tool

This is a tool that can be made easily with a few items you may already have. A push broom, an Astroturf doormat (2' x 3'), and a 24" 2x6. With a few screws, attach one end of the mat to the top of the broom, and attach the 2x6 to the other end of the mat. Make sure the textured side of mat is outside as shown. Done!

Texture the tee

Once the tee has been leveled with the 2x4, it is time to add the texture. put the texture tool on one side of the pad and slowly drag it across to provide a "corduroy" texture. This will allow the tees optimal grip in all conditions.

Proper Procedure

Pour in the concrete. Distribute and mix to remove voids. Screed the concrete to prevent low or high spots. Float the concrete for a smooth finish. Texture the concrete to create a good grippy surface.

Concrete Facts

Make sure you have enough concrete to finish your job.

A typical concrete truck can hold a maximum of 12 yards of concrete. Make sure there is a little added concrete to account for wasted concrete from overfill, screeding, and accidental spillage.

Each tee requires a large amount of concrete, so it is advised that a mixer truck deliver pre mixed concrete. You will save time and money using premixed over bagged.

There are different types of concrete, so know what to order. 3000 psi. is an industry standard and is ideal for tees. You should also request about a "4 inch slump", this is the viscosity of the concrete, 4 inches is somewhere between stiff and runny, perfect for creating tee pads because you want to be able to fill the form, but also have some firmness to hold your textured finish.

Concrete Quantities table

Concrete estimates: 9 tees

width	length	depth	amt. per tee	for 9 tees
5 feet	8 feet	4 inches	.5 cu yards	4.5 cu yards
5 feet	10 feet	4 inches	.62 cu yards	5.6 cu yards
6 feet	10 feet	4 inches	.75 cu yards	6.7 cu yards
6 feet	12 feet	4 inches	.89 cu yards	8 cu yards

Concrete estimates: 18 tees

width	length	depth	amt. per tee	for 18 tees
5 feet	8 feet	4 inches	.5 cu yards	9 cu yards
5 feet	10 feet	4 inches	.62 cu yards	11.2 cu yards
6 feet	10 feet	4 inches	.75 cu yards	13.5 cu yards
6 feet	12 feet	4 inches	.89 cu yards	16 cu yards

Delivered mixed concrete prices range from $50-120 per cubic yard. Bagged concrete would cost over $200 per yard.

Offer a local concrete company a sponsorship on your course in return for a discount or better, free concrete to pour tees. Many clubs have found that a concrete company is glad to trade concrete for a nice plug on a Disc Golf course, which has a perfect target audience for their market.

22

INNOVA - We Have Everything For Disc Golf

On-site Merchandise Sales and Concessions

Busy courses with on-site concession facilities can enjoy annual sales of $50,000 or more from golf discs and accessories alone. Snack and beverage concessions can generate considerable additional revenue. Parks that already have on-site personnel or concession operations can easily begin sales of golf discs. Facilities with on-site tennis pro shops or traditional golf pro shops can add a complete line of golf discs and merchandise with a minimal investment. Another option is to contract with a private operator to set up a full line pro shop. This can generate revenue through leasing payments and/or a share in the revenues from sales and pay-to-play fees. INNOVA offers a complete line of golf discs, equipment, accessories and apparel. Call for complete details on how to offer disc golf merchandise sales at your facility.

Organized Events

You can increase awareness of disc golf in your community and generate revenue through organized events. Custom disc sales with event information and custom artwork can help generate additional revenue for events.

Custom Disc Sales

Provide an extra boost to on-site sales with the addition of custom stamped discs and mini markers. We can hot stamp your logo or artwork on your choice of golf discs. We can also place full color artwork on select disc models. Many players enjoy purchasing custom discs as souvenir reminders of your disc golf course. Call for complete information, disc model availability and pricing

A Disc Golf Pro Shop will make your course an attraction for local and regional players. With disc prices starting at just $8, players will be willing to purchase golf discs regularly. Some items INNOVA can supply your Pro Shop:
- Golf Discs — Putters, Mid Range, and Drivers. A wide variety are available for beginner to professional level players
- Disc Golf Bags — Specially designed bags for organizing and toting discs and gear
- Apparel – shirts, hats, towels
- Practice Targets
- Rules Books, DVDs, Accessories

Request a copy of our product catalog to find out all the cool things Innova offers to make Disc Golf more fun!

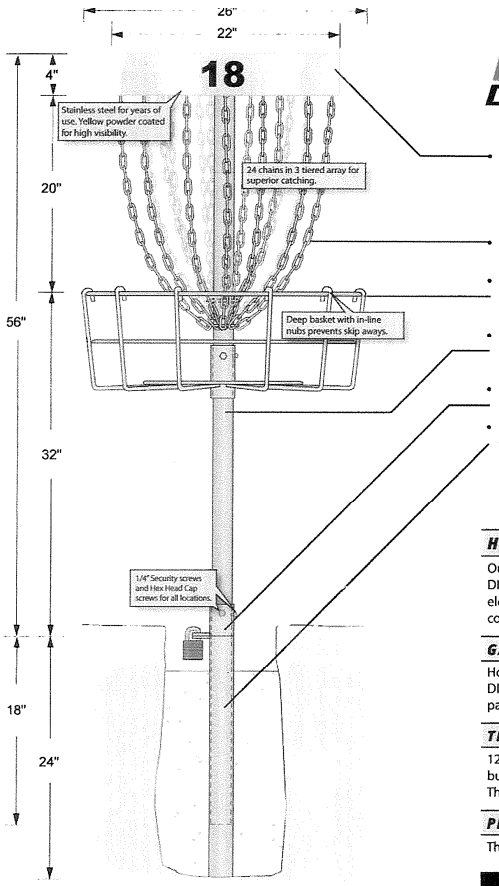
As the Disc Golf Experts, Innova can help you maximize your Disc Golf fun and revenue.

Responses

Attachment to Letter I-2. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-2, Continued

Comments



Official Target of the U.S. Disc Golf Championship

INNOVA DISC GOLF

EAST COAST SALES
2850 Commerce Dr.
Rock Hill, SC 29730
Toll Free (800)476-3968

WEST COAST SALES
11077 Arrow Route
Rancho Cucamonga, CA 91730
Toll Free (800)408-8449

www.innovadiscs.com

DISCatcher PRO
Disc Golf Target

Permanent Model Specifications

- **Target Top** — Our yellow target tops are made from stainless steel. They are 22 inches across and 4 inches high. The band is also stainless steel welded to stainless steel "spokes". Each target top is then powder coated in bright yellow for best visibility on the course.
- **Chains** — Our chains are made to handle abuse. 24 strands of galvanized 2/0 chains. (12 outer, 6 middle, 6 inner)
- **Basket** — Our baskets will provide years of loyal service. They are made using 3/8" steel rod, which is hot-dip galvanized to survive years of harsh weather.
- **Pole** — Our hot dip galvanized 74" pole deters vandals. With 1/8" walls to prevent bending or cutting. Each is pre-drilled for target top, basket, and collar hardware.
- **Locking Collar** — Hot-dip galvanized finish. Securely fits over pole mounted with tamper resistant screws.
- **Installation Tube** — 24" long hot-dip galvanized steel tube. Provides a snug fit for the target at PDGA approved height. Locking tab aligns with locking collar for security.

DISCatcher PRO Benefits

HIGH VISIBILITY TARGET TOP

Our yellow powder coated target top makes the INNOVA DISCatcher PRO highly visible and able to withstand the elements. Under the powder coating is all stainless steel construction making it long-lasting and maintenance free.

GALVANIZED CONSTRUCTION

Hot-dip galvanized basket, pipe and chains allow a DISCatcher PRO target to weather the elements better than painted or zinc plated baskets.

THREE TIERED CHAINS

12 outer chains grab your disc, while 12 more inner chains buffer and slow the disc, improving catching performance. This makes the DISCatcher a favorite target of players.

PDGA APPROVED

The DISCatcher PRO is PDGA approved for tournament play.

Installation Tips

Here are six tips that will really help to make your installation successful.

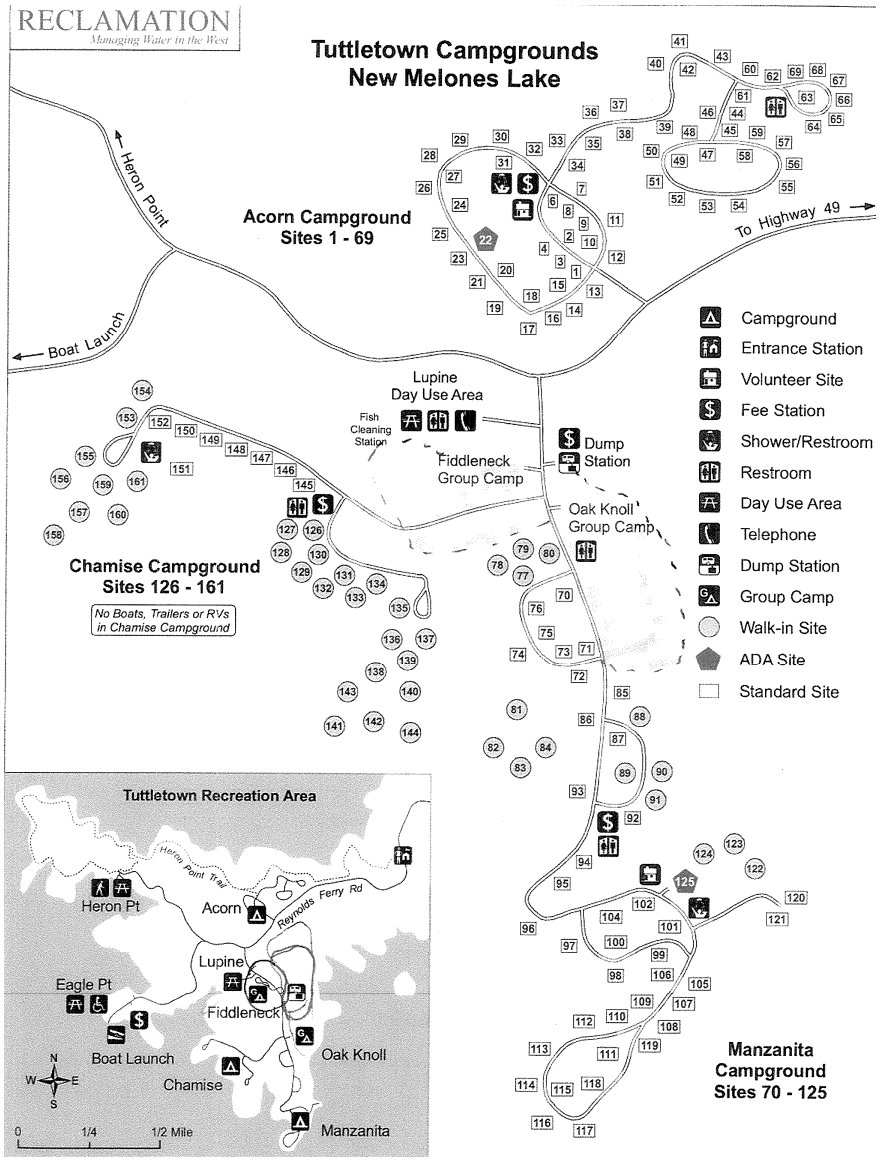
1. Make sure your target pipe is plumb. Use a level or the chain set and its rings as an indicator if no level is available.
2. Remember the lock tabs are to be set at or just below ground level.
3. Make sure to leave enough room between the top of the concrete and the locking tabs so that the padlock can be accessed easily.
4. Use rubber/vinyl clad locks that have been thoroughly lubricated before installation.
5. Align padlock tab back toward the tee to have hole number decal face tee area.
6. Order a set of matching padlocks from a lock manufacturer.

Responses

Attachment to Letter I-2. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-2, Continued

Comments



Responses

Attachment to Letter I-2. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-3

Comments

RECLAMATION

Managing Water in the West

Comment Sheet for the New Melones Draft RMP/EIS

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Comments may also be mailed to the address on the back, or faxed to 916-989-7109, or e-mailed to mbrockman@.usbr.gov. Thank you.

(Please print clearly)

Name [illegible]

Organization and Address [illegible]

Phone (209) [illegible] FAX ( ) _____ E-mail _____

Comment here: 12-2-09
Date

I-3-1 PROVIDE ACCESS FOR HANDICAPPED PEOPLE.

I-3-2 I ALSO DO NOT WANT HOMES PLACED ON THE LAKE.

[illegible]

All comments become part of the public record.

Responses

I-3-1: Reclamation will comply with all ADA requirements, as stated under Actions R 50 through R 53.

I-3-2: There are no homes on Reclamation property. Reclamation does not have control over development on non-Reclamation lands.

Letter I-4 **Comments** **Responses**

RECLAMATION

Managing Water in the West

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(Please print clearly)

Name DENNIS BELL

Organization and Address NONE - REGULAR LAKE USER

Phone (925) 980-2184 FAX ( ) E-mail DENNKE@COMCAST.NET

Comment here: 12/2/09
Date

I-4-1 I WOULD LIKE TO SEE STANDING TREE SNAGS KNOCKED DOWN OR CUT DOWN TO REDUCE HAZARDS TO BOATING EQUIPMENT AND INCREASE SAFETY FOR SKIERS, SWIMMERS AND OTHER WATER USERS.

All comments become part of the public record.

I-4-1: Comment noted.

Letter I-5

Comments

December 2, 2009

Bureau of Reclamation
Attention: Melissa Brockman-Vignau, Project Manager
7794 Folsom Dam Road
Folsom, CA 95630

Subject: New Melones Lake – Management Plan

Melissa Brockman-Vignau:

For the past 20 years our family has enjoyed New Melones Lake. Our favorite activity is fishing for both bass and trout. But we also use the lake for water skiing, walking and even birthday parties. We visit the lake about 30 times during the year.

One of the very nice features of this lake is that it is not overly developed and is large enough to accommodate of lot of visitors. We also find those using it to be very considerate with little or no trash being discarded. It is definitely getting a lot more use over the years since we started going to it, but it is still a great lake as it exists now.

I-5-1 I would hope any new management plan would recognize that it should be kept as Open for use as it is currently. I am always afraid of "New" management plans which end up closing lands or lakes to the public, or limiting their current use, for the sake of preservation. In the name of "Conservation" or protection of natural and cultural resources, too little consideration is given to those who enjoy and use facilities on a routine bases, instead, too much weight is often given to those who want to make things the way they believe things should be, i.e., no man input what-so-ever. This lake exists, let's make good use of it while also protecting it for future users.

I-5-2 My recommendations would also be to reopen access to boaters who may want to use the old Highway 49 road to lanch their boats, i.e., very near the 49 bridge crossing and entrance to the New Melones Visitors center. We have used this location is the past until it was closed, and found that it was faster and saved fuel if we go up north, to gain access nearer the Stanislaus River input. It would seem to be a simple thing for the Bureau to monitor if this is a concern since it is so close to the local headquarters.

I-5-3 We also used to enjoy going via Columbia and inputting our float tubes and fishing via the Parrots Ferry Road and would like to see this re-opened. I believe the reason for closure of this access was due to garbage and old appliances being discarded. It would seem that with night time closure of the short road this problem could be easily remedied. Opening this would again provide access to those who may not want to be in the higher impacted areas.

I-5-4 I am all in favor of bike and horse trails where vehicle traffic is not of a major concern. My reservation about these and other possible improvements is that the costs of maintaining them becomes too great and the whole use of the lake is closed in the future

Responses

I-5-1: Through the preferred alternative, Reclamation aims to achieve a balance between public use and conservation.

I-5-2:This option is being considered under the preferred alternative (TA 4D), and will be implemented only if financially feasible and if the roadway could be rebuilt to meet modern boat ramp standards.

I-5-3: Reopening Parrotts Ferry Road is being considered under the preferred alternative (TA 4D).

I-5-4: Reclamation would only undertake developments that would be adequately funded. Where Reclamation cannot afford new developments, it can enter into an agreement with a cost sharing partner.

Letter I-5, Continued

Comments

I-5-4 (Continued) at times because of underfunded budgets. I would rather see the lake kept at its present level of use and maintenance costs, rather than to expand possible features and uses only to have it not properly funded and have to be closed at times.

Thank you for allowing input.

David and Dawn Sweitzer
21174 Oneto Ridge
Sonora, CA. 95370

Responses

I-5-4: Reclamation would only undertake developments that would be adequately funded. Where Reclamation cannot afford new developments, it can enter into an agreement with a cost sharing partner.

Letter I-6

Comments

From: Mel & Ann [melann@goldrush.com]

Sent: Friday, December 04, 2009 4:53 PM

To: Brockman, Melissa A

Subject: Melones Resource Management Plan - Public Input

Dear Ms. Brockman,

My husband and I keep a sailboat at the New Melones Marina. We enjoy the the uncluttered shoreline and the abundant wildlife that we see while out on the lake. The lake at this point is home to grebes of several varieties, at least two varieties of ducks, terns, seagulls, great blue herons, egrets, night herons etc, along with, of course, the osprey, many types of hawks, song birds, turkeys as well as the mammals and other creatures that inhabit the shore and surrounding country. Our hope is that if you must further develop the area, you keep in mind that too much development that involves buildings, roads that allow more people into previously fairly inaccessible areas, and the like will affect the wildlife and perhaps lower its numbers and ruin the pastoral feeling at the lake. The public can go to other lakes and waterways closer to more urban areas if they want overly developed recreation with lots of amenities.

I-6-1

We are not in favor of a recreational vehicle park that will involve more paved areas and lights, especially if any off road vehicles are allowed.

I-6-2

What would the "floating campsites" that were mentioned in the report be like and where would they be located? We are not in favor of floating campsites farther up river or movable campsites as this might be damaging to the wildlife and perhaps becoming a nuisance.

I-6-3

More people having more access will mean more garbage, litter, sewage etc. In the current situation with the economy which doesn't look like it will be rebounding any time soon, how will all these matters be handled when there isn't the money to pay for all the necessary extra employees and infrastructure. If fees are to be generated to pay for these things, how can you be sure those of us using the area will have the extra income to pay the new fees with many of us losing jobs or taking pay cuts?

I-6-4

Also, please include ways to avoid light pollution when making any new developments. One of the wonderful things about camping or being on the water at night is the fairly "clean" night sky. Since started keeping our boat in the marina 14 years ago there is more light pollution from nearby areas that have grown up in the past few years, so adding more lights near the lake would not help in keeping the night sky dark there.

I-6-5

Personally, it seems that for the coming decade, just keeping the systems that are already in place running smoothly will be a big job in itself considering the bad economy. Keeping the main thrust of the program on maintenance of existing developments, conservation of the area and low impact recreation, ie. camping, fishing, hiking and boating seems to us the most prudent course of action.

I-6-6

Thank you for the opportunity to voice our concerns.

Ann & Mel Wallace

Responses

I-6-1: It is Reclamation's goal to provide a range of recreation experiences from developed recreation areas to less developed recreation experiences. The Visitor Use Survey and WROS were conducted to document the current spectrum of available recreation uses and plan for future demand in the most suitable areas.

I-6-2: Comment noted. The RMP outlines additional facilities that could be constructed within the New Melones Lake Area. Any proposal for additional facilities would undergo a separate NEPA analysis.

I-6-3: Comment noted. The RMP outlines additional facilities that could be constructed within the New Melones Lake Area. Any proposal for additional facilities would undergo a separate NEPA analysis.

I-6-4: Comment noted. The RMP outlines additional facilities that could be constructed within the New Melones Lake Area. Any proposal for additional facilities would undergo a separate NEPA analysis and Reclamation would look closely at how proposed projects would impact maintenance, budget, and existing users.

I-6-5: Comment noted. Implementation-level projects will undergo a separate NEPA analysis and concerns will be addressed at that time.

I-6-6: It is Reclamation's goal to provide a range of recreation experiences from developed recreation areas to less developed recreation experiences. The Visitor Use Survey and WROS were conducted to document the current spectrum of available recreation uses and plan for future demand in the most suitable areas.

Letter I-7

Comments

Responses

Kelly P. Couch D.D.S.
7915 LAGUNA BLVD. • SUITE 110
ELK GROVE, CA 95758
(916) 683-2300
FAMILY DENTISTRY

12/7/09

Re New Melones Lake Management Policies

ATTN: Melissa Brekman-Vignau

Dear Melissa I am writing you

I-7-1 stating my support for "Alternative B" Regarding seaplane access to the Lake. I Have operated from Calif Lakes for 30+ years with no problems Regarding Safety or traffic. I am Requesting

I-7-2 the same access that even big cities like New York or Seattle allow seaplane Access due to Manhattan's East River or Seattle's Lake Union/Lake Washington.

Sincerely

I-7-1: Comment noted.

I-7-2: Management actions within the RMP must be consistent with Reclamation's goals and objectives. Reclamation must consider resource use, resource protection, and public safety in managing the New Melones Lake Area. Reclamation's preferred alternative would continue the current policy for non-commercial seaplane use of New Melones Lake.

Letter I-8

Comments

Peter F. Hartmann, Esq.
Calif. State Bar # 50716
United States District Court Bar # 173
PO Box 148 / 3300 Runway Road
Paulden, Arizona 86334
Tel (928) 830-4710
e mail peterhartmann@commspeed.net

10 December 2009

RE : Amphibious/SeaPlane access on Federal Wateways - NEW MELONES

U.S. Dept. Of The Interior
Bureau Of Reclamation
Central California Area Office
7794 Folsom Dam Road
Folsom, Calif 95630

Gentlepersons:

It has come to the office of the undersigned that you are seeking comments as to use of the public, and provisions for commercial services to the public, at the above facility.

It is well established both in case law and by Congressional Mandate, that use of public waterways MUST be administered in a non-discriminatory manner. Regulations as to such use MUST be reasonable and impartial as to all clases of public use.

I-8-1 You are, or should be aware that as to use on federal waterways, amphibious/sea-plane aircraft have a significantly lower enviornmental "imprint" than other types of water-craft, AND have a substantially superior operating history from a safety standpoint. In our view, there is no basis for applying regulations and/or restrictions to that class of operators that would be separate, distinct, or more restrictive than any other class of public use.

The only alternative to reasonable regulations is costly and time-consuming litigation. Be assured that the undersigned, as an amphibious/sea-plane operator myself, will aggressively support fair and impartial regulations.

Very Truly Yours

Peter F. Hartmann
PFH / caa
cc : SeaPlane Operations LLC - Capt. C. Hood
PO Box 945
Zephyr Cove
Nevada 89448

Responses

I-8-1: Comment noted. Management actions within the RMP must be consistent with Reclamation's goals and objectives. Reclamation must consider resource use, resource protection, and public safety in managing the New Melones Lake Area. Reclamation's preferred alternative would continue to implement the current policy for non-commercial seaplane use of New Melones Lake.

Letter I-9

Comments

From: Richard Kotowski [rnlkotowski@yahoo.com]
Sent: Friday, December 11, 2009 10:32 AM
To: Brockman, Melissa A
Subject: New Melones

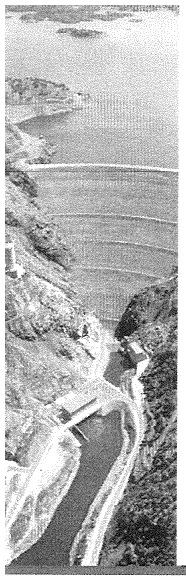
I-9-1 Just put in an option to have access to the western end of New Melones Reservoir & let local "peoples" handle it! (hear the local people)
local voter
Rich Kotowski
Bar XX Angels Camp Ca
http://www.thepinetree.net/index.php?module=announce&ANN_user_op=view&ANN_id=9575

Responses

I-9-1: The RMP/EIS will allow for the possibility of a road to access the management areas on the west side of New Melones Lake, such as the Westside, Bowie Flat, and Greenhorn Creek Management Areas. Reclamation would also consider proposals from cost-share partners for access points at feasible locations around the lake.

Letter I-10

Comments



RECLAMATION

Managing Water in the West

Comment Sheet for the New Melones Draft RMP/EIS

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(Please print clearly)

Name Dylan Love

Organization and Address PO Box 502, Meadow Vista, CA 95722

Phone ( ) FAX ( ) E-mail dlove7@gmail.com

Comment here: December 20, 2009
Date

I-10-1 As a user of Bureau of Reclamation Recreational Resources, I would like to comment that I support continued seaplane access to New Melones Reservoir. Of the alternatives in the Draft RMP/EIS I prefer Alternative B and strongly oppose Alternative C. Seaplanes have safely used the waters of the BOR, where permitted, throughout the west for as long as the BOR has managed them. At New Melones, western seaplane pilots have long enjoyed access without conflict with the local boating community and are a popular attraction for the local tourism industry.

I-10-2 The operation of a seaplane school on New Melones would bring additional benefits to the local business community with minimal impact to the environment. Seaplanes do not use Reservoir waters for engine cooling, do not stir sediments with their propellers, do not carry invasive species in their bilges or bait buckets and produce far less noise than any ski or bass boat at full throttle.

The local seaplane community is tightly knit and organized, ready to work closely with the local Resource Managers to address and mitigate any issues arising from seaplane operations on New Melones, or any other BOR resource in the West!

Thank you for your consideration and acceptance of these comments.

All comments become part of the public record.

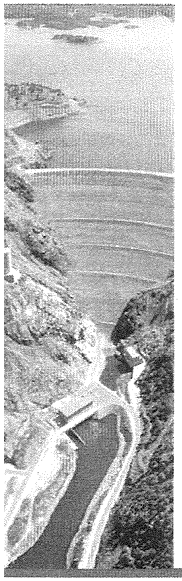
Responses

I-10-1: Comment noted. Management actions within the RMP must be consistent with Reclamation's goals and objectives. Reclamation must consider resource use, resource protection, and public safety in managing the New Melones Lake Area. Reclamation's preferred alternative would continue to implement the current policy for non-commercial seaplane use of New Melones Lake.

I-10-2: Comment noted. Operation of a seaplane school is included under Alternative B (Action R 31B).

Letter I-11

Comments



RECLAMATION

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(Please print clearly)

Name Teel Love

Organization and Address 37800 Camden St #345, Fremont, CA 94536

Phone ( )_____ FAX ( )_____ E-mail teellove@gmail.com

Comment here: December 20, 2009
Date

I-11-1 As a user of Bureau of Reclamation Recreational Resources, I would like to comment that I support continued seaplane access to New Melones Reservoir. Of the alternatives in the Draft RMP/EIS I prefer Alternative B and strongly oppose Alternative C. Seaplanes have safely used the waters of the BOR, where permitted, throughout the west for as long as the BOR has managed them. At New Melones, western seaplane pilots have long enjoyed access without conflict with the local boating community and are a popular attraction for the local tourism industry.

I-11-2 The operation of a seaplane school on New Melones would bring additional benefits to the local business community with minimal impact to the environment. Seaplanes do not use Reservoir waters for engine cooling, do not stir sediments with their propellers, do not carry invasive species in their bilges or bait buckets and produce far less noise than any ski or bass boat at full throttle.

The local seaplane community is tightly knit and organized, ready to work closely with the local Resource Managers to address and mitigate any issues arising from seaplane operations on New Melones, or any other BOR resource in the West!

Thank you for your consideration and acceptance of these comments.

All comments become part of the public record.

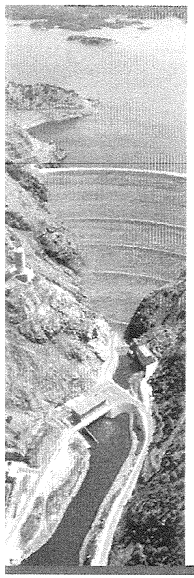
Responses

I-11-1: Comment noted. Management actions within the RMP must be consistent with Reclamation's goals and objectives. Reclamation must consider resource use, resource protection, and public safety in managing the New Melones Lake Area. Reclamation's preferred alternative would continue to implement the current policy for non-commercial seaplane use of New Melones Lake.

I-11-2: Comment noted. Operation of a seaplane school is included under Alternative B (Action R 31B).

Letter I-12

Comments



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(Please print clearly)

Name Tom Love

Organization and Address 2280 Grass Valley Hwy #137, Auburn, CA 95603

Phone ( )_____ FAX ( )_____ E-mail lovetom1@gmail.com

Comment here: December 20, 2009
Date

I-12-1 As a user of Bureau of Reclamation Recreational Resources, I would like to comment that I support continued seaplane access to New Melones Reservoir. Of the alternatives in the Draft RMP/EIS I prefer Alternative B and strongly oppose Alternative C. Seaplanes have safely used the waters of the BOR, where permitted, throughout the west for as long as the BOR has managed them. At New Melones, western seaplane pilots have long enjoyed access without conflict with the local boating community and are a popular attraction for the local tourism industry.

I-12-2 The operation of a seaplane school on New Melones would bring additional benefits to the local business community with minimal impact to the environment. Seaplanes do not use Reservoir waters for engine cooling, do not stir sediments with their propellers, do not carry invasive species in their bilges or bait buckets and produce far less noise than any ski or bass boat at full throttle.

The local seaplane community is tightly knit and organized, ready to work closely with the local Resource Managers to address and mitigate any issues arising from seaplane operations on New Melones, or any other BOR resource in the West!

Thank you for your consideration and acceptance of these comments.

All comments become part of the public record.

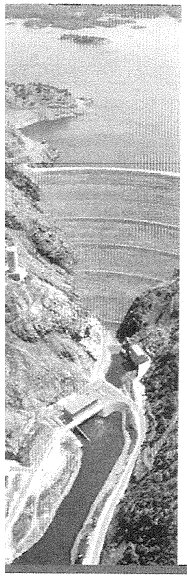
Responses

I-12-1: Comment noted. Management actions within the RMP must be consistent with Reclamation's goals and objectives. Reclamation must consider resource use, resource protection, and public safety in managing the New Melones Lake Area. Reclamation's preferred alternative would continue to implement the current policy for non-commercial seaplane use of New Melones Lake.

I-12-2: Comment noted. Operation of a seaplane school is included under Alternative B (Action R 31B).

Letter I-13

Comments



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Managing Water in the West

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(Please print clearly)

Name Susan Pastor

Organization and Address PO Box 1536, Meadow Vista, CA 95722

Phone ( ) _____ FAX ( ) _____ E-mail susanloans@hotmail.com

Comment here: December 20, 2009
Date

I-13-1 As a user of Bureau of Reclamation Recreational Resources, I would like to comment that I support continued seaplane access to New Melones Reservoir. Of the alternatives in the Draft RMP/EIS I prefer Alternative B and strongly oppose Alternative C. Seaplanes have safely used the waters of the BOR, where permitted, throughout the west for as long as the BOR has managed them. At New Melones, western seaplane pilots have long enjoyed access without conflict with the local boating community and are a popular attraction for the local tourism industry.

I-13-2 The operation of a seaplane school on New Melones would bring additional benefits to the local business community with minimal impact to the environment. Seaplanes do not use Reservoir waters for engine cooling, do not stir sediments with their propellers, do not carry invasive species in their bilges or bait buckets and produce far less noise than any ski or bass boat at full throttle.

The local seaplane community is tightly knit and organized, ready to work closely with the local Resource Managers to address and mitigate any issues arising from seaplane operations on New Melones, or any other BOR resource in the West!

Thank you for your consideration and acceptance of these comments.

All comments become part of the public record.

Responses

I-13-1: Comment noted. Management actions within the RMP must be consistent with Reclamation's goals and objectives. Reclamation must consider resource use, resource protection, and public safety in managing the New Melones Lake Area. Reclamation's preferred alternative would continue to implement the current policy for non-commercial seaplane use of New Melones Lake.

I-13-2: Comment noted. Operation of a seaplane school is included under Alternative B (Action R 31B).

Letter I-14

Comments

RECLAMATION

Managing Water in the West

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(Please print clearly)

Name Robert Stoecker

Organization and Address sea plane owner

135 campo road, portola valley, calif. 94028

Phone ( )650-851-1453 FAX ( )_____ E-mail campo5151@aol.com

Comment here: December 20, 2009
Date

I-14-1 As a user of Bureau of Reclamation Recreational Resources, I would like to comment that I support continued seaplane access to New Melones Reservoir. Of the alternatives in the Draft RMP/EIS I prefer Alternative B and strongly oppose Alternative C. Seaplanes have safely used the waters of the BOR, where permitted, throughout the west for as long as the BOR has managed them. At New Melones, western seaplane pilots have long enjoyed access without conflict with the local boating community and are a popular attraction for the local tourism industry.

I-14-2 The operation of a seaplane school on New Melones would bring additional benefits to the local business community with minimal impact to the environment. Seaplanes do not use Reservoir waters for engine cooling, do not stir sediments with their propellers, do not carry invasive species in their bilges or bait buckets and produce far less noise than any ski or bass boat at full throttle.

The local seaplane community is tightly knit and organized, ready to work closely with the local Resource Manager to address and mitigate any issues arising from seaplane operations on New Melones, or any other BOR [illegible] in the West!

Thank you for your consideration and acceptance of these comments.

All comments become part of the public record.

Responses

I-14-1: Comment noted. Management actions within the RMP must be consistent with Reclamation's goals and objectives. Reclamation must consider resource use, resource protection, and public safety in managing the New Melones Lake Area. Reclamation's preferred alternative would continue to implement the current policy for non-commercial seaplane use of New Melones Lake.

I-14-2: Comment noted. Operation of a seaplane school is included under Alternative B (Action R 31B).

Letter I-15

Comments

RECLAMATION

Managing Water in the West

Comment Sheet for the New Melones Draft RMP/EIS

Written comments may be submitted at the Comment Table or are due to the Bureau of Reclamation by close of business Monday, January 4, 2010.

Comments may also be mailed to the address on the back, or faxed to 916-989-7109, or e-mailed to mbrockman@.usbr.gov. Thank you.

(Please print clearly)

Name EUGENE H. KOPP

Organization and Address PO Box 1351

SOUTH PASADENA, CA 91031

Phone ( ) _____ FAX ( ) _____ E-mail ehkopp @ earthlink. net

Comment here: December 20, 2009 (Date)

I have enjoyed flying a rental seaplane at New Melones, very carefully and quietly. I have also put dollars into the local economy with motel, meals, etc.

I-15-1 As a user of Bureau of Reclamation Recreational Resources, I would like to comment that I support continued seaplane access to New Melones Reservoir. Of the alternatives in the Draft RMP/EIS I prefer Alternative B and strongly oppose Alternative C. Seaplanes have safely used the waters of the BOR, where permitted, throughout the west for as long as the BOR has managed them. At New Melones, western seaplane pilots have long enjoyed access without conflict with the local boating community and are a popular attraction for the local tourism industry.

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The local seaplane community is tightly knit and organized, ready to work closely with the local Resource Managers to address and mitigate any issues arising from seaplane operations on New Melones, or any other BOR resource in the West!

Thank you for your consideration and acceptance of these comments, and for the opportunity to comment.

All comments become part of the public record. Eugene H Kopp

Responses

I-15-1: Comment noted. Management actions within the RMP must be consistent with Reclamation's goals and objectives. Reclamation must consider resource use, resource protection, and public safety in managing the New Melones Lake Area. Reclamation's preferred alternative would continue to implement the current policy for non-commercial seaplane use of New Melones Lake.

I-15-2: Comment noted. Operation of a seaplane school is included under Alternative B (Action R 31B).

Letter I-16

Comments

RECLAMATION

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(Please print clearly)

Name Michael A Matzek

Organization and Address 2390 W. Middlefield Rd

Mtn. View, CA 94043

Phone (650) 960-0809 FAX ( ) E-mail mmatzek@Comcast.net

Comment here: December 20, 2009 *Date*

I-16-1 As a user of Bureau of Reclamation Recreational Resources, I would like to comment that I support continued seaplane access to New Melones Reservoir. Of the alternatives in the Draft RMP/EIS I prefer Alternative B and strongly oppose Alternative C. Seaplanes have safely used the waters of the BOR, where permitted, throughout the west for as long as the BOR has managed them. At New Melones, western seaplane pilots have long enjoyed access without conflict with the local boating community and are a popular attraction for the local tourism industry.

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The local seaplane community is tightly knit and organized, ready to work closely with the local Resource Managers to address and mitigate any issues arising from seaplane operations on New Melones, or any other BOR resource in the West!

Thank you for your consideration and acceptance of these comments.

All comments become part of the public record.

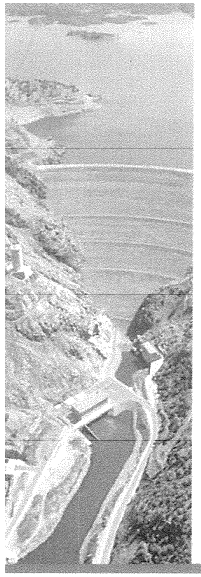
Responses

I-16-1: Comment noted. Management actions within the RMP must be consistent with Reclamation's goals and objectives. Reclamation must consider resource use, resource protection, and public safety in managing the New Melones Lake Area. Reclamation's preferred alternative would continue to implement the current policy for non-commercial seaplane use of New Melones Lake.

I-16-2: Comment noted. Operation of a seaplane school is included under Alternative B (Action R 31B).

Letter I-17

Comments



RECLAMATION

Managing Water in the West

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(Please print clearly)

Name EUGENE A. LADD

Organization and Address

2500 MARK WEST SPRINGS ROAD

SANTA ROSA, CA 95404

Phone (707) 546-4529 FAX ( ) E-mail

Comment here: December 20, 2009 *Date*

I-17-1 As a user of Bureau of Reclamation Recreational Resources, I would like to comment that I support continued seaplane access to New Melones Reservoir. Of the alternatives in the Draft RMP/EIS I prefer Alternative B and strongly oppose Alternative C. Seaplanes have safely used the waters of the BOR, where permitted, throughout the west for as long as the BOR has managed them. At New Melones, western seaplane pilots have long enjoyed access without conflict with the local boating community and are a popular attraction for the local tourism industry.

I-17-2 The operation of a seaplane school on New Melones would bring additional benefits to the local business community with minimal impact to the environment. Seaplanes do not use Reservoir waters for engine cooling, do not stir sediments with their propellers, do not carry invasive species in their bilges or bait buckets and produce far less noise than any ski or bass boat at full throttle.

The local seaplane community is tightly knit and organized, ready to work closely with the local Resource Managers to address and mitigate any issues arising from seaplane operations on New Melones or any other BOR resource in the West!

Thank you for your consideration and acceptance of these comments.

All comments become part of the public record.

Responses

I-17-1: Comment noted. Management actions within the RMP must be consistent with Reclamation's goals and objectives. Reclamation must consider resource use, resource protection, and public safety in managing the New Melones Lake Area. Reclamation's preferred alternative would continue to implement the current policy for non-commercial seaplane use of New Melones Lake.

I-17-2: Comment noted. Operation of a seaplane school is included under Alternative B (Action R 31B).

Letter I-18

Comments

RECLAMATION

Managing Water in the West

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Comments may also be mailed to the address on the back, or faxed to 916-989-7109, or e-mailed to mbrockman@.usbr.gov. Thank you.

(Please print clearly)

Name John Palmerlee

Organization and Address 1209 Hexem Avenue, Santa Rosa, California 95404

Phone ( )707-566-8560 FAX ( )_____ E-mail jbpalm@sonic.net

Comment here: December 20, 2009
Date

I-18-1 As a user of Bureau of Reclamation Recreational Resources, I would like to comment that I support continued seaplane access to New Melones Reservoir. Of the alternatives in the Draft RMP/EIS I prefer Alternative B and strongly oppose Alternative C. Seaplanes have safely used the waters of the BOR, where permitted, throughout the west for as long as the BOR has managed them. At New Melones, western seaplane pilots have long enjoyed access without conflict with the local boating community and are a popular attraction for the local tourism industry.

I-18-2 The operation of a seaplane school on New Melones would bring additional benefits to the local business community with minimal impact to the environment. Seaplanes do not use Reservoir waters for engine cooling, do not stir sediments with their propellers, do not carry invasive species in their bilges or bait buckets and produce far less noise than any ski or bass boat at full throttle.

The local seaplane community is tightly knit and organized, ready to work closely with the local Resource Managers to address and mitigate any issues arising from seaplane operations on New Melones, or any other BOR resource in the West!

Thank you for your consideration and acceptance of these comments.

All comments become part of the public record.

Responses

I-18-1: Comment noted. Management actions within the RMP must be consistent with Reclamation's goals and objectives. Reclamation must consider resource use, resource protection, and public safety in managing the New Melones Lake Area. Reclamation's preferred alternative would continue to implement the current policy for non-commercial seaplane use of New Melones Lake.

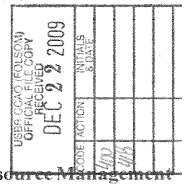
I-18-2: Comment noted. Operation of a seaplane school is included under Alternative B (Action R 31B).

Letter I-19

Comments

Thomas and Ingrid Ritz
Residence Address: 20730 Jackass Hill Road
Sonora, CA 95370
Telephone: (209)536-1572
Mailing Address: P. O. Box 326, Columbia, CA 95310

December 21, 2009 Sent USPS Express Mail on 12-21-2009



Ms. Melissa Brockman Vignau
U. S. Department of the Interior, Bureau of Reclamation
Central California Area Office
7794 Folsom Dam Road
Folsom, CA 95630-6610

RE: Public Comment (due by Jan. 04, 2010)-New Melones Lake Project Resource Management Plan/Environmental Impact Statement (RMP/EIS)-Comments relate only to the following:

1. **Aircraft Overflights of New Melones Lake & Reclamation Critical Infrastructure;**
2. **Seaplane Activity on New Melones Lake and vicinity, including residences:**
3. **Target shooting/hunting activities on New Melones property (resounding loud gunshot noise echoes in neighboring residential areas & related wildfire concern).**

Dear Ms. Vignau:

As written in our previous RMP/EIS Comment Letters, dated October 29, 2007 and December 30, 2008 (*copies enclosed*), because our 3-story home is located on Jackass Hill overlooking New Melones Lake (*view photo attached + see Red X, our home location, marked on attached RMP/EIS Figure 5-14*), as neighboring landowners, we have a unique position to observe and hear all aircraft overflights of New Melones Lake, Reclamation's identified critical infrastructure, the Highway 49 Bridge, Jackass Hill, and surrounding canyons. (It should be noted we have owned our property since 1986 and have resided in our home since June 1991 when there were absolutely NO routine, repetitive aircraft overflights of New Melones Lake and only extremely rare random overflights of the areas of New Melones Lake north of the Dam. We did not see or hear any overflights of the Highway 49 Bridge area. Now, this area is, wrongly, overwhelmed with dangerous overflights.)

Unfortunately, Tuolumne County is continuing to mismanage air traffic at its non-towered (uncontrolled) general aviation recreational Columbia Airport and continues to ignore its legal obligations and responsibilities under State and Federal law (including required CEQA and NEPA mitigation of severe environmental negative overflight impacts caused by frequent, repetitive Columbia Airport air traffic) by continuing to encourage the unnecessary, dangerous, cross-traffic, improper mis-directed "extended-pattern" overflights by the majority of its inbound and outbound aircraft (on potential mid-air collision paths) which routinely and repetitively overfly the concentrated area including Reclamation's two New Melones Lake campgrounds, Visitors Center/Headquarters complex, New Melones Dam, the Highway 49 Bridge, and the Spillway, as well as Jackass Hill residences, including ours, and the immediately surrounding deep, rugged, wooded canyons. These frequent, repetitive overflights unnecessarily create continual severe overflight safety hazards as well as continual loud aircraft overflight noise thereby jeopardizing Reclamation's stated RMP/EIS protection goals. (These Columbia Airport overflights are not in the same legal category as what the FAA classifies as random, occasional, cross-country overflights not associated with any nearby airport's operations.) **Therefore, within the broader scope of Reclamation's choice of Alternative D, in the Final Plan, we strongly urge implementation of Alternative C for "Access and Transportation-Aircraft Activities" 2009 Draft Plan p. 3-13, Action TA 13C;**

I-19-1

Responses

I-19-1: Comment noted.

Letter I-19, Continued

Comments

I-19-2 **p. ES-10 lines 21-23; with consideration to implement Action TA 12C, at least in areas near critical infrastructure; and placing some additional "no-fly zone" area over the Lake surface only near already identified critical infrastructure to "Sample Plan" p. E-5 Aircraft Section 16.4(b) (*copy attached*) and to Figure 5-14 (*copy attached*), continuing to exempt only firefighting, emergency, and military aircraft operations, as indicated in your 2009 Draft RMP/EIS. In addition, p. E-5 Section 16.4(a) "...minimum 500 feet of altitude above land or water..." is not the correct FAA standard to be applied to Columbia Airport's air traffic because such low altitude is well below required minimum altitudes for aircraft approach or departure 5-10 miles from Columbia Airport–aircraft which shouldn't be routinely overflying the Lake to begin with.** Implementing at least "Action TA 13C" is vital to all of Reclamation's stated goals, does not conflict with other recreational options at New Melones Lake (with the exception of seaplanes if some Lake surface is restricted--seaplanes do conflict with other activities from an environmental and public safety standpoint), will provide for the goal of public health and safety for the very large number of annual visitors to New Melones Lake, will have no negative effect whatsoever on any pilot's use of Columbia Airport, and will, in fact, improve overall public safety in this area because current overflight paths being flown are unsafe and improper. Too add to the public safety problem, some pilots using Columbia Airport now overfly this area during inclement weather when visibility is poor or non-existent, an FAA violation. Columbia Airport cannot accommodate FAA IFR (instrument) flights because it is not equipped to do so. (Only IFR take-offs by FAA instrument-rated pilots can take place from Columbia Airport during such weather and require flying the FAA designated IFR departure path straight out from the runway and proceeding straight out for many miles–a flight path that does not cross New Melones Lake at all.)

I-19-3

During the past two years, we periodically met with Peggi Brooks, Resource Manager at Melones Lake (recently transferred to your Folsom facility) to update her about actions by Tuolumne County officials regarding Tuolumne County's continuing, careless, unusual, contradictory, and, at times, clandestine County document and airport management practices regarding aircraft operations at Columbia Airport which negatively impact New Melones Lake infrastructure and public health and safety. In the mid-1990s, we worked closely with Keith Davis, your former Manager at New Melones Lake, attempting to help resolve serious aircraft overflight problems at New Melones which continue to this day due to lack of viable overflight restrictions. **We last met with Ms. Brooks on October 1, 2009 at which time she urged us to write this Comment Letter to include the most recent Columbia Airport overflight practices and Tuolumne County document information we discussed with her.**

On Dec. 15, 2009, we attended the last 2009 Tuolumne County Board of Supervisors Meeting because the Board was scheduled to vote on the content of its official RMP/EIS Comment Letter (not made available until one hour before the meeting). **Based upon events during this Board Meeting, it is clear Tuolumne County has absolutely no intention of doing anything to re-direct its inbound and outbound Columbia Airport air traffic to fly the County's correct, safe, long-established, 1983-documented airport traffic patterns (located appropriately in-line with the direction of the Airport runway)**, apparently preferring to ignore, rather than correct, both the severe negative environmental impacts caused by these mis-directed continual repetitive Columbia Airport overflights of Reclamation's infrastructure and the inherent threat to public health and safety they cause. By its wording, Tuolumne County goes so far as to grossly mislead Reclamation by inferring that placing any aircraft overflight restrictions ("no-fly zones" over critical infrastructure) in Reclamation's Final Plan might somehow affect pilots' access to Columbia Airport. Even the hint of anything like that is absolutely not true. Page 3 of Tuolumne County's letter includes the statement: "It is important to maintain historic, reasonable access to Columbia Airport." During the

Responses

I-19-2: FAA regulations are in place and need to be enforced by the FAA.

I-19-3: Please see 43 CFR 423. 70(a) 16.4(a) "16.4 Airplane overflights at New Melones Lake are permitted with the following restrictions: (a) Aircraft must maintain a minimum of 500 feet of altitude above any land or water, except when a seaplane is landing or taking off. (b) Aircraft must not fly directly over the dam, the Highway 49 bridge and Administration area, Tuttletown Recreation Area or Glory Hole Recreation Area."

Letter I-19, Continued

Comments

Public Comment Period at this Supervisors' Meeting, we pointed out that only Reclamation's critical infrastructure, as shown on RMP/EIS Figure 5-14, would be potentially restricted (Alternative C) and this area is miles away from any "historic or reasonable" and County documented access to Columbia Airport and thus cannot possibly interfere with any pilot's use of Columbia Airport and that, in fact, Columbia Airport's repetitive cross-traffic overflights of this area of the Lake, and over Jackass Hill and our home, miles from the airport, are extremely unsafe and unreasonable, create severe negative environmental impacts in the area, and pose a serious threat to Reclamation's New Melones identified critical infrastructure and to public health and safety in this area. The comment was made by one Supervisor that, if Reclamation needs to protect its infrastructure, it'll do so –as if Tuolumne County has no role whatsoever to play or any responsibility in doing anything at all to effectively eliminate the repetitive cross-traffic overflights it has knowingly and purposely caused in our area and re-direct air traffic to its correct former location. (*See attached copy of Nov. 1982 Hodges & Shutt Tuolumne County Airports document, pp. 5-7, with special note to Columbia Airport pattern diagram on p. 7, and attached Tuolumne County Ordinance Exhibit "A" [codified in 1983&1996] showing the identical airport traffic pattern configuration plotted geographically inside the legislated boundaries of the "Columbia Airport Referral Area" [now called "Airport Influence Area"].*) We pointed out that County Administrator Craig Pedro's November 13, 2009 "Noise Sensitive Areas" letter, which the County attached to its RMP/EIS Comment Letter, is being ignored by pilots. Please note that Craig Pedro wrote this letter almost 5 months after June 19, 2009, when, at our request, he finally agreed to visit our home on Jackass Hill so he could see for himself the danger continual overflights pose to this rugged extreme wildfire hazard area. During about 10 minutes on our upper deck, he observed at least 5 or 6 Columbia Airport bound overflights of the Tuttletown Campground and our home. Shortly afterwards, from our driveway, he heard how very loud departing and approaching aircraft sound at our home. That day, he told us emphatically, if his Airport Manager can't correct the overflight problem at this location, he, personally, will write an unprecedented letter to pilots on his letterhead telling them to avoid overflying our area. (*See attached copy of Craig Pedro's Nov. 13, 2009 letter with attachments*). It is obvious, this is not the letter he told us he would write. Instead, he wrote a generalized letter, non-specific to our area and its severe repetitive overflight problem, and attached an FAA "voluntary practices" circular which does not apply to this situation of purposely mis-directed airport cross-traffic repetitively overlying an inappropriate area. Also, please note that the attached Tuolumne County "Noise Sensitive Areas" Map with its circles does not include Reclamation's campgrounds in the circle despite our original input that it should. (Also, the City of Sonora cannot correctly be classified "noise sensitive area." See same attached FAA Circular Item #7 for DEFINITION of noise sensitive area.") **The final result at the Dec. 15, 2009 Board of Supervisors Meeting was, as expected; our Public Comment was ignored by the Supervisors in favor of keeping the grossly misleading wording in Tuolumne County's RMP/EIS Comment Letter.** The County's entire paragraph related to "aircraft" makes no sense at all because the "Alternative C" proposed overflight restrictions have no bearing whatsoever on "overall enjoyment, productive use, and economic benefit of the area." Designating "no-fly zones" over Reclamation's critical infrastructure will, in fact, greatly improve enjoyment, productive use, and economic benefit in our shared New Melones critical infrastructure/Jackass Hill area and will contribute to over-all public safety in the entire region.

I-19-2 (Continued)

As stated in paragraph 1, above, to *adequately and realistically* protect New Melones Lake identified critical infrastructure and public health and safety, which clearly is Reclamation's intent, we would like to propose a practical addition to the proposed "overflight restrictions" of your Draft page E-5 "Section 16.4, Aircraft" (*copy attached*) to include restriction of aircraft overflight of the Lake surface in the region of the Lake from the Dam area to an area North of the Visitors Center to include the Highway 49 Bridge (exempting firefighting, emergency and military aircraft). Doing so will

Responses

I-19-2: FAA regulations are in place and need to be enforced by the FAA.

Letter I-19, Continued

Comments

facilitate and improve compliance and enforcement capability of proposed identified "no-fly zones" over Reclamation's critical infrastructure as shown on RMP/EIS Figure 5-14 Map as well as over the Dam and Highway 49 Bridge and will not affect overflights, other than by seaplanes, because all other Melones Lake overflights are associated directly with improper, mis-directed, repetitive inbound and outbound Columbia Airport air traffic which, by definition, to avoid overflight of Draft Figure 5-14 restricted infrastructure areas, must also avoid overflight of the immediately surrounding areas of the Lake surface. All general aviation aircraft which overfly our home and its immediate vicinity on Jackass Hill, by definition, also must overfly New Melones Lake identified critical infrastructure listed on Draft p. E-5 Section 16.4(b), including Tuttletown Campground, Glory Hole Campground, the Visitors Center/Headquarters Complex, the Dam, the Highway 49 Bridge, (and the Spillway).

I-19-2 (Continued

Additionally, Draft RMP/EIS Figure 5-14 (*copy attached*) can be made more consistent with p. E-5 Aircraft Section 16.4(b) (*copy attached*) by adding the Dam and the Highway 49 Bridge to the "No Aircraft flights over green striped" areas. By also "green striping"the surrounding portion of the Lake surface, it will be much easier to achieve compliance and enforcement of the overflight restriction of the critical infrastructure areas. If seaplane activity on the Lake is desired, such seaplane activity (prohibiting pilot training or instruction, as written on p. E-5 Section 16.3[d]) would better be limited to a designated area of the Lake away from Section 16.4(b) listed infrastructure because seaplanes can also have engine failure, go out of control due to pilot error and end up crashing into boats, campgrounds, the Visitors Center, etc. (instead, for example, seaplane activity could be allowed in a designated area South of New Melones Dam only.)

Our comments in this letter address the reasons to incorporate Alternative C (Aircraft overflights) within the broader context of Alternative D in Reclamation's Final Plan in order to effectively protect New Melones Lake identified critical infrastructure, protect the Lake's natural environment, and to protect public health and safety from the severe hazards posed by Tuolumne County's mis-directed routine repetitive Columbia Airport air traffic. Tuolumne County's current Airport Manager, Jim Thomas, as well as some of his superiors, have openly refused to acknowledge the County's long-standing Tuolumne County Ordinance codified depicted airport traffic patterns which specifically avoid overflight of New Melones Lake and its infrastructure. To further exacerbate the problem, these long-established codified airport traffic patterns have recently been removed from its County Ordinance by the Board of Supervisors leaving Tuolumne County without safe, enforceable airport traffic patterns. Tuolumne County also does do not understand, or chooses to ignore, the stated purpose of its State mandated airport land use local legislation governed by the *State of California Aeronautics Act, Public Utilities Code, Chapter 4, Article 3.5* and related legislation. Tuolumne County has succeeded in wrongly re-locating about 98% of its air traffic to overfly New Melones critical infrastructure, miles away from its normal, safe approach and departure routes in line with its main runway. (*See attached Reclamation "New Melones Reservoir" Map with added drawing to show legislated Columbia Airport Influence Area Boundary with 1983/1996 Exhibit "A" Traffic Patterns.*) The County's inexperienced current Airports Director/Manager, Jim Thomas, an avid member of Tuolumne County's pilot community who lives in Tuolumne County's Pine Mountain Lake Airpark, has continued to actively mis-direct the Airport's routine air traffic to this area by wrongly insisting the Highway 49 Bridge is a Columbia Airport "pattern point/reporting point/landmark." We have spent years discussing this serious problem with his superiors. Now, despite having reluctantly posted ineffective notices that only suggest avoidance of a portion of this area (*see his attached color "Noise Sensitive Areas" Map*), Jim Thomas continues to refuse to take any appropriate action to re-direct the majority of Columbia Airport's air traffic away from flying dangerous and improper extended aircraft approaches and departures over New Melones critical

Responses

I-19-2: FAA regulations are in place and need to be enforced by the FAA.

Letter I-19, Continued **Comments** **Responses**

infrastructure and our area of rugged hills and deep canyons that preclude emergency landing by aircraft in the event of engine failure and will result in widespread catastrophe in the event of crash or mid-air collision. Unfortunately, the County's June 2009 premature removal from its Tuolumne County Ordinance Codes of all depictions of its long-established 1983 documented Columbia Airport traffic patterns, which avoid overflight of New Melones Lake entirely, and our recent review of the very different and inappropriate new Columbia Airport traffic patterns proposed by Jim Thomas, (without required full CEQA and NEPA review) that he wants to have replace the prematurely removed patterns, will encourage and enable the continued repetitive unsafe cross-traffic overflights of New Melones Lake critical infrastructure by the vast majority of Columbia Airport's inbound and outbound air traffic.

As a result of our repeated discussions about this continuing severe overflight problem with Tuolumne County Counsel Gregory Oliver and County Administrator Craig Pedro, Tuolumne County Airport Manager Jim Thomas was finally instructed, more than a year ago, to put out two notices for pilots to avoid "the Highway 49 and vicinity" including a note in the Columbia Airport section of the *FAA Airports/Facilities Directory* (*copy attached*) but the Airport Manager refused to include Reclamation's two New Melones campgrounds on his "Noise Sensitive Areas" Map (attached) circle of the "Highway 49 vicinity" despite our request he do so; however, despite these notices, inbound and outbound overflights continue, as before, over the entire circled area because pilots ignore all "avoid overflight" notices pertaining to this area and have been told by Airport Management they can fly wherever they like and, again, have wrongly been told the Highway 49 Bridge is a "pattern point/reporting point/landmark" for Columbia Airport, in violation of FAA VFR procedures and in violation of California State Aeronautics Law which requires all "airport traffic patterns" to be fully contained inside the legislated jurisdictional boundaries of, in this case, the "Columbia Airport Influence Area."

Despite our continued efforts this past year to work with high level Tuolumne County officials, Tuolumne County has failed to effectively address and correct this dangerous overflight problem and has, instead, set into motion certain procedures and County legislation which will legitimize its current dangerous airport operations over New Melones Lake identified critical infrastructure. Also County Airport Management has disseminated clandestine, contradictory information to pilots:

•**1. December 15, 2009** - Tuolumne County Board of Supervisors Meeting - Agenda Item: Comment letter to New Melones Lake Area Draft RMP/EIS. (Discussed on above pp. 2 & 3.) Reclamation will receive an RMP/EIS Comment Letter from Tuolumne County containing false inferences related to proposed Alternative C overflight restrictions and Columbia Airport. Craig Pedro's "Noise Sensitive Areas" letter to pilots dated 11-13-2009 to be attached to the County's Comment Letter has been ignored by pilots since it was sent out.

•**2. June 16, 2009**- Tuolumne County Board of Supervisors-Public Hearing- **Voted 4-1 to remove from the Tuolumne County Ordinance Code** "Exhibit A" of the *Columbia Airport Influence Area Map* (required under California State Aeronautics Law) which depicts **4 distinct Departure Patterns for Columbia Airport that all avoid overflight of New Melones Lake which have appeared in the County Ordinance Codes since 1983** (*copy attached*) and to, prematurely, replace that "Exhibit A" diagram with a new "Columbia Airport Influence Area Map" which fails to depict any Columbia Airport traffic patterns whatsoever (*copy attached*). We spoke at the Board Meeting to point out that removal of the existing "Exhibit A"prior to moving the codified long-established 1983 air traffic pattern diagram to the "Traffic Pattern" section of the County Ordinance Code (which had not been properly updated in 1983 to coincide with the 1983 Ordinance Section's

Letter I-19, Continued **Comments** **Responses**

"Exhibit A" depicting Columbia Airport traffic patterns in accordance with the Hodges & Shutt Nov. 1982 Tuolumne County airports study *(attached)* would eliminate Tuolumne County's ability to enforce its legitimate airport traffic patterns which avoid overflight of New Melones Lake and Jackass Hill because the Tuolumne County Ordinance Codes would no longer include any legitimate or enforceable traffic patterns at all. We had earlier brought this problem to the attention of Tuolumne County officials, in writing and during meetings, but, apparently, no one in Tuolumne County government cared enough about environmental laws, public safety, or safe airport operations to do anything about it. California State Aeronautics Law and CEQA and NEPA regulations do not allow unnecessary arbitrary change of airport traffic patterns when there have been no changes to airport runways. With disregard for the law and public safety, the former and current improper practice of County Airport Management misdirecting inbound and outbound Columbia Airport traffic over New Melones Lake and its identified critical infrastructure, the Highway 49 Bridge, and our home on Jackass Hill is, for all intents and purposes, in the process of being legitimized by Tuolumne County. This Board of Supervisors' action represents the first step in doing so.

•**3. April 14, 2009- Board of Supervisors Public Meeting - Agenda Item:** The long overdue State mandated *Amended Tuolumne County Airport Land Use Compatibility Plan* consistency requirement, as required by California Government Code, first came before the County Board of Supervisors. Unfortunately, that Board Agenda Item was wrongly accompanied by premature County Ordinance codification of the *Amended Tuolumne County Airport Land Use Compatibility Plan* and its revised "Exhibit A" diagram which omits all previously depicted airport traffic patterns. We pointed out that the County Ordinance Section titled "Traffic Patterns" must first be made consistent with the existing 1996 "Exhibit A" Columbia Airport Influence Area diagram's 1983 long-established legislated airport traffic patterns before removal of the existing "Exhibit "A" diagram from the County Ordinance. On April 14, 2009, the Board instructed Jim Thomas, the inexperienced Airports Director/Airport Manager, to draw up a traffic pattern diagram for Columbia Airport for the Board of Supervisors to vote on which will then be codified in the Tuolumne County Ordinance "Airport Traffic Pattern" Section. To date, that has not taken place and, since July 2009, Columbia Airport has been operating without benefit of any safe, enforceable airport traffic patterns. **In October 2009, Tuolumne County Counsel allowed us to review Jim Thomas's inaccurate and inadequate proposed Columbia Airport Traffic Pattern diagram which totally eliminates the 4 long-established departure patterns that avoided direct overflight of New Melones Lake** and, instead, depicts an incomplete unsafe airport traffic pattern that will encourage and justify improper miles-long extended approaches and departures directly over New Melones Lake critical infrastructure and our Jackass Hill rugged area. Subsequently, in October 2009, we provided additional information to County Counsel on this subject of Columbia Airport traffic patterns including a traffic pattern depiction which would restore the Columbia Airport traffic pattern diagram prematurely removed from the County Ordinance. No further action has been taken to date.

•**4. CLANDESTINE, CONTRADICTORY BEHAVIOR BY TUOLUMNE COUNTY AIRPORT MANAGER**: In 2008, after we met on many occasions with County Counsel Gregory Oliver, Tuolumne County Airport Manager Jim Thomas reluctantly, and with many complications, wrote an *FAA Airports/Facilities Directory* notice which reads: "*avoid overflight...of the Highway 49 Bridge and vicinity*" *(copy attached.)* Despite this FAA published notice, pilots have not complied with this recommendation and continue to routinely overfly New Melones Lake identified infrastructure and its vicinity, including our home, to approach and depart Columbia Airport. Jim Thomas, County Airport Manager, was subsequently instructed to post Maps at both County Airports showing where this area to "avoid" is located. The circle he drew for this area is too small to be

Letter I-19, Continued **Comments** **Responses**

effective and has also been ignored by pilots using Columbia Airport despite being posted at both County airports because, as stated earlier, conflicting information is being given to pilots. We specifically requested inclusion in the "Highway 49 Bridge avoid circle" of the New Melones campgrounds; Jim Thomas refused to comply with that request; his superiors did not instruct him to do so despite our repeated requests to do so. Pilots are actively told that compliance to "avoid" is voluntary–therefore, they are not avoiding overflight of this area.

Clandestine Contradiction: Prior to the 2-day 2009 Annual Columbia Airport Father's Day Fly-In (which has, for a number of years, created additional serious overflight noise and safety hazard impacts in this area with its terrifying overflights by "rides for hire" originating at Columbia Airport), **Jim Thomas, Tuolumne County's only Airport Manager, issued a clandestine NOTAM (FAA Notice to Airmen) instructing all pilots flying to Columbia Airport for the Fly-In, regardless of their point of origin, to fly directly to the Highway 49 Bridge and from there, fly to Columbia Airport *(copy attached)*.** We discovered the NOTAM on the Internet during the Fly-In because there was so much air traffic over the Highway 49 Bridge and our home (and New Melones critical infrastructure). Several days later, we confronted Craig Pedro, Tuolumne County Administrator, with this NOTAM because he had assured us Tuolumne County would advise pilots to avoid the Highway 49 Bridge and its vicinity, which includes our home, especially during this Fly-In. Craig Pedro denied knowing anything about the NOTAM. He did tell us that 2 days before the Fly-In, he had discovered a Map on a private internet website on which Jim Thomas, the County Airport Manager, had included a diagram with a line directing all air traffic to the Highway 49 Bridge (and the Visitors Center/Headquarters Complex); we never saw it because Craig Pedro had immediately instructed Jim Thomas to remove that diagram from the website. From all accounts, the diagram matched the NOTAM which Craig Pedro claimed he knew nothing about; **this FAA NOTAM directing all Columbia Airport air traffic to first fly to the Highway 49 Bridge stayed in effect during the entire 2009 Columbia Fly-In.** This clandestine NOTAM directive matches what Jim Thomas has been telling pilots all along: to use the Highway 49 Bridge as a "pattern point/landmark/reporting point" for Columbia Airport. He is unlawfully directing all Columbia airport traffic on unsafe, improper, extended flight paths directly over all of New Melones Lake critical infrastructure and our home in violation of California State Aeronautics Law which requires that all airport traffic patterns must be located completely inside the County legislated Columbia Airport Influence Area boundaries. (*See attached letter by Tuolumne County CDD Director/ALUC Secretary Bev Shane dated October 7, 2007, paragraph 1.*) Additionally, Tuolumne County is precluded, by State Aeronautics Law, from creating airport traffic patterns and repetitive significant overflight impacts above any land/water over which is does not have full land use planning authority. That is clearly the case when it comes to Reclamation's New Melones Lake property; this RMP/EIS is a Federal land use planning document and its lands and water are not and cannot be located inside the County's legislated Columbia Airport Influence Area boundaries where land use planning is governed by Tuolumne County's California State mandated County Airport Land Use Commission.

•5. MORE CLANDESTINE, CONTRADICTORY BEHAVIOR BY TUOLUMNE COUNTY AIRPORT MANAGER: Again, while Tuolumne County claims to be "suggesting" to pilots they avoid overflight of the Highway 49 Bridge and its vicinity, we recently discovered that also some time around June 2009, Jim Thomas, County Airport Manager, also, unknown to his superiors and for no reason, to be effective July 2, 2009, notified the FAA to remove from the Columbia Airport section of the *FAA Airports/Facilities Directory*, the long-standing directive that "*high performance aircraft equipped with 250+ hp engines land on Runway 35 and depart on Runway 17*" (a straight-in approach and landing and straight- out take off and departure intended for safety and noise abatement that specifically directs larger general aviation aircraft away from overflight of New Melones Lake and critical infrastructure). Having removed this long-standing

Letter I-19, Continued **Comments** **Responses**

directive, those noisier heavy-duty aircraft are now encouraged to also fly to and from the Highway 49 Bridge when using Columbia Airport thus adding more severe noise & additional safety hazards to our area. If such a high performance aircraft were to experience engine failure over any of New Melones critical infrastructure, the result would be that the aircraft would plummet down quickly causing devastating damage to Reclamation property and to the lives of all persons on that property. Also, it places high performance 250+ hp aircraft in the same mix with the vast majority of all other smaller aircraft approaching and departing air traffic already flying over rugged unprotected terrain, all flying at varying, uncontrolled altitudes on potential mid-air collision paths without benefit of being able to see Columbia Airport runway on approach and flying an E-W direction, guaranteeing that bright sunlight will always be in the eyes of either the inbound or outbound pilots, compromising their ability to see other aircraft in the sky, significantly adding to the potential for mid-air collision.

IMPROVING "NO-FLY ZONE" ENFORCEMENT CAPABILITY: Based upon many years of first-hand observations from our home of aircraft overflying New Melones Lake and the critical infrastructure, our intimate knowledge of local flying practices, knowledge of the many State and Federal regulations and recommendations applicable to the operation of non-towered (uncontrolled) general aviation recreational airports, like Columbia Airport and its air traffic, and our extensive long-term experience with Tuolumne County officials and County documents pertaining to Columbia Airport operations matters, we sincerely believe the 2009 Draft RMP/EIS, Action TA 13C, infrastructure overflight restricted "no-fly zones," as shown in Figure 5-14, are too limiting to achieve pilot compliance and practical enforcement ease. Adding a portion of the Lake surface surrounding all identified critical infrastructure, as suggested above, to create a single contiguous "no fly zone" would guarantee achievement of Reclamation's stated protection goals for both its critical infrastructure and for public health and safety. Due to extremely stringent, and frankly unrealistic, FAA evidence reporting requirements at non-towered airports, for the FAA to prosecute pilots who penetrate airspace over "no-fly zones," proving overflight above a single larger contiguous area, to include the Lake surface in the concentrated area of all the infrastructure to be protected (as listed on p. E-5 Section 16.4[b]), would be much easier. (*See FAA letter dated August 16, 1996 signed by Thomas C. Accardi attached to our October 29, 2007 Comment letter which discusses FAA prosecution of pilots.*) As currently written in your Draft (p. E-5), the "no-fly zones." as proposed, cannot be easily enforced because pilots using Columbia Airport who do penetrate any one of the individual "no-fly zones" can too easily claim they were overflying only the unrestricted Lake surface immediately adjacent to the "no fly zone" when, in fact, they were actually overflying the campgrounds or other restricted infrastructure--even though it is impossible, for example, to only overfly the Lake surface and Jackass Hill without also overflying identified critical infrastructure. Without radar tracking capability, the only way to effectively document that a pilot is actually penetrating a "no-fly zone" requires the person doing the photographing, videotaping, or observing and reporting to do so from the land surface directly beneath the "no fly zone" the aircraft is penetrating in order to photograph or video the aircraft's undercarriage in order to prove it overflew one of the limited restricted areas, as currently diagramed in Draft Figure 5-14. It is much easier to photographically capture (to document and prove) an aircraft overflying a certain portion of the Lake which includes the adjacent critical infrastructure if the Lake surface in that immediate area is also part of a single contiguous "no fly zone" because such broader photographic evidence can then be taken from other locations. (For example, we could easily provide photographic or videotaped evidence that shows aircraft overflying Tuttletown Campground and the adjacent Lake or the Dam and the adjacent Lake from our home that could conclusively prove the pilots were overflying the critical infrastructure to approach or depart Columbia Airport.) Such evidence could then be presented to Tuolumne County administration personnel. If the current inappropriate overflight

Letter I-19, Continued

Comments

paths now being flown over the critical infrastructure to approach and depart Columbia Airport were to continue as now, Tuolumne County would then be compelled to enact corrective measures in its County Ordinance to prevent its air traffic from overflying the contiguous "no-fly zone" portion of the Lake which includes all identified critical infrastructure. Based upon our personal knowledge of pilot flying practices, most pilots who overfly our area to approach and depart Columbia Airport have no idea where Reclamation's critical infrastructure is located or where its boundaries are, they often have no idea what altitude above ground level (AGL) they are actually flying because of the extreme short-distance terrain variations here, and many pilots have no idea how many miles from the Airport they are when overflying this area. On our scanner, we have heard inbound pilots overflying our home report they are anywhere from 7 miles to 2 miles from Columbia Airport.) Additional evidence might be needed for the FAA to prosecute an individual pilot who penetrates a "no fly zone," but, at the present time, it is not occasional, random overflights causing the environmental and safety impacts over New Melones infrastructure but, rather, it is the majority of Columbia Airport's uncontrolled inbound and outbound air traffic over which Tuolumne County has full legal control. **Given current and expected future continued overflight practices by Columbia Airport's users, a slightly larger, more enforceable contiguous "no-fly zone" area, to include some of the infrastructure surrounding Lake surface, will make a big difference in terms of actually succeeding in achieving Reclamation's goals of protecting New Melones critical infrastructure and protecting public health and safety.**

PROBLEMS WITH SEAPLANE ACTIVITY: In addition, after reading the October 2009 Draft RMP/EIS, we have some serious concerns about unrestricted seaplane activities on and over New Melones Lake surface in the areas surrounding Jackass Hill, some of which, especially this past year, have occasionally negatively impacted our home directly, but which also have the potential to destroy Reclamation's critical infrastructure and harm public health and safety of persons on Reclamation's New Melones' property in ways which the Draft RMP/EIS aircraft "restrictions" to avoid direct overflight of identified critical infrastructure do not take into consideration. Because New Melones Lake is easily accessible by car, there is absolutely no need to access the Lake by seaplane. How exactly does Reclamation define "seaplane recreational use?" If this includes flying back and forth repeatedly and landing anywhere, unrestricted, on and over the Lake surface at the varying low altitudes, mingling inbetween many boats, as we have observed from our home (and, at certain altitudes, heard continuously in our home for extended periods of time as they repeatedly fly back and forth), the result is a danger to all boaters using New Melones Lake. And the noise and discomfort of a low-flying seaplane overflying one's boat, or flying low in close proximity on the Lake surface, cannot be adequately described. While thrill seekers may revel in such activity in their immediate proximity, such seaplane activities (and very low overflights by general aviation aircraft, which we have also observed) pose a direct threat to all nearby persons. Not crashing into boats, into campgrounds, or into other Reclamation infrastructure cannot be guaranteed because accidents are not planned events. Pilots make mistakes all the time, many such mistakes resulting in daily private aircraft-related fatalities and injuries to persons on the ground and in the aircraft and cause major property damage. Draft RMP/EIS wording (p. E-5, Section 16. Aircraft, Subsection 16.3[d]) seeks to prohibit seaplane activities like "pilot training or instruction," which is certainly very wise. However, this is the only type of seaplane activity we have observed from our home. Knowing there is a seaplane instruction company based in Calaveras County, we do not understand how Reclamation intends to enforce prohibition of seaplane "pilot training or instruction." Such instruction prohibition is necessary, especially knowing that a former seaplane training company owner/instructor, who extensively advertised seaplane instruction at New Melones Lake, fatally crashed his seaplane, killing himself and a student pilot, while on a training flight at Cherry Lake. Seaplane crash consequences to New Melones critical infrastructure, recreations users and visitors,

I-19-4

I-19-5

Responses

I-19-4: Please review the Federal Code of Regulations under 43 CFR Part 423.41, Aircraft.

I-19-5: Under 43 CFR 423.41 (a) You must not takeoff or land an aircraft on Reclamation lands or waterbodies except in special use areas so designated by an authorized official. See 43 CFR 423 Subpart E.

Letter I-19, Continued **Comments** **Responses**

and neighboring residents in the surrounding hills, including ourselves, would be devastating and potentially fatal, especially during wildfire season, when our entire vulnerable and unprotected rugged hillside area could easily be destroyed due to any aircraft crash and consequent fire.

WIDESPREAD WILDFIRE POTENTIAL FROM OVERFLIGHT CRASH: Our immediate area, including Jackass Hill with only one narrow, serpentine, hillside dead-end road to residences, no municipal water system (only limited yield residential wells), no fire hydrants, and no Tuolumne County firefighting infrastructure within 10+ road miles, is a California State classified "Extreme Wildfire Hazard Area." Even the Tuolumne County permitted boat storage facility at Reynolds Ferry Road/Highway 49, near Reclamation's Tuttletown Campground, does not have legally required firefighting infrastructure–the fire hydrant there does not meet legal or realistic requirements for such a commercial facility where fuel is present. It is during wildfire season (about 6 months of each year, with California wildfires increasing annually), that recreational aircraft use of Columbia Airport is at its most intense. Consequently, aircraft overflying Jackass Hill and New Melones critical infrastructure, on cross-traffic mid-air collision paths at uncontrolled altitudes to approach and depart Columbia Airport, is at its most intense and dangerous. These continual cross-traffic overflights can mingle with occasional seaplanes overflying Jackass Hill at varying altitudes, some illegally low, short-cutting across land from the Dam portion of New Melones Lake to the Lake area North of the Highway 49 Bridge. It is during these hot, dry months during wildfire season that all of this continual, sometimes continuous, overflight activity poses the greatest and most serious threat to public health and safety, not only at Reclamation's New Melones critical infrastructure, but also to neighboring residents in the immediately surrounding area of Jackass Hill, like ourselves. A mid-air collision or an emergency landing attempt by any pilot in our extremely rugged terrain, which does not accommodate any emergency aircraft landing due to lacking any flat land areas, can easily result in an uncontrolled wildfire in our area that cannot be accessed by ground firefighters (as was the case in 2004 when a boater started a fire on the shoreline near New Melones Visitors Center).

I-19-6

CONCLUSION: 1. Aircraft Overflights: To insure public health and safety and the protection of New Melones Lake identified critical infrastructure and the Highway 49 Bridge, because of the improper and ongoing problem of the vast majority of Columbia Airport's general aviation routine, repetitive, cross-traffic continuing to overfly these areas, despite various ineffective notifications to pilots by Tuolumne County, we strongly urge Reclamation, within the framework of Alternative D, to implement Alternative C, Action TA 13C and to add some "no-fly zone" area over portions of New Melones Lake near the infrastructure. To improve protection of Reclamation's critical infrastructure and public safety and to improve enforcement of overflight violations by general aviation aircraft pilots in these no-fly zones (continuing to exempt all firefighting, emergency, and military aircraft operations), we urge Reclamation to additionally restrict overflight of not only the New Melones campground areas, the Dam, Visitors Center/Headquarters Complex, and Highway 49 Bridge as proposed in Aircraft Section 16.4(b), but also the Spillway and the Lake surface in that general area. Looking at the 2009 Draft RMP/EIS Figure 5-14 Map (*copy attached*), an overflying aircraft must, by definition, avoid overflight of the Lake surface in that area in order to avoid overflight of the infrastructure which has been identified for "no-fly zone" overflight restriction.

2. Seaplane Activity: Currently, seaplanes do not have a designated area of use on New Melones Lake. An out-of-control seaplane, or seaplane flying at any altitude over the Lake surface, if it experiences sudden engine failure, or if a pilot is distracted, could easily end up crash landing in the campgrounds or hitting a boat. FAA "open water" regulations for aircraft, including seaplanes, in the vicinity of boats on New Melones Lake are inadequate to protect boaters and are not enforceable until too late–after a crash or other seaplane caused accident. The FAA regulations also do not take into consideration the large number of campground users ("*an open air assembly*

I-19-6: Comment noted.

Letter I-19, Continued

Comments

of persons"),as reported by Reclamation, engaged in a variety of recreational activities in very close proximity to seaplanes overflying the Lake surface. If Reclamation feels strongly about allowing seaplane activity on New Melones Lake, a designated area to protect other recreational users should be assigned, far away from the campgrounds; such area might, for example, be the Lake surface South of New Melones Dam. Because New Melones Lake is easily accessible by car, there is no need to access it by seaplane. Seaplane training should definitely be prohibited on New Melones Lake, as suggested in the Draft sample. We urge implementation of Alternative C, Action TA 12C.

I-19-7

I-19-8

3. Shooting & Hunting: While not discussed above, we strongly urge elimination of any and all activities at New Melones Lake which result in repetitive rifle or gunshot noise. Because of terrain features, acoustics in the area surrounding New Melones Lake are unusual and unpredictable; noise of gunshots (as well as overflying aircraft) is amplified, travels far distances, and is distorted reaching levels that are stressful, even inside neighboring residences. This past year, at various times, we have heard loud repetitive gunshot noises inside our home for extended periods of time which seemed to originate in an area Reclamation currently has designated for hunting–but we heard it during wildfire season which is very frightening to us because target shooting in French Flat started the serious fire in July 2008 which threatened 200+ structures in the area, including our home on Jackass Hill. On more than one occasion, we telephoned to report this gunshot noise to New Melones' Rangers, who were not able to find anyone by the time they reached the area. In addition to the noise and potential fire hazard of shooting off guns in this area, discharge of firearms for hunting or for any recreational use can be hazardous to persons involved in nearby other recreational uses of New Melones Lake. Tragically, people who use firearms can be careless, uninformed, and inconsiderate, with tragic consequences.

Sincerely,

Thomas F. and Ingrid Ritz

Enclosures and attachments:

1. Color photograph of New Melones Lake view taken from Ritz Home 3rd floor deck.
2. 2009 Draft RMP/EIS Figure 5-14 Map (with Red X showing location of Ritz Home.)
3. Hodges & Shutt- November 1982 (cover + pp. 5-7) airport study prepared for Tuolumne County.
4. Tuolumne County Ordinance page 18-17 (pre-July 2009) Exhibit "A"-Columbia Airport Referral Area with Traffic Patterns diagram.
5. November 13, 2009 "Noise Sensitive Area" letter to pilots by Craig Pedro, Tuolumne County Administrator, with 3 attachments: FAA Advisory Circular AC No: 91-36D (2 pp.) + 2 "Noise Sensitive Area" Maps by Jim Thomas, Tuolumne County Airports Manager.
6. Color copy of "Noise Sensitive Area" Map by Tuolumne County Airport Manager.
7. 2009 Draft RMP/EIS page E-5, Aircraft Section 16.4.
8. Reclamation "New Melones Reservoir" Map with Columbia Airport Influence Area boundary and documented Traffic Patterns drawn in.
9. Internet copy: "*FAA Airports/Facilities Directory*"-Columbia Airport Section (17Dec09 to 11Feb10).
10. Tuolumne County Ordinance page 18-18 (as of July 2009) Exhibit "A" Columbia Airport Influence Area without former Traffic Patterns diagram.
11. FAA NOTAM for 2009 Columbia Airport Father's Day Fly-In by Jim Thomas, Tuolumne County Airports Manager (with hand-written notation at top by Ritz).
12. October 7, 2005 Letter by Bev Shane, ALUC Secretary (and Tuolumne County Community Development Department Director), highlighted section explains Columbia Airport Traffic Pattern location and "areas of overflight concern" must be inside legislated Columbia Airport Influence Area boundary.
13. December 30, 2008 RMP/EIS Comment Letter by Thomas & Ingrid Ritz.
14. October 29, 2007 RMP/EIS Comment Letter by Thomas & Ingrid Ritz.

Responses

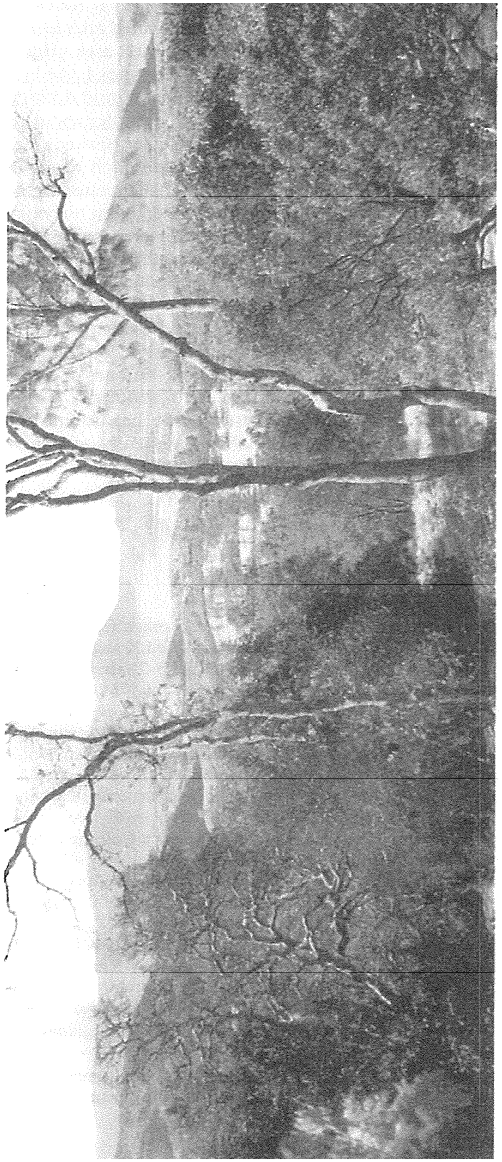
I-19-7: Comment noted. See Figure 3-1.

I-19-8: Comment noted.

Letter I-19, Continued

Comments

Rita:
View of New Melones Lake from our 3rd Floor deck on Jackass Hill, Tuolumne County.

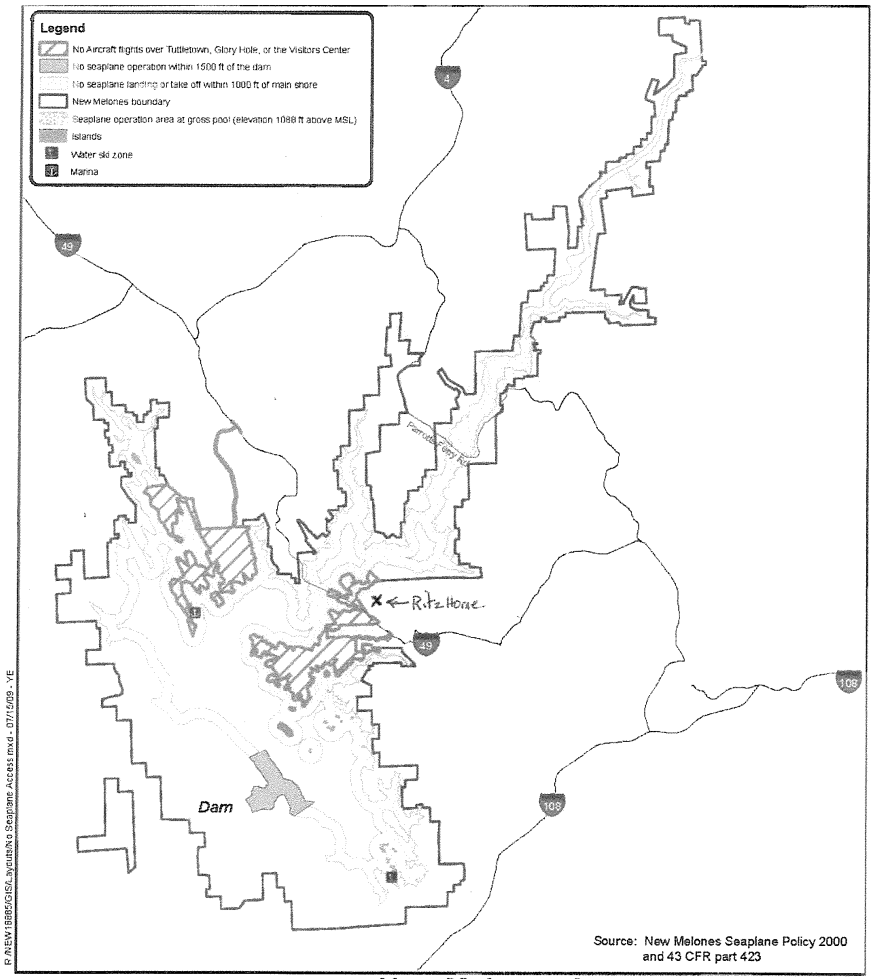


Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments



Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

HODGES & SHUTT
AVIATION PLANNING SERVICES
2310 Airport Boulevard • Santa Rosa, California 95401 • (707) 526-5010

NOISE CONTOUR UPDATE

COLUMBIA AND PINE MOUNTAIN LAKE AIRPORTS

Prepared for Tuolumne County
Airport Land Use Commission

November 1982

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

Table 2

AIRCRAFT ACTIVITY DISTRIBUTIONS

COLUMBIA AIRPORT

AIRCRAFT MIX

Aircraft Type	Total Operations	
	Annual	Average Day
Single-Engine Propeller	135,000	370
Twin-Engine Propeller	15,000	41
Business Jet	730	2
Fire Bomber (S-2)	2,000	16 a/
Total	152,730	

a/ Average day of 4-month fire season.

TIME OF DAY

Aircraft Type	Percent of All Operations		
	Day 7:00 a.m. 7:00 p.m.	Evening 7:00 p.m. 10:00 p.m.	Night 10:00 p.m. 7:00 a.m.
Single-Engine Propeller	91.5%	7.5%	1.0%
Twin-Engine Propeller	91.5%	7.5%	1.0%
Business Jet	97.0%	3.0%	0.0%
Fire Bomber (S-2)	97.0%	3.0%	0.0%

RUNWAY UTILIZATION

	Percent by Time of Day			
	Landing		Takeoff	
	Runway 17	Runway 35	Runway 17	Runway 35
Singles & Twins				
Day	90%	10%	90%	10%
Evening	55%	45%	95%	5%
Night	20%	80%	100%	0%
Business Jets & Fire Bombers				
Day	0%	100%	100%	0%
Evening	0%	100%	100%	0%
Night	--	--	--	--

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

FLIGHT TRACKS

	Percent of Arrivals or Departures								
	South								North
	S1	S2	S3	S4	S5	S6	S7	S8	N1
Arrivals									
Singles & Twins	100%	5%	5%	95%	0%	0%	0%	0%	100%
Business Jets	100%	100%	50%	0%	50%	0%	0%	0%	100%
Fire Bombers	100%	100%	0%	0%	100%	0%	40%	40%	100%
Departures									
Singles & Twins	100%	65%	20%	35%	0%	25%	20%	0%	100%
Business Jets	100%	100%	65%	0%	0%	20%	15%	0%	100%
Fire Bombers	100%	100%	0%	0%	60%	0%	40%	0%	100%

PINE MOUNTAIN LAKE AIRPORT

AIRCRAFT MIX

Aircraft Type	Total Operations	
	Annual	Average Day
Single-Engine Propeller	46,000	126
Twin-Engine Propeller	4,000	11
Total	50,000	

TIME OF DAY

Aircraft Type	Percent of All Operations		
	Day 7:00 a.m. 7:00 p.m.	Evening 7:00 p.m. 10:00 p.m.	Night 10:00 p.m. 7:00 a.m.
Single-Engine Propeller	93.5%	6.0%	0.5%
Twin-Engine Propeller	93.5%	6.0%	0.5%

RUNWAY UTILIZATION

	Percent by Time of Day			
	Landing		Takeoff	
	Runway 9	Runway 27	Runway 9	Runway 27
Singles				
Day	5%	95%	5%	95%
Evening	50%	50%	5%	95%
Night	95%	5%	5%	95%
Twins				
Day	25%	75%	5%	95%
Evening	60%	40%	5%	95%
Night	95%	5%	5%	95%

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

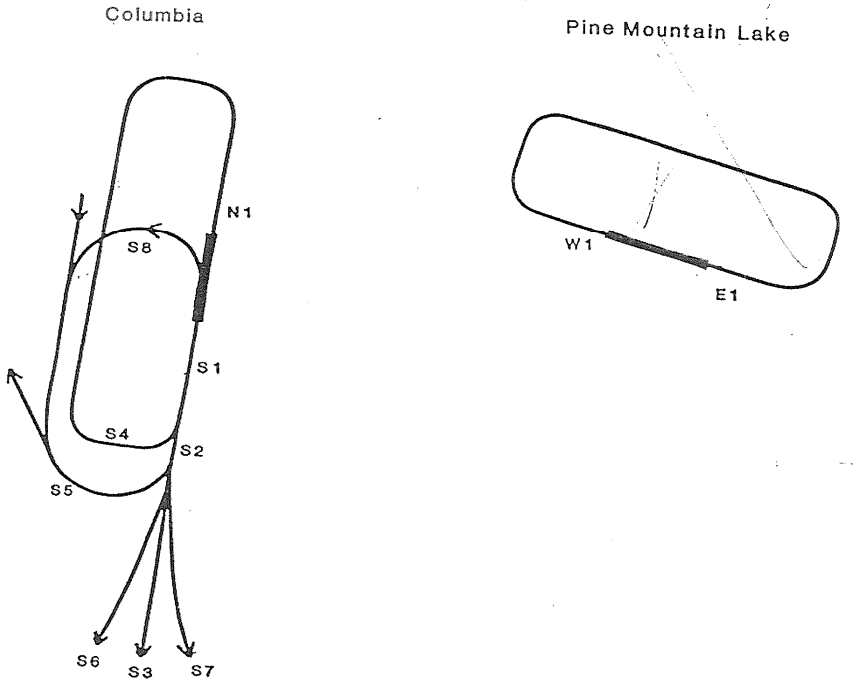
Letter I-19, Continued

Comments

FLIGHT TRACKS

	Percent of Arrivals or Departures	
	West W1	East E1
Arrivals		
Singles	100%	100%
Twins	100%	100%
Departures		
Singles	100%	100%
Twins	100%	100%

FLIGHT TRACKS

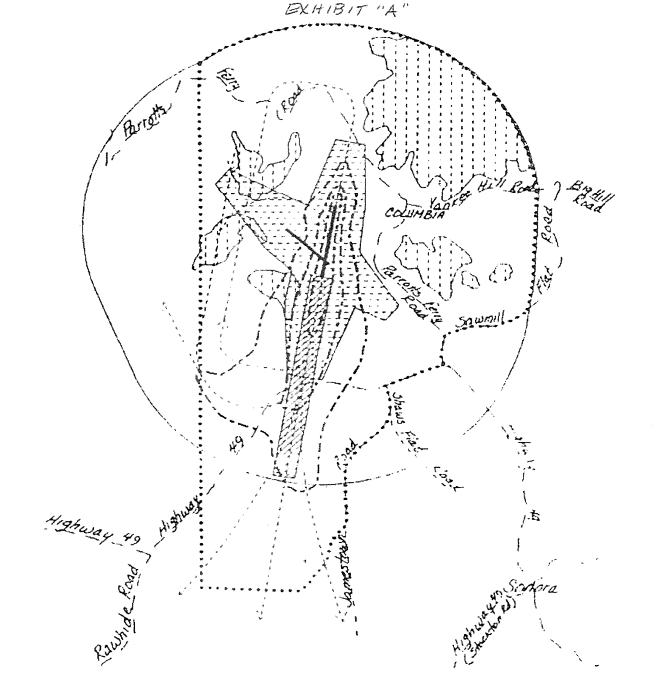


Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued **Comments** **Responses**

TUOLUMNE COUNTY ORDINANCE CODE (TCOC)
(This page and Exhibit "A" removed from TCOC effective July 2009)
COLUMBIA AIRPORT REFERRAL AREA
EXHIBIT "A"



Height Referral Area & Height Restriction Zone
Traffic Patterns
Extended Runway Zone
Noise Impact Zones CNEL 55, 60, & 65 dBA
Primary Safety Zone (Primary, Approach & Transitional surfaces)
Planning Referral Area / Secondary Safety Zone
Height Restriction Zone (Part 77 Surface ≤ 50 feet AGL)

NOTE: Anything within the HEIGHT REFERRAL area and the PLANNING REFERRAL area must be referred to ALUC.

REFERRAL AREAS

18-17

SAME TRAFFIC PATTERNS SHOWN ON EXHIBIT "A" IN ACCORDANCE WITH TUOLUMNE COUNTY 1983 ORDINANCE 1285 AND WITH TUOLUMNE COUNTY 1996 ORDINANCE 2141.

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

County Administrator's Office

Craig L. Pedro
County Administrator

Tuolumne County Administration Center
2 South Green Street
Sonora, CA 95370
Phone (209) 533-5511
Fax (209) 533-5510
www.tuolumnecounty.ca.gov

November 13, 2009

TO: Aircraft Owners, FBO's and PML Airpark Residents

FROM: Craig L. Pedro, County Administrator

SUBJECT: Noise Sensitive Areas

I would like to start by thanking each of you for your contributions to the health, safety and economic vitality of the Columbia and PML Airports. Both airports are important assets to our community and it takes all of us working together to ensure their continuation as the recreational, commercial and public safety hubs they are today.

The purpose of this memorandum is to remind you of the importance of being good neighbors to the communities surrounding the airports. One of the biggest issues that can lead to conflict between airports and the communities that surround them is that of excessive noise caused by aircraft. This issue has proven significant enough throughout the country that the FAA has issued Advisory Circulars on this topic. Please see the most recent of such circulars, AC No. 91-36D and the voluntary flight practices aimed at reducing noise related concerns near airports and other noise sensitive areas. Why should pilots care and follow such practices? I believe the following sentence found in the attached circular sums this up well:

"Adherence to these practices is a practical indication of pilot concern for the environment, which will build support for aviation and alleviate the need for any additional statutory or regulatory actions."

Consistent with this circular, the County of Tuolumne has established noise sensitive areas in the vicinity of both of the Columbia and PML Airports. Please see the attached noise sensitive area maps for both airports. It is the County's request that you familiarize yourself with these noise sensitive areas and attempt to avoid them altogether as well as exercise good noise mitigation flight practices in general.

Ignored by pilots!

Thanks again for your contributions to our airports and your cooperation in being good neighbors to the communities surrounding them. By doing so, you will be helping to *build support for aviation* in our County.

Questions and/or clarifications with respect to the County's noise sensitive areas and noise mitigation best practices should be directed to Airport Manager Jim Thomas at 533-5685.

...serving the Board of Supervisors, departments, and the community as good stewards of the County's fiscal and human resources through collaborative, professional and ethical leadership.

Letter I-19, Continued

Comments

U.S. Department of Transportation

Federal Aviation Administration

ADVISORY CIRCULAR

Subject: VISUAL FLIGHT RULES (VFR) FLIGHT NEAR NOISE-SENSITIVE AREAS **Date: September 17, 2004** **AC No: 91-36D**

Initiated by: ATO-R

1. PURPOSE. This Advisory Circular (AC) encourages pilots making VFR flights near noise-sensitive areas to fly at altitudes higher than the minimum permitted by regulation and on flight paths that will reduce aircraft noise in such areas.

2. EFFECTIVE DATE. This advisory circular is effective on September 17, 2004.

3. CANCELLATION. Advisory Circular 91-36C, Visual Flight Rules (VFR) Flight Near Noise Sensitive Areas, dated October 19, 1984, is cancelled.

4. AUTHORITY. The FAA has authority to formulate policy regarding use of the navigable airspace (Title 49 United States Code, Section 40103).

5. EXPLANATION OF CHANGES. This AC has been updated to include a definition of "noise-sensitive" area and add references to Public Law 100-91; the FAA Noise Policy for Management of Airspace Over Federally Managed Lands, dated November 1996; and the National Parks Air Tour Management Act of 2000, with other minor wording changes.

6. BACKGROUND.

a. Excessive aircraft noise can result in annoyance, inconvenience, or interference with the uses and enjoyment of property, and can adversely affect wildlife. It is particularly undesirable in areas where it interferes with normal activities associated with the area's use, including residential, educational, health, and religious structures and sites, and parks, recreational areas (including areas with wilderness characteristics), wildlife refuges, and cultural and historical sites where a quiet setting is a generally recognized feature or attribute. Moreover, the FAA recognizes that there are locations in National Parks and other federally managed areas that have unique noise-sensitive values. The Noise Policy for Management of Airspace Over Federally Managed Areas, issued November 8, 1996, states that it is the policy of the FAA in its management of the navigable airspace over these locations to exercise leadership in achieving an appropriate balance between efficiency, technological practicability, and environmental concerns, while maintaining the highest level of safety.

b. The Federal Aviation Administration (FAA) receives complaints concerning low flying aircraft over noise sensitive areas such as National Parks, National Wildlife Refuges, Waterfowl Production Areas and Wilderness Areas. Congress addressed aircraft flights over Grand Canyon National Park in Public Law 100-91 and commercial air tour operations over other units of the National Park System (and tribal lands within or abutting such units) in the National Parks Air Tour Management Act of 2000.

c. Increased emphasis on improving the quality of the environment requires a continuing effort to provide relief and protection from low flying aircraft noise.

d. Potential noise impacts to noise-sensitive areas from low altitude aircraft flights can also be addressed

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

through application of the voluntary practices set forth in this AC. Adherence to these practices is a practical indication of pilot concern for the environment, which will build support for aviation and alleviate the need for any additional statutory or regulatory actions.

7. **DEFINITION.** For the purposes of this AC, an area is "noise-sensitive" if noise interferes with normal activities associated with the area's use. Examples of noise-sensitive areas include residential, educational, health, and religious structures and sites, and parks, recreational areas (including areas with wilderness characteristics), wildlife refuges, and cultural and historical sites where a quiet setting is a generally recognized feature or attribute.

8. **VOLUNTARY PRACTICES.**

a. Avoidance of noise-sensitive areas, if practical, is preferable to overflight at relatively low altitudes.

b. Pilots operating noise producing aircraft (fixed-wing, rotary-wing and hot air balloons) over noise-sensitive areas should make every effort to fly not less than 2,000 feet above ground level (AGL), weather permitting. For the purpose of this AC, the ground level of noise-sensitive areas is defined to include the highest terrain within 2,000 feet AGL laterally of the route of flight, or the uppermost rim of a canyon or valley. The intent of the 2,000 feet AGL recommendation is to reduce potential interference with wildlife and complaints of noise disturbances caused by low flying aircraft over noise-sensitive areas.

c. Departure from or arrival to an airport, climb after take-off, and descent for landing should be made so as to avoid prolonged flight at low altitudes near noise-sensitive areas.

d. This advisory does not apply where it would conflict with Federal Aviation Regulations, air traffic control clearances or instructions, or where an altitude of less than 2,000 feet AGL is considered necessary by a pilot to operate safely.

9. **COOPERATIVE ACTIONS.** Aircraft operators, aviation associations, airport managers, and others are asked to assist in voluntary compliance with this AC by publicizing it and distributing information regarding known noise-sensitive areas.

Signed

_____

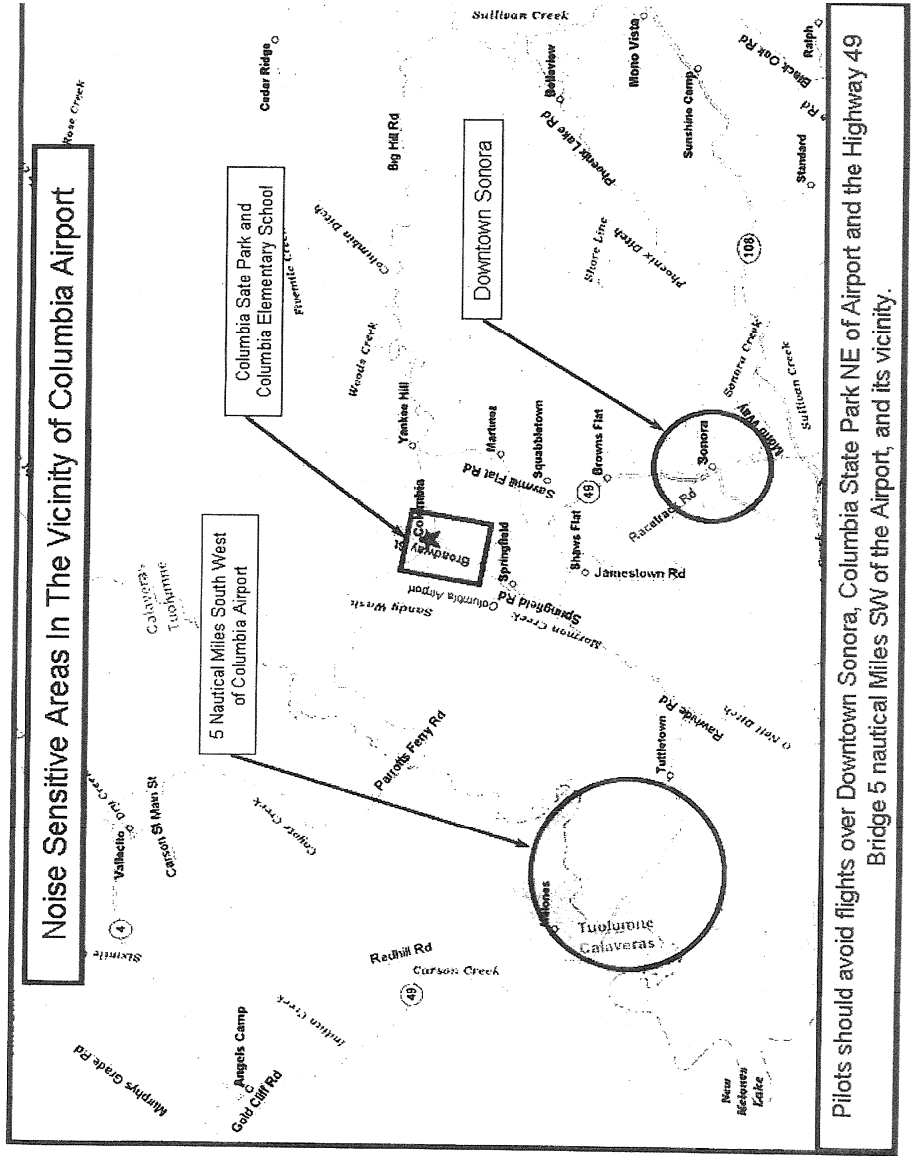
Sabra W. Kaulia
Director of System Operations & Safety

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

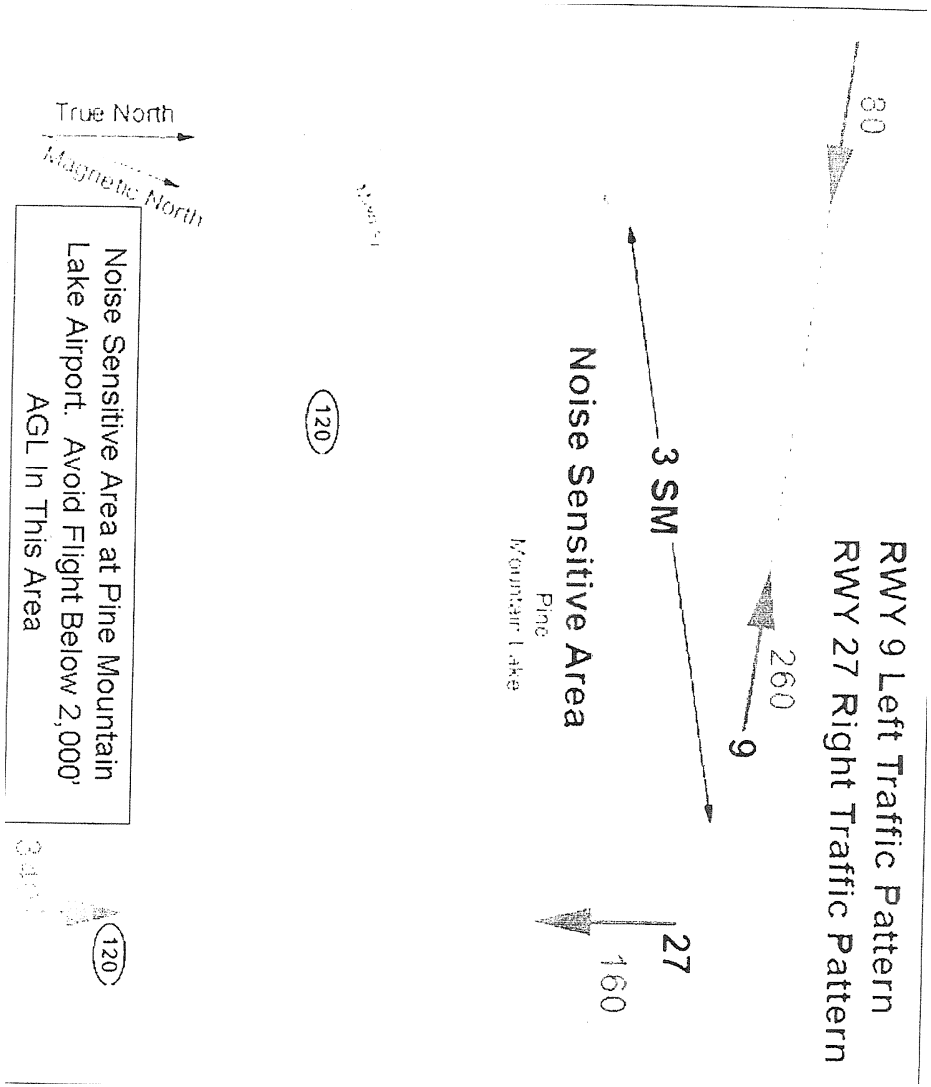


Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments



Responses

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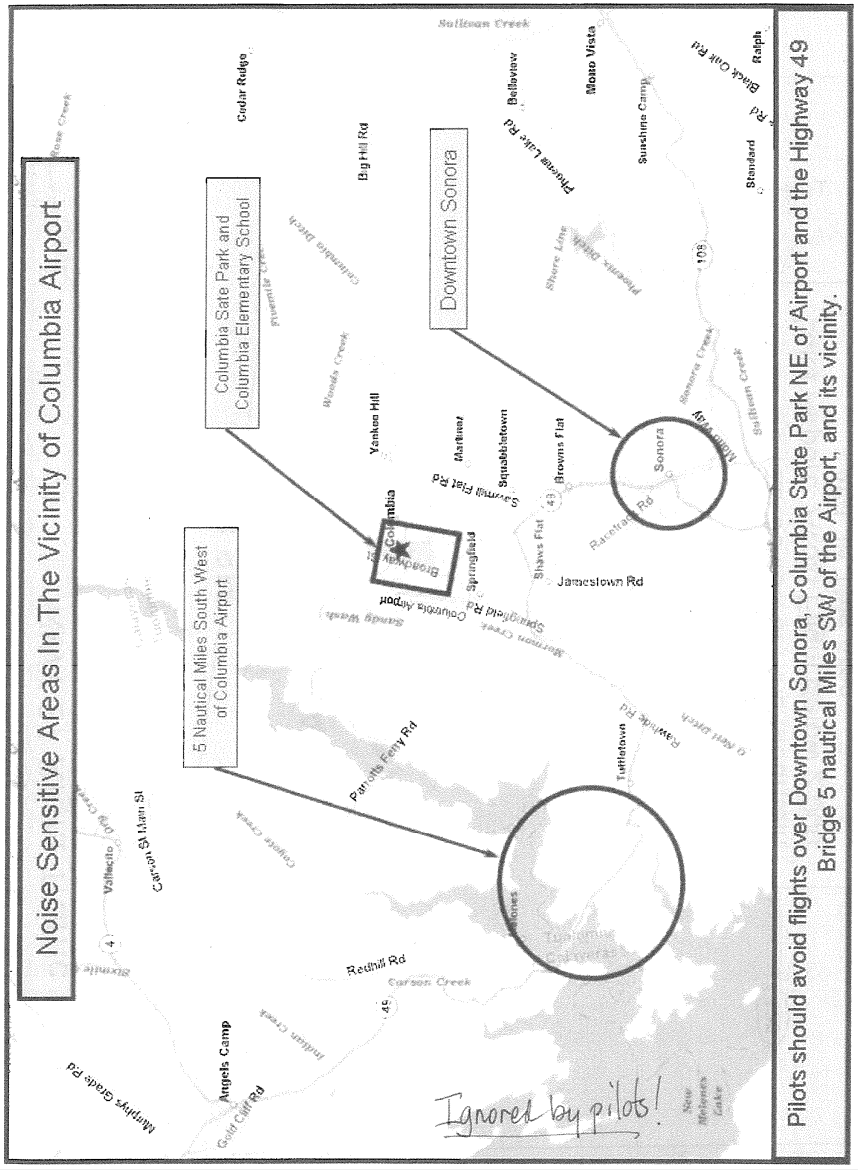
Letter I-19, Continued

Comments



Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

RECLAMATION
Managing Water in the West
U.S. Department of the Interior
Bureau of Reclamation

New Melones Lake Policy (cont'd)

Section 13. Sanitation

13.1 Salvaging items or materials from refuse containers is not permitted.

Section 14. Gold Panning and Dredging

14.1 Commercial gold panning and dredging (including commercial tours) is not permitted. Recreational, by-hand gold panning by individuals is permitted except in closed areas, provided that the activity does not create or accelerate turbidity, bank erosion, or damage natural or cultural resources. Recreational dredging is permitted, except in closed areas, with a valid dredge permit from the Department of Fish and Game. Dredging must be in streams above the current pool level of New Melones Lake and must use a dredge nozzle no greater than 6" in diameter. All panning or dredging must be done within the water of an active stream/river. Digging in the banks or nearby areas is not allowed.

Section 15. Lost and Found

15.1 Items found on project lands or waters shall be brought to the Park Administration Office and processed according to lost and found procedures.

Section 16. Aircraft

16.1 Parasailing, paragliding, and hang gliding are not permitted.

16.2 The airstrip located on the north side of the California Department of Forestry's Baseline Conservation Camp is designated as a Special Use Area for flying radio-controlled model aircraft. Model aircraft may be operated only in this location and only in accordance with rules established as a part of the license to use this area.

16.3 Seaplane use is permitted at New Melones Lake with the following restrictions:

(a) Seaplanes may not be operated from 1 hour after sunset to 1 hour before sunrise. Overnight moorage is permitted in developed marinas only.

(b) Seaplane operation is prohibited within 1,500 feet of New Melones Dam and within 500 feet of a beach frequented by bathers or other recreationists.

(c) Landings and takeoffs will be permitted only on water at least 1000 feet from any shoreline.

(d) The operation of seaplanes for other than recreational purposes (e.g. pilot training or instruction) is prohibited.

(e) Seaplanes, except during takeoff and landing, will abide by the California Boating Law in their movement on the lake.

16.4 Airplane overflights at New Melones Lake are permitted with the following restrictions:

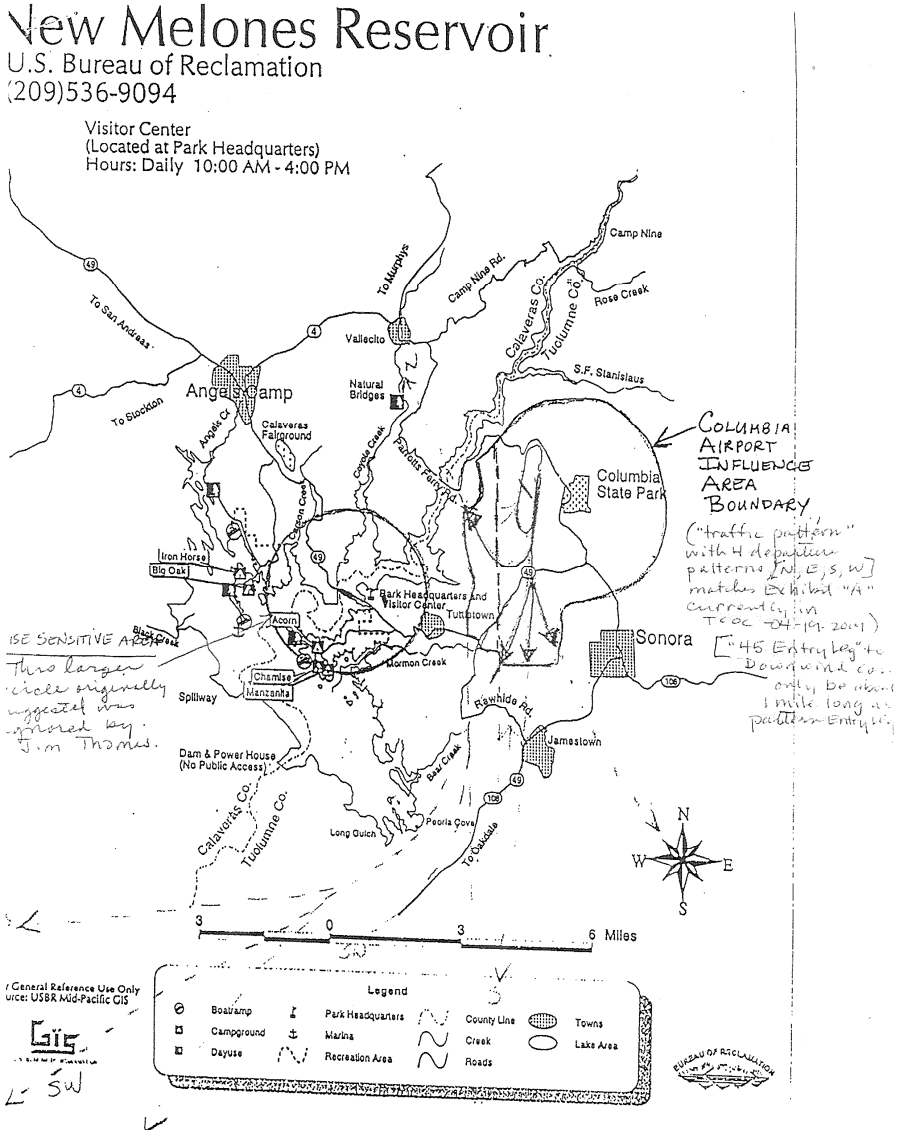
(a) Aircraft must maintain a minimum of 500 feet of altitude above any land or water, except when a seaplane is landing or taking off.

(b) Aircraft must not fly directly over the dam, the Highway 49 Bridge and Administration area, Tuttletown Recreation Area or Glory Hole Recreation Area.

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued **Comments** **Responses**



Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

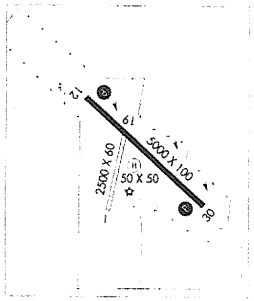
Letter I-19, Continued

Comments

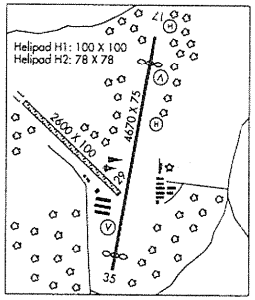
FAA AIRPORTS/FACILITIES DIRECTORY
(from FAA INTERNET WEBSITE)

86 CALIFORNIA

NEW COALINGA MUNI (C80) 3 E UTS-8(-7DT) N36°09.79' W120°17.63' SAN FRANCISCO H-4G, L-3C
622 B FUEL 100LL TPA-1622(1000) NOTAM FILE RIU
RWY 12-30: H5000X100 (ASPH) S-30 MIRL
RWY 12: REIL. PAPI(P2L)-GA 3.0° TCH 40'.
RWY 30: REIL. PAPI(P2L)-GA 3.0° TCH 40'. Rgt tfc.
RWY 01-19: 2500X60 (ASPH-GRVL) S-12.5
RWY 19: Rgt tfc.
AIRPORT REMARKS: Attended irregularly. Rwy 01-19 avbl for daytime use only. Rwy 01-19 restricted by arpt management to acft under 6000 lbs single wheel. Rwy 01-19 surface oil treated. Rwy 01-19 is in poor condition, asphalt-gravel cracked in places with small potholes, rocks and loose gravel. ACTIVATE MIRL Rwy 12-30. Perimeter lgts Rwy H1, PAPI Rwy 12 and Rwy 30, REIL Rwy 12 and Rwy 30 on dusk -0800Z‡ after 0800Z‡-CTAF.
WEATHER DATA SOURCES: AWOS-3 119.275 (559) 935-5960.
COMMUNICATIONS: CTAF/UNICOM 122.7
RADIO AIDS TO NAVIGATION: NOTAM FILE OAK.
PASO ROBLES (L) VORTACW 114.3 PRB Chan 90
N35°40.35' W120°37.60' 013° 33.6 NM to fld. 817/16E.
HIWAS
HELIPAD H1: H50X50 (ASPH)
HELIPORT REMARKS: Helipad H1 perimeter lgts.



COLUMBIA (O22) 1 SW UTC-8(-7DT) N38°01.83' W120°24.87' SAN FRANCISCO L-3B IAP
2118 B S4 FUEL 100LL, JET A OX 2, 4 TPA-3118(1000) NOTAM FILE RIU
RWY 17-35: H4670X75 (ASPH) S-30 MIRL 1.0% up N
RWY 17: REIL. VASI(V2L)-GA 4.55° TCH 55'. Thld dsplcd 597'. Ground. Rgt tfc.
RWY 35: REIL. VASI(V2L)-GA 4.0° TCH 41'. Thld dsplcd 384'. Trees.
RWY 11-29: 2600X100 (TURF)
RWY 11: Trees. Rgt tfc. RWY 29: Trees.
AIRPORT REMARKS: Attended 1600-0100Z‡. CAUTION: Rwy 11 departures prohibited due to conflict with main rwy. Varying wind direction and velocity may be encountered at mid point of Rwy 17-35 due to terrain features and wind flow patterns. Rwy 29 not recommended for use during winter months Nov through Mar. Turf twy north side of Rwy 11-29 not recommended for use Nov-Mar. Ultralight activity on arpt, southwest tfc pattern altitude 500' below standard arpt tfc pattern to Rwy 29. Ultralights to opr west of Rwy 35. All jet acft are requested to land Rwy 35 and depart Rwy 17 wind and weather permitting. Arpt has two rotating beacons, one on the arpt and one 6500' SE threshold Rwy 35. Forestry Air Tanker ops from arpt during summer fire season. Ldg fee for all commercial operators regardless of size and corporate acft over 12,500 pounds gross ldg weight. Avoid flights over Columbia State Park NE of arpt, and Highway 49 bridge 5 NM southwest of arpt and vicinity. Helicopter parking area 300' by 120' (3 positions). Rwy 35 VASI unusable byd 5° left and 5° right of rwy centerline. ACTIVATE MIRL Rwy 17-35 and REIL Rwy 17 and Rwy 35-CTAF. VASI Rwy 17 and Rwy 35 opr continuously.
WEATHER DATA SOURCES: AWOS-3 124.65 (209) 536-9384.
COMMUNICATIONS: CTAF/UNICOM 122.975
NORCAL APP/DEP CON 123.7 (North) 125.1 (West)
OAKLAND CENTER APP/DEP CON 126.85 (East)
RADIO AIDS TONAVIGATION: NOTAM FILE RIU.
LINDEN (H) VORTAC 114.8 LIN Chan 95 N38°04.48' W121°00.23' 078° 28.1 NM to fld. 260/17E.
HELIPAD H1: H100X100 (ASPH)
HELIPAD H2: H78X78 (ASPH)



Ignored by pilots!

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

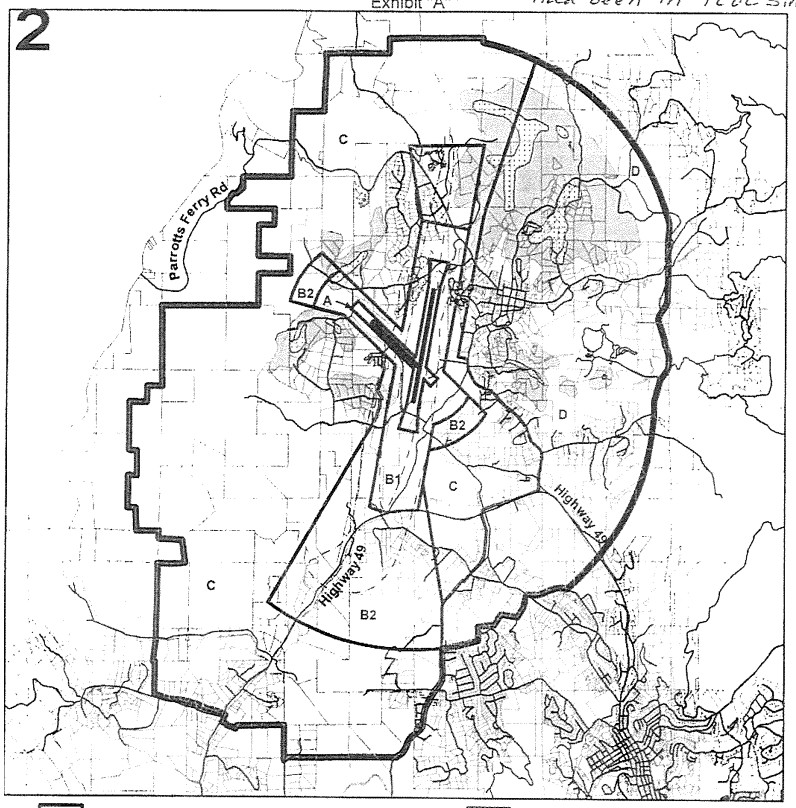
Letter I-19, Continued

Comments

Tuolumne County Ordinance Code (TCOC)
(new page: effective July 2009)
removed Columbia Airport traffic pattern diagram that had been in TCOC since 1983.

Influence Areas
Columbia Airport
Exhibit "A"

2



Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

FAA NOTAM issued and written by Jim Thomas, Tuolumne County Airport Manager instructing pilots to fly to the "Highway 49 Bridge" (on p. 2) – contradicting "avoid area" notice

COLUMBIA, CA (O22) FATHER'S DAY FLY-IN

Columbia Airport
June 20 and 21, 2009

THESE PROCEDURES ARE VALID DURING THE TIME THE TEMPORARY TOWER IS OPERATIONAL. THE HOURS WILL BE:

Saturday, June 20: 0800 to 1600 Local
Sunday, June 21 0900 to 1600 Local

AIRPORT CLOSURE

The airport will be closed both Saturday and Sunday between 1200 and 1500 local for flight demonstrations.

COMMUNICATIONS

AWOS – 124.65 (209-536-9384)
NOR CAL Approach/Departure Control – 123.85
Columbia Tower – 127.9
Columbia Ground Control – 121.05
Columbia Unicom – 122.975
Rancho Radio – 122.3

GENERAL INFORMATION

Avoid flight below 2,000 AGL over the following:

- Columbia State Park directly east of the airport
- Downtown Sonora
- The Highway 49 bridge across the New Melones Reservoir

Runway 11/29 (the grass runway) will be closed from 1200 Local on June 19 through 1200 Local on June 22 for airshow.

Runway 17 is the preferred runway, weather permitting. Runway 17 is right traffic.

Traffic Pattern altitude is 3,100 feet MSL.

Airport elevation is 2,118 feet.

"Warbird" aircraft may be instructed to fly an overhead approach. Traffic pattern altitude is 3,600 feet MSL. A fly-by on the first approach may be approved, traffic permitting.

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

Arriving IFR aircraft should expect a visual approach to the airport and may be instructed to enter the traffic pattern.

VFR Reporting and Holding Points (refer to SFO Sectional Chart):

1. Over the lake on the north side of the Highway 49 Bridge located four NM southwest of the airport
2. Over the Parrott's Ferry Bridge located two NM west of the airport

Keep your spacing when following other aircraft. Although this is a "fly-in", ATC is not relieved of minimum separation standards for this event. ATC is required to maintain at least 3000 feet runway separation between successive single-engine light aircraft arrivals.

ARRIVAL PROCEDURES

Monitor the AWOS then contact the tower no closer than 10 miles from the airport and advise that you have the numbers. Proceed to the Melones reservoir, then to the north side of the Highway 49 Bridge. Descend to traffic pattern altitude and enter right traffic for Runway 17 or left traffic for runway 35. Aircraft arriving from the north or east may be given alternate instructions depending on traffic.

RUNWAY EXITING

Unless otherwise instructed by ATC, plan to turn off the runway to the west at the windsock for parking in the grass area. DO NOT STOP. Airshow personnel in orange vests will assist with parking once clear of the runway. Warbird and show aircraft plan to exit on the east side of the runway for parking in the main show area. Further information is available on the Fly-In website: www.fathersdayflyin.com

DEPARTURES

Monitor the AWOS. Contact ground control when you are number one at the exit point for your parking area and advise that you have the numbers. Advise the tower your direction of flight when number one at the runway.

Pilots departing IFR must contact Ground Control to obtain their IFR clearance. This should be done prior to engine start. Do not call NorCal Approach. O22 tower will obtain your IFR release.

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

Responses

AIRPORT LAND USE COMMISSION

BEV SHANE, AICP
Secretary

COLUMBIA AND PINE MOUNTAIN LAKE AIRPORTS

48 W. Yaney, Sonora
Mailing: 2 S. Green Street
Sonora, CA 95370
(209) 533-5633
(209) 533-5616 (fax)

October 7, 2005

Mr. C.H. Freeman
Coalition for Better Government in Tuolumne County
P.O. Box 5133
Sonora, CA 95370

RE: Aircraft Overflights

Dear Cleo:

In response to your letter concerning aircraft overflights, I concur that the Airport Land Use Commission (ALUC) does not have authority over such activities. However, Chapter 3 of the Airport Land Use Planning Handbook published by the California Division of Aeronautics lists aircraft overflights as one of the four concerns that must be addressed by ALUC's in formulating their compatibility plans for the development of land influenced by an airport. As required, Tuolumne County's Airport Land Use Compatibility Plan does address aircraft overflights in Chapter 2.4.4. That chapter identifies the area of overflight concerns as coinciding with the boundary of the airport influence area meaning that all areas within the influence boundary may be subject to noise and safety issues related to aircraft overflights. This area reflects the traffic patterns established by the Board of Supervisors in Title 18 of the Tuolumne County Ordinance Code as you noted in your letter.

The issue concerning overflights that was raised at recent meetings of the ALUC was focused on a private organization's posting signs advising pilots not to fly over the lake in the center of the Pine Mountain Lake Subdivision. The ALUC's discussion was simply that there are no regulations that restrict a pilot from flying over the lake and that the signs were, therefore, misleading and should be removed. There was no discussion about regulating the overflights; the discussion was simply an acknowledgement that overflights are allowed throughout the airport influence area.

The conclusion of the ALUC's discussion concerning this matter was to accept Airports Director Jim Thomas' offer to present the issue at the next meeting of the Pine Mountain Lake Airports Association and to post information concerning overflights on the airport's website. I did not send a letter to the Association as had been mentioned by Commissioner Dick Collier in his opening remarks concerning this matter.

Please do not hesitate to contact me if you have any other questions concerning this matter or if I can be of further assistance to you.

Respectfully,

Bev Shane, AICP
ALUC Secretary

cc: Brent Wallace, County Administrator
Gregory Oliver, County Counsel

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

Thomas and Ingrid Ritz
P. O. Box 326
Columbia, CA 95310
Telephone: (209) 536-1572
(Residence Address: 20730 Jackass Hill Rd., Sonora, CA 95370)

received
DEC 30 2008

Hand-delivered to Cindy at Headquarters at 12:25pm 12/30/08 Peggi Brooks to return Mon, 01/05/09

December 30, 2008

Ms. Peggi Brooks, Resource Manager New Melones Lake
New Melones Resources Branch
U.S. Bureau of Reclamation
6850 Studhorse Flat Road
Sonora, CA 95370

RE: New Melones Lake Project Resource Management Plan/Environmental Impact Statement (RMP/EIS)–Comments in Support of Alternative Actions TA13C (Conservation) and TA13B Topic: Adverse Aircraft Overflight Activities.

Dear Ms. Brooks:

In accordance with our December 5, 2008 discussion at your facility, this follow-up letter is to strongly urge adoption by your Agency of *RMP/EIS Table 2-2 (page 2-22), **Topic: Aircraft, Alternative C, Action TA 13C, to include Alternative B, Action TA 13B**:* Implementation of strategy to address extremely adverse and dangerous overflight activities to include specific proactive communication with appropriate Tuolumne County personnel: The County has only one inexperienced employee in authority for 2 County airports, Jim Thomas, Airports Director/Manager, also Tuolumne County Administrator, Craig Pedro AND to include communication with the Federal Aviation Administration (FAA) to request that the FAA restrict airspace (**for *all general aviation flights only* in the designated restricted airspace, thereby not affecting commercial airlines-interstate commerce-which does NOT originate anywhere in Tuolumne County or surrounding counties**) over New Melones Lake Area to protect public safety and critical infrastructure, to include Alternative C, Action TA 13C to enforce designated no-fly zones near critical infrastructure for all aircraft (**again, restrict only all general aviation aircraft in the designated no-fly zones**) and restrict access to New Melones Lake for seaplane activities.

Adverse aircraft overflight activity of New Melones Lake critical infrastructure is primarily caused by the general aviation aircraft using Columbia Airport, a popular non-towered general aviation airport having very limited, ineffectual, inexperienced airport manager on-premises only 4 weekdays per week, 8 a.m. to 4:00 p.m., not every week of the year. During peak use times, weekends and holidays, there is absolutely no airport manager or any County employee with authority at Columbia Airport. No County employee is ever there after 4 p.m. any day. Columbia Airport is open 24/7, 52 weeks per year, has self-serve fuel facility, and locked perimeter fence restricting public access & scrutiny and, as stated, very questionable and limited airport management when on premises . Pilots are in charge. Columbia Airport has tenants (FBOs) who offer uncontrolled pilot training and biplane barnstorming and aerobatic rides for hire. Columbia Airport is owned and operated by Tuolumne County, a government agency proprietor, and therefore, is governed by State of California rules & regulations which are knowingly ignored by Tuolumne County officials–this includes continuing to misdirect its incoming & outgoing air traffic to the Highway 49 bridge & vicinity, thus causing daily dangerous mid-air collision environment over New Melones Lake, most specifically over New Melones critical infrastructure and over adjacent residential Jackass Hill in Tuolumne County, where our home, overlooking New Melones Lake & Dam, is located. All terrain surrounding New Melones

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

infrastructure is "aircraft unfriendly": No flat areas for aircraft emergency landing in the wildfire prone hillsides & canyons exists in this area being routinely and wrongly overflown.

Seaplane activity co-mingles with Columbia Airport's mismanaged and mis-directed uncontrolled general aviation air traffic, both flying to AND departing from Columbia Airport as well as Columbia's air traffic randomly flying around for sightseeing and dangerous aerobatic activities, none of it controlled or authorized in the New Melones Lake area. We observe this air activity daily from our home.

Documented Columbia Airport air traffic departure patterns and FAA designated departing IFR pattern (Columbia Airport is not equipped for instrument [IFR] landing, but aircraft routinely "scud-run" to land when there is no visibility over New Melones Lake and canyon areas) and FAA designated GPS patterns and FAA Visual Flight Rules (VFR) approach flight paths DO NOT cross over New Melones Lake, yet the vast majority of Columbia's air traffic routinely and continually overflies Tuttleground Campgrounds, New Melones Headquarters/Visitors Center Complex, Glory Hole Marina and Campgrounds, New Melones Dam and Power Plant, and continually overflies, in opposing directions, our home and other homes on Jackass Hill, the hill adjacent to New Melones Lake critical infrastructures, thereby compromising public safety and welfare to a highly dangerous degree for all of us, including New Melones Lake critical infrastructure.

For several years, we have attempted to work with high level Tuolumne County government officials to have them properly re-direct Columbia Airport's air traffic away from our home on Jackass Hill and away from New Melones Lake critical infrastructure, back to Columbia Airport's proper and legal designated, documented official air traffic patterns located in-line with Columbia Airport's main runway, south of New Melones Lake, patterns which are being consistently ignored; instead, by failing to monitor Columbia's air traffic and turning a blind eye to the problem, County Airport Management continues to unlawfully "encourage" pilots to overfly our home and immediate area (Jackass Hill), the Highway 49-Stevenot Bridge, and, consequently, also overfly all of New Melones Lake critical infrastructure, on mid-air collision courses, flying directly into the sun (East to West), thus blinding at least one pilot in the mix.

Finally, in the second half of 2008, our efforts did result in the Tuolumne County Airport Manager reluctantly requesting publication of a notice in the *FAA Airport/Facility Directory* for pilots using Columbia Airport to "*Avoid flights over...Highway 49 bridge 5 NM southwest of arpt and vicinity" (copy attached).* HOWEVER, this *FAA Directory* notice is being systematically IGNORED both by Tuolumne County Airport Management and the vast majority of pilots using Columbia Airport, including local pilots based at Columbia Airport who continue to routinely overfly the New Melones infrastructure areas. Despite our written requests, Tuolumne County has consistently refused to post any notices that pilots might actually SEE at Columbia Airport to avoid overflights of New Melones Lake critical infrastructure and Jackass Hill and the Highway 49 bridge (to coincide with the *FAA Directory Notice* to Pilots). We personally know from conversations with the County Airports Director/Manager Jim Thomas that, as a local private pilot himself, he wrongly believes pilots using Columbia Airport should be flying over the Highway 49 bridge and the surrounding area and he remains oblivious of documented, safe Columbia Airport patterns. He is dead wrong and is failing to disseminate effective information to coincide with his own *FAA Airport Directory* notice.

It is quite obvious to us that Tuolumne County is not willing to and will not take its airport proprietor responsibilities seriously, despite its legal responsibility and major liability relative to overflights, and, to date, remains unconcerned about aircraft using Columbia Airport actively creating an

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

ongoing public safety hazard and serious negative environmental impact to New Melones Lake and its critical infrastructure and to our Tuolumne County residential area immediately adjacent to New Melones Lake and that infrastructure.

Attached is a copy of our October 29, 2007 letter to your Agency commenting on adverse aircraft overflights of New Melones Lake and its critical infrastructure and New Melones Dam. Pilots using Columbia Airport do not file flight plans, no one keeps records of who flies in and out of that airport, overflights continue at all hours day and night, unsupervised and unobserved. In our opinion, this non-towered general aviation is a serious risk to public safety and national security in many ways. Columbia Airport is vital only because it is an important CalFIRE Air Attack Base. CalFIRE Air Attack is critical to firefighting efforts on Jackass Hill and surrounding area because Tuolumne County has absolutely no firefighting infrastructure or piped water system, no fire hydrants, and no nearby ground crews able to combat frequent uncontrolled wildfires in this area during many months of wildfire season without CalFIRE air tankers & helicopters. In July 2008, another fire threatened this immediate area, including our home. For us, this event again highlighted the major disaster that will occur to New Melones Lake critical infrastructure and to our home when an aircraft using Columbia Airport crashes in our extreme wildfire prone, inaccessible, rugged terrain. Hundreds of cross-traffic, unregulated overflights, at varying altitudes, take place over New Melones Lake critical infrastructure weekly. It is just a matter of time before a serious air disaster occurs which can easily destroy your Agency's critical infrastructure, homes on Jackass Hill, including ours, and result in death, entrapment, and serious injury to persons on the ground.

Because CalFIRE aircraft during fire emergencies do not come under any State or Federal flight regulations, their activities at Columbia Airport cannot be used by Tuolumne County to justify or condone the "cowboy airport" reputation that Columbia Airport currently has because of lack of any County control of private pilots using its airport, including ignoring its documented airport traffic patterns. Pilots consider Columbia Airport an "anything goes" airport and the mid-air collision public safety danger to our shared New Melones Lake/Jackass Hill area has already been put on record by the FAA in 1994, as discussed in our October 29, 2007 letter to your Agency commenting on the RMP/EIS.

We already know that "Above Ground Level (AGL) altitude recommendations" to general aviation pilots using a non-towered airport are worthless to solve adverse overflight activities of New Melones infrastructure because: **1.)** Due to the highly irregular terrain, many general aviation (often novice) pilots have no idea what altitude they are flying from one second to the next; **2.)** altitude recommendations are ignored by pilots because no one is around to monitor what altitude they're flying 5 and 6 air miles from the airport; **3.)** altitude recommendations have nothing to do with the fact pilots depart and approach Columbia Airport over unsafe terrain and from the wrong direction, flying non-existent extended patterns to which that Airport is not legally entitled, while avoiding the safe, documented air traffic patterns and FAA **V**isual **F**light **R**ules approach procedures; **4.)** mid-air collisions and aircraft malfunctions occur at any altitude. The only viable solution is to designate a restricted no-fly zone, which cannot be ignored, to protect New Melones critical infrastructure.

Sincerely,

Thomas F. Ritz and Ingrid Ritz

Enclosures: 1.) FAA Airport/Facility Directory-Columbia Airport-20 Nov. 2008 to 15 Jan. 2009.
2.) Our Oct. 29, 2007 RMP/EIS Comment Letter to Elizabeth Vasquez, US Bureau of Reclamation, Central California Office.

Responses

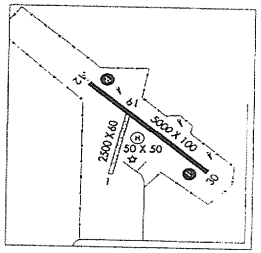
Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued **Comments** **Responses**

FAA Airport/Facility Directory (online)

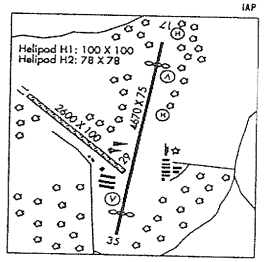
86 CALIFORNIA

NEW COALINGA MUNI (C80) 3 E UTS–8(–7DT) N36°09.79'W120°17.63' SAN FRANCISCO H–4G, L–3C
622 B FUEL 100LL TPA—1622(1000)
RWY 12–30: H5000X100 (ASPH) S–30 MIRL
RWY 12: REIL. PAPI(P2L)—GA 3.0° TCH 40'.
RWY 30: REIL. PAPI(P2L)—GA 3.0° TCH 40'. Rgt tfc.
RWY 01–19: 2500X60 (ASPH–GRVL) S–12.5
RWY 19: Rgt tfc.
AIRPORT REMARKS: Attended irregularly. Rwy 01–19 avbl for daytime use only. Rwy 01–19 restricted by arpt management to acft under 6000 lbs single wheel. Rwy 01–19 surface oil treated. Rwy 01–19 is in poor condition, asphalt–gravel cracked in places with small potholes, rocks and loose gravel. ACTIVATE MIRL Rwy 12–30, Perimeter lgts Rwy H1, PAPI Rwy 12 and Rwy 30, REIL Rwy 12 and Rwy 30 on dusk –0800Z‡ after 0800Z‡—CTAF.
WEATHER DATA SOURCES: AWOS–3 119.275 (559) 935–5960.
COMMUNICATIONS: CTAF/UNICOM 122.7
RANCHO MURIETA FSS (RIU) TF 1–800–WX–BRIEF. NOTAM FILE RIU.
RADIO AIDS TO NAVIGATION: NOTAM FILE OAK.
PASO ROBLES (L) VORTACW 114.3 PRB Chan 90
N35°40.35'W120°37.60' 013° 33.6 NM to fld. 820/16E.
HIWAS



HELIPAD H1: H50X50 (ASPH)
HELIPORT REMARKS: Helipad H1 perimeter lgts.

COLUMBIA (O22) 1 SW UTC–8(–7DT) N38°01.83' W120°24.87' SAN FRANCISCO L–3B IAP
2118 B S4 FUEL 100LL, JET A OX 2, 4 TPA—3118(1000)
RWY 17–35: H4670X75 (ASPH) S–30 MIRL 1.0% up N
RWY 17: REIL. VASI(V2L)—GA 4.55° TCH 55'. Thld dsplcd 595'. Ground. Rgt tfc.
RWY 35: REIL. VASI(V2L)—GA 4.0° TCH 41'. Thld dsplcd 589'. Trees.
RWY 11–29: 2600X100 (TURF)
RWY 11: Trees. Rgt tfc. RWY 29: Trees.
AIRPORT REMARKS: Attended 1600–0100Z‡. CAUTION: Deer on and invof arpt. Rwy 11 departures prohibited due to conflict with main rwy. Varying wind direction and velocity may be encountered at mid point of Rwy 17–35 due to terrain features and wind flow patterns. Rwy 29 not recommended for use during winter months Nov through Mar. Dirt twy north side of Rwy 11–29 not recommended for use Nov–Mar. Ultralight activity on arpt, southwest tfc pattern altitude 500' below standard arpt tfc pattern to Rwy 29. Ultralights to opr west of Rwy 35. All jet and high performance acft equipped with 250 horsepower engines and more are requested to land Rwy 35 and depart Rwy 17 wind and weather permitting. Arpt has two rotating beacons, one on the arpt and one 6500' SE threshold Rwy 35. Forestry Air Tanker ops from arpt during summer fire season. Ldg fee for all commercial operators regardless of size and corporate acft over 12,500 pounds gross ldg weight. Avoid flights over Columbia State Park NE of arpt, and Highway 49 bridge 5 NM southwest of arpt and vicinity. Helicopter parking area 300' by 120' (3 positions). Rwy 35 VASI unusable byd 5° left and 5° right of rwy centerline. ACTIVATE MIRL Rwy 17–35 and REIL Rwy 17 and Rwy 35—CTAF. VASI Rwy 17 and Rwy 35 opr continuously.
WEATHER DATA SOURCES: AWOS–3 124.65 (209) 536–9384.
COMMUNICATIONS: CTAF/UNICOM 122.975
RANCHO MURIETA FSS (RIU) TF 1–800–WX–BRIEF. NOTAM FILE RIU.
NORCAL APP/DEP CON 123.7 (North) 125.1 (West)
OAKLAND CENTER APP/DEP CON 126.85 (East)
RADIO AIDS TO NAVIGATION: NOTAM FILE RIU.
LINDEN (H) VORTAC 114.8 LIN Chan 95 N38°04.48' W121°00.23' 078° 28.1 NM to fld. 260/17E.
HELIPAD H1: H100X100 (ASPH)
HELIPAD H2: H78X78 (ASPH)



SW, 20 NOVEMBER 2008 to 15 JANUARY 2009

Letter I-19, Continued

Comments

Thomas and Ingrid Ritz
P. O. Box 326
Columbia, CA 95310
Telephone: (209) 536-1572
(Residence Address: 20730 Jackass Hill Rd., Sonora, CA 95370)

2 copies - hand-delivered

October 29, 2007

received
OCT 29 2007
at US Bureau of Reclamation Headquarters: New Melones Lake
gave to Jeff Laird and Peggy Brooks, Mgr.

Ms. Elizabeth Vasquez
Central California Area Office
U.S. Bureau of Reclamation
7794 Folsom Dam Road
Folsom, California 95630

RE: *New Melones Lake Project Resource Management Plan/Environmental Impact Statement (RMP/EIS)*--Follow-up to our discussion with New Melones Lake Chief Ranger Jeff Laird regarding correspondence between your office and Tuolumne County; easily preventable significant and hazardous negative environmental impacts to Reclamation's facilities (and to our home) being caused by private aircraft using Columbia Airport, a general aviation airport owned and operated by Tuolumne County.

Dear Ms. Vasquez:

We are writing to you at the request of Jeff Laird, New Melones Lake Chief Ranger, with whom we met on the afternoon of Tuesday, October 16, 2007 at Reclamation's New Melones Lake Headquarters. Several days earlier, we had learned of the Tuolumne County Board of Supervisors Oct. 16, 2007 agenda item to approve a letter advising you that Tuolumne County wishes to become a cooperative agency to your New Melones Lake Project RMP/EIS process. We obtained a copy of the Board's agenda item package and were surprised to see Tuolumne County's February 13, 2007 scoping comments letter for your RMP/EIS in which the County makes a number of demands of the U.S. Bureau of Reclamation.

By way of introduction, with the exception of the home located on the same road as Reclamation's New Melones Lake Headquarters complex, we are the closest neighbors to your Headquarters. Our home on Jackass Hill is just over the hilltop immediately east of your Headquarters. (*See attached satellite photo.*) Being about 500 feet above your Headquarters and Visitors Center and above Highway 49, from our 3-story home, we have an unobstructed 6-mile view of New Melones Lake stretching from about 2 miles south of New Melones Dam past the Spillway to the edge of Glory Hole Marina, including your Tuttletown Campgrounds directly in front of us. *(See attached photo taken from our 3rd floor deck.)*

Because of our location, we are able to observe and hear the same Columbia Airport unregulated opposing inbound and outbound private aircraft overflights of New Melones Lake, your recreational campgrounds, and your Headquarters complex at the Stevenot Bridge that fly in opposing directions directly over and around our home too. Based upon our daily observations and professional measurements made at our home, we estimate about 95% of Columbia Airport's inbound and outbound repetitive air traffic, starting as early as 5:30 a.m. and occurring as late as 3:00 a.m., most intense on summer weekends when attendance is greatest at your recreational facilities and our area's wildfire danger is at its peak, causes severe negative environmental impacts at our home and at Reclamation's facilities. None of this hazardous and exceedingly loud overflight cross-traffic existed in this entire area prior to September 1992; it should not be in our location now because Columbia Airport has documented air traffic patterns which County administration and pilots are choosing to ignore. (We purchased our property in March 1986 and had our home built in 1990-91. We were very aware of Columbia Airport's traffic patterns and its activities at the time because we had flown into Columbia Airport many times.) Beginning in September 1992 and escalating through early 1993, in violation of State and Federal laws

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

governing airports and without benefit of required environmental CEQA review, and without any NEPA review because federal U.S. Bureau of Reclamation lands were also suddenly significantly negatively impacted by Columbia Airport's inbound and outbound aircraft overflights which had not previously routinely overflown the area, many local and visiting pilots using Columbia Airport (well-organized in local and State pilot organizations), soon supported by Tuolumne County officials, started to overfly our home and the Stevenot Bridge at the base of our hill to approach and depart Columbia Airport **instead of** continuing to fly Columbia Airport's normal, usual, documented VFR (observing visual flight rules) air traffic patterns which extend over the Rawhide Road region south of New Melones Lake into the Jamestown Mine area near Hwy. 108, the area in direct line with the runway (also the location of FAA mandated extended instrument [IFR] and GPS flight patterns). A single County mis-handled biplane complaint made by us, in early September 1992, started this disaster for us–and for your facilities. Since September 1992, every inbound and outbound overflight of our home, over your recreational facilities, over the Stevenot Bridge, over your Headquarters complex, and over the canyons surrounding Jackass Hill, fills every room of our home with loud aircraft noise of long duration. To make matters worse, our home is in an "acoustic hot spot" formed by the terrain which collects, amplifies, lengthens, and distorts overhead aircraft noise. We hired a State certified acoustic engineer to document the daily overflight noise disturbances inside and outside our home. Each exceedingly loud and disruptive "overflight noise event" at our home, in our otherwise extremely quiet environment, is heard for 4 minutes (a health hazard); the acoustic engineer prepared official reports documenting 100+ cross-traffic overflight "noise events" at our home per day. (*See attached copy of graph documenting early morning overflight noise levels*.) We have driven down to Reclamation's Tuttletown Campground to observe and listen to the same early morning aircraft overflights: The long-duration piercing overflight noise was ear-shattering at your campground as well. We have boated on New Melones Lake and once attended an outdoor lecture at Glory Hole Campground. Loud aircraft overflight noise intruded into those activities too.

As another direct result of Columbia Airport's mis-directed air traffic, at home we are subject to the daily dangerous health and safety hazards associated with frequent cross-traffic aircraft overflights which include mid-air collision and single plane emergency crash landing in our "extreme wildfire hazard" classified area on an unprotected hilltop. The same negative environmental health and safety impacts affect Reclamation's recreational facilities, including your Headquarters complex. For this very reason, to keep such severe adverse environmental and safety hazards away from negatively impacting outlying areas, State Aeronautics Law governing airports requires routine repetitive severe aircraft noise and air safety hazards to be contained inside the legislated boundaries of the County's "Columbia Airport Influence Area," and close to the airport runways, as documented in its State mandated "Tuolumne County Airport Land Use Compatibility Plan." For your information, none of Reclamation's New Melones waters and lands is located inside the boundaries of the "Columbia Airport Influence Area" and neither is any part of Jackass Hill, where we live, or the surrounding area. *(See Reclamation's New Melones Area Map with superimposed Columbia Airport data.)* The FAA has testified that our area is much too far away from Columbia Airport to be included in any airport pattern. Currently, Tuolumne County's airport related plans and documents, including County ordinances, are inconsistent with one another in violation of State law. County Counsel Gregory Oliver is aware of this. Nothing has been done to correct that situation either.

Many of the pilots who overfly our shared area are inexperienced novices. Some are stunt pilots. Some, based at Columbia Airport, give rides for hire over us and New Melones Lake, despite having been told by the FAA long ago to avoid this rugged area. There are no flat areas anywhere around us for emergency landing. The FAA has testified on our behalf that cross-traffic inbound and outbound overflights of our area, far away from Columbia Airport (5 air miles)--an area which is too far away to be part of any Columbia Airport traffic pattern and an area which is not necessary to overfly to use

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

Columbia Airport, create a mid-air collision environment over us. A mid-air collision over your recreational facilities, over our home, or anywhere over Jackass Hill or surrounding canyons will cause flaming aircraft parts to scatter over a wide area igniting spot fires over your facilities, your Headquarters complex and all over Jackass Hill including our home. The illegal aerial activities which your personnel (and we) have also observed create additional safety and catastrophic wildfire hazards. Contrary to popular assumption, including what you may have been told by Tuolumne County, these overflights, even the low-flying unlawful flights, are not problems the FAA can correct in our area. (*Please see attached August 16, 1996 letter written to us by Thomas C. Accardi, FAA Director of Flight Standards Service in Washington, D.C., especially the last sentence of his letter which states solution of the problem in our area rests with Tuolumne County establishing airport operating procedures to alleviate the problems in our area.*)

Only Tuolumne County has the legal obligation, the responsibility, and the ability, as county airport proprietor and operator, to keep pilots from routinely overflying our area and to enforce in every way available to the County (there are many things the County can do) the continual proper use by pilots of the County's accurate traffic patterns in such way that pilots using the Airport will obey County directives. County Counsel agrees that a County enforcement ordinance exists and that Tuolumne County has liability for damages caused by aircraft using Columbia Airport. By definition, this includes catastrophic wildfires caused by aircraft that would not be in the general area except to use Columbia Airport. We have told Tuolumne County Administrators that if our home is damaged or destroyed or personal harm comes to us as a result of aircraft crash into our home or wildfire caused by aircraft crash in our immediate area, we will hold Tuolumne County fully responsible and liable because of its negligent and poor airport management of Columbia Airport and repeated failure to correct the dangerous and unnecessary overflight hazards caused by Columbia Airport air traffic at our home and nearby surrounding area.

Almost 10 years ago, we were in contact with Keith Davis (now retired), your New Melones Lake Park Manager, who, for several years from 1995 through 1998, was in contact with the FAA and Tuolumne County attempting to correct the dangerous situation the County had created and encouraged over your recreational facilities, including alleviation of loud noise from continual daily frequent overflights. *(One of his letters dated January 26, 1996 is attached.)* Mr. Davis told us about problems including various illegal aircraft maneuvers such as aircraft flying under the Stevenot Bridge and other low-flying maneuvers threatening public safety and welfare at your facilities. Mr. Davis was also aware of the cross-traffic mid-air collision potential over Reclamation's recreational facilities. Those conditions still exist today despite Tuolumne County supposedly having disseminated various notices to pilots to avoid overflights of this area (at Mr. Davis's request and ours, including recent requests we've made beginning again in mid-2005). Despite what current County Administrative Officer Craig Pedro told us prior to this year's 2007 Columbia Airport Fathers Day Fly-In about the purported massive effort to alert pilots to avoid overflight of our home and area, we were deluged by continual overflights of every conceivable type of aircraft, many flying very dangerously and interacting with one another over us and your facilities. Obviously, somehow, pilots are getting a mixed or different message. From what Jeff Laird told us on October 16th (and what we observe from our home), Reclamation's New Melones Lake recreational facilities, including the lake, are once again victim of hazardous aircraft overflights which Reclamation has reported to the FAA on various occasions without resolution. Mr. Laird told us that Reclamation has problems with low-flying aircraft over its facilities and that aerobatic activities have also been observed over the lake. (*See 2 attached Union Democrat articles related to Columbia Airport's Fathers Day Fly-Ins: Friday, June 16, 2006 and Monday, June 18, 2007.*) These articles point out just two examples of the dangerous and illegal flying associated with pilots using Columbia Airport, including during County sponsored airport events which are becoming increasingly dangerous to our

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

outlying area. We were mercilessly terrorized in our home by Fly-In "participants," including many P-51 and "warbird" illegal, dangerous overflights. The same type of plane–possibly the same one--that clipped the power line at Lake Tulloch raced down to the surface of New Melones Lake, past us just above treetop level, and flew back and forth over the lake at about treetop level. Any of these planes could have started a catastrophic wildfire destroying public and private property and killing visitors and residents.

Even now, Tuolumne County continues to ignore its legal obligation to correct the dangerous Columbia Airport overflight conditions and consequent severe negative environmental impacts it is causing in our area and continues to ignore its own County documents dating back to 1979 which depict Columbia Airport's official traffic patterns. (*See attached Tuolumne County Ordinance #1285 dated August 30, 1983: "Exhibit A" shows Columbia Airport's "Traffic Patterns" and intended Flight Path directions, none of which extend over Reclamation's New Melones Lake.)* As early as 1979, because of terrain features around Columbia Airport and with an eye toward avoiding Columbia Airport's air traffic from significantly impacting the federal government's planned New Melones Lake project, its new Dam and hydro-electric facility, and planned recreational facilities and Headquarters, Tuolumne County, as required by law, legislated its Columbia Airport Traffic Pattern to be different from an available FAA generic sample pattern. That official Columbia Airport traffic pattern, which was approved by the FAA, cannot be changed without legitimate cause (like building a new runway in a different direction), which requires comprehensive documentation and massive CEQA environmental review--and NEPA review when U.S. Bureau of Reclamation lands are to be routinely overflown and impacted, as they are now. Such mandated environmental review to change or add traffic patterns has <u>never</u> been done by Tuolumne County despite re-directing air traffic over us beginning in late 1992. (*Please see two attached letters each with Map depicting Columbia Airport "Traffic Patterns:" 1. To us dated August 4, 1995 from Clifford D. Gibbons, FAA Supervisory Aviation Safety Inspector; 2. to Coalition for Better Government in Tuolumne County dated October 7, 2005 from Bev Shane, County ALUC Secretary who is also Tuolumne County's Director of its Community Development Department.*)

With disregard for the law and its official FAA-approved documented air traffic patterns (including flight path directions), Tuolumne County is once again, under its current Airports Manager/Director, persistently misrepresenting Columbia Airport's official pattern and misdirecting inbound and outbound Columbia Airport air traffic to the Stevenot Bridge, over the canyon immediately north of Jackass Hill, over Jackass Hill and our home (which is once again being targeted for overflight), and over your New Melones Lake recreational facilities and your Headquarters complex to the extreme West-Southwest of Columbia Airport. All of this terrain is unforgiving, rugged terrain that, by its nature, amplifies, distorts, and prolongs aircraft overflight noise and is extremely hazardous to routinely overfly, especially in opposing directions. Conflicting vague directives to "avoid overflights of this area" (rarely disseminated) have been enacted and subsequently withdrawn while simultaneous instructions to continue to fly in this area, wrongly citing the Stevenot Bridge as a "reporting point," are given to pilots. Pilots continue to routinely overfly this area, including our home. Instead of taking appropriate action to correct and eliminate the dangerous <u>routine</u> cross-traffic overflights of our area, which should not exist here, Tuolumne County officials have given all kinds of excuses including wrongly stating that only the FAA has jurisdiction over aircraft in flight in contradiction to the FAA's official position regarding public agencies which own and operate public airports and <u>in contradiction to the Attorney General's Opinion, Volume 53, p. 80, which states</u>:

"...There exists one generally recognized exception to federal preemption [of aircraft in flight]–the power of the airport proprietor. Without violation of either the commerce or the supremacy clause, the owner of an airport has the right as landowner to decide who is to use his airport and under what conditions (holding county as airport proprietor liable for damages caused by overflights)."

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

When we read Tuolumne County's February 13th scoping letter, we were completely dismayed by the County's 4th item for your consideration: *"Fire; Vegetation and fuels must be managed to reduce or eliminate catastrophic wildfire. Access to areas to fight fire managed by Reclamation must also be examined."* It appears to us that Tuolumne County, while ignoring its own fire-related responsibility to us and other residents in our immediate area and to the U.S. Bureau of Reclamation New Melones Lake, is attempting to transfer to Reclamation its legal liability as well as responsibility for fire prevention mitigation measures while refusing to mitigate a major potential cause of catastrophic wildfires on Reclamation lands and our adjacent area on Jackass Hill, which is under the County's jurisdiction: The unnecessary continual daily presence of aircraft routinely overflying Reclamation's lands and Jackass Hill and immediately surrounding canyons in opposing directions at potentially the same altitudes to approach and depart Columbia Airport. The unnecessary overflights of this area can be easily eliminated with absolutely no negative impact to Columbia Airport. Doing so will put the County in compliance with State laws governing airports and greatly improve airport safety as well. Thus far, however, the County has made no meaningful effort to correct and mitigate the severe environmental impacts it has wrongly created on Reclamation's lands and over our home in adjacent County jurisdiction.

We sincerely hope that Reclamation, during this RMP/EIS process, will include a reciprocal demand from Tuolumne County to address and adequately and effectively correct the unnecessary continued severe negative overflight noise impacts and serious safety hazards Tuolumne County is needlessly causing by continuing to allow and condone mis-direction of Columbia Airport air traffic over Reclamation's facilities and over Jackass Hill and its surrounding canyons (inbound, outbound, including random circling and sightseeing by local pilots based at Columbia Airport who give rides for hire). Catastrophic wildfire destroying property and resulting in human fatality could easily result on Jackass Hill as a result of mid-air collision or other aircraft problems over the area, yet Tuolumne County has done none of the wildfire mitigation it suggests Reclamation do on its lands while, at the same time, Tuolumne County is daily putting Reclamation's facilities, personnel, and visitors at catastrophic risk.

The only effective mitigation measure to address and eliminate the routine overflights of the area must be enacted by Tuolumne County. The U.S. Bureau of Reclamation cannot do it. The FAA cannot do it. Tuolumne County must re-educate local and other pilots of its long-established 1979/1983 documented air traffic patterns. The County must publish those patterns and hand them out to pilots at its two airports. It must re-direct Columbia Airport's air traffic back to its appropriate documented area away from Reclamation's New Melones Lake recreational areas and Headquarters complex. It must direct pilots back to the Rawhide Road area, far away from the Stevenot Bridge which the County is once again wrongly recommending as the appropriate Columbia Airport "5-mile reporting point." In fact, pilots announcing "a 45 from the 49er bridge" was a 1992-93 pilot/County airport management invention intended to "justify" overflights that targeted our home because of our September 1992 complaint and our subsequent filing of a lawsuit, after the County directed inbound and oubound Columbia Airport traffic over and around our home, during which an FAA Fresno official testified on our behalf. (*Copy of some pertinent excerpts of FAA official's Nov. 17, 1994 testimony are attached.*)

As part of a County mitigation measure to correct the overflights' significant environmental impacts to this area, the County must publish and enforce, using every means available to the County, an "overflight avoidance notice" that pilots, especially local pilots, will understand and obey. Tuolumne County's efforts at such notices in the past have been routinely ignored and subverted, including by airport management. It should be noted that Columbia Airport is a non-towered recreational general aviation airport at which no FAA personnel are present to enforce or regulate air traffic. No County airport

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

manager having authority over airport operations is at Columbia Airport on weekends and holidays, day or night, when airport use is heaviest. No County airport manager is there after working hours Monday through Friday. At about 6:00 p.m. Columbia Airport's gates are locked to the public, all except pilots who can use the runway 24/7. Basically, most pilots know that no one is in charge most of the time at Columbia Airport and they are free to come and go as they please, flying wherever they like without being held accountable. Tuolumne County hires only one County Airport Manager (also called "Airports Director," a County Department Head) who is the sole person in authority at 2 County owned airports. The current Airport Manager is himself only a local pilot who lives in Groveland at the County's Pine Mountain Lake Airport and has never before managed a public airport. Tuolumne County administration, including the Board of Supervisors, appears to be unaware of the full scope and importance of its airport proprietor legal obligations, responsibilities, and liabilities. For airport information, Tuolumne County relies on local pilots, who have personal agendas and know little about laws and regulations governing county airport proprietors and public airport operations. Despite our rugged steep terrain, which includes adjacent canyons and vast amounts of natural fire fuel, Tuolumne County has permitted rural residential development on Jackass Hill but fails to provide any fire suppression related public services and infrastructure in the form of a public water system and fire hydrants, reasonably close responding fire stations, and adequate well-maintained through-roads on Jackass Hill. Jackass Hill Road is a mile long dead-end road which is poorly maintained by Tuolumne County. The County has made no catastrophic wildfire mitigation demands of BLM which has left cut dry brush all over Jackass Hill. Ironically, despite our having many times over past years appealed to Tuolumne County officials to correct the unnecessary continual overflight problem above our home and over Reclamation's recreational areas and Headquarters complex pointing out the obvious catastrophic wildfire dangers, not just the horrible loud noise that daily fills our home, County officials have turned a deaf ear to *our* pleas.

Homeland Security issue: It should also be noted that some of Columbia Airport's departing traffic flies out to our home on Jackass Hill first and then, mysteriously, veers back to overfly New Melones Dam. U.S. Department of Homeland Security through FAA directives requires avoidance of routine overflights of federal dams, including New Melones Dam. Due to Columbia Airport's proximity to New Melones Dam, Tuolumne County has an added responsibility to ensure that its approaching and departing air traffic does not overfly New Melones Dam and its vicinity. We do observe such overflights from our home. During a telephone conversation earlier this year with Steve Boyack, Tuolumne County Resources Analyst, he informed us Tuolumne County prepared a Tuolumne County Homeland Security document under grant from Homeland Security. We brought up concern about overflights of New Melones Dam. Mr. Boyack stated he did not think that was an issue of concern for Tuolumne County. Personally, we find that distressing from the point of view of national security. General aviation was strongly implicated in the 9/11 disaster: The FAA grounded all general aviation flights for about a week. Tuolumne County has no idea who might be flying into or out of Columbia Airport over the Dam at any time, day or night. Perhaps Reclamation might want to address this issue also with Tuolumne County.

CLOSING STATEMENT: We believe, at this time, given Tuolumne County's demands in its scoping letter, that the U.S. Bureau of Reclamation is in a position to make the necessary and proper counter-demands of Tuolumne County to correct, once and for all, the daily very significant negative environmental impacts caused by the County's mismanagement of Columbia Airport resulting in the unnecessary continual cross-traffic hazardous overflights of this area (Reclamation's New Melones Lake facilities and adjacent Jackass Hill and immediately surrounding canyons) by the vast majority of private general aviation aircraft using that airport, both to approach and depart. As part of your NEPA review, it is imperative to demand that Tuolumne County keep Columbia Airport's air traffic away from the area

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

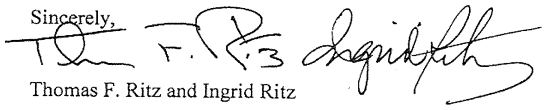
of New Melones Lake for the health and safety of your employees and visitors and to protect your recreational areas, wildlife refuge areas, and cultural/historical sites where a safe recreational and working environment is required.

NEW TUOLUMNE COUNTY INFORMATION ABOUT FUTURE MINING OPERATIONS WHICH MAY NEGATIVELY IMPACT U.S. BUREAU OF RECLAMATION NEW MELONES LAKE LANDS AND HEADQUARTERS COMPLEX:

For your added information, we have just learned (because we are affected and recently received Tuolumne County property owner notification) that Tuolumne County is in the process of implementing its 1998-99 criteria to identify and preserve, by means of attaching a County General Plan "MPZ Overlay" zone on only 1/3rd of the area in Tuolumne County which the State mapped as having significant mineral deposit lands. Theoretically, the County included in its "MPZ Overlay" only parcels which are undeveloped land compatible with future commercial pit mining operations. We have some serious concerns about the process and the County's criteria, which included most of Jackass Hill, including all homes on residentially zoned parcels on Jackass Hill, in its "MPZ Overlay" with the idea that people's homes, regardless of personal investment and market value, are "less valuable" than some future commercial pit mine to extract gold ore. If the County's proposed "MPZ Overlay" zone is implemented as currently proposed, the U.S. Bureau of Reclamation lands surrounding New Melones Lake in our vicinity (Jackass Hill) will not be protected by an equivalent 1,000 foot buffer from future commercial mines which the County applied to other jurisdictions, including the City of Sonora and the County's Columbia Township. The County has provided only a 1,000 ft. buffer from future commercial pit mines beginning at New Melones Lake "high water mark" as identified by Tuolumne County in order to prevent potential "water pollution" from commercial mining operations. Because the U.S. Bureau of Reclamation does not have a reciprocal agreement with the State of California relative to the State's 1975 Surface Mining and Reclamation Act (SMARA), it would seem Tuolumne County's 1,000 buffer zone should begin from the outer boundary of Reclamation's lands surrounding New Melones Lake, not from the water's edge. Also, no consideration was given for the potential of New Melones Lake pollution by future commercial mining operations on Jackass Hill from documented runoff drainage ditches on Jackass Hill which feed into New Melones Lake, including ones located on our residential parcel. For your NEPA environmental review, this future commercial mining issue and potential significant environmental impacts to U.S. Bureau of Reclamation New Melones Lake lands including recreational facilities and your Headquarters complex at the base of Jackass Hill might be something you would like to address with Tuolumne County. It is our belief, based upon what we have thus far learned, that Jackass Hill, like our neighboring hills, should also not have been included by the County in its "MPZ Overlay" zone because County data was arbitrarily manipulated to include homes on Jackass Hill and to include the Mark Twain Cabin, a dedicated State historic landmark located on Jackass Hill.

We have a large volume of documentation in our possession to support everything we have written in this letter. If you would like to contact us for additional information or added documentation, please feel free to do so. We are retired and can be reached at home most of the time.

Sincerely,



Thomas F. Ritz and Ingrid Ritz

Copy with attachments to: Jeff Laird, Chief Ranger, New Melones Lake, U.S. Bureau of Reclamation
(*Complete Attachment List on next page.*)

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

Attachments:

1. Satellite photo: Our home in relation to Reclamation's New Melones Lake Headquarters complex.
2. Photo: View of New Melones Lake from our home on Jackass Hill.
3. Professional Measurement Graph: Ritz Home Airplane Flyover Sound Level 5:50 a.m. to 6:28a.m.
4. Reclamation's New Melones Reservoir Map with superimposed Columbia Airport data.
5. 08-16-96 letter to Ritz from Thomas C. Accardi, FAA Headquarters, Washington, D.C.
6. 01-26-96 letter to Tuolumne County Supervisors from Keith E. Davis, Park Manager, New Melones
7. 2 *Union Democrat* articles re: Fathers Day Fly-In (06-16-06 and 06-18-07).
8. Tuolumne County Ordinance #1285 dated 08-30-83 + Exhibit A & B (4 pages).
9. 08-04-95 letter to Ritz from Clifford D. Gibbons, FAA FSDO, Fresno CA
10. 10-07-05 letter to CFBG in TC from Bev Shane, CDD Director, Tuolumne County
11. 11-17-94 FAA Testimony (Excerpts): Larry DeCosta, FAA FSDO, Fresno CA

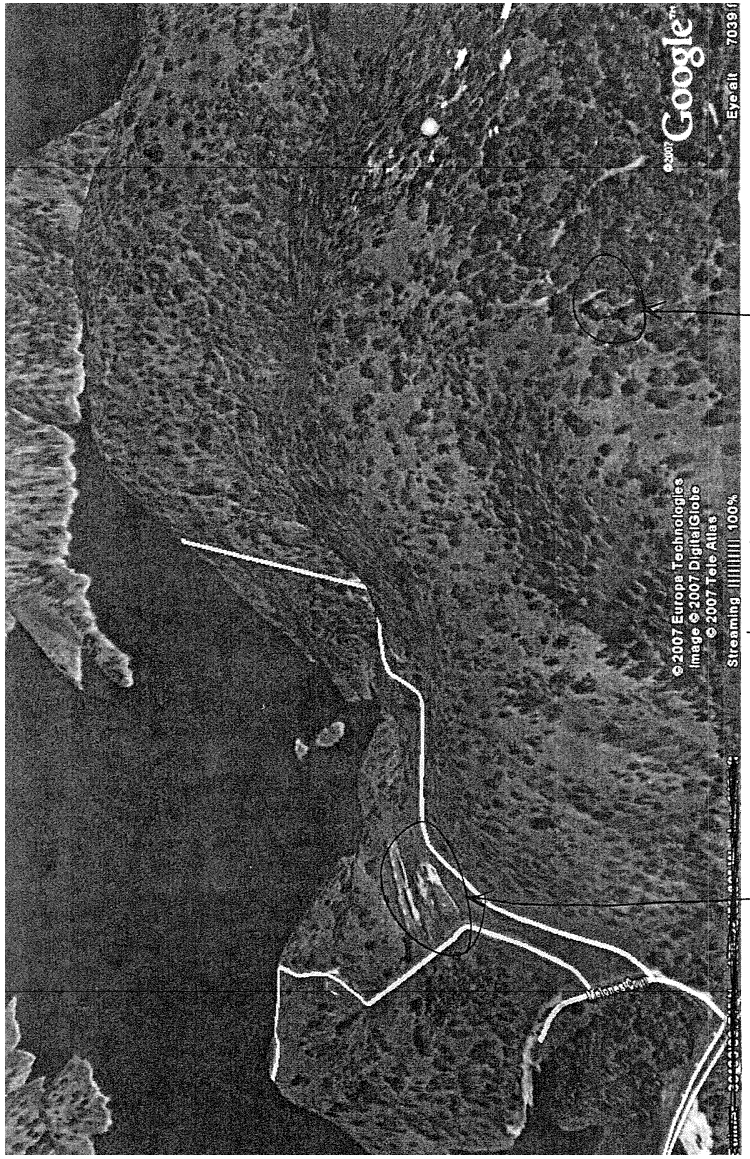
* * *

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments



Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

Ritz:
View of New Melones Lake from our 3rd Floor deck on Jackass Hill, Tuolumne County.

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

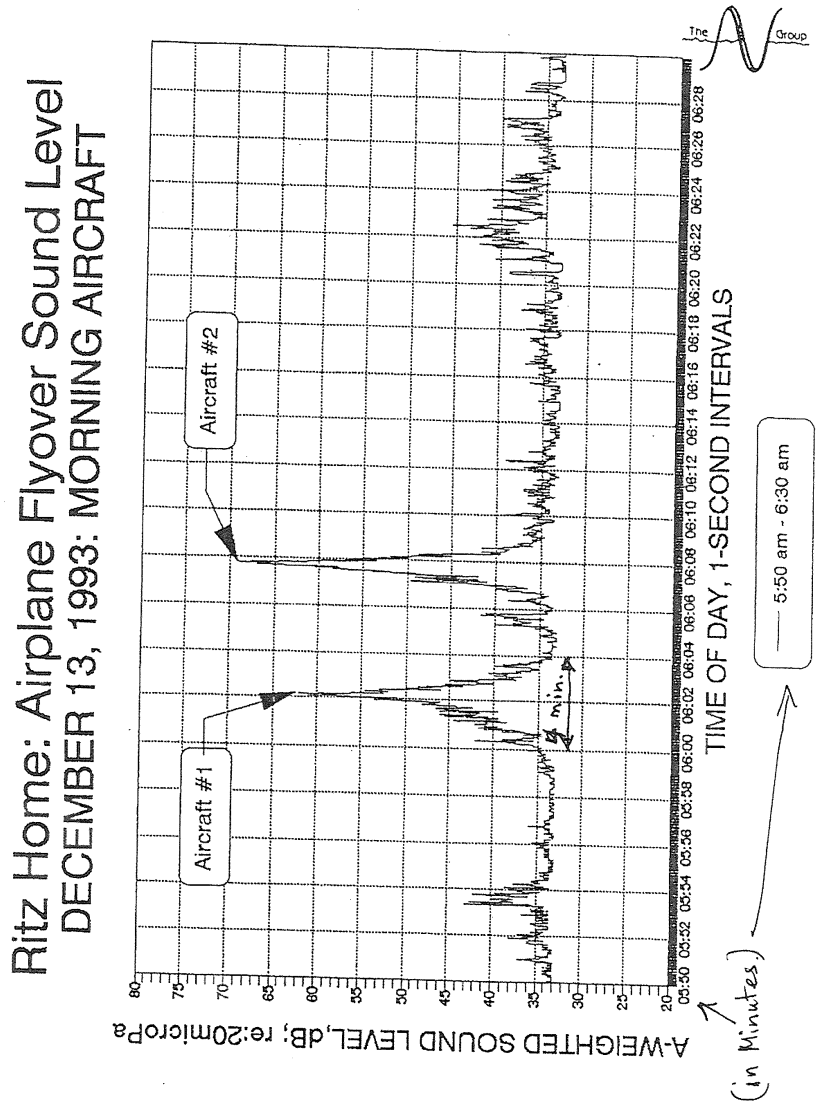


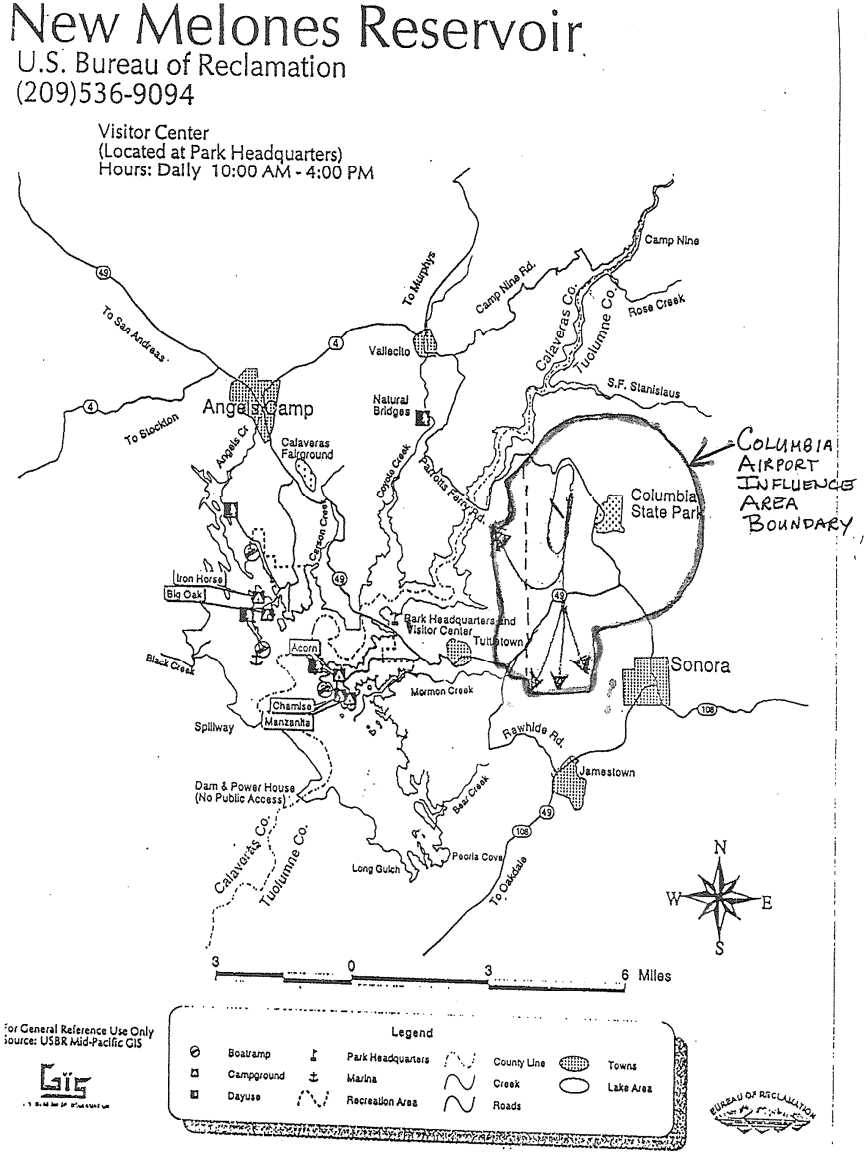
Figure 3. Average Sound Level Measured on the Top Deck on December 13, 1993 Before and After Two Aircraft Flyovers.

6

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued **Comments** **Responses**



Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

Responses

U.S. Department of Transportation
Federal Aviation Administration

800 Independence Ave., S.W.
Washington, D.C. 20591

AUG 16 1996

Mr. and Mrs. Thomas F. Ritz
20730 Jackass Hill Road
Sonora, CA 95370

Dear Mr. and Mrs. Ritz:

Thank you for your letter to Administrator Hinson regarding low-flying aircraft in the vicinity of your home in Sonora, California.

Local, regional, and national Federal Aviation Administration (FAA) Flight Standards inspectors knowledgeable of investigative procedures in similar cases have reviewed the documentation you submitted. These inspectors and the FAA's Assistant Chief Counsel's Office have also reviewed the videotape you provided.

Although the evidence you submitted indicates aircraft in the vicinity of your home, there is no discernible way of identifying these aircraft. Your commentary during the videotape indicates the aircraft are at specific locations and altitudes; however, the administrative law judge will require more definitive and physical evidence of the exact locations and altitudes of the aircraft in question. The registration numbers on the aircraft are not visible, and we cannot establish a direct connection between the radio transmissions heard on the videotape and the exact routes and altitudes of the alleged violators. A review of statements made by Keith E. Davis, Park Manager, New Melones Lake, indicate that he believed the aircraft to be 300 feet or higher over the lake, but he also stated he was not a good judge of aircraft altitude.

It is the opinion of the FAA that the submitted evidence does not substantiate initiating enforcement action. It is also our opinion that the submitted evidence would not be viewed by the administrative courts as being sufficient to prosecute.

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

The FAA urges you to work with the Tuolumne County Board of Supervisors to establish additional airport operating procedures to help alleviate the noise problems in your area.

Sincerely,

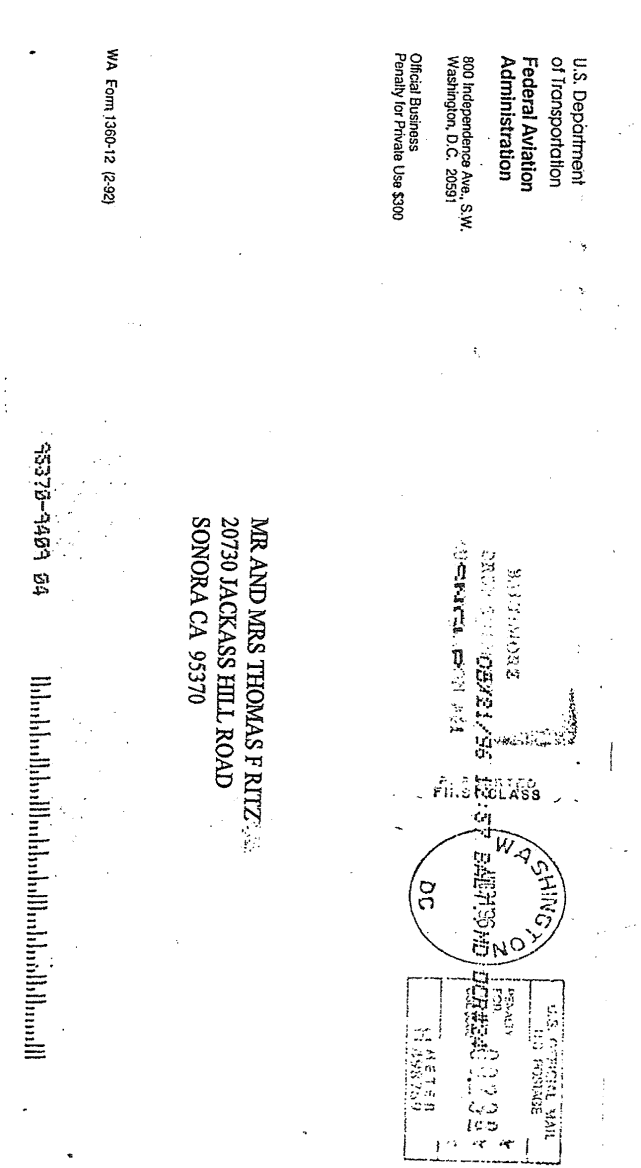
Thomas C. Accardi
Director, Flight Standards Service

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments



Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

United States Department of the Interior

BUREAU OF RECLAMATION
North-Central California Area Office
7794 Folsom Dam Road
Folsom, California 95630

IN REPLY REFER TO: Park Manager, New Melones Lake, 6850 Studhorse Flat Rd, Sonora, CA 95370
CC-260
LND-8.00

January 26, 1996

Ken Marks, Chairman
Tuolumne County Board of Supervisors
2 South Green Street
Sonora, CA 95370

Subject: Noise Levels at Recreational Areas

Dear Ken,

Thank you for the response to my letter of October 16, 1995 concerning noise levels created by overflights from aircraft to and from Columbia Airport. Your letter, in closing, indicated that you wished to be advised if the "situation deteriorates from the current level." As I stated in my letter, it is the current level of overflights of our recreation areas that I am concerned about; and from which I am seeking relief.

Your letter also refers to "FAA approved prescribed patterns". It is my understanding that each airport committee/board, under the auspice's of the Board of Supervisors, prepares such recommended traffic patterns, and that the FAA does not prescribe patterns nor approve them.

Would it be possible that the airport board/committee, with the Boards approval consider a proposal that New Melones Lake recreation areas be afforded protection from overflights of aircraft to and from Columbia Airport in the same manner as that which the Pine Mountain Lake area now enjoys from flights to and from Pine Mountain Airport? Such an action would provide welcome relief from noise levels created by aircraft to a great many visitors, (numbering over 650,000 last calendar year), to Tuolumne County who frequent our campgrounds, day use areas, and the lake surface.

Thank you for your consideration.

Sincerely,

KEITH E. DAVIS
Park Manager
New Melones Lake

cc: L. Rotelli, J. Rountree, M. DeBernardi, W. Holman

Responses

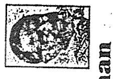
Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

Friday, June 16, 2006 — 3A

A wing, a prayer and a P-51 Mustang



Chris Bateman

HERE'S HOW desperate organizers of this weekend's Fathers Day Fly-In are for publicity:

They invited *me* to take a ride in the Grim Reaper, a restored million-dollar P-51 Mustang that goes 450 mph, climbs like rocket, rolls like a hooker and, during World War II, shot Nazi Messerschmitts out of the sky like they were video game targets.

Pilot Jim Martinelli and his girlfriend, Fly-In planner Lorraine Jasmer, figured that a first-person account of a Mustang ride would help lure crowds to Columbia Airport, where the Reaper and three more P-51s will be flying Saturday and Sunday.

What they didn't know was that their chosen guinea pig gets the jitters boarding 737s, closes his eyes on takeoffs and gladly endures two days of bad food and bad service on Amtrak to avoid cross-country flights.

BUT CHICKEN out? Going down in flames, I figured, was far preferable to being perceived as a wimp.

So when Martinelli tried explaining to me why he had a parachute and I didn't, I just faked the macho shrug of a guy who lives life without a net.

"You're probably not going to hear me once we get in the air," Jim continued, explaining that noise from the Reaper's 12-cylinder, 1,695-horsepower Rolls-Royce Merlin engine was likely to drown out any transmissions on the plane's balky intercom system. "But just don't touch *that* thing."

He pointed below the cockpit's rear seat at a floor-mounted stick housing that could be used by student pilots. I yanked my feet back like it was ringed in hot coals.

Then, amid clouds of exhaust, the Merlin belched to angry, cacophonous life.

THE OUTSIDE world was suddenly drowned in a rich roar that makes muscle-car V8s sound like baseball cards on bicycle spokes.

Five minutes later the Mustang was at full throttle, hurtling down Columbia Airport's main runway at 115 mph. My back was pinned to the seat, my knuckles were white and G-forces had sculpted a frozen, cockeyed smile onto my face.

But the real fun started when we left the pavement. It was like imaginary chains had been cut. We vaulted skyward, gobbling up vertical feet and $4.50-a-gallon aviation gas at an astonishing rate.

Moments later I gained perspective: There was New Melones Reservoir, there was the Parrotts Ferry Bridge and there, swooping up toward us entirely too quickly, was Columbia's turf runway.

In an instant we were five feet off the grass, covering the runway's length at 300 mph. The guy who mows it doesn't get any closer.

JIM LOOKED back, flashing a grin as we catapulted toward Yankee Hill.

I was searching for my house, but the dizzying melange of trees, dirt roads, hillsides and homes below left me disoriented.

During the war, at the stick of this very Mustang, Capt. Lowell Brueland zeroed in on [illegible] planes in the skies over Germany and occupied France. More than 60 years later, I was struggling to zero in on the horizon.

Then I caught the glint of a tin roof from the cockpit's glass canopy and frantically signaled to Jim. He banked the P-51 back toward the house.

"It was incredible," said my wife, who ran out the front door to have a look. "It was loud, more like a growl than anything else. And, at treetop level, it looked huge."

I NEVER SAW Suzy. Instead, while twisting to get a look, my foot hit the forbidden stick housing, and the Mustang lurched in protest. Jim gave me a dirty look and I sunk deep into the seat, hoping he didn't have an eject button.

In minutes, we were over Gold Springs, returning to Columbia Airport. Thanks to that errant stick kick, I figured, my E-ticket ride was ending.

Then panic took over: We were approaching the runway *way* too fast. My blood drained as we screamed over the tarmac at Chuck Yeager speed. I was girding for a broadside with some unlucky RV on Horseshoe Bend Road when we shot into the wild blue like a buzz bomb on steroids.

"Wish I could do that," radioed the envious pilot of a passing Cessna.

"You can," Jim answered. "Just not as fast."

RAWHIDE FLAT was then below us. People gawked and waved from yards as I regained equilibrium, thankful I had passed on that chili dog at lunch.

Then, diving again, we were over New Melones. But not over by much: Just feet above [illegible] around islands and threaded our way through channels, eluding enemy radar as we approached the German U-Boat base at Tuttletown.

I was opening fire with the Mustang's .50-caliber guns when my World War II reverie was broken by our final climb. The Parrotts Ferry Bridge, Gold Springs and then the airport came into view, and Jim guided the P-51 to a smooth landing.

In 20 minutes this 63-year-old plane burned more than 30 gallons of gas, climbed and plummeted thousands of feet, hit nearly 400 mph and [illegible] throat countless times.

AFTER WE climbed from the cockpit Jim shook my hand. Like *I* had done something.

Martinelli is the guy that deserves credit. Working for a Bay Area airplane collector, the veteran pilot and mechanic has overhauled, reconditioned and repainted the Grim Reaper to gleaming, historical perfection.

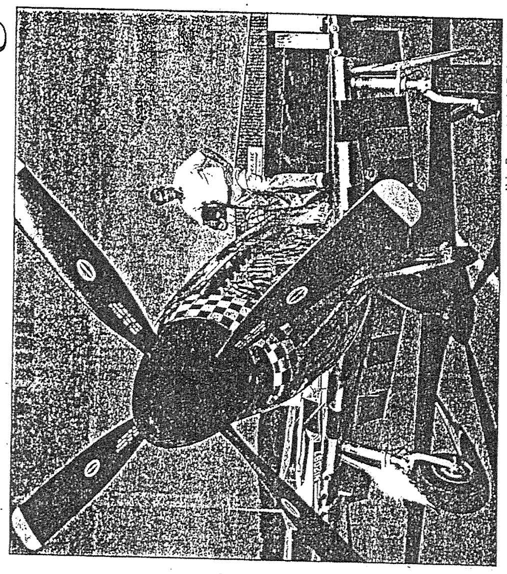
North American Aviation built more than 15,000 of these fighters during the war and in the late 1940s surplus Mustangs were going for [illegible] the Reaper is among only 151 P-51s still flying.

"From a coolness standpoint, it's off the charts," said Jim, who has put in more than 300 hours in its cockpit. "Not only that, but it's a piece of American history."

Martinelli and the other Mustang pilots, for a price, will be offering rides at this weekend's Fly-In. And I have a favor to ask of anyone going up.

Would you mind finishing off those Nazi subs out at Tuttletown?

Contact Chris Bateman at cbateman@uniondemo-



Union Democrat photo by Benjamin Hicks

HELMET IN HAND, Union Democrat columnist Chris Bateman proves, by standing aboard the Mustang's wing before takeoff, that he's no match for Tom Cruise.

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued **Comments** **Responses**

A8 — Monday, June 18, 2007

The Union Democrat

Airplane clips power lines near Tulloch campground

An airplane clipped some power lines on the south shore of Tulloch Reservoir near the Cabana Campground on Sunday, knocking them into the water.

The Tuolumne County Sheriff's Office received a report at 2:24 p.m. that a plane flying low over the lake snagged the line, wobbled, then recovered, said Lt. Daniel Bressler, spokesman for the office. The plane was described as a blue and white North American T6 Texan World War II trainer with "Navy" written on the side of it.

PG&E shut off power to the line at about 5:13 p.m., resulting in a power outage for area residents. PG&E officials did not return phone calls this morning.

Calaveras County Boat Patrol requested Tuolumne County's assistance in closing off the area to boaters, Bressler said. They were on scene until about 7:53 p.m.

Authorities reported the incident to the Federal Aviation Administration. The pilot has been contacted, but his name was not available as of this morning.

The plane was among those participating in the Father's Day Fly-In in Columbia.

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

AUG 20 1985
ROBERT W. ANDRE'
County Clerk
By [signature]
Deputy

ORDINANCE NO. 1285

AN ORDINANCE AMENDING SECTION 18.24.030 OF THE TUOLUMNE COUNTY ORDINANCE CODE TO REDEFINE THE REFERRAL AREAS THEREIN ESTABLISHED

- oOo -

The Board of Supervisors of the County of Tuolumne do ordain as follows:

SECTION 1: Section 18.24.030 of the Tuolumne County Ordinance Code is hereby amended by replacing Exhibits "A" and "B" thereof with Exhibits "A" and "B" hereof.

SECTION 2: This Ordinance shall take effect thirty (30) days after its adoption. The Clerk of the Board of Supervisors is hereby authorized and directed to cause this Ordinance to be published once in the Union Democrat, a newspaper of general circulation printed and published in the County of Tuolumne, State of California, prior to fifteen (15) days after its passage.

Letter I-19, Continued **Comments**

The foregoing Ordinance introduced on the 23rd day of August, 1983, and passed and adopted at a regular meeting of the Board of Supervisors of the County of Tuolumne, State of California, on this 30th day of August, 1983, by the following vote, to wit:

AYES: Mildred Filiberti
Greg Kimm
Terry Bellah
Clyde W. May
William Davidson

NOES: None

ABSENT: None

William Davidson
WILLIAM C. DAVIDSON, Chairman,
Board of Supervisors, County of
Tuolumne, State of California

ATTEST: ROBERT W. ANDRE',
County Clerk and ex-officio
Clerk of the Board of Supervisors

By ____________ (SEAL)
Deputy

APPROVED AS TO FORM:

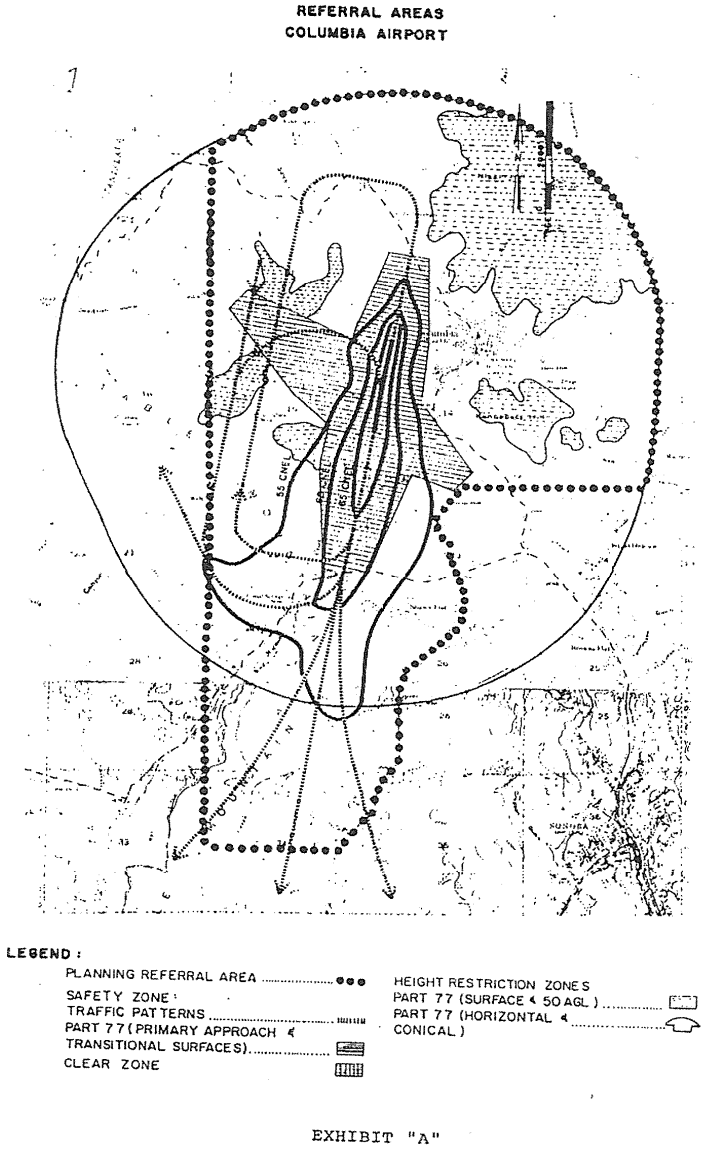
STEPHEN DIETRICH, JR.
County Counsel

Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

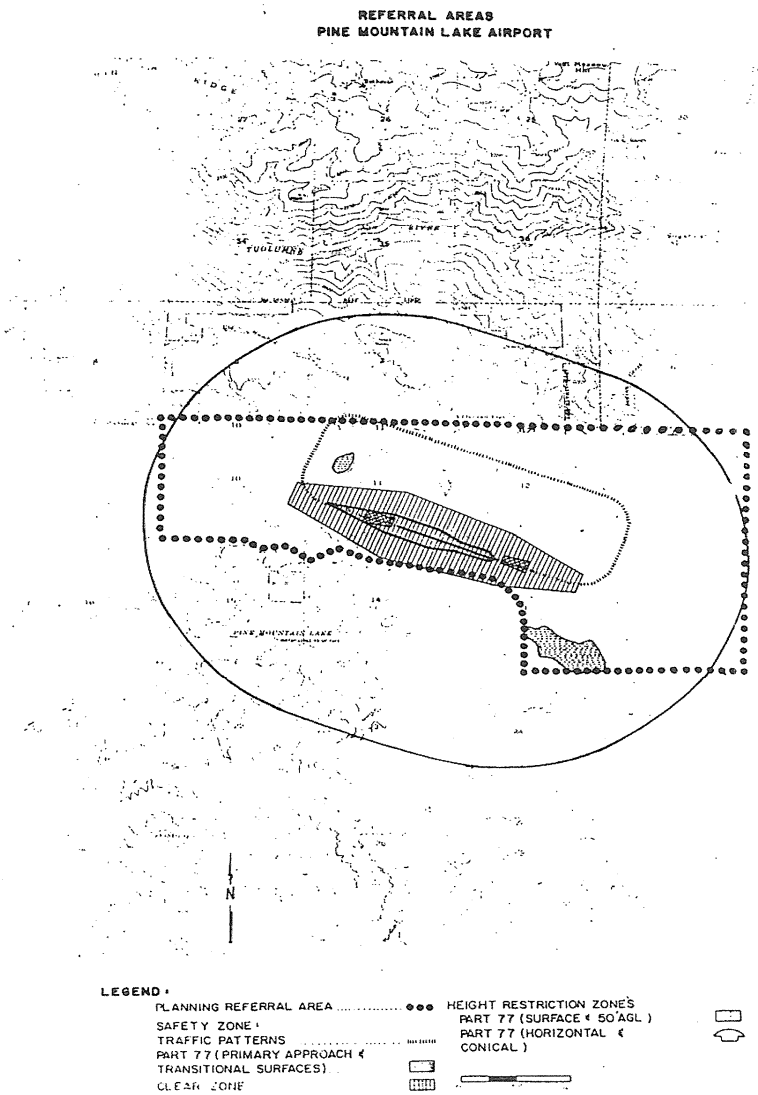


Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments



Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

U.S. Department
of Transportation
Federal Aviation
Administration

Flight Standards District Office
4955 E. Anderson, Suite 110
Fresno, CA 93727-1573

August 4, 1995

This office received your letter dated July 26, 1995. In your letter you enclosed the Airport Land Use Policy Plan for Tuolumne County Airport Use and several charts indicating the traffic flow of airplanes arriving and departing the Columbia Airport. As we have advised you, each airport commission has the overall responsibility of preparing recommended traffic patterns to be utilized at their airports. Normally these traffic patterns are similar to those depicted in the Federal Aviation Administration Airman's Information Manual on page 4-3-3. However, due to factors such as terrain or congested areas, the airport commission could establish patterns or procedures different than the recommended pattern as long as it assured the safety of flight. At the Columbia Airport this responsibility lies with the Tuolumne County Airport Commission. You will note that they have indicated the traffic pattern and planned departure routes on the referral area chart of their plan.

If you have any questions about traffic patterns to be utilized by inbound or outbound airplanes at the Columbia Airport, you will need to contact the Tuolumne County Airport Commission.

Sincerely,

CLIFFORD D. GIBBONS
Supervisory Aviation Safety Inspector

NOTE: When Mr. Gibbons refers to the "Tuolumne County Airport Commission", he is referring to the Tuolumne County Board of Supervisors.

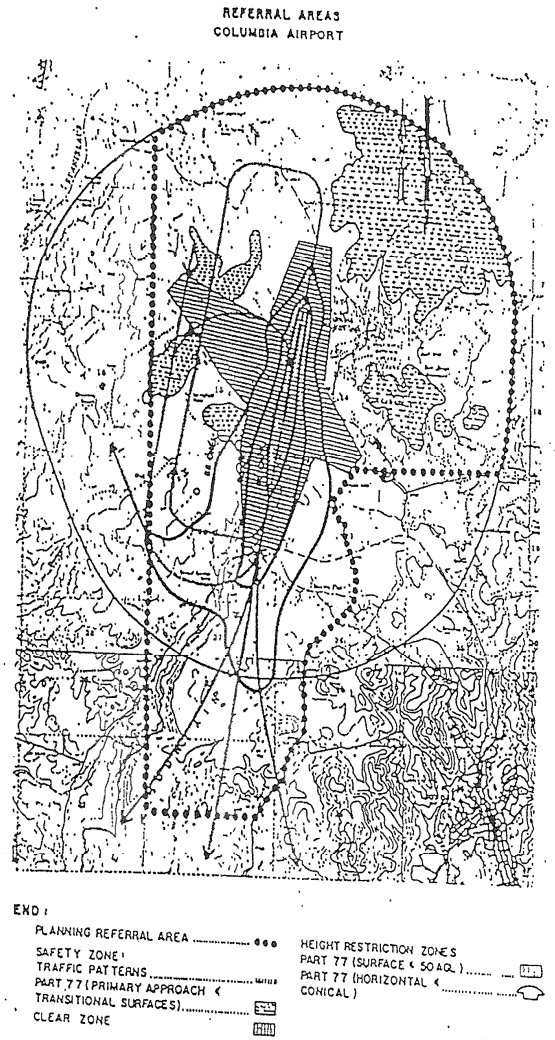
Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued

Comments

1100 Ordinance 1200



Responses

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-19, Continued **Comments** **Responses**

AIRPORT LAND USE COMMISSION

BEV SHANE, AICP
Secretary

COLUMBIA AND PINE MOUNTAIN LAKE AIRPORTS

48 W. Yaney, Sonora
Mailing: 2 S. Green Street
Sonora, CA 95370
(209) 533-5633
(209) 533-5616 (fax)

October 7, 2005

Mr. C.H. Freeman
Coalition for Better Government in Tuolumne County
P.O. Box 5133
Sonora, CA 95370

RE: Aircraft Overflights

Dear Cleo:

In response to your letter concerning aircraft overflights, I concur that the Airport Land Use Commission (ALUC) does not have authority over such activities. However, Chapter 3 of the Airport Land Use Planning Handbook published by the California Division of Aeronautics lists aircraft overflights as one of the four concerns that must be addressed by ALUC's in formulating their compatibility plans for the development of land influenced by an airport. As required, Tuolumne County's Airport Land Use Compatibility Plan does address aircraft overflights in Chapter 2.4.4. That chapter identifies the area of overflight concerns as coinciding with the boundary of the airport influence area meaning that all areas within the influence boundary may be subject to noise and safety issues related to aircraft overflights. This area reflects the traffic patterns established by the Board of Supervisors in Title 18 of the Tuolumne County Ordinance Code as you noted in your letter.

The issue concerning overflights that was raised at recent meetings of the ALUC was focused on a private organization's posting signs advising pilots not to fly over the lake in the center of the Pine Mountain Lake Subdivision. The ALUC's discussion was simply that there are no regulations that restrict a pilot from flying over the lake and that the signs were, therefore, misleading and should be removed. There was no discussion about regulating the overflights; the discussion was simply an acknowledgement that overflights are allowed throughout the airport influence area.

The conclusion of the ALUC's discussion concerning this matter was to accept Airports Director Jim Thomas' offer to present the issue at the next meeting of the Pine Mountain Lake Airports Association and to post information concerning overflights on the airport's website. I did not send a letter to the Association as had been mentioned by Commissioner Dick Collier in his opening remarks concerning this matter.

Please do not hesitate to contact me if you have any other questions concerning this matter or if I can be of further assistance to you.

Respectfully,

Bev Shane, AICP
ALUC Secretary

cc: Brent Wallace, County Administrator
Gregory Oliver, County Counsel

Attachment to Letter I-19. Not a comment letter on the New Melones Lake Area Draft RMP/EIS.

Letter I-20

Comments

From: Dave Olson [dodog@goldrush.com]
Sent: Tuesday, December 22, 2009 12:06 PM
To: Brockman, Melissa A
Subject: recreation/cooperation

Ms Brockman-Vignau..I read with interest and dismay the article about the bureau's lack of cooperation with several factions on the subject of a road and Marina in the Copperopolis area on the Melones Impoundment.

I-20-1 We were in the county during the deliberations between those of us who appreciated the River and the various government folks who, as it turns out grossly underestimated "facts" when needed and overestimated other "facts" went convenient as well. No need to go into to much discussion on the subject except to say that those of us who where not 5th generation locals, and who were more educated, liberal, and used to the government activities and the resulting impacts, did not fall for the rhetoric. Indeed, much of what was said by the agencies either (1) never happened and (2) the agencies broke promises of grand ideas they seemed to espouse.

I have been involved with projects up here in the ensuing 35 years, some of which entailed starting from scratch and involving more than one public entity. We would have given our eye teeth to have the situation you now seem to be turning a deaf ear to, which is the full cooperation and financing by someone other than your agency, to bring a good and promising recreational project into reality, i.e. a property owner who will be willing to dedicate an ingress and egress through his land, and someone who will pay for building that infrastructure; a very large thing indeed..and you to be sitting on your hands.

I-20-2 I suppose the problem with the project is that is makes sense, and that it has a REAL benefit to many people. People who, back in the 70's, your agency promised to serve. In fact that is something that the government should do: facilitate, and benefit. You have an opportunity to make some of those promises come true, and I am afraid that you will continue to stay your course, which is to turn a deaf ear. It is difficult for me to even get the concept of the Federal Government having any jurisdiction over resources that belong to the people of the State of California, let alone giving them no input or respect when it comes to uses of those resources.

It has always been *your* game there at the impoundment, and I fear it will remain so. It is just frustrating to see what you have done, what you have failed to do (promises) and the fact you are willing to ignore someone else trying to help you fulfill some of those promises. I know I personally cannot take my family down to launch our kayaks or canoes, in the quieter area of the impoundment, because there is a steel gate there. A former recreation asset/opportunity removed/diminished by your agency or those associated with it. Is that the philosophy here? build it and keep them away? I wish I could figure out just what your priorities are, or maybe you don't know either?

David Olson

Responses

I-20-1: Certain facilities planned in the 1976 Master Plan are no longer feasible, as explained in Section 1.9 (page 1-16 through 1-18) and on page 2-27 of the Draft RMP/EIS.

I-20-2: The RMP/EIS will allow for the possibility of a road to access the management areas on the west side of New Melones Lake, such as the Westside, Bowie Flat, and Greenhorn Creek Management Areas. Further, it would not eliminate the possibility for development of a marina on the west side of New Melones Lake.

Letter I-21

Comments

Janet Cuslidge
P.O. Box 651
Altaville, CA 95221

December 22, 2009

Mrs. Melissa Vignau
c/o Central California Area Office
U.S. Department of the Interior
Bureau of Reclamation
7794 Folsom Dam Road
Folsom, CA 95630-6610

Dear Mrs. Vignau,

I-21-1 I have read that you are considering restricting the size of houseboats at New Melones Reservoir. I believe that this would be a big mistake. In Calaveras County, our local economy is reliant on tourism and as such we strive to offer the best recreational opportunities we can.

I use the houseboats on New Melones Reservoir for my business and summer vacation trips as well as for family gatherings. When choosing a rental, I always go with the largest available; the larger houseboats offer much more luxury for the money and make our trips so memorable.

Our 2.4 million acre foot lake is so large that I've never had a problem with congestion or traffic. Additionally, I am a woman and have never hesitated to drive a larger 16' wide by 70' long houseboat.

The freedom to rent larger houseboats for use on New Melones Reservoir benefits both local residents and visitors alike. I sincerely hope you won't penalize us and do damage to our local economy by restricting houseboat size in Calaveras County.

Sincerely,

Janet Cuslidge

Responses

I-21-1: Comment noted. Houseboat size limits have been in effect since 1986. The preferred alternative would continue to implement the same size limitation. The current size limitation of 15' x 65' is based on many factors, including but not limited to entrance road size limitations, marina facilities and capacity studies. The 2002 Visitor Use Study established a capacity of 106 houseboats, in part based on current size limits. Increasing the maximum size of houseboats may have an impact on the overall capacity and range of recreation opportunities and visitor experiences on the lake. The preferred alternative seeks to maintain or enhance the existing capacity and range of recreation opportunities provided.

Letter I-22

Comments

Firman Brown
P.O. Box 651
Altaville, CA 95221

December 22, 2009

Mrs. Melissa Vignau
c/o Central California Area Office
U.S. Department of the Interior
Bureau of Reclamation
7794 Folsom Dam Road
Folsom, CA 95630-6610

Dear Mrs. Vignau,

I-22-1 I have read that you are considering restricting the size of houseboats at New Melones Reservoir. I believe that this would be a big mistake. In Calaveras County, our local economy is reliant on tourism and as such we strive to offer the best recreational opportunities we can.

I use the houseboats on New Melones Reservoir for my business and summer vacation trips as well as for family gatherings. When choosing a rental, I always go with the largest available; the larger houseboats offer much more luxury for the money and make our trips so memorable.

Our 2.4 million acre foot lake is so large that I've never had a problem with congestion or traffic. I am fully capable of driving the larger 16' wide by 70' long houseboats on New Melones Reservoir.

The freedom to rent larger houseboats for use on New Melones Reservoir benefits both local residents and visitors alike. I sincerely hope you won't penalize us and do damage to our local economy by restricting houseboat size in Calaveras County.

Sincerely,

Firman Brown

Responses

I-22-1: Comment noted. Houseboat size limits have been in effect since 1986. The preferred alternative would continue to implement the same size limitation. The current size limitation of 15' x 65' is based on many factors, including but not limited to entrance road size limitations, marina facilities and capacity studies. The 2002 Visitor Use Study established a capacity of 106 houseboats, in part based on current size limits. Increasing the maximum size of houseboats may have an impact on the overall capacity and range of recreation opportunities and visitor experiences on the lake. The preferred alternative seeks to maintain or enhance the existing capacity and range of recreation opportunities provided.

Letter I-23

Comments

From: Jennifer Jennings [mailto:jennifer_jennings@att.net]
Sent: Tuesday, December 29, 2009 12:42 PM
To: Brockman, Melissa A
Subject: Access Road from Copperopolis to New Melones

I-23-1 As residents of Copperopolis, we would like to state that we support the access road from Copperopolis to New Melones. Lake Tulloch is over utilized and its very difficult to get to New Melones either through Sonora or Angels Camp while pulling a boat which is a 45 minute trip. Its amazing that Copperopolis is only about 4 – 5 miles away from New Melones, but it takes that long to get there due lack of access. Since New Melones is under-utilized, this is a win- win situation for additional tax revenue and business.

James and Militza Jennings
Copperopolis, CA

Responses

I-23-1: Comment noted.

Letter I-24

Comments

From: Ken & Janet Johnson [kenjanet@sbcglobal.net]
Sent: Tuesday, December 29, 2009 4:52 PM
To: Brockman, Melissa A
Subject: New Melones Access thru Copperopolis

Hi Melissa,

Have been watching the discussion on this proposed access road through the Calaveras Enterprise newspaper. Not sure if my comments are "count-able" in email, but we bought a ranch in the Salt Spring Valley about 8 years ago. One of the great hopes was that there would be an access road to the New Melones Reservoir in the future as that would make it a straight shot from our place to both Lake Tulloch and New Melones reservoirs.

The trip to New Melones from the West County is a long one as you know, as we need to go up Highway 4 to Angels and all the way thru Angels Camp to the New Melones access that is currently in place.

I-24-1 I do think the number of visitors to the New Melones reservoir would greatly increase, especially SF Bay area visitors, if there was a way to get there through Copperopolis. The trip for many all the way thru Angels camp is just too long. Would just like to have it included as one of the Bureau's options in the new multi year use plan currently being considered.

Anyway, thanks for listening.

Ken & Janet Johnson

Lost City Ranch

10780 Walker Trail Road

Valley Springs CA

Responses

I-24-1: The RMP/EIS will allow for the possibility of a road to access the management areas on the west side of New Melones Lake, such as the Westside, Bowie Flat, and Greenhorn Creek Management Areas.

Letter I-25

Comments

From: Julie Eggert [j8a1e2@caltel.com]
Sent: Thursday, December 31, 2009 2:11 PM
To: Brockman, Melissa A; Russ Thomas
Cc: Julie Eggert
Subject: Copper to New Melones

Hi,
I-25-1 I saw the article in the paper about the proposed road from Copperopolis to New Melones.
I am enthusiastically in favor of it.
Our Lake Tulloch is often stressed to the limit with watercraft.
New Melones is much larger and our full time and part time and vacationing residents should have easy access to the much larger reservoir.
Julie Eggert

Responses

I-25-1: Comment noted.

Letter I-26

Comments

RECLAMATION

Managing Water in the West

Comment Sheet for the New Melones Draft RMP/EIS

Written comments may be submitted at the Comment Table or are due to the Bureau of Reclamation by close of business Monday, January 4, 2010.

Comments may also be mailed to the address on the back, faxed to 916-989-7109, or e-mailed to mbrockman@usbr.gov. Thank you.

RECEIVED JAN 4 2009

(Please print clearly)

Name Greg Wakefield

Organization and Address 508 Cormorant Dr.
Modesto, CA 95354

Phone (209) 521-4214 FAX ( ) E-mail greg.wakefield@sbcglobal.net

Comment here: 12/31/2009 (Date)

I-26-1 You may wish to consider improvements to campsite areas. Full hook-ups has always been a problem for many of us at New Melones for years.

Better boat launch area parking and security.

If one of your goals is to bring in more revenue which would mean more people to that area which would mean revenue for Angels Camp area and surrounding towns then this would be one consideration to achieve that goal. Bass fisherman who have to charge the batterys in their boats everytime they go out, this group alone would be enormous.

However more revenue means more people and other exspenses may occur for the Agency.

All comments become part of the public record.

Responses

I-26-1: Comment noted.

Letter I-27

Comments

Responses

JAN 4 2009

Attention: Melissa Brockman-Vignau

January 4, 2010

I-27-1 Providing it does not increase lake fees I support Alternative "D". If this proposal would increase lake fees I would support Alternative "A".I use the lake often and frequented the Stanislaus River prior to New Melones. I believe free or inexpensive access to the recreation area should be the priority.

I-27-2 For little expense you could make the shoreline accessible to people with disabilities by opening the public access at the end of Glory Hole Point. The rangers already patrol up to the cable. At many lake levels you can drive almost to the lake shore. A couple signs to warn the public the road ends in the lake would be the primary cost. There is currently no access for people with disabilities. With the state budget in a huge deficit I believe the

I-27-3 Copperopolis access road should be shelved at this time. It would be expensive and hurt business already existing on the Glory Hole and Tuttletown side of the lake.

I-27-4 Access to Parrots Ferry Road should be reopened without any fees. The only service being a dumpster and a side "road is not maintained and ends in the reservoir. Proceed at own risk." One purpose of the lake is recreation of which you should support.

I-27-5 If the lake level is below Rose Creek you should encourage rafting companies to run a river/reservoir trip. There are incentives that would cost little, such as free houseboat mooring which might make it financially feasible to try to recreate what was once one of the biggest industries in Tuolumne and Calaveras counties. O.A.R.S., Inc. is located directly across from Glory Hole Sports. The general manager, Tyler Wendt, has expanded the company and may be interested. His phone number is 209-736-4677. Ext. #732. Bob Ferguson at Zephyr Whitewater Rafting in Columbia is 209-532-6249, and he might come up with ideas as well if he felt you wanted to re-introduce rafting.

Thank You,

Scott Stevens
Vallecito, Ca.
209-736-6734

I-27-1: Comment noted.

I-27-2: Comment noted. We are currently working throughout the New Melones project to comply with the Americans with Disability Act.

I-27-3: Comment noted.

I-27-4: Comment noted. Currently, Parrotts Ferry access area is available for hand launching and recreation use with no fees.

I-27-5: Comment noted.

Letter I-28

Comments

From: Jim Thomas [mypa12@yahoo.com]
Sent: Monday, January 04, 2010 8:01 PM
To: Brockman, Melissa A
Subject: New Melones Resource Management Plan/Environmental Impact Statement (RMP/EIS)

I wanted to provide some brief comments on the New Melones Resource Management Plan/Environmental Impact Statement (RMP/EIS).

I am a pilot and an aircraft owner. One of the pilot's ratings I possess is that of Single Engine Sea (float plane rating). I am also the Airports Director for Tuolumne County and responsible for the day to day operation of Columbia Airport. However, my response is on my personal behalf and not as the Tuolumne County Airports Director.

I-28-1 My hope is that the New Melones Resource is continued to be managed in the current manner with respect to aircraft and seaplane operations. The reservoir is an excellent place for seaplanes to practice and for pilots to work on their float plane proficiency skills. This is something that cannot be done on land and there are few local lakes available that are suitable for float plane operation. The reservoir should be kept available for a variety of recreational uses and seaplane training and use is certainly a compatible use, in my opinion. In fact, it would seem to me that training that is safety related, such as sea plane instruction and practice, should be highly encouraged. Pilots landing on the reservoir have not been drinking, are not distracted by passengers in their aircraft, and are very focused on their control of their aircraft.

I-28-2 I also would like to comment on the strategy to restrict the airspace over New Melones reservoir. The airspace over the Unites States is controlled by the FAA and not by the BLM, Tuolumne County or Columbia Airport . Pilots must adhere to the Federal Aviation Regulations. The plan of restricting flights over areas of the reservoir, specifically those identified in Figure 3-1 is not well founded. The reservoir lies between Columbia Airport and the Bay Area and there are aircraft flying over the reservoir on a regular basis. Attempting to restrict over flight is going to be difficult to accomplish and even more difficult, if not impossible to enforce.

I-28-3 On page 4-29 under Sea Plane Implementation Strategies, it states that the purpose of restricting the airspace of the New Melones Lake Area is to protect public safety and critical infrastructure. Aircraft over flights, in my opinion, do not pose any risk to public safety. This is a sparsely populated area, boats are a tiny dot on the reservoir, the campgrounds and visitor centers are small consolidated areas. With literally thousands of unoccupied acres of land and water, the chances of an aircraft crashing in the populated area or into a boat is miniscule. In fact, in my 34 years of flying I have never heard of an airplane hitting a boat.

Responses

I-28-1: Comment noted.

I-28-2: Comment noted.

I-28-3: Comment noted.

Letter I-28, Continued

Comments

Responses

I-28-3 (Continued)

A typical general aviation aircraft that operates in and out of the local airports does not have the capability of damaging the dam, spillway, or either of the bridges across the reservoir. My guess would be that the majority of the aircraft that fly over New Melones Reservoir have a gross weight of less than 3,000 pounds. I think I would be safe to say that all medium and full sized pick up trucks weigh more that that. The bridges themselves are designed to carry fully loaded semi trucks. If an small plane were to hit a bridge, it would barely put a scratch in it. Besides, why would a pilot want to crash his plane into a bridge, much less a dam, or spillway? If your concern is terrorism, then please consider what the Homeland Security Department feels are the perceived threats and methods. I think you will find it is not a light plane flying over the New Melones Reservoir.

I would like to see the New Melones Reservoir kept open to sea plane operations, including training, and I feel restricting over flights is unwise, unjustified, and unenforcable.

Thank you for allowing me to comment on the proposed plan.

Sincerely,

Jim Thomas

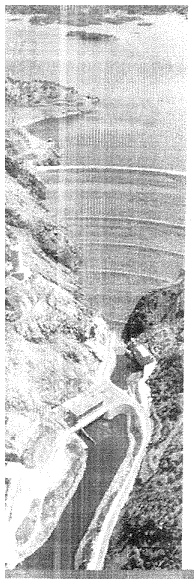
20964 Woodside Way

Groveland, CA 95321-9410

I-28-3: Comment noted.

Letter I-29

Comments



RECLAMATION

Managing Water in the West

Comment Sheet for the New Melones Draft RMP/EIS

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Comments may also be mailed to the address on the back, or faxed to 916-989-7109, or e-mailed to mbrock@usbr.gov. Thank you.

(Please print clearly)

Name Walton Ferris

Organization and Address

12 Partridge Drive

San Rafael, CA 94901

Phone (415) 250-8823 FAX ( ) E-mail walton-ferris @comcast.net

Comment here: December 20, 2009 *Date*

I-29-1 As a user of Bureau of Reclamation Recreational Resources, I would like to comment that I support continued seaplane access to New Melones Reservoir. Of the alternatives in the Draft RMP/EIS I prefer Alternative B and strongly oppose Alternative C. Seaplanes have safely used the waters of the BOR, where permitted, throughout the west for as long as the BOR has managed them. At New Melones, western seaplane pilots have long enjoyed access without conflict with the local boating community and are a popular attraction for the local tourism industry.

I-29-2 The operation of a seaplane school on New Melones would bring additional benefits to the local business community with minimal impact to the environment. Seaplanes do not use Reservoir waters for engine cooling, do not stir sediments with their propellers, do not carry invasive species in their bilges or bait buckets and produce far less noise than any ski or bass boat at full throttle.

The local seaplane community is tightly knit and organized, ready to work closely with the local Resource Managers to address and mitigate any issues arising from seaplane operations on New Melones, or any other BOR resource in the West!

Thank you for your consideration and acceptance of these comments.

All comments become part of the public record

Responses

I-29-1: Comment noted. Management actions within the RMP must be consistent with Reclamation's goals and objectives. Reclamation must consider resource use, resource protection, and public safety in managing the New Melones Lake Area. Reclamation's preferred alternative would continue to implement the current policy for non-commercial seaplane use of New Melones Lake.

I-29-2: Comment noted. Operation of a seaplane school is included under Alternative B (Action R 31B).

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