3 Planning Influences

This chapter presents a description of previous planning documents for the Plan Area as well as a summary of system-wide and regional planning influences.

3.1 Previous Plans

When approved, the management direction and actions set forth in this Plan will replace those from a series of previous planning documents dating from 1962 to 1985. These documents are summarized as follows, and specific actions proposed in each document are described in Appendix A, Table A-1.

- *Recreation Land Use and Acquisition Plan, San Luis Reservoir and Forebay* (DWR, June 1962). In response to projected increases in recreational demands (to exceed 4 million visitor-days annually by 2020), the report recommended the acquisition of 13 recreation areas totaling 3,308 acres, 768 acres of which would be specifically for recreation, and described potential uses for each area. The report also recommended the acquisition of a 300-foot-wide strip of land bordering the entire perimeter of the reservoir and forebay to ensure unhindered use of the shoreline and reservoir surface for recreation. Once acquired, recreational lands considered for leasing were to be protected for future recreational use. The plan was coordinated with the Division of Beaches and Parks, DFW, and Reclamation.
- *San Luis Reservoir and Forebay Recreation Development Plan* (DWR, May 1965). This report to the State legislature presented a plan for recreational development to support budget requests to construct initial facilities. The report also provided future recreation projections from 1960 through 2020.
- *Los Banos Creek Reservoir Recreation Development Plan* (CSP Division of Beaches and Parks, November 1966, revised December 1969). The plan recommended that the State legislature appropriate $486,650 from the General Fund for initial recreation development of the area from 1969 to 1970. The Plan also described future development for each decade up through 2020 to accommodate estimated use of 425,000 visitor-days annually.
- *Los Banos Reservoir Recreation Development Plan* (DWR, April 1971). This report described general plans for recreational facilities to accommodate boating, fishing, camping, picnicking, swimming, riding and hiking. Initial recreation facilities would be constructed in 1970-1980 and would accommodate 425,000 recreation days of use annually by the year 2020.

- *Boating Plan, San Luis Reservoir State Recreation Area* (Department of Navigation and Ocean Development, March 1972). This plan addressed the development of boating facilities and information to support budget requests to construct facilities. The projected number of visitor days for each decade from 1960 through 2020 was calculated using existing use data at a comparable reservoir, Millerton Lake (310,000 visitor-days in 1960, reaching 4,058,000 visitor-days in 2020). The total maximum number of boats on the San Luis Reservoir at any time was set at 2,090 boats, and at O'Neill Forebay, 523 boats.
- *San Luis Reservoir State Recreation Area, General Development Plan* (CSP, Design & Construction Division, November 1971, revised 1973). This plan focused on the development of O'Neill Forebay Unit for all-year recreational use due to gentler terrain, wind protection, and more sustained pool level than San Luis Reservoir.
- *Amendment to General Plan* (CSP, December 1985). The amendment changed the undesignated land use of the northern portion of the O'Neill Forebay Unit to allow day and overnight use of the Meadows and Grant Line areas.

3.2 System-Wide Planning

Planning for the Plan Area must be wide ranging to consider issues that cross regional, local, community, and Plan Area boundaries. Federal, state, county, and community agencies are responsible for providing oversight and review of various planning-related laws and policies, such as the NEPA, CEQA, ADA, as well as RWQCB and Air Quality Management District (AQMD) regulations.

Additionally, numerous Reclamation and CSP resource management directives guide the Plan Area planning process. Most of the following apply to San Luis Reservoir SRA lands managed by CSP, as they have the greatest management responsibility in the Plan Area. However, each of the managing agencies has individual management directives that should be consulted during Plan implementation. These directives consist of the following:

- Mission statements
  - Reclamation Mission and Vision Statement
  - CSP Mission Statement
  - DFW Mission Statement
  - DWR Mission Statement
- California Public Resources Code
- CSP policies, publications, and directives
  - CSP Operations Manual
  - CSP Administrative Manual
  - Planning Milestones for the Park Units and Major Properties Associated with the California State Parks System
  - Park and Recreation Trends in California

  - California Recreational Trails Plan—Phase I
  - California State Parks Accessibility Guidelines
  - California State Parks System Plan
  - Concessions Program Policies
  - California Outdoor Recreation Plan (CORP) 2002
  - Central Valley Vision Draft Implementation Plan
  - Public Opinions and Attitudes on Outdoor Recreation in California (2003)
  - California's Recreation Policy
- National Fire Plan
- Cal Fire Vegetation Management Program

Key directives are described in more detail below.

3.2.1 Mission Statements

3.2.1.1 Reclamation Mission and Vision Statement

The Reclamation Mission Statement is "to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public." Additionally, their vision is "through leadership, use of technical expertise, efficient operations, responsive customer service, and the creativity of people, Reclamation will seek to protect local economies and preserve natural resources and ecosystems through the effective use of water."

3.2.1.2 CSP Mission Statement

The CSP Mission Statement is "to provide for the health, inspiration, and education of the people of California by helping to preserve the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high quality outdoor recreation."

3.2.1.3 DFW Mission Statement

The Mission of the DFW is "to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public."

3.2.1.4 DWR Mission Statement

The Mission of the DWR is "to manage the water resources of California in cooperation with other agencies, to benefit the State's people, and to protect, restore, and enhance the natural and human environments."

3.2.2 California Public Resources Code

The PRC defines the organization and general powers of CSP and related Public Resources agencies, as well as the general provisions, definitions, and committees for State Public Resources.

3.2.3 CSP Policies, Publications, and Directives

3.2.3.1 CSP Operations Manual/CSP Administrative Manual

The CSP Operations Manual (last updated July 2008) and CSP Administrative Manual are CSP's primary guidance documents. The manuals contain all CSP policies and procedures. The Interpretation and Education Chapter of the CSP Operations Manual was updated in March 2010 and gives policy and guidance on a broad range of interpretation-related topics.

3.2.3.2 Planning Milestones for the Park Units and Major Properties Associated with the California State Parks System

This July 2009 report provided a record of CSP's milestones and accomplishments in planning and land use management on state park lands throughout California. It includes historical information about park units and properties and related land use planning and management activities. The report also serves as an inventory of all state park units, lands, and properties, totaling 278, that constitute the State Park System.

3.2.3.3 Park and Recreation Trends in California

This 2005 report detailed recreation trends affecting CSP units, programs, and services. It is intended to help decision makers conduct needs assessments, analyze market demands and niches, and identify programs that are likely to be successful so as to meet the changing and varied demand for recreation opportunities. The report notes that California's rising population and changing demographics will be the overriding factors affecting future CSP recreation opportunities. The report details the increasing racial and cultural diversity of California; its growing senior and retiree population; new recreation habits among young adults; and the need to adapt recreation opportunities to the needs and conditions of California's contemporary youth population. The report notes that as California's population continues to grow and diversify, demands for a variety of recreation opportunities will be virtually unbounded despite limited resources.

3.2.3.4 California Recreational Trails Plan

The California Recreational Trails Plan (Phase I) was prepared by CSP and released in June 2002. It identifies 12 trail-related goals and lists general action guidelines designed to reach those goals. The goals and their action guidelines will direct the future actions of CSP's Statewide Trails Office regarding trail programs. This Plan is Phase I of a more comprehensive statewide trails plan (Phase II) to be developed. Phase I should serve as a general guide for trail advocates and local trail management agencies and organizations in planning future trails and developing trails-related programs. Phase II will utilize the best of Phase I as a guide and will incorporate hard data and generally accepted planning practices, including additional public input and comment. The 2009 Progress Report on Phase I has been submitted to the State legislature and is available on the CSP website. The 2009 Progress Report includes status updates for each of the 12 trail-related goals and the three California Trail Corridors.

The Statewide Trails Office has as its mission to "promote the establishment and maintenance of a system of trails and greenways that serves California's diverse population while respecting and protecting the integrity of its equally diverse natural and cultural resources. The system should be accessible to all Californians for improving their physical and mental well-being by presenting opportunities for recreation, transportation, and education, each of which provides enhanced environmental and societal benefits."

3.2.3.5 California State Parks Accessibility Guidelines

The California State Parks Accessibility Guidelines were issued in October 2009 and are scheduled for release as part of the Architectural Barriers Act Accessibility Standards (ABAAS) sometime this year (United States Access Board 2009). These design standards specifically address campgrounds, picnic areas, trails, and other facilities and will apply to all federal recreation areas including those managed for the federal government by non-federal entities. These standards will be used in the upgrade and management of recreation facilities.

3.2.3.6 California State Park System Plan

The California State Park System Plan addresses the needs and operations of the State Park System through 2020. According to the plan's Executive Summary, it "addresses the System with an emphasis on informing decision-makers, concerned organizations, and a variety of stakeholders" and is "intended to guide staff members who keep the System functioning through its major programs and park operations. It is an important internal tool for communicating advances currently taking place in the State Park System's core programs and key initiatives for future growth and success." Core programs discussed in the plan include natural heritage preservation, cultural heritage preservation, outdoor recreation, education and interpretation, facilities, and public safety. The plan addresses the following key statewide initiatives: state parks in urban areas, acquisition, development, staffing a cohesive system, and funding.

3.2.3.7 Concession Program Policies

The CSP's Concession Program Policies have provisions for leases and permits, program conflict resolution, an integrated management plan, outsourcing, contracts, interpretive concessions, a request for interest (RFI) process, public stakeholder meetings, performance bonds and sureties, and concessionaire conflict resolution. An "interpretive concession" is defined as a concession that provides an educational service to the public by practicing skills reflective of the interpretive period or interpretive theme of a park unit through products sold, services rendered, or interpretive programs provided.

Concession activities in the Plan Area will meet all Reclamation standards for concessions management by non-federal partners set forth in the Directives and Standards of CSP's Manual (Reclamation 2002).

3.2.3.8 California Outdoor Recreation Plan (CORP) 2008

The *California Outdoor Recreation Plan* (CORP), prepared by CSP, describes federal and state land management agencies and their programs for managing public recreation resources. The report also summarizes local, nonprofit, and private sector providers of recreation within the state.

The CORP discusses demographic trends and challenges that are affecting and will continue to affect California's recreation in the future. Trends include robust population growth, urbanization, and growth of inland counties. Demographic shifts include a continuing increase of Hispanic and Asian populations as a percentage of the total state population. The "baby boom" generation is expected to become a more active senior population than today's seniors.

The popularity of nature study, adventure-based activity, and high-technology recreation are all trends that will influence future recreation numbers and types of recreation participation. Outdoor recreation is very important to Californian lifestyles in general. Recreational walking was the number one activity among surveyed California residents. There is a high, unmet demand for several activities: recreational walking, camping at developed sites; trail hiking; attending outdoor cultural events; visiting museums and historic sites; swimming in lakes, rivers, and the ocean; general nature and wildlife study; visiting zoos and arboretums; camping in primitive areas; beach activities; use of open grass or turf; freshwater fishing; and picnicking in developed sites.

The CORP lists issues facing parks and outdoor recreation, and outlines actions for dealing with the challenges faced by park managers. Issues include funding, access to parks and recreation areas, natural and cultural resource protection, and leadership in recreation. The CORP also outlines health and social benefits of recreation. Wetlands and future reports to be published by CSP are also discussed (CSP 2002). The CORP was last updated in 2008 and approved in 2009. It is available on the CSP website.

3.2.3.9 Central Valley Vision

In 2003 CSP began to develop a roadmap for the State Park System's future expansion in the Central Valley entitled the Central Valley Vision. The Central Valley Vision 2006 was released in March 2006 following an extensive public outreach effort to learn about public preferences regarding future parks, recreation areas, and historical and cultural sites. The Central Valley Vision Summary Report: Findings and Recommendations 2007 was released on January 1, 2007, and contains an overview of the Central Valley Vision process and an explanation of findings and research conducted over the previous three and a half years. The Central Valley Vision Draft Implementation Plan was released for public comment on October 28, 2008, and CSP completed the plan in 2009. The plan focuses on meeting the public's recreation needs in the Central Valley. The plan outlines specific development programs and initiatives for the region aimed at building economic and volunteer partnerships, acquiring new park lands, and developing new and improved recreation opportunities. The plan includes additional specific improvements to the Plan Area under the San Joaquin River

Valley Initiatives, including 300 new campsites, about new 10 picnic sites, trails, angling, and boating facilities (CSP 2009c).

3.2.3.10 Survey on Public Opinions and Attitudes on Outdoor Recreation in California (2009)

This survey gives local recreation providers a statistically valid sample of what Californians think about outdoor recreation and their use of California parks. This survey analyzes data in four demographics: adults, youths, Hispanics, and by geographic regions. Trends and preferences identified in the survey assist local recreation providers in analyzing how to meet local demand. Results also guide the selection process for the next five years of Land and Water Conservation Fund projects, which is a national grant fund dispensed annually to local agencies by CSP. This survey measured the following:

- Outdoor recreation activities that Californians are currently engaged in;
- Outdoor recreation activities that Californians would like to do more;
- Californians' opinions and attitudes regarding recreation facilities, programs, services, and policies;
- Californians' physical activity in parks;
- Preferences for potential management decisions that could help California park providers reduce and adapt to climate change;
- Californians' willingness to pay for their favorite activities; and
- Changes in responses compared to prior surveys.

The survey was conducted by telephone, mail and online. It was changed substantially from prior years to increase response rates and provide a contemporary view of outdoor recreation in California. The survey consisted of almost 2,800 telephone respondents and 1,200 mail or online respondents. The mail survey added components regarding leisure constraints, climate change, and measures of expressed demand for recreation activities. More information regarding the survey, including detailed tables, charts, analysis, and survey instruments are available on the CSP's website (CSP 2009a).

3.2.3.11 California's Recreation Policy

This 2005 report puts forth five general tenets of CSP's recreation policy with respect to a broad scope of recreation activities—active, passive, indoors, and outdoors. The five general tenets of the policy are as follows: adequacy of recreation opportunities, leadership in recreation management, recreation's role in a healthier California, preservation of natural and cultural resources, and accessible recreational experiences.

3.2.4 National Fire Plan

The National Fire Plan is a long-term strategy that will help protect communities and natural resources, and, most important, the lives of firefighters and the public. First completed in August 2001, the 10-Year Strategy and subsequent Implementation Plan was adopted by federal agencies and western governors. The Implementation Plan established a framework for protecting communities and the

environment at great risk for fire due to unnaturally dense, diseased, or dying forests. The newest implementation plan, completed in December 2006, builds upon the original strategy and is a long-term commitment based on cooperation and communication among federal agencies, states, local governments, tribes, and interested members of the public. Congress also called on the secretaries to work collaboratively and cooperatively with governors in the development of this strategy and as full partners in planning, decision making, and implementation. This resulting strategy has been developed by federal, state, tribal, and local government and nongovernmental representatives for the purpose of improving the management of wildland fire and hazardous fuels, as well as meeting the need for ecosystem restoration and rehabilitation in the United States on federal and adjacent state, tribal, and private forest and range lands.

In addition, this strategy outlines a new collaborative framework to facilitate implementation of proactive and protective measures that are appropriate to reduce the risk of wildland fire to communities and the environments. Meeting the objectives of the strategy requires a coordinated effort across landscapes to restore and maintain the health of fire-prone ecosystems. This strategy recognizes the importance of suppressing fires, especially those near homes and communities, but there needs to be a continued shift in fire management emphasis from a reactive to a proactive approach. This new approach allows a more active collaboration between the fire management organizations and communities.

The purpose of a long-term strategy for reducing wildland fire risks to communities and the environment is meant, in part, to correct problems associated with the long-term disruption in natural fire cycles. This disruption has increased the risk of severe wildland fires on some fire-prone ecosystems. The introduction of now-pervasive invasive species has also increased the wildland fire threat. At the same time, communities have grown into the forests and range lands, increasing the risk to people, their homes, and water supplies. The following core principles are overarching for all goals:

- Collaboration—facilitating a collaborative approach at the local, regional, and national levels
- Planning
- Prioritizing actions and implementation responsibilities
- Timely decision making, particularly for implementing projects and activities
- Tracking performance, monitoring, and ensuring that activities are consistent with relevant science and new information
- Communicating to the public the goals, tasks, and outcomes of the 10-Year Strategy and Implementation Plan

The goals of the updated 10-Year Comprehensive Strategy are to (1) improve fire prevention and suppression, (2) reduce hazardous fuels, (3) restore fire adapted ecosystems, (4) implement post-fire recovery of fire-adapted ecosystems and (5) promote community assistance.

3.2.5 Cal Fire Vegetation Management Program

The Cal Fire Vegetation Management Program is a cost-sharing program that focuses on the use of prescribed burns and mechanical means for addressing wildland fire fuel hazards and other resource management issues on State Responsibility Area lands.

3.3 Regional Planning Influences

The following local and regional plans will have an influence on plan implementation and should be consulted for guidance during detailed design and development of Plan Area components:

- General, Specific, and Community Plans
  - Merced County Year 2000 General Plan
  - Santa Nella Community Specific Plan
  - City of Los Banos General Plan 2030
  - The Villages of Laguna San Luis Community Plan
  - Fox Hills Community Specific Plan Update
  - MCAG Draft Regional Housing Needs Plan
- Water Resource Plans
  - Central Valley Region Water Quality Control Plan (Basin Plan)
  - San Luis Reservoir Low Point Improvement Study and 2008 Notice of Intent/Preparation
  - B.F. Sisk (San Luis) Dam Safety of Dams Project
- Transportation Plans
  - MCAG Regional Transportation Plan
  - Merced County's 20-Year Transportation Expenditure Plan
  - Caltrans District 10 State Route 152 Transportation Concept Report
  - SR 152 Trade Corridor Project
  - California High-Speed Train Program EIS/EIR
- Renewable Energy Projects
  - San Luis Renewable Resource Project
  - Quinto Solar Photovoltaic Project
  - Other Projects

3.3.1 Merced County Year 2000 General Plan

The Plan Area is located within Merced County, which has approved several major new towns within the immediate vicinity. Regional planning efforts envision new town development providing housing for commuters using State Route (SR) 152 to access jobs in Santa Clara County. The Merced County General Plan was last updated in 1990 and covers physical growth and development through 2000. In the spring of 2006, Merced County began a three-year process to update the General Plan. Merced County completed the process of formulating alternatives for the plan and released the Planning Commission

Review Draft in June 2011. The final version of the General Plan is scheduled to be adopted in 2012 (Merced County 2012).

3.3.1.1 Land Use

The Merced General Plan supports the conservation of open space. The Urban Centered Concept is the basic principle of land use policy and is directed at utilizing cities and unincorporated communities or centers to accomplish anticipated urban expansion in an orderly manner. The purpose of using the urban centered concept to plan land use is to ensure the following:

- Growth occurs in an orderly and logical manner;
- Land is utilized efficiently;
- Agricultural operations are not eliminated prematurely;
- The County's planning efforts are complementary to those of the cities; and
- Urban development occurs where proper services are available.

The Plan Area is designated Foothill Pasture under the Merced County General Plan. This designation generally applies to lands on the east and west sides of the county, the Sierra Nevada foothills, and the Diablo Range, respectively. The Foothill Pasture areas are used for noncultivated agricultural practices, which typically require larger areas due to poor soil quality, limited water availability, and steeper slopes. The Foothill Pasture areas are also used for livestock facilities, wastewater lagoons, and agricultural commercial facilities. Certain nonagricultural uses may also be found, including mineral resource extraction and processing, institutional facilities, outdoor public and private recreational facilities, and all accessory uses thereto. The Merced County General Plan uses the Foothill Pasture designation to acknowledge the importance of agriculture and seek ways to protect the land, promote agricultural processing operations, preserve open space resources, and allow for the development of energy production facilities in rural parts of the county. The zoning classification considered most compatible for Foothill Pasture designated areas is generally A-2 (Exclusive Agricultural), which applies to the study area.

3.3.1.2 Safety

The Merced General Plan also addresses some issues relevant to the San Luis Reservoir area, including safety issues related to dam failure and seiches (waves occurring in confined bodies of water). The risk at San Luis Reservoir is heightened because it is in the vicinity of several major fault zones, including the extremely active San Andreas and Calaveras faults and the less active Ortigalita Fault. However, the location of San Luis Reservoir in proximity to potential seismic activity has been compensated for by structural design. San Luis Dam was built to withstand a magnitude 8.3 occurrence at Hollister; however, this does not completely eliminate the possibility of dam failure and resulting floods.

3.3.1.3 Open Space/Conservation

The Merced General Plan acknowledges that recreational facilities provide both economic and open space benefits to county residents and places a high emphasis on public lands and public recreation areas.

The County also has implemented an Open Space Action Plan to carefully manage open space resources in order to support the county's anticipated population growth while preserving nonrenewable assets for future generations. The Open Space Action Plan relies on written policies and inventory maps in addition to the General Plan land use map or individual community Specific Urban Development Plans as a means to define or delineate open space lands.

3.3.1.4 Aesthetics

SR 152 from the Santa Clara County line to the junction with Interstate 5 (I-5) is designated a State Scenic Highway because of its scenic vistas. In addition to traversing rich agricultural farmlands, the route provides drivers with views of the extensive San Luis Reservoir over a considerable distance.

The State has established standards for protecting state designated scenic corridors. Minimum standards for scenic corridor protection include the following:

- Regulation of land use and density of development;
- Detailed land and site planning;
- Control of outdoor advertising (including a ban on billboards);
- Careful attention to and control of earth moving and landscaping; and
- Careful attention to design and appearance of structures and equipment.

3.3.1.5 Agriculture

The Merced General Plan describes and maps a potential Agricultural Services Center (ASC) zone to the west of San Luis Reservoir. An ASC would provide a location for agricultural services, farm support operations, and convenience commercial services for the rural population. A limited amount of housing would be allowed, not to exceed one dwelling unit per acre.

The general plan also describes and maps potential Planned Agricultural Industrial Development (PAID) zones to the north and to the southeast of San Luis Reservoir. This zone would provide a minimum of 160 acres for agriculture-related industrial and support operations that create negative impacts on surrounding properties (animal sales yards and meat packing plants, for example).

3.3.2 Santa Nella Community Specific Plan

Santa Nella is an unincorporated community in western Merced. The Santa Nella Community Specific Plan area is bordered by O'Neill Forebay to the west, Outside Canal to the east, McCabe Road to the north, and the California Aqueduct to the south. While Santa Nella is directly adjacent to the Plan Area, most of its 2,466 acres remains undeveloped with few neighborhood and community

commercial uses; approximately half of the land is used for agricultural production.

The current Santa Nella Community Specific Plan, published in May 2000, is an update of a 1981 plan and defines land uses, infrastructure, and related services and programs for the growth and development of Santa Nella. The proposed community in the Santa Nella Community Specific Plan includes 5,183 low-density residential units, 74 golf course residential units, 878 medium-density residential units (of which 20 acres may be high-density, 400 dwelling units max), 350 existing residential units, 2.2 million square feet of commercial units, 3.0 million square feet of industrial uses, and 396,396 square feet of office commercial units, as well as an expansion of the existing golf course. However, no development proposals are under way, and much of the development proposed in the 2000 plan, which anticipated a buildout community population of 18,941, has not yet occurred. Two housing developments with a total of 184 single-family homes have been completed.

3.3.3 City of Los Banos General Plan 2030

Los Banos is the largest city in the western part of Merced County and the closest city to the Plan Area. The Los Banos General Plan 2030 Draft was released in 2007. The plan states that the most significant influence on future land use patterns in Los Banos will be the ultimate realignment of SR 152 to bypass the city, as described further in Section 3.3.12.

3.3.4 The Villages of Laguna San Luis Community Plan

In September 2008, the County of Merced approved a 6,200-acre development plan directly adjacent to Plan Area that has the potential to affect growth in western Merced County. The Villages of Laguna San Luis Community Plan (Merced County Planning and Community Development Department 2007) outlines the growth and development of a Specific Urban Development Plan area west of I-5 along SR 152 and SR 33, east of San Luis Reservoir and south of O'Neill Forebay. The plan proposes to construct 15,895 housing units in the rural area over the 15-year buildout period. The plan also provides for 176.0 acres of commercial development, with employment of 3,042; 204.5 acres of industrial/research and development/office uses, with 6,166 jobs; school employees numbering 820; and quasi-public and public employment of 17 and 296, respectively. The projected population of the plan area at buildout is 44,773, and total employment is projected at 10,341.

The Villages of Laguna San Luis Community Plan assumes that two new highway interchanges will be needed to serve the community, as well as an expanded circulation system consisting of public transit, bike and pedestrian paths, neighborhood streets, minor and major collector streets, arterial streets, and freeways. The plan includes plans for seven elementary schools, three middle schools, and one high school; a public waste facility; a library; a medical center; and various other community facilities. The additional public utilities may increase fire safety at the Plan Area, as the Villages of Laguna San Luis

Community Plan predicts that three new fire stations will be needed to accommodate the area's growth.

Seven implementation plans have been developed to designate how this community is built. Each will require preparation and adoption of a plan to ensure coordinated development of land uses, necessary infrastructure, and the funding mechanisms to construct and maintain that infrastructure. The seven implementation plan areas envisioned in the Villages of Laguna San Luis Community Plan are as follows.

- Central NW Implementation Plan Area. The 610-acre area north of SR 152 and east of SR 33 will be accessed by new roads off of SR 33 on the west and off of Hilldale Avenue on the west. Land uses include low-, medium-, and high-density residential; regional commercial; light industrial; and a community park.
- Central NE Implementation Plan Area. The 606-acre area north of SR 152 and east of Hillsdale Avenue will be accessed by new roads off of Hilldale Avenue. Land uses include low-, medium-, and high-density residential; village commercial; and light industrial.
- Central SW Implementation Plan Area. The 603-acre area south of SR 152 and east of the extension of SR 33 will be accessed by new roads off the southern extension of SR 33 on the west and off the future southern extension of Hilldale Avenue on the east. Land uses include low-, medium-, and high-density residential use; village commercial; and light industrial.
- Central SE Implementation Plan Area. The 623-acre area south of SR 152 and east of the future southern extension of Hilldale Avenue will be accessed by new roads off the southern extension of Hilldale Avenue. Land uses include low- and medium-density residential use; village commercial; light industrial; and a community park.
- Western Implementation Plan Area. The 644-acre area south of SR 152 will be accessed by Gonzaga Road. Principal land uses are low- and very low-density residential, with a small core of neighborhood commercial and adjacent medium-density residential.
- Southwestern Implementation Plan Area. This 2,032-acre area will be accessed by the Gonzaga Road and Jasper Sears Road. This area is split into two major land uses. The northern and western side of the area is designated as open space and includes the PG&E substation and the areas underlying the major 500kv and 230kv transmission lines, which enter the substation from the south. It also contains a small recreational park operated by the Reclamation located in the southern and eastern part of the Specific Plan Area and designated as an Urban Reserve.
- Southern Implementation Plan Area. The 1,093-acre area will be accessed by the extension of Hilldale Avenue on the northwest and by Billy Wright Road on the east. This area is principally low-density residential and contains a small neighborhood commercial area and the existing Billy Wright landfill. Merced County is currently considering expansion of the

landfill, closure of the landfill, or operation of the site as a transfer station. The determination of the future use of the Billy Wright Landfill will have a direct bearing on the feasibility of development allowed in proximity to the landfill.

The Final EIR for the Villages of Laguna San Luis Community Plan was released in March 2008 (Merced County Planning and Community Development Department 2008c). In July 2010, the Merced County Planning Commission voted to recommend to the Board of Supervisors a development agreement with the owners of the Villages of Laguna San Luis, allowing the developers to apply the land use and planning rules set forth in the 1990 General Plan. The Tier 1 Development Agreement would exempt a 1,700-acre development in the Villages of Laguna San Luis from compliance with the new planning rules currently under revision as part of the 2030 General Plan. The Tier 1 Development Agreement would assure the developers that the planning rules would not change in the middle of the project (Merced Sun-Star 2010). In September 2010, the Board of Supervisors approved the Tier 1 Development Agreement that would apply to the 1,700-acre area on the north and south sides of SR 152 and west of I-5 (Merced County Board of Supervisors 2010).

3.3.5 Fox Hills Community Specific Plan Update

The 1,250-acre Fox Hills Community Specific Plan area is approximately 3 miles northeast of Los Banos Creek Reservoir, east of I-5, west of San Luis Canal, and south of Pioneer Road. In 1993, the Merced County Board of Supervisors approved the Fox Hills Specific Urban Development Plan (SUDP), establishing the boundary of the Fox Hills Community Specific Plan area. The original Specific Plan was approved in 1998 to provide detailed land use planning and regulatory guidance for development within the approved SUDP boundary. The Fox Hills Community Specific Plan Update was released in June 2006 and includes updates to the plan area as well as zoning and regulation updates. Under this plan, the most significant influence on future land use patterns is a proposed recreation-oriented development that includes dwellings, a golf course, a clubhouse, parks, trails, and other recreational amenities. A three-year application extension to record the Final Map of this development was approved by the Planning Commission in September 2008 after new legislation modified Section 66452.21 of the Subdivision Map Act.

3.3.6 Merced County Association of Governments Draft Regional Housing Needs Plan

MCAG is required to determine existing and projected regional housing needs for the period January 2007 through June 2014. MCAG is also required to determine each local jurisdiction's share of the regional need for housing. Jurisdictions will then decide how they will address this need through the process of updating the Housing Elements of their general plans. The most recent Regional Housing Needs Plan was adopted by the MCAG Governing Board on August 21, 2008. This plan discusses employment opportunities, commuting patterns, housing

needs and demands, and local housing needs determinations for Merced County for the period January 2006 through June 2014.

3.3.7 Central Valley Region Water Quality Control Plan (Basin Plan)

San Luis Reservoir and O'Neill Forebay are located in the southwestern part of the Central Valley Region of the California RWQCB. The most recent Central Valley Region Basin Plan was adopted in 1998, most recently amended in 2011, and covers the entire Sacramento River and San Joaquin River basins. Basin Plans complement water quality control plans adopted by the State Water Board. They describe existing and potential beneficial uses, define water quality objectives, and establish implementation and monitoring plans.

3.3.8 San Luis Reservoir Low Point Improvement Project

San Luis Reservoir is a key component of the state's water supply system. With a capacity of more than 2 million acre-feet (af), the reservoir stores water from both the SWP and the federal CVP. San Luis Reservoir currently supplies water to SCVWD and San Benito County Water District through the San Felipe Division.

During the summer, as San Luis Reservoir is drawn down, a thick layer of algae grows on the surface. When the amount of water drops to the beginning of the low point (300,000 af), algae begins to enter the San Felipe Division intake, degrading water quality and making the water harder to treat. The water quality in the algal blooms is not suitable for agricultural water users in San Benito County or for municipal and industrial water users relying on existing water treatment facilities in Santa Clara County. In response, operations have been changed such that water levels are maintained above the low-point elevation, rendering approximately 200,000 af unavailable to state and federal users each year.

In response to the low-point problem, and encouraged by the CALFED Bay-Delta Program (CALFED), SCVWD prepared the *San Luis Reservoir Low Point Improvement Project Draft Alternatives Screening Report* (MWH and Jones & Stokes 2003). The report summarizes the low-point problem at San Luis Reservoir, objectives of the project, alternatives development, the screening process conducted, and information on the public outreach process.

The 2000 CALFED Programmatic Record of Decision and SCVWD's and Reclamation's 2002 Notice of Intent/Preparation (NOI/NOP) for preparation of an EIS/EIR both identified similar projects for a bypass canal that would connect the San Felipe Division to water delivered by the Sacramento–San Joaquin River Delta pumping facilities, to increase use of water in San Luis Reservoir by up to 200,000 af. In 2004, the project was transitioned to a partnership between the District and Reclamation. The participating agencies conducted scoping meetings, the results of which have been incorporated into the Low Point Project, but after the original NOI was published, the project focus has broadened, resulting in new planning objectives. The agencies have decided to reissue the NOI/NOP and conduct new scoping meetings because of the length of time that has passed and the change in project objectives. In August 2008, Reclamation and SCVWD, in coordination with the San Luis and Delta-Mendota Water Authority, filed an

NOI/NOP to prepare an EIS/EIR for the San Luis Low Point Improvement Project. The overall objective of the Low Point project is to optimize the water supply benefit of San Luis Reservoir while reducing additional risks to water users by doing the following:

- Avoiding supply interruptions when water is needed;
- Increasing the reliability and quantity of yearly allocations;
- Announcing higher allocations earlier in the season without sacrificing accuracy; and
- Possibly providing opportunities for ecosystem rehabilitation.

In December 2008, the Environmental Scoping Report was released and identified the three action alternatives carried forward as a result of the alternatives screening process. The three alternatives, which are in addition to the No Action Alternative, are as follows (Reclamation, SCVWD, and San Luis and Delta-Mendota Water Authority 2008):

- *Lower San Felipe Intake Comprehensive Plan*: This plan includes construction of a new, lower San Felipe Intake at an elevation equal to that of the Gianelli Intake. Moving the intake would allow the reservoir to be drawn down to its minimum operating level without algae entering the intake. The new San Felipe Intake would also allow operation of San Luis Reservoir below the 300,000 acre-feet level without creating the potential for a water supply interruption to the San Felipe Division. The plan includes institutional measures, such as exchanges, transfers, and groundwater banking, to serve as a safety net in all years with access to an additional stored water supply in the event that San Luis Reservoir storage is insufficient to meet the allocation.
- *Pacheco Reservoir Comprehensive Plan*: This plan would construct a new dam and reservoir on Pacheco Creek to provide storage for San Felipe Division contractors. The new reservoir would function as an expansion of the CVP share of San Luis Reservoir, increasing supplies to all CVP users. During low point months, San Felipe Division contractors would receive deliveries from Pacheco Reservoir. The plan would allow drawdown of San Luis Reservoir to its minimum operating level without interrupting deliveries to the San Felipe Division. The plan also includes institutional measures, such as exchanges, transfers, and groundwater banking, to serve as a safety net in the event that San Luis Reservoir storage is insufficient to meet the allocation.
- *Combination Comprehensive Plan*: This plan includes multiple structural components and management resources to maximize operational flexibility and supply reliability in the San Felipe Division to address water supply curtailments or reduction generated by the low point issue. The plan would include increased groundwater aquifer recharge and recovery capacity, desalination, institutional measures, and the re-operation of the SCVWD raw and treated water systems. The institutional measures would allow the SCVWD to take CVP supplies through the

South Bay Aqueduct (provided that supplies and conveyance capacity are available) to minimize treated water shortages.

In January 2011, the Plan Formulation Report was released as an interim product of the project feasibility study to determine the type and extent of federal and regional interests in the project. The report describes the process of formulating, evaluating, and comparing alternative plans that address the project objectives, and defines a set of alternative plans to be considered in detail in the Feasibility Report and EIS/EIR. The report concludes that after evaluating the three comprehensive plans described in the December 2008 Environmental Scoping Report, all three plans meet the federal planning criteria to some extent, and all three plans will be carried forward, along with the No Action/No Project Alternative, to the next phase of the feasibility study with results presented in the Feasibility Report and EIS/EIR.

3.3.9 B.F. Sisk (San Luis) Dam Safety of Dams Project

B.F. Sisk (San Luis) Dam is a 3.5-mile-long, 300-foot-tall compacted earthfill embankment that holds the San Luis Reservoir. The dam is owned by Reclamation and operated by DWR; reservoir storage space is allotted 45 percent to Federal and 55 percent to State. The dam was completed in 1967 to provide irrigation water storage for the CVP and water for the SWP. Water is pumped into the reservoir for storage by the Gianelli Pumping- Generating Plant from the California Aqueduct and from the Delta-Mendota Canal via O'Neill Forebay.

The dam and San Luis Reservoir are located in an area with high potential for severe earthquake forces from active faults, primarily Ortigalita Fault, which passes directly under the reservoir. In the early 1980s, Reclamation conducted an extensive investigation of the seismic safety of the dam, including drilling holes to sample the soils, laboratory testing of the samples, and geophysical tests. Using these simple methods, the conclusion was that liquefaction could occur in some locations but the dam had no safety deficiencies. By 2005, seismic analysis of dams had changed significantly and additional dam-safety investigations were performed. Based this analysis, it was determined that the risk posed to the downstream public does not meet the Public Protection Guidelines. Therefore, a Corrective Action Study (CAS) was initiated in 2006 to investigate and determine a course of action to mitigate risk.

The purpose of the B.F. Sisk (San Luis) Dam Safety of Dams Project is to improve public safety by modifying the dam to mitigate potential safety concerns identified in the ongoing CAS. The completion of the CAS is expected in 2013 and will result in feasibility-level designs, environmental documentation, selection of the preferred alternative, and a Modification Report to the federal Office of Management and Budget and to Congress. Congressional acceptance of the Modification Report will allow funding for construction.

Environmental documentation includes the completion of an EIS/EIR to analyze the environmental impacts of the following alternatives:

- Berms: Berms would be constructed in six locations for the downstream side of the dam.
- Raise: A dam raise of approximately 15 feet is proposed. The actual raise height and whether it will be applied to the entire length of the dam will be determined during the design process.
- Borrow Sites: Nine borrow sites, all on federal land, have been identified as possible material sources for dam modification.
- Restriction: A reservoir restriction is also under consideration. The viability of this restriction will be determined by economic analyses.

An environmental scoping meeting was held in September 2009; the EIS/EIR is currently in preparation with an expected public release in mid-2012 (Reclamation 2011e; Siek 2012).

3.3.10 Merced County Association of Governments Regional Transportation Plan

MCAG was designated the Regional Transportation Planning Agency (RTPA) for Merced County in 1972. As the RTPA, MCAG is required by state law to prepare the Regional Transportation Plan (RTP) and transmit it to the California Transportation Commission and Caltrans every three years. The most recent RTP was adopted in July 2010 (MCAG 2010a).

3.3.11 Merced County's 20-Year Transportation Expenditure Plan

The Merced County 20-Year Transportation Expenditure Plan will guide the expenditure of more than $212 million in county transportation funds, plus federal and state matching funds over the next 20 years. The new plan was developed to serve major regional transportation needs in Merced County and addresses local street and road requirements in each of the incorporated cities in the county, as well as unincorporated streets and roads maintained by the County.

The 20-Year Transportation Expenditure Plan was developed as an outgrowth of the 2001 RTP, which projected unmet transportation needs given current financing sources and identified the need for a supplemental plan based on the creation of additional revenue (MCAG 2002). The 20-Year Transportation Expenditure Plan does not include any projects along SR 152.

The 20-Year Transportation Expenditure Plan was updated in 2005 and placed on the June 2006 ballot as Measure A and received voter support. It failed on the November 2006 ballot as Measure G when it was subsequently placed there. Merced County plans to update the 20-Year Transportation Expenditure Plan with a number of public participation efforts and local government reviews outlined in the Fiscal Year 2011-2012 Overall Work Program (MCAG 2011).

3.3.12 Caltrans District 10 State Route 152 Transportation Concept Report

State Route 152 is an east-west rural interregional facility connecting the southern portions of the San Francisco Bay Area to the Central Valley, with linkages to

Southern California via I-5 and SR 99. SR 152 provides a moderate level of service for commercial truck travel, agricultural truck access to the Salinas and Central valleys, and recreational travel to the Monterey Bay area (via U.S. 101 and SR 156). In Merced County, SR 152 crosses the city of Los Banos and is approximately 40 miles long.

The State Route Transportation Concept Report (TCR) established the future concept for Level of Service (LOS) for segments along SR 152 and broadly identified the nature and extent of improvements needed to attain that LOS (Caltrans 2005). Operating conditions for each corridor were projected for 10-year and 20-year horizons. Beyond the 20-year planning period, the TCR identified the Ultimate Transportation Corridor (UTC) to ensure that adequate right-of-way was preserved for future ultimate facility projects. The TCR determined that the projected level of service was adequate within the next 20 years for a four-lane expressway for all segments, but that the UTC was a six-lane expressway (Caltrans 2005).

The Los Banos Bypass Project is the only programmed project in the TCR, and the Final EIS/EIR for the project was approved on June 25, 2007. The 10-mile-long project would extend from just west of Volta Road to just east of the Santa Fe Grade, bypassing Los Banos to the north. The first phase of the project was scheduled to begin in 2013 and would extend from the Santa Fe Grade west to Highway 165. The second and third phases were still unscheduled and unfunded. The second phase would complete the bypass from Highway 165 west to Volta Road, and the third would build three overpasses along the project route to bypass signal intersections (MCAG 2010b). Caltrans reported in April 2012 that funds are being programmed for right-of-way acquisition in the 2016–2017 fiscal year.

3.3.13 State Route 152 Trade Corridor Project

The SR 152 Trade Corridor Project is currently in the feasibility study phase, with the environmental documentation scheduled for mid-2014 pending the receipt of additional funding. The Preliminary Traffic and Revenue Study and the Route 152 Trade Corridor Study Summary Report were completed in February 2010 and September 2010, respectively. The Trade Corridor Project includes the Los Banos Bypass as well as general improvements to enhance SR 152 as a truck route. The Santa Clara Valley Transportation Authority is leading the development of the project, under the guidance of Santa Clara, San Benito, and Merced counties, and in coordination with Caltrans (VTA 2010).

Regional Improvement Project priorities relevant to the study area include the SR 152 Los Banos Bypass as a Tier One project (MCAG 2010a).

3.3.14 California High-Speed Train Program EIS/EIR

Following adoption of a Final Business Plan in 2000, the California High-Speed Rail Authority (HSR Authority) recommended that the state proceed with implementation of a statewide high-speed train system by initiating the formal state and federal environmental review process through preparation of a Program

Environmental Impact Statement/Environmental Impact Report (EIS/EIR), which was released in May 2008. The Program EIS/EIR evaluates a number of project alternatives, including a high-speed train alternative. The high-speed train alternative includes a range of high-speed train alignment and station options. Parsons Transportation Group is working on alternative development. In November 2008, California voters approved by a majority vote Proposition 1A, which would sell almost $10 billion in bonds to fund future work on the 800-mile system planned to connect the Bay Area, Southern California, and the Sacramento area. A number of new planning documents have been released by the HSR Authority, all of which can be accessed on their website, http://www.cahighspeedrail.ca.gov (HSR Authority 2010).

The alignment relevant to the Plan Area extends from Merced through the San Joaquin Valley and Pacheco Pass and then heads north. Proposed stations include Gilroy (near the existing Caltrain station) and the existing San Jose (Diridon) Station (HSR Authority and USDOT Federal Railroad Administration April 2010).

All of the Pacheco Pass alignment options would place Merced on the Sacramento to Bay Area high-speed train line, with less frequent service than the Los Angeles to Bay Area trains. As currently configured, the Pacheco Pass alignment options would also involve construction of tunnels, including a tunnel up to 13.5 miles (21.6 km) in length and one or two additional shorter tunnels. The Pacheco Pass alignments would cross the San Luis Waterway but pass to the north of O'Neill Forebay and San Luis Reservoir (HSR Authority and USDOT Federal Railroad Administration April 2010).

3.3.15 Renewable Energy Projects

3.3.15.1 San Luis Renewable Resource Project

In October 2009, Governor Arnold Schwarzenegger and Secretary of the Interior Ken Salazar signed an agreement to begin the development of renewable energy on federal lands in California. The federal-state initiative directs Interior agencies and California state agencies to identify areas suitable for renewable energy development, identify renewable energy zones based on development potential, and prioritize application processing for solar development in renewable energy zones (U.S. Department of Energy 2009).

The Secretary of the Interior's Secretary's Order 3285A1, amended February 22, 2010, established a policy encouraging the production, development, and delivery of renewable energy as one of the Department of the Interior's highest priorities. In furtherance of this policy, agencies and bureaus within the Department of the Interior will work collaboratively with each other and with other Federal agencies, departments, tribes, states, local communities, and private landowners to encourage the timely and responsible development of renewable energy and associated transmission while protecting and enhancing the Nation's water, wildlife, cultural, and other natural resources. Specifically, Reclamation has made the bringing online of non-hydro renewable energy sources one of its top

five priorities (Memorandum of Understanding between the Department of the Interior and the State of California on Renewable Energy, January 13, 2012; U.S. Department of the Interior, Bureau of Reclamation, Commissioner Connor: Mission and Priorities; U.S. Department of the Interior News Release, "Secretary Salazar, Governor Brown Expand Partnership to Expedite Renewable Energy Projects in California," dated January 13, 2012).

Approximately 1,200 acres of federal lands around the San Luis Reservoir may be viable for renewable energy development. It is anticipated that the federal lands around the San Luis Project would be provided to the renewable energy developer on a long-term land use authorization such as a lease, easement, or right-of-way.

Reclamation issued a Request for Interest (RFI) in July 2011 for development of renewable energy project(s) on Reclamation lands adjacent to San Luis Reservoir. Reclamation has identified one site for potential renewable energy development, an area located south of O'Neill Forebay and north of SR 152, in the Medeiros Use Area. Reclamation will determine the location for a second renewable energy site in coordination with CSP and DWR.

3.3.15.2 Quinto Solar Photovoltaic Project

The proposed Quinto Solar Photovoltaic (PV) Project includes the construction and operation of a 110-megawatt (MW) solar PV electrical generating facility and associated infrastructure on approximately 1,012 acres. The project would be constructed on unincorporated land directly north and northeast of O'Neill Forebay and adjacent to San Luis Creek Use Area and San Luis Creek Campground. The project site and much of the surrounding land is designated as Agricultural in the Merced County General Plan. The project development footprint would be approximately 528 acres, and the rest of the site would remain as open space.

The proposed project would construct approximately 306,720 solar PV panels mounted on trackers that rotate to follow the sun. In addition to the solar panels, the proposed project would include an electrical substation that would be owned by SunPower, a PG&E switch station, overhead and underground utility lines, a 5,000 square-foot operations and maintenance building, unpaved access roads, security fencing, and a temporary staging area. The project includes a commercial sheep grazing plan for 829 acres of the project site, primarily for food and fiber production and secondarily for vegetation reduction.

The proposed project would require approval of a conditional use permit and removal of the project site from the county's Agricultural Preserve. Construction would generally occur during daylight hours with some limited night and weekend construction. Project construction is proposed to begin in mid-2013 and conclude in late 2014 over a period of approximately 16 months.

The County of Merced is the lead agency for the project's EIR. A Notice of Preparation of an EIR was released in December 2010 and requested agencies,

organizations and individuals to provide input on the scope and content of the EIR. A Draft EIR for the project was issued in March 2012.

3.3.15.3 Other Projects

Several other renewable energy projects are proposed within 10 miles of the San Luis Reservoir SRA. Those projects include SPG Solar/Ingomar Project (1 MW solar PV power generation facility located approximately 6 miles east); Leo/Vega Solar Project (150 MW solar PV generating facility located approximately 10 miles south); and SR Solis in the City of Gustine (located approximately 8 miles northeast of the Plan Area) (California Energy Commission 2011).

Just west of the Plan Area, wind turbines have been operating on ridgelines on the eastern side of Pacheco State Park since 1980. The original owner of the lands that are now Pacheco State Park, Paula Fatjo, established a land lease with a wind turbine company. Upon her passing in 1995, the land was willed to CSP for the purposes of establishing Pacheco State Park. Today, International Turbine Research owns and operates 167 wind turbines that now generate approximately 15.87 megawatts of energy per year, which is purchased by PG&E (OpenE1 2012; Wind Power 2012). The wind energy lease generates income used in support of Pacheco State Park in accordance with the will of Paula Fatjo.

3.4 Issues, Opportunities, and Constraints

This section summarizes the key issues addressed in the Plan as well as opportunities and constraints for each. The issues and their associated opportunities and constraints have been identified and documented from numerous sources during the planning process, including user surveys and letters, public and planning team meetings, diverse and knowledgeable agency staff, and academic research and reports. The five following planning areas have been identified to cover the range of issue topics, which are also used in Chapter 4 to categorize the goals and guidelines:

- Resource Management
- Visitor Experience, Interpretation, and Education
- Local and Regional Planning
- Infrastructure and Operations
- Water Operations

3.4.1 Resource Management

Resource management for the Plan Area is intended to provide a comprehensive approach for the management of all resources for the life of the Plan. As future projects are implemented, more specific actions can be taken to follow the broader, general policies of the Plan. Previously, the Plan Area has not been the subject of a comprehensive planning effort to look at existing resources or to plan for the future management of these resources. The issues related to resource management have been categorized into the key topics listed and described below.

Those issues include the need for more study or surveys to better understand Plan Area resources, which in turn will assist in refining the management actions for the future.

Key Issues

- Cultural and historic resources inventory and protection
- Vegetation and wetlands management
- Wildlife species inventory and management
- Climate
- Scenic resources
- Aquatic invasive species management

3.4.1.1 Cultural and Historic Resources Inventory and Protection

Many of the Plan Area's known cultural resources have been mapped by Reclamation; however, this database is not comprehensive, and undiscovered resources likely exist. Additionally, certain resources need to be recorded with the California Historical Resources Information System (CHRIS). Utilization of the available data is integral to planning for future uses and activities and to determine the best management strategy for such resources at this programmatic phase of the planning process. Additionally, it is necessary to comply with Section 106 of the NHPA, NEPA and CEQA during Plan implementation. All actions taken pursuant to the Plan shall be planned and implemented in coordination with Reclamation's Mid-Pacific Region Division of Environmental Affairs Cultural Resources staff. At that time, once specific projects/undertakings are planned, targeted studies can be conducted to avoid or minimize impacts to significant cultural resources.

Opportunities

- Better public accessibility to cultural collections and to interpret additional aspects of cultural resources.
- Collaboration with SHPO to prepare a programmatic agreement for cultural resources that would include appropriate individual review for future projects.

Constraints

- Best management actions have not been established for protecting significant cultural resources at the site (unevaluated resources are treated as significant).
- Lack of adequate facilities for storage, preservation, and display of collections.

3.4.1.2 Vegetation and Wetlands Management

A vegetation and wetlands inventory does not exist for the Plan Area. To understand what resources are needed for vegetation management, how visitor uses affect vegetation, and how to protect certain vegetative resources, habitat communities should be mapped. Future management actions and tools should be

devised to allow ample protection and to comply with CEQA. Additionally, invasive species have been identified as a threat in the upland and aquatic areas of the unit. Grazing occurs at the Medeiros portion of O'Neill Forebay, and if it continues, the effects of this activity should undergo NEPA and CEQA analysis prior to renewal of the grazing lease. Active vegetation management programs are in place, such as the weed abatement program at O'Neill Forebay. Vegetation management should be consistent with the National Fire Plan.

Opportunities

- Establishment of a comprehensive vegetation and wetlands inventory as a result of mapping habitat communities.
- Identification and control of invasive species in the upland and aquatic areas of the Plan Area.

Constraints

- Known problem areas, such as invasive species are not defined and have not been mapped.
- Adequacy of the existing vegetation and wetlands inventory should be determined, and data gaps should be defined.
- The effects and role of grazing in vegetation management in the Plan Area are unknown.
- The role of prescribed burns in vegetation management is unknown.
- The adequacy of the weed abatement program should be evaluated.
- Consistency with the National Fire Plan should be reviewed.
- The Plan Area lacks an overall vegetation management statement.

3.4.1.3 Wildlife Species Inventory and Management

Information has been compiled from various sources (Section 2.6.2) about species that are likely to exist in the Plan Area. Additional information gathering or surveys could be necessary to better understand the potential wildlife impacts from visitor use and from certain types of development activities proposed in the Plan.

Opportunities

- Partner with other agencies and local institutions to further data collection, mapping, and analysis.
- Collaboration with DFW to coordinate hunting and fishing management and recreation and to resolve current conflicts.
- Use existing data and knowledge to plan for wildlife protection through the definition of corridors and minimum disturbance to habitat.

Constraints

- Current degree of poaching and enforcement constraints is unknown.
- Lack of signage regarding feeding and petting of wildlife.

3.4.1.4 Climate

Wind is a strong factor affecting use at the Plan Area. For some uses such as windsurfing, wind is a positive feature; however, for many other users, the hot, dry summer weather coupled with the wind is a deterrent for many activities. Warning lights have been installed as a safety feature for boaters and other users, and trees have been planted as wind barriers around picnic areas; however, high winds are an impediment to day and overnight users.

Opportunities

- Reduction in wind effects by considering wind factors, location, and landscape solutions in siting additional boating facilities such as ramps and marinas.
- Reduction in wind effects by considering wind factors, location, and landscape solutions in siting additional camping facilities or other improvements.

Constraints

- Additional wind warning lights may be needed.

3.4.1.5 Scenic Resources

The open, undeveloped nature of the Plan Area and the rolling, sometimes steep topography are easily affected by intrusions on the landscape. Many areas contain views of the engineered nature of the landscape with the dam as a dominant feature. This is a reminder of the large-scale water operations that take place.

Opportunities

- Consideration of the open, uninterrupted nature of the landscape in planning for future facilities.

Constraints

- Important view corridors and high points have not been comprehensively inventoried.
- Criteria to determine when views will be affected need to be formulated.

3.4.1.6 Aquatic Invasive Species Management

As described in Section 2.6.6.1, invasive mussels can multiply quickly and clog waterways and pipelines, affect lake ecosystems, and create costly maintenance issues. Invasive mussels can be inadvertently transported on anything that comes in contact with an infested waterbody, ranging from recreational watercraft to shoes and pets. Water conveyance facilities such as aqueducts can also transport mussels from infested to uninfested waters. Reclamation, in coordination with other federal and state agencies, has been conducting research and field testing to prevent the spread of invasive mussels and to develop control and eradication measures. The continued health of the Plan Area requires long-term strategies to avoid an infestation.

Opportunities

- Continued implementation of the current mandatory vessel inspection program would reduce the potential for inadvertent transfer of invasive mussels via recreational watercraft.
- Federal, state, and local agency research on detection and control methods is ongoing, and advancements in decontamination, cleaning, and surveying protocols can be implemented as they are developed.

Constraints

- Funding may limit ability to continue a mandatory vessel inspection program.
- The potential introduction of invasive mussels from other parts of the CVP and SWP such as the Delta cannot be addressed through Plan Area vessel inspections.

3.4.2 Visitor Experience, Interpretation, and Education

The Plan Area serves hundreds of thousands of visitors each year, and as the Central Valley and other regional populations grow, additional visitors may be expected to participate in the recreation opportunities that the Plan Area provides, as well as seek new and expanded use of such activities and associated facilities. The joint purpose of the Plan Area as an important water storage and distribution location and as a provider of land- and water-based recreation allows for key educational and interpretive opportunities in addition to the core recreational activities for visitors. Future visitor experience, interpretation, and education are dependent on many factors, and the key issues that highlight these are listed and described below as they relate to the Plan Area.

Key Issues

- Visitor experience
- Interpretive opportunities
- ADA accessibility
- Concession opportunities
- Limited visitor use and demand data

3.4.2.1 Visitor Experience

The Plan Area provides a variety of active land- and water-based recreational uses. Visitor surveys, staff evaluations, and population projections have yielded suggestions for additional and expanded facilities and recreational opportunities. Additional swimming areas as well as marinas at San Luis Creek and Dinosaur Point have been identified as potential expansion actions. Additional and upgraded camping areas and hiking and biking trails throughout the Plan Area were also identified as needs during project scoping. A restroom facility at Medeiros could be supported by the users in that area. Fishing and boating access is sometimes limited. The Plan Area has some trail opportunities, and the potential exists to improve linkages and loops in and near the Plan Area. Lands

managed by the DFW allow passive recreational activities; however, the DFW must coordinate visitor use with CSP managers.

Opportunities

- Partnerships with trail user groups for maintenance, trail patrols, and stewardship.
- Additional facilities, including a visitor's center and a paved multi-use trail for walking and bicycling.
- An updated trails map to enhance visitor experience and assist staff as new trails and uses are set up.
- A focused trails management plan would provide a framework for long-term trail system assessment and management.
- Trail connections around the San Luis Reservoir and to other parklands such as Pacheco State Park and Los Banos Creek Use Area.
- Potential for additional swimming areas, camping areas, and marinas.
- Potential for enhancements to the OHV Use Area to provide increased visitor benefits.

Constraints

- High winds and a 200-foot water fluctuation each year would limit the feasibility of a marina at Dinosaur Point.
- A marina at the San Luis Creek Use Area would be subject to high winds.
- A marina at the Medeiros Use Area would also be subject to high winds and would require extensive dredging and possibly a breakwater structure.
- Lack of improvements at Medeiros Use Area.
- Lack of management zones that correspond with land uses in the Plan Area to assist in allocating staff resources and to determine the best locations for new facilities.
- Guidelines for boating in various water management zones, e.g., vessel types, sizes, speeds, noise levels, etc. should be assessed.
- Lack of available land for OHV Use Area expansion.

3.4.2.2 Interpretive Opportunities

Currently the Plan Area staff hosts a variety of interpretive programs, predominantly through guided walks and tours. The unit's history and character and function of water supply offer future opportunities to expand interpretive programs. In addition, the Plan Area has been identified as a Watchable Wildlife site (California Watchable Wildlife 2012) and contains a population of tule elk, one of the largest land mammals endemic to California.

Opportunities

- Expanded possibilities of allowing Plan Area events and planned group use of the Plan Area through partnering with interested organizations and agencies such as the DWR.

- Establishment of self-guided interpretive walks and the need for additional interpretive displays.
- Signage or programs to educate visitors about tule elk and other notable wildlife of the Plan Area.

Constraints

- The status of existing interpretive programs, and their need for improvement or expansion has not been evaluated.
- Lack of a visitor's center to orient and educate visitors and to house cultural resource collections and information.

3.4.2.3 Americans with Disabilities Act Accessibility

The majority of the visitor facilities are currently ADA accessible, with recent improvements to certain areas providing additional access. Requirements may change over time and currently conforming facilities may need to be replaced or retrofitted. Accessibility should be considered in the planning and development of all future facilities. Visitor access needs to include opportunities for users with varying degrees of ability.

Opportunities

- Additional ADA-accessible water access for fishing or swimming.

Constraints

- Lack of inventory of which areas within the Plan Area can be planned to best accommodate ADA accessibility.
- New improvements and locations for ADA-compliant programs and facilities have not been assessed.

3.4.2.4 Concession Opportunities

A concession stand selling ice cream and water is currently in operation at the San Luis Creek Use Area between Easter and September 30. There are opportunities for other concessions to be added that complement the character of the SRA and enhance overall Plan Area function, including paddleboards, kayaks, personal watercraft, boats, bicycles, and other food services. Concessions should be considered for improving and enhancing the operations of the Plan Area in partnership with CSP staff.

Opportunities

- Concession services could complement and enhance the Plan Area's operations.

Constraints

- Lack of concession services may limit visitation.
- Level of visitor use may not support a long-term concession operation.

3.4.2.5 Limited Visitor Use and Demand Data

Facilities and uses should be planned utilizing visitor information. Currently, there are limited visitor use and demand data. Site-specific surveys of visitors attending the various use areas and what they do or their needs have not been conducted. More information on where visitors are coming from and how long they visit the Plan Area would help to develop future facilities. These data would help to determine the greatest need for facilities and where there are existing problems and opportunities. In addition, they would provide a means to track visitor satisfaction.

Opportunities

- Use regional data sources and collaborate with county agencies and other entities to plan regional park facilities and conservation efforts.
- Devise an enhanced system for tracking visitor use at the Plan Area and improve the database that can be readily accessed by agency staff to gain information about visitor and use trends.

Constraints

- A review has not been conducted of data currently being collected by CSP Visitor's Survey Division to determine how this can aid in planning for future visitors' needs.

3.4.3 Local and Regional Planning

The Plan Area is managed by three state agencies and owned by Reclamation, requiring ongoing coordination and cooperation. Additionally, the Plan Area is located within the Central Valley region of the state and will be surrounded by increased mixed use development as the region continues to grow. The role of the Plan Area within the developed region as well as in relation to other public parks and open space lands may change over time, and the Plan needs to work in concert with local and regional planning efforts. The key issue areas have been listed and described below, and are meant to be comprehensive and inclusive to allow flexibility while defining some specific opportunities and constraints.

Key Issues

- Relationship with multiple agencies and landowners
- Regional population and demographics
- Coordination with local and regional plans

3.4.3.1 Relationship with Multiple Agencies and Landowners

Reclamation constructed the Plan Area facilities and owns a majority of the surrounding land. Lands adjacent to the reservoir are managed by several agencies, including CSP, the DWR, and the DFW. Water operations are managed by the DWR. CSP manages lands adjacent to the reservoir for recreation as part of the SRA, whereas the adjacent Pacheco State Park is also managed by CSP, but for different recreational opportunities. Within the Plan Area, the DFW manages the San Luis Reservoir Wildlife Area and O'Neill Forebay Wildlife Area for

passive recreation, hunting, and fishing. The DFW also owns and manages the Upper Cottonwood and Lower Cottonwood wildlife areas for hunting and wildlife viewing; however, these are not part of the Plan Area.

The CVP construction of the reservoirs yielded many specialized agreements for long-term management and operations and wildlife mitigation on the Plan Area lands. Additionally, right-of-way agreements were executed between Reclamation and various utility interests. The Plan Area is also surrounded by private landowners predominantly to the south and east of San Luis Reservoir and along the northern and southern boundaries of Los Banos Creek Reservoir.

The sharing of management responsibilities facilitates a coordinated working relationship between these agencies and stakeholders and is an important factor in successful Plan Area management and development. Planning therefore should be coordinated to emphasize compatibility with the goals of federal, state, and local jurisdictions and stakeholders.

Opportunities

- Collaboration with DFW to review conflicts of use and issues regarding fishing and game hunting.

Constraints

- Lack of coordination with agencies and landowners.
- Enforcement responsibility of local agencies has not been reviewed.

3.4.3.2 Regional Population and Demographics

The growing populations and changing demographics of the Central Valley and Merced, Monterey, San Benito, and Santa Clara counties will influence future recreational demand at the Plan Area. In addition, planned new communities in the immediate area will increase demand on Plan Area resources. Increased Plan Area use associated with changes in population and demographics will increase recreation demand, including demand for active and nature-based recreational uses, such as hiking, mountain biking, and nature study, as indicated by the 2000 California State Parks Visitor Satisfaction Survey. CSP will respond to these trends through appropriate unit development, while maintaining a balance between facilities and recreation development and natural and cultural resource protection.

Opportunities

- As population increases, regional demands for recreational and nature-based facilities can be addressed.

Constraints

- Lack of a system to track development in the area and coordinate with adjacent counties to help ensure that proposed Plan Area activities facilities respond to demographic trends.

3.4.3.3 Local and Regional Plans

Several planning efforts are under way that may affect facility development and resource management at the Plan Area, as described in Section 3.3. Adjacent planned new communities include the Villages of Laguna San Luis and those included in the Laguna San Luis Community Specific Plan and the Santa Nella Specific Plan. A 1,700-acre development project (primarily residential) in the Villages of Laguna San Luis is currently planned on the north and south sides of SR 152 and west of I-5. Caltrans is undergoing analysis of the RTP, which includes long-term improvements near the Plan Area along the SR 152 corridor. The San Luis Reservoir Low Point Improvement Project, B.F. Sisk (San Luis) Safety of Dams Project, and San Luis Renewable Resource Project may affect use of certain portions of the Plan Area for extended periods and may affect natural and cultural resources. Additional studies conducted as part of those efforts could be utilized in Plan implementation efforts. The California High-Speed Rail Corridor program is in process, and one alignment may affect land near the Plan Area. All of these efforts will influence the Plan Area planning process and can be opportunities to coordinate with resource collection efforts and other Plan implementation.

Opportunities

- Consolidate data collected for nearby projects with that of the Plan Area to better understand cumulative effects of local and regional development.

Constraints

- Consistency with plans and environmental documentation of proposed development and transportation planning projects should be reviewed and maintained.
- Unknown if all development plans for property adjacent to the Plan Area are compatible and have appropriate buffers.

3.4.4 Infrastructure and Operations

As the region surrounding the Plan Area has continued to develop and visitor use has increased, existing infrastructure and operations need to be evaluated for efficiency, safety, and optimal use. Key issues have been listed and described below and include broad areas that will need to be reviewed during the life of the Plan at the regional level as well as for site-specific use areas. Related to this planning area are the overall staff resources that will be provided by CSP in the future and the ability to limit the Plan Area to expansion. Opportunities exist to coordinate new and improved infrastructure and operations more economically, efficiently, and sustainably if planned holistically and in coordination with partner agencies.

Key Issues

- Ingress to and egress from SR 152 and SR 33, and access to Los Banos Creek
- Adequacy of existing staffing and operations and maintenance facilities

- Utilities
- Sustainability and renewable energy

3.4.4.1 Ingress to and Egress from SR 152 and SR 33, and Access to Los Banos Creek

Local and regional traffic and safety issues affect visitor and staff circulation in and around the Plan Area. Access to and from SR 152 to the San Luis Creek Use Area and Gonzaga Road facilities has been identified as one of the primary safety concerns for present and future Plan Area use due the increasing traffic volumes and limited blending and turning lanes on SR 152. Access to Medeiros Use Area off of SR 33 lengthens staff travel time to this location. Access in and out of Dinosaur Point Road onto SR 152 could be improved by enhancing turning lanes and sight distance. Separation between San Luis Creek and Medeiros use areas by O'Neill Forebay requires staff access onto SR 152 for patrolling and monitoring. Distance to Los Banos Creek Use Area and the indirect route currently available requires substantial time for staff coordination of maintenance and operations activities.

Opportunities

- Coordinate with and provide recommendations to Caltrans for future safety and traffic flow improvements for ingress to and egress from SR 152.
- Option for internal access between San Luis Creek and Medeiros use areas.
- Option for more direct access to Los Banos Creek from headquarters.

Constraints

- Adequacy of signage both within and outside of the Plan Area.
- Access points for security, emergency access, and management coordination with the DWR and other agencies with jurisdiction should be reviewed.
- Traffic impacts of proposed uses and facilities.
- Public and agency internal access routes should be reviewed to determine what improvements are necessary to maintain or improve these routes over time.
- Internal circulation/parking.

3.4.4.2 Adequacy of Existing Staffing and Operations and Maintenance Facilities

Staff operations for CSP's management of the Plan Area are currently centered at the Gonzaga Road complex. This complex also contains the SRA administrative offices and services other parks in the sector. The SRA and Pacheco State Park share staff personnel, and some staff members work district wide. Adjacent to CSP facilities is the DWR's main operations center, known as the San Luis Field Office. Reclamation owns most of the lands of the SRA but does not have any field operations on-site. The DFW, which manages lands that are part of the Plan

Area, operates out of the Los Banos Wildlife Area field office off-site. Cal Fire has a field station on Reclamation lands, off Gonzaga Road. The CSP, other than for water operations, is responsible for the largest segment of land management in the Plan Area.

Opportunities

- Optimize use of resources among the managing agencies.

Constraints

- Adequacy of existing facilities has not been evaluated.

3.4.4.3 Utilities

Any future uses or activities are potentially limited by potable water storage and distribution. Other existing infrastructure, such as sanitary, electric, and communications systems, is also limited and needs upgrading prior to facilities development. The potential for cell tower development exists on federally owned land. Current RV hookups may not be adequate.

Opportunities

- Allow for future facility improvements to be adequately served by existing infrastructure and determine the need for system upgrades.

Constraints

- Lack of a database or as-built drawings of existing infrastructure systems.
- Extent of future facilities, infrastructure requirements, and limitations.
- Adequacy of lighting at all use areas for operations and visitor safety.
- Potable water storage and distribution systems need upgrading or improvements.

3.4.4.4 Sustainability and Renewable Energy

Previous planning documents for the San Luis Reservoir SRA predated federal and state programs and initiatives to reduce human contribution to global climate change. Programs such as LEED (Leadership in Energy and Environmental Design) provide guidance for sustainable construction and development practices, and sustainability principles have been developed that emphasize environmental sensitivity in construction, the use of nontoxic materials and renewable resources, resource conservation, recycling, and energy efficiency such as solar power. As described in Section 3.3.15.1, a 2009 federal-state initiative directed Reclamation and other U.S. Department of the Interior agencies and California state agencies to identify areas suitable for renewable energy development, identify renewable energy zones based on development potential, and prioritize application processing for solar development in renewable energy zones (U.S. Department of Energy 2009).

Opportunities

- Implementation of sustainability principles such as solar power and other carbon-reducing measures in existing and future Plan Area facilities, uses, and maintenance and operations.
- Federal lands within the Plan Area may be viable for renewable energy development.

Constraints

- Funding may limit ability to establish and maintain long-term implementation of sustainability principles and practices.
- Theft and/or vandalism of solar devices has been reported in the Plan Area.
- Compatibility of renewable energy development with natural, cultural, and recreational resources of the Plan Area.

3.4.5 Water Operations

The Plan Area was designed and engineered to store and distribute water for the region. Recreation is provided as an accessory to that land use and can have an effect on recreational visitors. Some requirements, such as during peak water use, can leave the water surface levels lower than desired for certain recreational uses. The two key issues related to water operations are listed and described below, with the understanding that water storage and distribution are the primary land uses and activities that preceded the recreational land uses.

Key Issues

- Water level fluctuations
- Restriction of access to dams and power facilities

3.4.5.1 Water Level Fluctuations

While water level changes are integral to the operation of the water supply facilities, fluctuations require the need for boat launches to be moved, for reduced water recreation user days, and for other impediments to recreational use. The primary function of the Plan Area is for water supply and distribution; however, communication between the managing agencies can assist in minimizing the impacts associated with water level fluctuations.

Opportunities

- Improvement of interagency communication to reduce field time associated with water level modifications.

Constraints

- Acceptable minimum elevation and level of elevation changes have not been defined.
- Lack of information regarding current elevation levels available to assist recreational water users.

3.4.5.2 Restriction of Access to Dams and Power Facilities

Certain areas of the Plan Area lands are managed solely by the DWR for water supply, distribution, and operations. These areas require separate regulations regarding access for recreational use.

Opportunities

- Improvement of interagency coordination to provide more efficient management and enforcement, such as sharing of gate keys, etc.

Constraints

- Security issues and locations that need improvements have not been defined.

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4 Plan Overview

This chapter is the core of the Plan, setting forth the policies needed to manage all aspects of the Plan Area. It describes the comprehensive long-range purpose and vision for the future of the Plan Area. It provides policies in the form of goals and guidelines to guide future management. This chapter also sets forth management zones for different geographic areas of the Plan Area, each with their own resource goals and land uses. It then presents a description of the alternatives that were developed to implement the Plan.

The Plan will give Plan Area staff guidance for managing visitor uses and facilities while also protecting natural, cultural, and scenic resources for the next 25 years. The Plan is designed to be in compliance with applicable state and federal planning initiatives and policies presented in Chapter 3.

This chapter also serves as the project description for the programmatic EIS/EIR. The Plan is a programmatic policy document and is analyzed accordingly under NEPA/CEQA requirements in Chapter 5. Future, project-level analysis will occur as specific components of the preferred alternative are developed, subsequent to the approval of this Plan.

4.1 Purpose and Vision

This section summarizes the Declaration of Purpose that currently exists for the Plan Area, and provides updated factors from the Reclamation and CSP that need to be considered for the future management of the Plan Area. A new, revised Declaration of Purpose is included here to reflect the past, present, and future purpose and vision. The Declaration of Purpose, as previously adopted by CSP, describes the Plan Area's purpose and is the broadest statement of management goals designed to fulfill the vision for the Plan Area. A Declaration of Purpose is consistent with PRC §5002.2(b), which requires "setting forth specific long-range management objectives for the unit consistent with the unit's classification."

4.1.1 Declaration of Purpose

The Declaration of Purpose is the "mission statement" for the Plan Area. It guides the content of the Plan and therefore the future management of the unit. The CSP set forth a purpose statement when the facilities were first developed in 1966, as follows:

> To make possible the full utilization of the aquatic and other recreational opportunities in and about San Luis Reservoir and its forebay, located in western Merced County; together with consideration for all scientific, scenic and historical resources of the area.
>
> The function of the division of Beaches and Parks at San Luis Reservoir State Recreation Area is to design, construct, operate and maintain public recreational

> facilities of such scope and in such manner as to realize the maximum recreational potential of the area, consistent with the orderly operation of the Water Project facility for its other authorized purposes; and to protect and enhance the resources of the area in accordance with its declared purpose.

Additionally, during the planning process CSP conducted in-house workshops to determine the key issues that needed to be covered in a new Plan. The key values for the Plan Area as noted in the CSP purpose statement of November 2001 include:

- Water storage, supply, and distribution facilities and infrastructure;
- Water and land-based recreation including hiking, camping, windsurfing, boating, and fishing;
- Plant communities including grassland and riparian;
- Special-status and other wildlife species (e.g., see Table 2-17);
- Culturally and historically significant areas;
- Open space/scenic vistas; and
- Interpretive and concession opportunities.

The following items developed by Reclamation further define management objectives for the Plan Area that should be embraced in a revised Declaration of Purpose:

- Identify the current and most appropriate future uses of land and water resources within the Plan Area.
- Identify long-term resource management and implementation policies to manage, protect, and preserve recreation, natural, and cultural resources while providing visitor interpretation and education to enhance stewardship.
- Determine the opportunities for new or enhanced recreation facilities to meet the demands of a growing, diverse population.
- Identify opportunities and develop partnerships for managing recreational and natural resources.
- Provide adequate public safety and security measures for protection of visitors and resources.
- Ensure timely delivery of quality water to the public while enhancing natural resources and recreational opportunities.
- Provide framework for establishing a new management agreement with CSP.

Based on key values and management objectives, the comprehensive purpose statement for the Plan Area encompasses the past, present, and future purpose and vision, is proposed as the new purpose statement, and is defined by CSP and Reclamation as:

> To preserve, expand, and improve the current and future regional land and water-based recreation in the State through the long-term continuation of interagency agreements that promote full utilization of the aquatic and other recreational opportunities while

continuing to encourage resource management at the Plan Area and in connection with regional parks and open space and will provide for the protection, maintenance, rehabilitation, and interpretation of natural and cultural resources, while continuing to store and distribute water for the region.

4.1.2 Vision

The Plan Area vision describes the future essential character and overall appearance of the Plan Area during various phases of Plan implementation and, ultimately, upon completion of Plan development. The Plan Area will continue to serve a broad spectrum of visitors from many locations throughout the state to enjoy and participate in a variety of water- and land-based recreation while protecting the natural and cultural resources. The three water bodies will be managed to provide recreational activities differing in intensity to allow for user diversity. The Plan Area contains distinct use areas that will each maintain a different character based on the different visitor uses provided, as well as the unique water and landscape features inherent in each.

The overall vision is that the Plan Area will provide a range of uses and experiences that dovetail with the three general types of recreation – active, passive, and primitive – based on the ability to accommodate visitors and the intensity of uses that occur there. O'Neill Forebay will remain the most actively used water body within the Plan Area, with varying degrees of land-based recreation; San Luis Reservoir will provide a more passive experience; and Los Banos Creek Reservoir will provide more primitive area recreation uses.

To achieve this, the Plan classifies the land and water areas into management zones that allow for further definition of the resource goals and specific uses that can occur in each area. Throughout the Plan Area, management zones for land areas are intended to be compatible with and supportive of adjacent water-based recreation (Section 4.3). In all areas, the vision includes maintaining and enhancing the site-specific and regional biodiversity of the Plan Area, to protect cultural resources, and to interpret and educate the public about these resources to assist in long-term stewardship.

4.2 Goals and Guidelines

This section presents Plan Area policies in the form of Goals and Guidelines to guide use, development, and management of Reclamation lands and for achieving the Declaration of Purpose and Vision Statement relating to all aspects of future Plan Area management. The Plan uses goals and guidelines to address the issues, opportunities, and constraints for each planning area, as outlined in Section 3.4.

The purpose of the Plan goals and guidelines, as defined below, is to present the desired future condition of the Plan Area, based on the existing conditions, issues, and associated opportunities and constraints, and the ultimate alternative selected for implementing these policies:

Goal—General, overall, and ultimate purpose, aim, or intent which will guide management effort. Goals are not necessarily measurable except in terms of the achievement of component objectives.

Guidelines/Objectives—General set of parameters that provide a broad-based strategy and guidance towards accomplishing goals.

This section is organized following the broad planning areas outlined in Section 3.4, with abbreviations added to identify individual goals and for reference in the remainder of Chapter 4:

- Resource Management (RES)
- Visitor Experience, Interpretation and Education (VIS)
- Local and Regional Planning (REG)
- Infrastructure and Operations (OPS)
- Water Operations (WA)

For each planning area, a series of goals is identified based on specific issues and needs, as well as the desired future condition based on the Plan Area purpose and vision. These goals apply to the entire Plan Area. Each goal has guidelines and objectives to provide specific future actions that can be implemented to achieve goals in the future. For each goal, one or more guidelines are provided to give direction in accomplishing the goal. Goals and guidelines provided herein are prepared to set the stage for achieving the desired future condition with current available information and data.

It is expected that as more research, data collection, monitoring, and reconnaissance takes place and as more of the Plan Area's features and activities are recorded, goals and guidelines presented in the Plan may need to be amended, adjusted or revised. This approach also allows management of the Plan Area to adapt to changing needs.

4.2.1 Resource Management

Resource management goals encompass all natural and cultural resource or physical elements in the Plan Area. Long-term stewardship is essential to sustain and preserve scenic, cultural, climate, hydrologic, and biotic resources for the future. These resources are described in Chapter 2 and are presented and numbered in this section under the following categories:

- Scenic/Aesthetic (RES-S)
- Cultural/Historic (RES-H)
- Climate (RES-C)
- Hydrology/Water Quality (RES-WQ)
- Vegetation (RES-V)
- Wildlife (RES-W)
- Aquatic Invasive Species (RES-A)

4.2.1.1 Scenic/Aesthetic (RES-S)

A strong characteristic of the Plan Area is the open scenic vistas of undeveloped land and open water. The scenic qualities are represented by the surrounding undeveloped landscape, open grassland, expansive vistas of the rolling terrain and the adjacent Diablo Range. Also, most shoreline areas allow for uninterrupted views of the open water from the three reservoirs. In some cases, such as at Los Banos Creek Reservoir, the views from the north and south plateaus provide a vista opportunity of the water and adjacent landscape. Additionally, the layout and configuration of the built structures in the Plan Area are clustered in succinct areas, reducing the sense of sprawl and visual clutter. Portions of the Plan Area, especially near the dams and the operations facilities, contain many built structures with an engineered character. This contributes to the understanding of those areas as water storage and distribution facilities. Recreation area signage portrays an image and identity for the Plan Area and contributes to the aesthetic experience.

Goal RES-S1

- Preserve scenic vistas that overlook open land and water through the identification and definition of significant vista points and viewsheds.

Guidelines

- Before development of new facilities, consider the visual effect of new structures and carefully site features within an identified viewshed.
- Where feasible, avoid placement of new structures or other obstructions at or near identified significant vista points and along uninterrupted shorelines and landscapes.

Goal RES-S2

- Maintain large expanses of open space free of visual and physical interruptions.

Guideline

- Minimize, shield, or use new architectural controls in the development of new structures and reduce existing structures and other features that visually and physically fragment open space.

Goal RES-S3

- Make new structures architecturally compatible with their use as recreation facilities and distinguishable from the water operations structures but in keeping with overall site character.

Guidelines

- Identify the architectural components (style) and other contributing elements that define the recreation use areas and site character, and use this information to assess consistency of new structures.

- Where feasible, ensure that the mass and scale of new structures are compatible with the setting and do not dominate the surrounding landscape.

Goal RES-S4

- Identify a common and unified set of site-related details and materials (signage, gates, surface materials, fences, etc.) so that new facilities and infrastructure are compatible with the character of the site and are distinctive for recreation facilities.

Guidelines

- Avoid the introduction of materials not in keeping with the local and onsite character.
- Design new details to be compatible with existing materials and finishes while creating a unified image for the Plan Area recreation facilities.
- Develop a signage and wayfinding system that incorporates guidelines and standards for signage as well as the location, distribution, and frequency of signs.

Goal RES-S5

- Prevent aesthetic and environmental damage from duration and intensity of lighting and fixtures.

Guidelines

- Design and place light fixtures only as needed and in keeping with use and character. Minimize intensity by considering techniques such as low-voltage fixtures and downlighting.
- Design lighting systems and facilities that avoid light pollution onsite and offsite spills to neighboring areas.

4.2.1.2 Cultural/Historic (RES-H)

Cultural resources consist of significant and potentially significant prehistoric and ethnographic sites, historic and ethnographic resources, cultural material collections, and cultural landscapes. The Plan Area contains significant cultural resources.

Goal RES-H1

- Protect and preserve significant prehistoric and historic resources, and collections within the Plan Area, including those that may be undocumented.

Guidelines

- Maintain the existing inventory, mapping system, and database for cultural resources within the Plan Area.

- Provide for storage of collections and documentation and display of select cultural resources.
- Submit and complete site records to the State Historic Preservation Officer as necessary to determine eligibility for inclusion in the National Register of Historic Places, the California Register of Historical Resources, or for listing and recognition under CSP's Cultural Resources Division, including under cultural landscapes.
- The District Superintendent may solicit the evaluation of potential cultural landscapes within the Plan Area using National Park Service (NPS) guidance on cultural landscapes as outlined in *Protecting Cultural Landscapes*. Prepare Cultural Landscape Reports when deemed appropriate and necessary.
- Consult with CSP's cultural resource specialists when planning the construction of new facilities and uses.
- When new development or improvements to existing facilities are proposed and may impact cultural resources, ensure compliance with NEPA and CEQA requirements.

4.2.1.3 Climate (RES-C)

The effects of summer wind and heat are a limiting factor on visitor use of Plan Area facilities and a safety issue. In winter, fog can limit access to the vicinity or certain locations within the Plan Area. In the case of windsurfing, wind creates a prime location for the sport, attracting users from many locales throughout the state. In contrast, it can also fuel a dangerous wildland fire, increasing its intensity and duration and the resources needed to control it. Climatic factors need to be considered in the use and management of visitor facilities and resource protection, and provided for in the design and planning of future activities.

Goal RES-C1

- Provide documentation and consider climatic data in the design and planning of visitor facilities and resource management tools and activities. Monitor potential effects of climate change over time.

Guidelines

- Continue to collaborate with Cal Fire to design vegetative buffers in and around visitor facilities to provide shade and wind blocks.
- Ensure that any wildland fire prevention planning uses the most accurate weather data collected onsite or in proximity to current conditions.
- Consider adding wind warning lights where feasible and warranted, and educate visitors about their use.
- Provide information about how to obtain wind and water level information.

4.2.1.4 Hydrology/Water Quality (RES-WQ)

The quality and quantity of surface water and runoff, groundwater, and natural hydrological patterns are integral to the Plan Area's physical health, particularly because most of the recreation is water based. Water quality is variable at the Plan Area and is conditioned upon the quality of the source water, the operational parameters and size of the reservoir, and the intensity and type of recreation activities. Much of the native flora and fauna depends on the surface and subsurface waters of the Plan Area. Fish-stocking programs provide fishing opportunities for anglers in the region. In turn, visitor use would decrease if water quality were reduced. Hydrologic function is related not only to activities that take place in the Plan Area but also to surrounding land uses, as the site contributes to the regional watershed and also receives runoff from adjacent parcels.

Goal RES-WQ1

- Ensure that existing, new, or increased visitor uses do not adversely affect water quality.

Guidelines

- If DWR water quality monitoring shows exceedances of state water quality standards that are clearly associated with visitor uses, such as total coliform bacteria and BTEX, temporarily suspend or limit the visitor uses (such as swimming or boating) in the reservoir where the exceedance took place until the water quality standards are met.

Goal RES-WQ2

- Avoid access to sensitive watercourses to prevent degradation related to trampling, surface runoff, and sedimentation.

Guidelines

- Provide key, well-marked visitor access points to wetlands and streams and provide interpretive signage to educate visitors about habitat sensitivity.
- Establish appropriate buffers and site-specific guidelines for siting future campsites and associated facilities away from wetlands and watercourses.
- Avoid trail crossings over riparian corridors, and build bridges over such crossings where essential.
- With existing and proposed horse-related facilities and uses, improve visitor education to reduce transport of pollutants from animal waste to wetlands and other watercourses.
- Provide native plantings for erosion control near degraded shorelines and riparian corridors.

Goal RES-WQ3

- Use water efficiently.

Guidelines

- Employ water-conserving design and fixtures in new construction, wherever possible.
- Use native plant materials where feasible and employ other water-conserving techniques for landscaping.

Goal RES-WQ4

- Design, construct, and maintain buildings, roads, trails, campsites, boat launches and marinas, and associated infrastructure to minimize stormwater runoff, promote groundwater recharge, and prevent soil erosion.

Guidelines

- Limit impervious surfaces to minimize runoff; consider the use of permeable materials for new or expanded pedestrian and vehicular surfaces.
- Schedule construction activities, particularly those resulting in substantial soil disturbance, during periods of low precipitation and low groundwater, when feasible, to reduce the risk of accidental hydrocarbon leaks or spills reaching surface and/or groundwater, to reduce the potential for soil contamination, and to minimize erosion of loose materials in construction areas.
- Use silt fences, sedimentation basins, and other control measures to reduce erosion, surface scouring, and discharge to water bodies.
- Consider seasonal requirements of aquatic plant and wildlife species, and plan any work that would result in shoreline alteration or riparian disturbance to avoid adverse impacts on these species where feasible.

4.2.1.5 Vegetation (RES-V)

The lack of vegetation data and sufficient monitoring contributes to limitations in planning and employing best management practices (BMPs) for long-term management of Plan Area resources. Issues such as grazing, wildland fire, invasive species, and knowledge of special-status species and communities need to be adequately addressed over the life of the Plan. Grazing has many incidental benefits to the land, such as fuel reduction and protection from wildfires, maintenance of diverse mixtures of grasslands and scrublands, and ongoing presence in remote areas that discourage trespassing and poaching. However, poor grazing practices can harm soils and vegetation and adversely affect reservoir water quality.

Goal RES-V1

- Protect, maintain, and, where appropriate, restore the site's locally and regionally important native plant communities.

Guideline

- Prepare a vegetation management statement and map.

- Identify tools and techniques to manage vegetation, and define areas requiring rehabilitation.

Goal RES-V2

- Document and protect special-status plants and communities and manage for their perpetuation and enhancement.

Guidelines

- Comply with both the CESA and ESA and other applicable regulations aimed at the protection of special-status plant species when planning and implementing projects or management programs.
- Enhance existing inventories to further document and map locations of special-status species.
- Encourage the continuation of research and seek partnerships with research institutions and regulatory agencies to protect and enhance special-status species.

Goal RES-V3

- Manage invasive and non-native species, and where feasible, restore the Plan Area's native grasslands.

Guidelines

- Identify invasive and exotic species in the Plan Area and prepare a vegetation management statement to manage and remove these species over time.
- Avoid planting non-native species. Use locally native species that are defined as indigenous to the Plan Area or closely surrounding areas where possible.
- Incorporate BMPs for native grassland rehabilitation in a vegetation management statement.
- Consult with experts and other agencies for information on the preservation of native grasslands.

Goal RES-V5

- Reduce the threat for wildland fire.

Guidelines

- Develop and implement a focused vegetation management statement that addresses wildland fire, consistent with the National Fire Plan.
- In collaboration with Cal Fire, monitor vegetative fuel loads using regional fire weather information and other fire ecology data to understand onsite fire danger.

Goal RES-V6

- Identify the most appropriate grazing practices that meet both federal and state policy guidelines (such as Reclamation Directives and Standards LND08-01) and ensure sustainable grazing while protecting watershed conditions and habitats.

Guidelines

- Study and document the effects of grazing to better understand the potential effects and benefits of allowing grazing in the Plan Area.
- Conduct NEPA and CEQA analysis prior to renewal of the grazing lease if grazing continues at Medeiros Use Area.
- Study the potential for grazing to spread invasive exotic plant species.
- Develop a grazing-rest regime that prevents overgrazing and optimizes grassland health.

4.2.1.6 Wildlife (RES-W)

The large open, undeveloped lands within the Plan Area contribute to the regional biodiversity by providing habitat for a variety of special-status and other species. Existing data reveal the presence of certain species with specific requirements for long-term conservation. Wildlife management planning requires coordination and cooperation with other agencies, landowners, and stakeholders to include a regional approach and implementation. Additionally, coordination among Plan Area managing agencies is essential to wildlife habitat conservation work involving agencies with different missions.

Goal RES-W1

- Maintain, protect, and enhance wildlife habitat for common, sensitive, and special-status wildlife species.

Guidelines

- Continue to document and monitor wildlife species and their use patterns across the site.
- Minimize disturbance to critical wildlife habitat areas, including native grasslands, riparian, and native shoreline habitats.
- Before construction of facilities and trails, survey site-specific areas of potential impact for the presence of special-status species.
- Reduce wildlife access to human food and garbage by using wildlife-proof trash containers throughout the site, including administration and residence areas.
- Limit use of rodenticide to the minimum application possible, apply in accordance with state law and CSP policy, and explore using residential formulations that comply with 2011 USEPA requirements and offer increased protection for non-target wildlife (USEPA 2011b).
- Plan new facilities, land uses, and management activities to minimize habitat fragmentation.

- Explore opportunities that will enhance wildlife movement.
- Where necessary, evaluate special-status species in the Plan Area through focused surveys using USFWS protocol to manage for species protection and the development of a future protection program.
- Minimize potential impacts on special-status species through the maintenance of existing open corridor areas for passage.
- Avoid direct construction-related impacts to special-status species and species of special concern by doing preconstruction surveys where necessary.

Goal RES-W2

- Work with Plan Area stakeholders to provide for Plan Area-wide wildlife management planning and consistency with local and regional conservation strategies.

Guidelines

- Review facility plans to minimize habitat degradation and fragmentation.

4.2.1.7 Aquatic Invasive Species (RES-A)

Continued implementation of a vessel inspection program would reduce the potential for inadvertent transfer of invasive mussels via recreational watercraft. Ongoing public education such as the "Don't Move a Mussel" signs and handouts in the Plan Area will also be important in long-term prevention of invasive mussel infestations.

Goal RES-A1

- Implement measures to reduce the potential for introduction of invasive mussels from recreational watercraft.

Guidelines

- Seek funding to continue the current mandatory vessel inspections after the pilot program ends in October 2014 and thereafter as needed.
- If no funding is available after October 2014, implement a voluntary self-inspection program to meet the requirements of California Fish and Game Code Section 2302.
- Continue visitor education efforts about invasive mussels, how they are transported, and how an invasive mussel infestation can affect water quality, biotic resources, and recreation.

4.2.2 Visitor Experience, Interpretation and Education

The function of the Plan Area is primarily for mixed-use land and water-based recreation. VIS goals and guidelines provide management guidance for visitor use of recreation lands and the facilities that support that use, as well as the quality of the user experience. Additionally, CSP's mission for interpretation and education is to convey messages that initially help visitors value their experience, and ultimately foster a conservation ethic and promote a park constituency.

Educational opportunities should be preserved and enhanced in the Plan Area, offering activities that enable students to investigate, research, and participate in interactive learning. Based on the issues, opportunities, and constraints defined and described in Section 3.4, goals and guidelines are presented in this section under the following categories:

- Visitor Uses/Opportunities and Facilities (VIS-F)
- Trails (VIS-T)
- Interpretation and Education (VIS-I)
- Concession Opportunities (VIS-C)

4.2.2.1 Visitor Uses/Opportunities and Facilities (VIS-F)

Visitor facilities have been developed on the Plan Area lands since the 1970s, pursuant to the first General Plan. As the regional population has increased, the use of the facilities has also increased. Level of use varies in association with seasonal limitations such as weather and water level fluctuations. Visitor uses and facilities need to be planned and developed to accommodate growing populations while providing regional diversity and balancing the need to conserve natural and cultural resources.

The Plan Area is the largest facility of its type within a short distance of the Bay Area and surrounding, rapidly growing communities. Similar water-based recreation is available at other Reclamation locations such as Millerton Lake, outside Fresno. The adjacent Pacheco State Park provides uses that are not as prevalent in the Plan Area, including a trail network for hiking, horseback riding, and mountain biking. Henry Coe State Park, located northwest of the Plan Area with an entrance near Morgan Hill, provides extensive hiking and backcountry camping. The Hollister Hills State Vehicular Recreation Area, approximately 30 miles southwest of the Plan Area, provides recreation for OHV users of all skill levels on more than 150 miles of trails.

Goal VIS-F1

- Maintain and provide new visitor facilities and uses that enhance recreational enjoyment of the site's history and character while avoiding resource degradation.

Guidelines

- Explore the opportunity for a visitor's center to orient and educate visitors to the site, as well as increasing other, self-guided interpretive facilities such as weather-proof displays and signage.
- Plan for recreational opportunities within a regional context and in coordination with other plans (e.g., the Millerton Lake Resource Management Plan, Pacheco State Park, Hollister Hills State Vehicular Recreation Area, and Merced County and Santa Clara County parks) so that facilities are balanced within the region and are compatible with the location and resources.

- Provide for a variety of day-use activities and overnight camping facilities that accommodate visitors of varying abilities.
- Explore opportunities for accommodating additional or more intensive uses at the OHV Use Area.

Goal VIS-F2

- Provide adequate shoreline and upland support facilities and management at each reservoir and use area to address current and future demand for permitted recreational uses, consistent with management zones and natural and cultural resource goals and guidelines.

Guidelines

- Ensure that campground and day use additions and improvements respond to and are prioritized based on user demand.
- Maintain aquatic safety education efforts.
- Upgrade, renovate, or reconfigure existing facilities (i.e., the existing boat ramp at Medeiros Use Area) to improve access and efficiency to alleviate demand during peak use.
- Design and locate new facilities to comply with ADA requirements where possible.
- Continue to allow hunting in portions of the Plan Area, consistent with Reclamation policy and DFW regulations. Continue to manage hunting in the vicinity of campgrounds, boat ramp dikes, and water structures in accordance with Reclamation and SRA policy. Continue to regulate hunting in conformance with DFW guidelines.

Goal VIS-F3

- Manage water surfaces and use areas to accommodate a variety of different user groups and minimize resource degradation and conflicts among users.

Guidelines

- Consider recreation use and demand data to determine the level of enforcement needed to reduce user conflicts in different locations within the Plan Area.
- Encourage boater safety through education and enforcement of regulations that will also enhance visitor experience.
- Resolve water surface use conflicts using a variety of methods, such as but not limited to seasonal and time-of-day restrictions and “no wake” or “reduced speed” zones.
- Optimize and coordinate water and land based recreational uses by development of a boating management plan.

4.2.2.2 Trails (VIS-T)

Trail use is a primary activity on areas adjacent and nearby public lands, including Pacheco State Park and DFW-managed wildlife areas. Opportunities exist to

connect the Plan Area lands with these and other nearby public lands. Currently, there are gaps in trail connections that inhibit loop opportunities and access to certain areas. Water facility safety and security limit public access in some locations. A focused trails management plan would assist in the prioritization of trail use and facility needs for the future. The Plan Area contains many old, unpaved roads and trails that may provide opportunities for new use and linkages.

Goal VIS-T1

- Provide an appropriate amount and variety of trails in a range of locations throughout the Plan Area as well as improved connectivity from existing trails.

Guidelines

- Prepare a focused Plan Area trails management plan to identify future trail openings and connections and to determine single-use and multi-use options based on visitor experience and resource protection needs.
- Maintain a system of multi-use trails to meet visitor demand.

Goal VIS-T2

- Balance the optimum visitor experience while avoiding habitat fragmentation or other site degradation.

Guidelines

- Use BMPs to maintain trails and minimize erosion.
- Evaluate wildlife corridors to minimize or avoid placing trails that bisect these corridors.
- Review areas of the project that are currently not accessible to the public to determine where to place new trails or use existing trails to minimize new illegal trails.
- Evaluate cultural resources and review these locations during trail development to minimize degradation.
- Incorporate existing trails or old roads into the comprehensive plan whenever possible.

Goal VIS-T3

- Provide different types of trail experiences for a variety of trail users.

Guidelines

- Explore options for short- and long-duration loop trails for trail users.
- Explore the options to retrofit existing trails and build new trails that are ADA compliant.
- Work with trail users and analyze existing use to provide adequate facilities where needed.
- Link with adjacent lands at Pacheco State Park and DFW-managed lands.

- Explore using volunteer multi-use patrols for trail user education and trail safety, i.e., combine an equestrian and bicyclist on patrol.

Goal VIS-T4

- Provide additional programs and signage to allow for safer and more interpretive use of trails.

Guideline

- Where feasible, provide signage and public education program for safe use of multi-use trails.
- Supplement interpretive programs by adding additional interpretive signage at key locations for theme-based self-guided walks.

4.2.2.3 Interpretation and Education (VIS-I)

Interpretive and educational services improve the visitor experience by providing opportunities to learn about the natural and cultural resources of the area and by communicating the value of these resources to increase their protection and conservation. The location, history, and previous inhabitants of this area, as well as current resources and land uses, suggest many interpretive opportunities within the unit.

Goal VIS-I1

- Adopt the following unifying, primary and secondary themes for the unit.

Plan Area Unifying Theme

- The presence of water in this dry landscape and the nearby pass over the inner Coast Range have attracted humans and other animals to the Plan Area for millennia.

Primary Theme 1

- Water provides a wide variety of recreational opportunities.

Guidelines

- Explore how water provides specialized opportunities for recreation. Interpret the need for safety when recreating at this location.
- Interpret fishing opportunities at this location, including the high-quality large fish that are caught at San Luis Reservoir.
- Interpret how the water provides relief from the summer heat, and the importance of maintaining a high level of water quality.
- Interpret the wind and the role it plays in providing a high-quality windsurfing location.
- Interpret how wind can create dangerous conditions.
- Interpret the wind warning light system and how visitors can use it.
- Interpret other forms of active and passive recreation that occur at the Plan Area, such as picnicking, camping, and hiking.

- Interpret how water safety is integral to enjoying the water for recreation purposes.

Secondary Theme 1

- The need for water in drier parts of California prompted the development of the federal CVP, including the three reservoirs of the Plan Area.

Guidelines

- Consider partnerships with DWR to optimize the use of the Romero Visitor's Center and other water operation facilities for interpretive purposes, with DWR responsible for the bulk of the interpretation of the CVP and California Aqueduct.
- Interpret the roles of San Luis Reservoir, Los Banos Creek Reservoir, and O'Neill Forebay in the CVP and California Aqueduct.
- Interpret how the water is used for irrigation, drinking water, and generation of electricity.
- Consider partnership with the SCVWD to describe their use of San Luis Reservoir water, the methods for retrieving and distributing the water, and the importance of maintaining high water quality.
- Interpret the construction of the dam, including Basalt Quarry, and the effects of geology on the dam.

Secondary Theme 2

- Year-round water sources and nearby Pacheco Pass have had a direct and continuing impact on human movement through and settlement in the area, and reminders still remain of earlier human use.

Guidelines

- Interpret the use of Los Banos Creek and other local water sources by Northern Valley Yokuts and other Native American groups.
- Interpret the Spanish missionaries' "Path of the Padres" along Los Banos Creek.
- Interpret the use of the route through the Plan Area and over Pacheco Pass by Native Americans, early Spanish and Euro-American travelers, the subsequent roads and state highway that followed this route until the dam required a bypass, and the remains of the old trails and roads that still exist.
- In conjunction with Pacheco State Park, interpret the broad flat valley and watering hole that existed where San Luis Reservoir and O'Neill Forebay are now located, as well as the Pacheco family's Rancho San Luis Gonzaga that included this valley for over 100 years.
- Interpret the visible cultural resources that still exist in the Plan Area from ranching and farming activities.

Secondary Theme 3

- Of the plants and animals found in the Plan Area, some have lived there since before the reservoirs were built, some have moved into the area because of the reservoirs, and others have been purposefully or inadvertently introduced by humans.

Guidelines

- Interpret the native plant and animal species that live in and around the Plan Area, the impact (if any) of the reservoirs on them, and how many are adapted to the dry conditions of the western San Joaquin Valley.
- Interpret the sport fish that have been planted in the reservoirs, and how they are raised and stocked.
- Interpret plant and animal species that humans have introduced to the reservoirs and surrounding land by accident (e.g., fish pumped up from the California Aqueduct and DMC, non-native plants brought in on fur or feed).
- Interpret the additional resources for migrating birds that the reservoirs have added to the Pacific Flyway.

Secondary Theme 4

- Weather patterns impact the natural and built environment.

Guidelines

- Interpret the factors that affect wind direction and speed in these locations.
- Interpret how the Coast Range and Pacheco Pass affect the weather, especially the Coast Range's rain shadow effect, and windspeed and air temperature in the area directly east of the pass.
- Interpret the way weather patterns such as winter tule fog, low average annual rain fall, summer heat, and high winds shape the landscape.
- In partnership with Pacheco State Park, interpret the benefits and unresolved issues regarding wind-generated energy.

Goal VIS-I2

- Adopt the following interpretive periods for the unit.

Interpretive Periods

- Primary Interpretive Period—1919-1967.
  This period encompasses the CVP's planning and implementation, from initial concept through the construction and filling of San Luis Reservoir, Los Banos Creek Reservoir, and O'Neill Forebay.
- Secondary Interpretive Period—Northern Valley Yokuts: 1772-1833.
  Pre-contact is c. 5000 BP to 1805, when Gabriel Moraga made his first foray into this section of the Central Valley. In 1833 the groups in this area were wiped out by an epidemic.

- Secondary Interpretive Period—the Path of the Padres: 1797-1835. Mission San Juan Bautista was founded in 1797. Some time after 1805, the padres started using the route that includes the "Path of the Padres" to cross the inner Coast Range and bring Central Valley Native Americans back to the mission. Mission San Juan Bautista was reclassified to a local church in 1835.
- Secondary Interpretive Period—Rancho San Luis Gonzaga: 1843-1962. This period starts with the granting of the land to the Pacheco family, through the final loss of the valley via condemnation under eminent domain to build the dam.

Goal VIS-I3

- Prepare an interpretive plan in order to provide a variety of interpretive and educational services that celebrate the Plan Area, the region's cultural history, and its unique and representative natural resources.

Guidelines

- Pursue enhancement of interpretive opportunities with a mix of programs (such as guided tours, campfire programs, lectures, school field trips, or other similar programs), media (such as publications and audio-visual programs) and facilities (such as interpretive signage, outdoor exhibits, Basalt Quarry, visitor's center and other similar venues).
- Consider partnerships with DWR to optimize the use of the Romero Visitor's Center and other water operation facilities for interpretive purposes.

4.2.2.4 Concession Opportunities (VIS-C)

Goal VIS-C1

- Provide concession opportunities that support the purpose and vision for the Plan Area and enhance the visitor experience.

Guidelines

- Identify concessions that add to the capacity of Plan Area staff and clearly implement desired visitor programs beyond what CSP is capable of achieving.
- While considering the needs of recreational user groups and concessionaires, craft concession plans that are based on visitor use and demand and that serve a viable population.
- Choose concessions that best exemplify the character and needs of the use area and enhance the ability to provide a quality visitor experience while meeting other Plan goals.

4.2.3 Local and Regional Planning

Local and regional planning encompasses coordination and cooperation with landowners, advisory boards, regulatory agencies, and municipalities in the

vicinity of the Plan Area. The land around the Plan Area and visitors to the facilities and in the region are continually changing and can affect the use and condition of the Plan Area. Issues and topics related to local and regional planning are defined and described in Chapter 3 and are presented in this section under the following categories:

- Interagency Cooperation (REG-C)
- Regional Plans (REG-P)
- Population and Demographics (REG-D)
- Linkages (REG-L)

4.2.3.1 Interagency Cooperation (REG-C)

Outreach to and cooperation with sister agencies, adjacent landowners, and recreational user groups can greatly benefit the Plan Area and its activities. Resource management implementation can be aided by sharing staff resources among different agencies and volunteers. Issues that may be relevant to residents and land use in the Plan Area vicinity, as well as regulatory requirements, can be clarified early in the process with continued public outreach.

Goal REG-C1

- Develop cooperative relationships with adjacent landowners, and local, state, and federal agencies (including Reclamation, CSP, DFW and DWR) to share resources and coordinate implementation of Plan Area management actions.

Guidelines

- Continue to work with California Department of Forestry and Fire Protection (Cal Fire) for emergency, rescue, fire, or other incidents requiring mutual aid.
- Continue the regular forum of information exchange initiated in the planning process so that appropriate agencies are aware of issues and projects and how they affect Plan Area resources and facilities.

4.2.3.2 Regional Plans (REG-P)

There are many efforts to accommodate the continuing population growth in the region, which are being documented in a variety of plans by local and state agencies. Additionally, many surrounding privately owned parcels are being subdivided and developed. Overlapping planning efforts can cause oversight of important issues relevant to Plan Area planning, and surrounding land uses can greatly influence management and operations. There are also regional planning efforts that require continued information exchange to ensure they are coordinated with Plan Area visitation and plan implementation.

Goal REG-P1

- Provide information to local governments on regional planning initiatives and surrounding development to assist in making them consistent with the Plan Area purpose and vision.

Guidelines

- As staff time allows, regularly review applications to Merced or Santa Clara County for development in the vicinity of the Plan Area and coordinate planning for common features such as access roads and related infrastructure.
- Review and comment where applicable on Merced or Santa Clara County General Plan updates and regional projects such as the high-speed rail and other future projects.

4.2.3.3 Population and Demographics (REG-D)

Lack of detailed visitor attendance data can inhibit the planning of facilities and the anticipation of staffing needs and operations. The location of the Plan Area serves coastal as well as Central Valley residents with varying recreational desires and abilities. Following the regional and local population and demographic data, documenting this information, and collecting visitor profiles will aid in future management of the recreational resources.

Goal REG-D1

- Consider visitor use data and apply the appropriate regional population and demographic information as it applies to design and construction in planning and construction projects in the Plan Area.

Guidelines

- Where feasible, enhance current visitor attendance data collection efforts to include more detail about visitor use, duration, satisfaction, volumes, and seasonality of visitation.
- Follow regional population and demographic reports such as the U.S. Census and countywide projections to ascertain future visitor needs and priorities.

4.2.3.4 Linkages (REG-L)

There is an opportunity for open-space and recreational linkages between the Plan Area and the adjacent Pacheco SP, and between the Plan Area and the nearby DFW lands, as well as opportunities for better connections to Los Banos Creek Use Area. Also, given the land uses on adjacent parcels, there may be an opportunity to connect undeveloped lands with the Plan Area for trail linkages or wildlife corridors.

Goal REG-L1

- Explore the possibility for Plan Area users to connect with adjacent and regional preserved lands, namely the adjacent Pacheco State Park, San Luis Wildlife Area (DFW), and Los Banos Creek Use Area.

Guidelines

- Work with appropriate planners to consider interconnected open-space systems, where possible, in the vicinity of the Plan Area.
- Coordinate trail planning work with Pacheco State Park and DFW.

4.2.4 Infrastructure and Operations

Infrastructure and operations are at the core of a functional unit and are integral to meeting the Plan Area purpose and vision and managing resources and visitor uses. Because future staffing and management structures may change, interagency and intra-district cooperation and sharing of personnel and resources can make it easier to ensure efficient operations and up-to-date infrastructure. Existing infrastructure and operations are described in Chapters 2 and 3 and are presented in this section under the following categories:

- Plan Area Access and Circulation (OPS-A)
- Management Agreements (OPS-M)
- Staffing and Facilities (OPS-S)
- Utilities (OPS-U)
- Sustainability and Renewable Energy (OPS-RE)

4.2.4.1 Plan Area Access and Circulation (OPS-A)

The various access points for all the use areas pose issues for safety, security, and staff efficiency, including emergency incidents. The distance to Los Banos Creek Use Area greatly reduces response time and onsite staff presence. Opportunities exist to work with Caltrans to formulate short- and long-term planning for improving access, including the crossing of SR 152. As visitor use increases, the level of service on SR 152 will be further reduced, and traffic on area collector roads will increase. Internal circulation and parking currently functions well; however, this may need to be reviewed as use increases. Staff and visitor access and circulation needs to be coordinated and maintained to optimize efficiency, security, emergency access, and enjoyment of the Plan Area while providing for resource protection.

Goal OPS-A1

- Provide safe, well-signed, and efficient ingress and egress to existing use areas, while meeting other Plan goals.

Guidelines

- Work with Caltrans to identify safety and signage improvements that can be made and recommend incorporation into regional transportation plans and budgets.

- Work with Caltrans to identify safety and access improvements, such as consideration of an overpass at the entry of the San Luis Creek Use Area with limited access from Gonzaga Road.
- Work with Caltrans to explore improved access routes between SR 152 and Basalt Use Area, and between SR 152 and San Luis Creek Use Area.
- Explore the opportunity to access Los Banos Creek Use Area from an internal road off of Gonzaga Road or a limited access service road off Interstate 5 (I-5).

Goal OPS-A2

- Provide adequate emergency access to new facilities or backcountry areas and reservoirs as necessary.

Guideline

- Work with surrounding landowners to clarify the ownership and location of adjacent offsite roads and the possibility to use these if needed. Provide emergency access for Plan Area staff members and entities such as Cal Fire for wildland fire access and other such uses.

Goal OPS-A3

- Provide well-defined, safe use area entry points capable of handling visitors and a variety of vehicles during peak-use days and all seasons.

Guideline

- Design improvements with up-to-date standards capable of handling current and future vehicular and safety needs.

Goal OPS-A4

- Provide well-defined visitor access to all use areas with clear, consistent signage (e.g., branding standards and visual identity).

Guidelines

- Maintain and develop clear signage with a unified design for visitor access and orientation throughout the Plan Area.
- Provide ADA-compliant facilities and recreational use access (e.g., trails) where practicable based on the site conditions.

4.2.4.2 Management Agreements (OPS-M)

Reclamation holds and maintains many agreements with different agencies to manage its lands and waters for distribution and with utility companies to maintain rights-of-way as needed. The agreement with CSP is essential to provide long-term continuity in recreation and resource management at this location. Original agreements date back several decades and may not reflect current on-the-ground conditions or legal requirements.

Goal OPS-M1

- Ensure that management and other agreements reflect the current conditions of the Plan Area and meet the Plan goals and guidelines.

Guidelines

- Review all management and other agreements to update, renew, or revise for compatibility with current needs and consistency with the Plan.
- Ensure that the language of agreements fits current management conditions and allows for joint Plan implementation.
- Ensure agreements require that both agencies meet regulatory requirements for changes, alterations, or additions to any structures and other proposed actions.

Goal OPS-M2

- Work with the SCVWD to ensure that construction, maintenance, or other work related to their water distribution system does not interfere with Plan Area operations, or significantly affect resources or recreational use operations.

Guideline

- Set up a MOU to ensure that future construction, maintenance, and implementation of the San Luis Reservoir Low-Point Improvement Project and other similar projects will minimize impacts on recreation.

4.2.4.3 Staffing and Facilities (OPS-S)

Efficient Plan Area operations require adequate staffing and associated facilities. The size and proximity of the different use areas make it difficult to provide adequate operational facilities throughout the Plan Area. Emergency and safety needs can assist in prioritizing the type and location of new facilities. New and updated facilities, improvements, and operations allow for integration of sustainable design and materials. The identification of long-term needs and plans for staff operations will prevent costly, piecemeal development.

Goal OPS-S1

- Provide permanent staff housing opportunities as needed to meet public safety needs at San Luis Reservoir and other areas within the Plan Area.

Guidelines

- Inspect current staff housing, upgrade as necessary (electrical, plumbing, etc.), and seek opportunities for new housing locations, consistent with federal regulations.
- Ensure adequate office space, housing, and ranger station with maintenance workspace at Los Banos Creek Use Area to provide self-contained, onsite management and enforcement.

- Identify opportunities for providing housing or other needs that would attract and provide for researchers and seasonal workers.

Goal OPS-S2

- Provide staff training programs as necessary to inform managers of current laws and regulations that need to be complied with for Plan Area management.

Guidelines

- Develop an integrated pest management plan as per current state and federal standards to record and document practices related to pest management.
- Monitor Plan implementation requirements and future construction projects.

Goal OPS-S3

- Pursue adequate staffing to meet public safety, management, interpretation, facility maintenance, and resource protection needs.

Guidelines

- Evaluate and adjust staffing needs when planning existing and new programs.
- Explore the use of volunteers to complement the staff where feasible.

4.2.4.4 Utilities (OPS-U)

Utility infrastructure is generally adequate for the current facilities and uses. There are limitations for water distribution in some locations as well as lighting improvements needed in some areas. There is no comprehensive plan documenting the existing, as-built utility network or its adequacy within the Plan Area. Improvements to existing facilities and new projects will require an understanding of the utility needs to determine their feasibility and cost.

Goal OPS-U1

- Ensure the continuance of long-term infrastructure function of the Plan Area.

Guidelines

- Devise a strategic plan for the installation of a water distribution system in areas such as Medeiros Use Area in collaboration with the Santa Nella County Water District.
- Identify other utility needs and implement utility improvements comprehensively to avoid unnecessary site disturbance and expensive rerouting of utility corridors and junctions over time.

4.2.4.5 Sustainability and Renewable Energy (OPS-RE)

The opportunity exists to incorporate sustainability principles into both existing and potential future Plan Area facilities, activities, and operations and maintenance. In addition, Reclamation has identified approximately 1,200 acres of federal lands in the Plan Area as potentially viable for renewable energy development, consistent with the Secretary of the Interior's Order 3285A1, amended February 22, 2010 (Section 3.3.15.1).

Goal OPS-RE1

- To the extent feasible, incorporate principles and practices of sustainability into the Plan Area's facilities, improvements, and maintenance and operations, including solar and other carbon-reducing measures.

Guidelines

- To the extent feasible, consider sustainable practices in building and site design, construction and maintenance, and operations. Sustainable principles used in design and management emphasize environmental sensitivity in construction, the use of nontoxic materials and renewable resources, resource conservation, recycling, and energy efficiency such as solar power.
- Consult programs such as LEED (Leadership in Energy and Environmental Design) for development of facilities and site-related construction as a guide to sustainable building practices.

Goal OPS-RE2

- Allow for consideration and development of renewable energy projects within the Plan Area.

Guidelines

- Work with other federal, state, and local agencies and public and private energy providers to explore locations and feasibility of Plan Area renewable energy projects.

4.2.5 Water Operations

Water operations are managed by DWR and are the primary purpose of the existing facilities, particularly the reservoirs. Water-level fluctuations are the result of water and energy demand based on climate and the seasons. Safety and security are essential components of water operations and energy production, and must be considered. Water-dependent recreational opportunities can change based on water levels, and thus increase or reduce visitor experience. Certain facilities such as boat launches require staff intensive labor to respond to changes in water levels. Existing water operations issues, opportunities, and constraints are described in Section 3.4 and are presented in this section under the following categories:

- Water Level Fluctuations (WA-E)
- Restriction of Access to Dams and Power Facilities (WA-A)

4.2.5.1 Water Level Fluctuations (WA-E)

Constraints in water levels can severely inhibit user ability and enjoyment, create user safety issues, change the biological composition of the shoreline, and result in water quality degradation (from exposure of sediment to wind and rain). Weedy vegetation can be controlled and managed to prevent encroachment into open pool areas. Sediment deposition is dependent on water flow as well as water level and can cause safety issues for use in certain areas.

Goal WA-E1

- Explore opportunities and actions that can reduce the impacts of water-level fluctuations to help maintain consistent conditions for water-based users.

Guidelines

- Examine the possibility of removing built-up sediment to maintain water levels even during times of peak water demand.
- Work with agencies and appropriate groups to explore methods to reduce and remove weedy vegetation from inhabiting water surfaces.

4.2.5.2 Restriction of Access to Dams and Power Facilities (WA-A)

Recreational use areas are interspersed throughout the Plan Area among a variety of water operation-related facilities. It is not always clear what areas are open to the public, and some areas are not secured for nonpublic access. Safety and security need to be enforced and visitors need to be kept informed of the importance of adhering to access restrictions.

Goal WA-A1

- Work with agencies to clarify visitor access in all areas, compatible with state and federal safety and security requirements.

Guidelines

- If public access is to be limited or not permitted, ensure proper signage, fencing, or other means to convey this information to visitors.
- Identify areas requiring additional security improvements to assist managers in enforcing access.
- Determine areas where jurisdiction is not clear and define the roles of the managing agencies.
- Set up standard operating procedures between Reclamation and the managing agencies to enhance operations and efficiency.

4.3 Management Zones

Management zones are geographic divisions that have distinct physical, social, and management characteristics. The creation of management zones helps Plan Area managers to focus activities and facilities in locations that are environmentally and logistically suitable. Management zones provide a basis for the direction of the type and intensity of development and use within each area.

Current management zones have been identified for various portions of the Plan Area. Future zones will vary depending on the alternative selected and the management actions taken for those alternatives. These zones, and the actions associated with them, are not intended to provide all activities for all users. Rather, the Plan Area, when viewed with other lakes and reservoirs in the vicinity, can provide an opportunity for unique management actions.

Note that the designation of allowable uses in different management zones of the Plan Area does not require that the allowable uses be implemented. In particular, the management zones only indicate what lands are suitable for different recreation activities; it does not require the activities to be implemented, facilitated, or encouraged.

Map 8 illustrates the existing Plan Area management zones. The proposed zones for the Plan Area are divided into water- and land-based facilities and uses as follows:

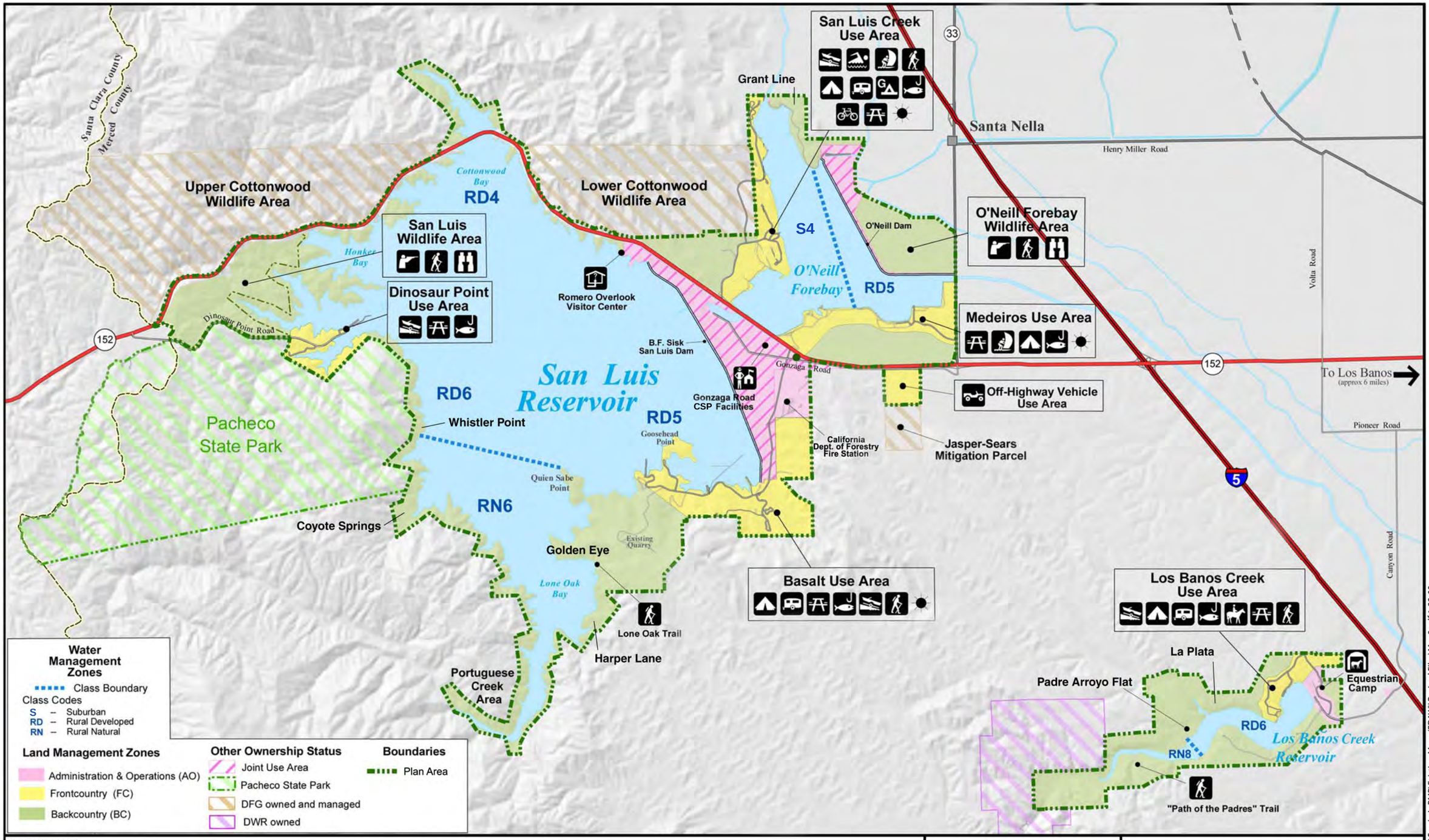
Water-Based Management Zones

- Suburban (S)
- Rural Developed (RD)
- Rural Natural (RN)

Land-Based Management Zones

- Administration and Operations (AO)
- Frontcountry (FC)
- Backcountry (BC)

This Plan uses the Water Recreation Opportunity Spectrum (WROS) management tool (Aukerman et al. 2003) to identify water-based management zones. The WROS provides detailed guidance for the management of lakes, reservoirs, wetlands, estuaries, bays, rivers, tidal basins, coastal zone areas, and other water and land-related areas. The primary purpose of the WROS is to help recreation and resource professionals make better decisions about the recreation use and management of lakes, reservoirs, and other water bodies. The WROS is a tool to inventory, plan, and manage water recreation resources. In addition, the WROS can accommodate changes in public recreation demand and values, best available science, social and economic values and circumstances, and professional experience and knowledge gained from applying this system over time.


San Luis Creek Use Area
Grant Line
Santa Nella
Henry Miller Road
Santa Clara County
Merced County
Upper Cottonwood Wildlife Area
Cottonwood Bay
RD4
Lower Cottonwood Wildlife Area
San Luis Wildlife Area
Honker Bay
Dinosaur Point Use Area
Dinosaur Point Road
S4
O'Neill Dam
O'Neill Forebay Wildlife Area
O'Neill Forebay
RD5
Romero Overlook Visitor Center
Medeiros Use Area
B.F. Sisk San Luis Dam
Gonzaga Road
Gonzaga Road CSP Facilities
San Luis Reservoir
RD6
RD5
Whistler Point
Goosehead Point
Off-Highway Vehicle Use Area
California Dept. of Forestry Fire Station
Jasper-Sears Mitigation Parcel
To Los Banos
(approx 6 miles)
Pioneer Road
Volta Road
Pacheco State Park
Quien Sabe Point
RN6
Coyote Springs
Existing Quarry
Golden Eye
Lone Oak Bay
Lone Oak Trail
Harper Lane
Basalt Use Area
Los Banos Creek Use Area
Canyon Road
Portuguese Creek Area
La Plata
Padre Arroyo Flat
Equestrian Camp
RD6
RN8
Los Banos Creek Reservoir
"Path of the Padres" Trail
Water Management Zones
Class Boundary
Class Codes
S – Suburban
RD – Rural Developed
RN – Rural Natural
Land Management Zones
Administration & Operations (AO)
Frontcountry (FC)
Backcountry (BC)
Other Ownership Status
Joint Use Area
Pacheco State Park
DFG owned and managed
DWR owned
Boundaries
Plan Area
Source: USGS DRG
1 0.5 0 1 2 Miles
Scale 1 : 79,200
1" = 1.25 miles
N
Existing Recreation Resources and Uses
Facilities
Ranger Station
Visitor Center
Wind Warning Light
Camping
Tenting
Recreational Vehicle
Group Site
Horse Camping
Recreation Uses and Activities
Boat Launch
Windsurfing
Swimming
Fishing
Hunting
Equestrian
Bicycling
Off-Highway Vehicle
Wildlife Viewing
Hiking
Day Use
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
CALIFORNIA STATE PARKS
San Luis Reservoir
State Recreation Area
MAP 8
Existing Conditions and Alternative 1
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The WROS is based on the concept that there is diversity among recreationists, water resource settings, and the agencies that manage these resources. Each specific water resource has a niche and contributes to a larger system of diverse recreation opportunities. The overarching goal of WROS is to provide planners and managers with a framework and procedure for making better decisions for conserving a spectrum of high-quality and diverse water recreation opportunities (Aukerman and Haas 2002).

WROS represents a spectrum of six types of water recreation opportunities:

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

The recreation opportunities range from a highly social experience involving many diverse visitors in a highly developed urban environment (i.e., urban) to a solitude experience with few people, if any, in a remote primitive setting with no built structures and little management presence (i.e., primitive).

The Plan Area currently falls into the Suburban, Rural Developed, and Rural Natural parts of the WROS spectrum, which are described further below.

In **Suburban** (S) areas, built structures are common, and dams, other water infrastructure, and roadways are prominent in the viewshed. There is a limited opportunity to see, hear, or smell natural resources due to the widespread and very prevalent level of development, human activity, and natural resource modification. The watching and meeting of other visitors is expected and desired, and socializing with family and friends is important. Learning about the natural or cultural history, ecology, and reservoir and river operations are important to some. Recreation management in the form of personnel, rules, facilities, signs, services, conveniences, and security is very evident.

In **Rural Developed** (RD) areas, development is also prevalent, but the setting has a pastoral feel because views of development are interspersed with expanses of water and rolling hills. The water's edge appears natural despite the presence of water control or other structures. Built structures are noticeable, and dams, other water infrastructure, and roadways are present in the viewshed but in some cases at a greater distance than in the S Zone. Sights, sounds, and smells of other recreation users are common, but there are opportunities to experience brief periods of solitude. Reminders of alteration of natural resources by human activity, technology, and development are frequent. Recreation management (personnel, rules, signs, etc.) is common but not as extensive as in a suburban setting. The sights, sounds, and smells of recreation and nonrecreation use are common but interspersed with locations and times when a sense of tranquility and escape from everyday challenges may be experienced.

Rural Natural (RN) areas have natural resources that dominate the landscape with occasional sights, sounds, and smells of development. The reservoirs are

bordered by natural-looking settings with occasional water control or other structures along the shoreline. Built structures are present in the viewshed. Recreation management is occasionally noticeable in terms of patrols, facilities, signage, conveniences, and services. The opportunity to relieve stress and to get away from a built environment is important. Moments of solitude, tranquility, and nature appreciation are important. RN areas attract visitors desiring to experience the outdoors and be away from large numbers of other people.

The WROS rates three key attributes—physical, social (visitor use), and managerial—to further classify recreational water bodies for the purpose of developing current and future management strategies. The key attributes are then used to develop a single alphanumeric rating to describe the overall character of a water surface area. The rating system incorporates the water recreation opportunities abbreviations shown above (U, S, RD, RN, SP, and P) along with a number between 1 and 11, which correspond to the water recreation opportunities abbreviations as follows:

Scale	WROS Class
1 – 2	Urban
2 – 3 – 4	Suburban
4 – 5 – 6	Rural Developed
6 – 7 – 8	Rural Natural
8 – 9 – 10	Semiprimitive
10 – 11	Primitive

The 11-point scale allows for a finer level of assessment than a six-point scale (U, S, RD, RN, SP, and P) and identifies areas where there are transitions, gradations, or “leanings” toward one WROS class versus another. The 11-point scale allows for a higher level of accuracy during the inventory stage and helps managers to consider alternative ways to manage the area in the future. In the Plan Area, the numeric ratings indicate subtle distinctions among physical, social, and managerial attributes within different parts of the same waterbody, such as San Luis Reservoir (see Map 8).

The WROS designations were made based on site visits and inventories conducted during the planning period. Existing WROS conditions were characterized primarily during the development of the *WROS Inventory and Management Alternatives* report in 2003 and 2004 (Aukerman, Haas, and Schuster 2008). Conditions were reassessed and updated management zones were assigned by alternative during field visits by CSP, Reclamation, and consultant staff in May and June 2011.

In addition to the WROS designations for water-based management zones, three additional designations have been assigned for land-based management zones. These zones reflect management areas that exist now (such as operations vs. recreation) and are intended to help focus future facilities and uses in appropriate

areas. The land-based management zones are intended to "dovetail" appropriate facilities and uses with adjacent WROS zones. These management zones are the same as those used in CSP's General Plan for Pacheco State Park (CSP 2004).

Sections 4.3.1 through 4.3.6 describe each management zone's unique characteristics and the key existing features that are intended to be considered and incorporated into Plan implementation. Natural and cultural resources exist in all zones within the Plan Area and, as described below, will be protected and managed as part of the future development. For each management zone, the definition includes the following description:

- Existing Features
- Purpose and Intent
- Resource Goals
- Use

4.3.1 Suburban Zone (S)

4.3.1.1 Existing Features

The Plan Area contains one zone designated as Suburban (S4): the western side of O'Neill Forebay (shown in Map 8).

O'Neill Forebay consists of about 2,210 water surface acres and 14 miles of shoreline, of which 1,468 acres are designated as S4. This rating indicates high WROS inventory scores for the area's physical and social attributes, as the zone contains the most users of all three waterbodies in the Plan Area. The open pool configuration is suitable for active water sports such as water skiing and windsurfing. It is accessible primarily from San Luis Creek Use Area on the west side of the forebay (location of a boat launch, several access points, and a swimming beach near the day use areas and campgrounds). It is also accessible from Medeiros Use Area, where windsurfers launch in the southeastern corner of the forebay.

Dominant features of the forebay landscape include the wide and massive towers supporting power lines crossing the water about midway between SR 152 and the dam. In contrast to the active uses, hard edges, and views of the highway, O'Neill Forebay also provides some quiet and secluded shoreline areas, some accessible only by boat or non-motorized trails.

4.3.1.2 Purpose and Intent

The purpose of the S Zone is to provide the most diverse activities among the three waterbodies in the Plan Area, while complementing land-based facilities. There is a limited opportunity to see, hear, or smell the natural resources due to the widespread and prevalent level of development, human activity, and natural resource modification. The watching and meeting of other visitors is expected and desired, and socializing with family and friends is important. Learning about the natural or cultural history, ecology, and reservoir and river operations is important to some.

Although the water surface is zoned for active use, it is adjacent to shorelines that will have different uses based on their locations and zone designations (particularly the BC Zone to the north). Use of the O'Neill Forebay S Zone will be greater than at San Luis and Los Banos Creek reservoirs. It is intended to allow for active uses such as personal watercraft; however, these uses will be limited by various constraints such as speed limit.

4.3.1.3 Resource Goals

Water quality is the most important resource issue in this zone. Currently, water quality monitoring is conducted on a regular basis at O'Neill Forebay. The large turnover of water through the forebay helps maintain the water quality. The existing fisheries are dependent on high water quality and an acceptable temperature range, which varies by species. If recreational fishing is to be maintained, the habitat of existing fish species will need to be managed and monitored.

4.3.1.4 Water Use

This area is the prime windsurfing launching area due to favorable wind speed and direction; however, limitations from the fluctuating water level and weedy vegetation in the water curtail more extensive windsurfing activity. Windsurfers also drive close to the water, near the southeastern shore, to set up camp, launch equipment, and use the shoreline to patrol their windsurfing peers in the water. Water use at the Forebay is typically greater than at San Luis Reservoir, which can experience pronounced fluctuations in water levels.

Activities in the S Zone will include fishing, swimming, boating, personal watercraft, water skiing, and non-motorized boating and windsurfing. In S Zones, the target boat capacity (for boats on the water at any one time) is between 10 acres per boat and 20 acres per boat.

4.3.2 Rural Developed Zone (RD)

4.3.2.1 Existing Features

The Plan Area contains three zones designated as Rural Developed: the northern end of San Luis Reservoir, roughly north of Quien Sabe Point; the eastern side of O'Neill Forebay; and the eastern side of Los Banos Creek Reservoir (shown in Map 8).

San Luis Reservoir consists of about 12,975 water surface acres, of which 10,612 acres are designated as RD Zones: RD4 for Dinosaur Point, RD5 for Basalt Bay (north of Basalt Use Area), and RD6 for Cottonwood Bay. This zone is accessible primarily from Basalt Use Area on the southeastern side of the reservoir (location of boat launch and several access points) and Dinosaur Point Use Area (location of a boat ramp). The reservoir has such an open and large pool that wind and hot sun can severely limit use of this water surface in the summer. The shoreline is irregular and steep in some locations. The large open expanse dominates the landscape, and the scale of the water surface can visually dwarf a small fishing boat. At low water levels, the large dam at the northeast face is exposed, further

providing a sense of power and dominance. Certain locations in the reservoir have views of SR 152. However, most views to the east and south are of water and undeveloped landscape.

O'Neill Forebay consists of about 2,210 water surface acres and 14 miles of shoreline, of which 740 acres are designated as RD5. It is mostly an open pool with engineered edges at the dam and is suitable for active water sports such as water skiing and windsurfing. This zone is accessible from the Medeiros Use Area (location of an old boat ramp and the natural shoreline, where campers set up to fish or be near to the water). The southern edge, adjacent to the Medeiros Use Area, has informal tent and RV campsites and day use areas.

Los Banos Creek Reservoir consists of about 485 water surface acres, of which 402 acres are designated as RD6. This zone is accessible from the Los Banos Creek Use Area and contains the boat launch area and campground. The reservoir is oriented generally northeasterly to southwesterly with a curvilinear shoreline, so the largest pool area is immediately behind the dam in the north.

4.3.2.2 Purpose and Intent

The purpose of the RD Zone is to provide a recreation experience that is less primitive and passive and offers more visitor amenities than the RN Zones at San Luis and Los Banos Creek Reservoirs. The RD Zone provides occasional or periodic opportunities to see, hear, or smell the natural resources due to the common and frequent level of development, human activity, and natural resource modification. The area is less developed and more tranquil than an S Zone (which is described in Section 4.3.1), and the opportunity to experience brief periods of solitude and change from everyday sights and sounds is important.

4.3.2.3 Resource Goals

Water quality is the most important resource issue in this zone. Currently, DWR conducts water quality monitoring on a regular basis at San Luis Reservoir and O'Neill Forebay. The existing fisheries require high water quality and an acceptable temperature range, depending on the species. If recreational fishing is to be maintained, the habitat of existing fish species will need to be managed and monitored. The authority to manage fish and wildlife in California is relegated to the DFW.

4.3.2.4 Water Use

Due to wind limitations as well as water level fluctuations during certain times of the year, use of San Luis Reservoir will be more limited than at O'Neill Forebay; however, it will be more active than Los Banos Creek Reservoir. Activities in the RD Zone will include fishing, boating, personal watercraft use, water skiing outside of designated no-ski zones, and non-motorized boating. Boating and personal watercraft use in observance of speed limits is allowed at all reservoirs. Swimming and non-motorized boating will be permitted in this zone. In RD Zones, the target boat capacity (for boats on the water at any one time) is between 20 acres per boat and 50 acres per boat.

4.3.3 Rural Natural Zone (RN)

4.3.3.1 Existing Features

The Plan Area contains two zones designated as Rural Natural: the southern end of San Luis Reservoir, roughly south of Quien Sabe Point (RN6); and the western side of Los Banos Reservoir (RN8; shown in Map 8).

San Luis Reservoir consists of about 12,967 water surface acres and 65 miles of shoreline, of which 2,355 acres are designated as an RN Zone based on the WROS system. The RN Zone is accessible primarily through the Basalt Use Area on the southeastern side of the reservoir (location of boat launch and several access points) and Dinosaur Point Use Area (location of a boat ramp). The shoreline in the RN Zone is irregular and steep in some locations and consists of cove-like surfaces used for fishing. Basalt Quarry is visible from some portions of the RN Zone. The natural shoreline of the reservoir in the RN Zone provides more enclosure and less open pool area. This, along with the undeveloped edge, provides a quiet and natural setting for boaters.

Los Banos Creek Reservoir consists of approximately 485 water surface acres and 12 miles of shoreline, of which 83 acres are designated as RN Zone. It is the most undeveloped and primitive area of the three major waterbodies in the Plan Area. It is accessible primarily from Los Banos Creek Use Area on the northeastern side of the reservoir, which has a boat launch ramp and small beach next to a campground. The southern shoreline is generally steep, providing an enclosed feeling and preventing views of large water expanses from any one location. The RN Zone is most primitive and wild on the southern and western ends of the reservoir. The surrounding landscape is undeveloped, no visitor facilities are present, and natural riparian vegetation grows along the shore.

4.3.3.2 Purpose and Intent

The purpose of the RN Zone designation is to provide a more primitive, rustic experience than at the other water zones in the Plan Area. An RN Zone provides frequent opportunities to see, hear, or smell natural resources due to the occasional or periodic level of development, human activity, and natural resource modification. The area is noticeably more natural, less developed, and tranquil than an urban setting. The opportunity to relieve stress and to get away from a built environment is important, as are moments of solitude, tranquility, and nature appreciation.

4.3.3.3 Resource Goals

The remote locations of the areas designated as RN Zones and the limited developed facilities provide visitor opportunities for a quieter, natural setting. The San Luis Reservoir RN Zone is the only location for quieter fishing areas and to be away from the boating and other activities found in the main pool area. At Los Banos Creek Reservoir, water quality is an important resource issue; currently, water quality monitoring is not conducted on a regular basis. The remote location of this facility aids in keeping water quality high. The existing fisheries require high water quality and a specific temperature range, depending on the species. If

recreational fishing is to be maintained, the habitat of existing fish species and the stocking program at Los Banos Creek Reservoir will need to be managed and monitored.

4.3.3.4 Water Use

Boating and fishing are permitted in the RN Zone of San Luis Reservoir. The very southern portion of the RN Zone at San Luis Reservoir is a "no ski zone" limited to 10 mph. Activities in the Los Banos Creek Reservoir RN Zone will include motorized boating and other existing activities, which are subject to the maximum speed limit of 5 mph. Water skiing and other high-speed boating activities will not be allowed. Swimming and non-motorized boating will be permitted. In RN Zones, the target boat capacity (for boats on the water at any one time) is between 50 acres per boat and 110 acres per boat.

4.3.4 Administration and Operations Zone (AO)

4.3.4.1 Existing Features

The Administration and Operations Zone (AO) is the smallest of the proposed management zones. This zone encompasses approximately 1,231 acres near San Luis Reservoir and 128 acres at Los Banos Creek Reservoir (Map 8). This zone includes lands known as "joint use" areas, which are lands that are managed by DWR for water operations and by CSP for recreation. O'Neill Forebay also has an area of joint use; however, this is strictly for DWR operations, and no new uses or activities are proposed.

The San Luis Reservoir AO Zone contains several built structures, most notably B.F. Sisk Dam, operating facilities for DWR and CSP, the Cal Fire Station, and a range used for law enforcement training. The zone can be accessed from SR 152, where it is partially visible from the highway, or from Gonzaga Road. This zone is the most developed portion of the Plan Area and is primarily used for water operations rather than for recreation. Portions of the landscape are open and generally undeveloped within the AO Zone; these areas currently contain no visitor facilities except for small parking areas with interpretive signage, access roads to other use areas, and chemical toilets.

The Los Banos Creek Reservoir AO Zone contains Los Banos Dam and associated water operations facilities. Minimal buildings exist in this zone. Most visitors using the recreational facilities and boating access into the Los Banos Creek Use Area must check in at the CSP-managed entry station structure. The zone also includes some open and undeveloped areas, as well as a wetland area that is located along and crossing the main access road. Generally, most of the landscape within this zone has been altered by the construction of the dam.

4.3.4.2 Purpose and Intent

The intent of the AO Zone will be to keep the Plan Area's administrative, operational, and maintenance activities clustered together and to provide for the separation of staff work areas from public use areas. Accordingly, administrative offices, work areas, equipment and materials storage, and staff parking and

housing areas will be located in the AO Zone. Public access to this zone is permitted, but it is limited and intended to enable the public to gather information and seek assistance or law enforcement, if necessary. Open, undeveloped land is limited in this zone; therefore, resource management will be focused on activities that support the existing operations yet remain consistent with efforts on other Plan Area lands.

In accordance with Goal OPS-S1, however, housing for staff or seasonal workers may be considered as appropriate in areas outside of the AO Zone. Housing provides an enhanced level of security for all program areas, including resource protection and is seen as a benefit to Plan Area goals.

4.3.4.3 Resource Goals

The resources in the two areas of the AO Zone include cultural resources, open grassland, wetlands and associated riparian vegetation, and cultural/built environment landscape elements such as the dams and associated water operations features. Future development in this zone should manage and protect these resources through visitor education and interpretation. Resource management in these areas needs to be in keeping with the dams' predominant function and needs to include security and any engineering requirements necessary for water operations.

4.3.4.4 Land Use

Activities in the AO Zone will include most of the Plan Area staff's administrative, operations, and maintenance activities, as well as limited staff-supported public uses. Staff activities will include staff management, operations and maintenance activities, vehicle and equipment storage, and staff housing. Visitor use in the AO Zone will be limited to guided walks to experience the cultural landscape features and associated buildings, visitor information and orientation, and interpretive signage.

4.3.5 Frontcountry Zone (FC)

4.3.5.1 Existing Features

The Frontcountry Zone (FC) encompasses approximately 1,650 acres throughout the Plan Area, and each of the existing use areas contains land in this zone. Most visitor facilities in each use area are in the FC Zone. The existing FC Zones are listed below by use area and shown in Map 8.

- The Basalt Use Area FC Zone has 1,085 acres, and the entrance is off of SR 152 or Gonzaga Road.
- The Dinosaur Point Use Area FC Zone has 284 acres and lies at the end of Dinosaur Point Road at the western edge of San Luis Reservoir.
- The 473-acre San Luis Creek Use Area FC Zone is along the western shoreline of O'Neill Forebay.
- The Medeiros Use Area FC Zone has 507 acres and is along the southern shoreline of O'Neill Forebay.

- The Los Banos Creek Use Area FC Zone encompasses developed lands along the northwest shore of Los Banos Creek Reservoir and has 238 acres.
- The OHV Use Area FC Zone, part of the SRA that is managed by CSP, is south of Gonzaga Road, about 2 miles from CSP's SRA administrative offices. The entire use area, an open, flat, 150-acre grassland parcel that is partially developed with an OHV track, is designated as an FC Zone.

The FC Zones were defined based on the presence of existing roads as well as camping, parking, boat launching, and other visitor facilities. The FC Zones are the most active visitor use areas in the land-based management zones and where the largest concentration of visitors will congregate. Many of these areas have open landscape expanses consisting of grassland vegetation as well as sheltered areas planted with native and non-native species to protect users from the summer winds and heat. Except for the OHV Use Area FC Zone, these zones have a direct physical connection to the water as well as open and framed views of the associated reservoir.

The terrain in most FC Zone areas (except Los Banos Creek, San Luis Creek and Dinosaur Point use areas) is relatively flat where existing facilities are located; however, adjacent undeveloped portions of the FC Zones contain rolling terrain with limited areas of isolated steepness.

4.3.5.2 Purpose and Intent

The intent of the FC Zone is to provide visitor information, Plan Area orientation, and the most active visitor uses within and around the existing developed portions of each zone. New visitor restroom facilities and other structures, campsites, concessions, recreational vehicles and horse trailers, and expanded day-use facilities will be primarily located within this zone, along with associated utilities such as electrical, water, and sewer. Additionally, if a new visitor's center is not incorporated within the AO Zone because of unforeseen constraints, it can be sited within the FC Zone. The intent is also to cluster proposed development within and around the existing development to ensure that large expanses of open space are left in a natural state, and that existing open vistas remain uninterrupted. In accordance with Goal OPS-S1, housing for staff or seasonal workers may be sited in the FC Zone.

4.3.5.3 Resource Goals

The resources associated with the FC Zone are native vegetation, wildlife habitat, streams, rolling topography and scenic, open vistas, and cultural resources. Future development in this zone should manage and protect these resources through minimal disturbance, and sensitive siting and architecture of new structures. New facilities should be clustered in and around existing development where feasible, and sprawl into undeveloped portions of the zone should be avoided where feasible. Development along the shoreline areas should minimize physical and visual interruption of open water views. Native vegetation and indigenous species

should be planted, if possible, where new plantings are proposed and to replace dead or dying trees.

4.3.5.4 Land Use

The FC Zone will accommodate the majority of the visitor facilities and activities, and active uses such as camping and any future concessions. This zone is where visitors will first be oriented to the Plan Area and then embark on their choice of recreation. Visitor options available in this zone include use of trails for horses, hikers, or mountain bikers; departure to camps in the BC Zone; camping for tents and recreational vehicles as well as group camps; alternative overnight lodging such as cabins or yurts; and day uses such as guided walks, interpretive programs, and nature study and research. In the Medeiros Use Area, where space is available for new or expanded facilities, the FC Zone will accommodate structures such as staff housing and/or a building for group events. Visitor use in this zone will be the most intensive of any zone in the Plan Area, but it will be focused in designated areas.

4.3.6 Backcountry Zone (BC)

4.3.6.1 Existing Features

The BC Zones cover the most land in the Plan Area, with a total of 7,800 acres divided into seven areas. Two are DFW-managed wildlife areas that are designated in their entirety as BC Zones. The 861-acre San Luis Wildlife Area, at the western edge of San Luis Reservoir, is accessible via Dinosaur Point Road and has a separate parking area. The wildlife area contains steep slopes, and motorized access is limited to authorized vehicles. O'Neill Forebay Wildlife Area BC Zone, on the eastern shore of the O'Neill Forebay, contains 621 acres and is accessible via SR 33. The area has parking, trail access, riparian vegetation, and wetland areas. The BC Zone does not contain the portion of the O'Neill Wildlife Area that is used for water operations and designated as a joint use area. DFW manages both wildlife areas to comply with its mission, rules, and regulations.

The other five areas designated as BC Zones are next to the FC Zones of the major use areas. The Basalt Use Area BC Zone has 2,275 acres, is accessible through the area's FC Zone, and includes Basalt Quarry and the lands next to the southeastern and western shore of San Luis Reservoir. The main visitor facilities in this zone are hiking trails.

The 905-acre Dinosaur Point Use Area BC Zone is along the northeastern shoreline of San Luis Reservoir. This area is currently not used, as it is accessible only during low water levels via the Dinosaur Point Use Area FC Zone and from certain turnout areas along SR 152. This BC Zone follows the shoreline closely except in the vicinity of Honker Bay, where it flattens out and widens to form a peninsula. Elsewhere, the zone slopes steeply toward the shoreline. Although this area is physically connected to the San Luis Wildlife Area, it differs from that area by the uses permitted.

The San Luis Creek Use Area BC Zone is accessible via the adjacent FC Zone and consists of two areas totaling 792 acres. The first area is west of the entry station, west of O'Neill Forebay and adjacent to Lower Cottonwood Wildlife Area. It acts as a transition between the wildlife area and CSP-managed SRA lands. A portion of the BC Zone also follows SR 152; however, it generally acts as open buffer land adjacent to the highway. The second BC Zone in the San Luis Creek Use Area is north of O'Neill Forebay and is accessible only by boat and trail.

South of O'Neill Forebay and immediately north of SR 152 is the 568-acre Medeiros Use Area BC Zone, which is accessible via the adjacent FC Zone. This area is currently undeveloped and relatively flat. It contains a large buffer planting that visually separates it from the highway, as well as a series of unpaved roads that lead to areas along the shoreline in the FC Zone.

Los Banos Creek Use Area BC Zone contains a large portion of land (1,777 acres) surrounding Los Banos Creek Reservoir. It consists of rolling and steep grassland terrain as well as flatter shoreline areas with riparian vegetation. The portion of the zone south of the reservoir is accessible from a road off of the main entry road and before the entry station. The elevation of the area provides sweeping views of much of the reservoir and landscape to the northwest and south. The character of the BC Zone is among the most primitive within the Plan Area, due to its remote location and the unaltered shoreline and wetland areas, particularly from about the middle of the reservoir to the southwestern edge of the that portion of the Plan Area. The BC Zone on the northern side of the reservoir is accessible from the FC Zone primarily by trails and from the water.

The BC Zones are shown in Map 8.

4.3.6.2 Purpose and Intent

The purpose of the BC Zones is to keep a large portion of the Plan Area in a wild and primitive state while allowing limited visitor access and enjoyment. The intent is to maintain the vegetative species and natural, un-engineered character of the landscape. Accordingly, built recreation facilities are limited but visitor access is extensive, consisting of hiking, horseback riding, mountain biking, backpack camping, nature study, and bird watching. In the DFW-managed wildlife areas, hunting is permitted by season and species and other restrictions as per the DFW code. The BC Zones will provide visitors with quiet and passive recreation experiences, and opportunities to be in a more wild landscape setting than the FC Zones. Utilities and visitor services will be limited because access is remote and new infrastructure is costly. In accordance with Goal OPS-S1, housing for staff or seasonal workers may be sited in the BC Zone.

4.3.6.3 Resource Goals

The resources associated with this zone are the unfragmented expanses of native vegetation and wildlife habitat, wetlands, cultural elements, and scenic vistas. Future development in this zone should manage and protect these resources through continued inventory and research. In addition, land management activities

should be aimed at reducing invasion by exotic species, degradation of shoreline and riparian areas, and habitat fragmentation. Siting of any future primitive campgrounds and associated structures should be consistent with these goals to the extent possible. Because the BC Zones are the largest blocks of undeveloped land in the Plan Area, managers should ensure that fragmentation and degradation do not occur through haphazard maintenance activities, inappropriate placement of new facilities, and visitor overuse.

4.3.6.4 Land Use

Activities in the BC Zone will include a full array of resource management actions as appropriate, as well as the less intensive recreation uses and limited facilities associated with primitive camping and mixed-use trails. Less intensive uses include fishing, self-guided interpretive walks, and other trail use by mountain bikers, hikers, backpackers, equestrians, bird watchers, photographers, researchers, students, and Plan Area staff members. Limited special-event opportunities such as equestrian and mountain bike events will be considered on a case-by-case basis.

The Medeiros Use Area is one location in the Plan Area where ample space is available for new or expanded facilities. Therefore, the BC Zone for the Medeiros Use Area could accommodate structures such as staff housing and/or a building for group events, along with associated utilities such as electrical, water, and sewer.

Resource management activities will be especially active in this zone. In certain areas, prescribed burns may be used to manage fuel loads, in accordance with the recommendations of a vegetation management statement and the Cal Fire Vegetation Management Program (Section 3.2.5). Grazing is currently allowed in Medeiros Use Area and would be considered in other areas of the BC Zone for vegetation management. Riparian rehabilitation, exotic species removal, and wildlife habitat and corridor protection are other intended resource management activities.

4.4 Alternatives

This section describes the No Action/No Project Alternative and three action alternatives for Plan implementation. The proposed alternatives were developed using input from public and agency meetings and workshops, a review of available documentation, and an analysis of existing conditions. The action alternatives provide a range of management activities and guidance proposed to address the goals, objectives, and issues for each resource category. Management zones within the Plan Area are discussed in Section 4.3.

The activities and guidance identified for each alternative represent the amount of development and management that is consistent with the alternative's objectives and management zones. The activities and guidance would be implemented based on sufficient public demand, sufficient staffing and funding to manage the new or

modified uses in accordance with the Plan, and potential for increased public benefits and use. New recreational uses or activities allowed under the Plan may also be discontinued in the future at the discretion of the managing agencies if demand decreases, the activity is not economically viable, new security or safety considerations arise, and/or unforeseen significant environmental impacts occur that cannot be mitigated.

All three action alternatives developed to implement the Plan are designed to protect and preserve natural and cultural resources throughout the Plan Area. Plan goals and guidelines from Section 4.2 are referenced where appropriate. Resource management activities are generally equal in resource protection across all alternatives; however, they provide for different ways to accomplish resource goals. The alternatives emphasize maintaining use and facilities within the existing use areas and clustering new facilities in and around these areas to the extent feasible to reduce encroachment into undeveloped lands within the Plan Area. Although some alternatives allow for trails or other access into segments of the Plan Area that are currently not being used, this has been kept to a minimum with the goal of conserving native vegetation, wildlife habitat, and wildlife corridors.

This Plan is a programmatic document that provides a broad range of management activities that are feasible within the Plan Area. Future project-specific actions, if and when implemented, may require tiered environmental review that would reference this programmatic document. Future project-specific actions would only be implemented when needed and based on BMPs, staff recommendations, and adequate funding.

The action alternatives are described in Table 4-1 by use area and for the Plan Area as a whole. The alternatives can be summarized as follows:

- Alternative 1, the No Action/No Project Alternative, would continue the management direction set by previous planning documents as well as ongoing programs initiated under existing legislation and regulations. Alternative 1 is intended to reflect current and expected future conditions in the Plan Area should the proposed Plan not be implemented.
- Alternative 2: Limited new access and development. Alternative 2 would include the fewest physical additions and visitor use modifications among the action alternatives but would implement an array of resource management actions. Visitor access would remain the same as under Alternative 1.
- Alternative 3: Moderate new access and development (Preferred Alternative). Alternative 3 balances the need for future visitor facilities with resource management. This alternative anticipates increased future visitation by providing for physical additions and visitor use modifications but concentrates them in and around existing developed areas. Compared to Alternative 2, Alternative 3 would provide for the same level of resource management and a higher level of visitor access.

- Alternative 4: Maximum new access and development. Alternative 4 would provide for the most physical additions and visitor use modifications among the action alternatives, some in areas that are currently undeveloped. Compared to the other action alternatives, Alternative 4 would provide for the same level of resource management and the highest level of visitor access.

Each alternative is described in detail in Sections 4.4.1 through 4.4.4. For each action alternative description, a discussion of its characteristics is presented by the five major planning areas: resource management, visitor use and education, local and regional planning, infrastructure and operations, and water operations.

An environmental evaluation of the Plan alternatives is provided in Section 5.4. Note that following the public review of the Draft EIS/EIR and consideration of comments, Reclamation and CSP have identified Alternative 3 as the preferred alternative.

Table 4-1
Proposed Management Actions by Alternative and Area

Element	Alt 1	Alt 2	Alt 3 (PA)	Alt 4
RESOURCE MANAGEMENT				
Continue existing watercraft inspection program to prevent the introduction of invasive mussels. If funding does not allow for continuation of the existing program, implement a voluntary watercraft operator self-inspection program to prevent the introduction of invasive mussels, pursuant to California Fish and Game Code §2302. If needed, evaluate other control measures to prevent the introduction of invasive mussels.	•	•	•	•
No timed phaseout of nonconformant two-stroke engines.	•			
Three-year phaseout of nonconformant two-stroke engines, with enforcement measures to be specified in the boating management plan.		•	•	•
Continue boating management under general direction set by ongoing practices and previous plans (1972 Boating Management Plan, 1969 and 1971 Los Banos Creek Reservoir Recreation Development Plans).	•			
Develop a new boating management plan.		•	•	•
Develop a cultural resources management plan, including BMPs for cultural resource protection.		•	•	•
Develop a trails management plan.		•	•	•
Develop a vegetation management statement; consider rehabilitation of natural ecosystems using best management practices; coordinate protection of special-status wildlife with other agencies where necessary.		•	•	•
Continue grazing in the BC Zone at Medeiros Use Area.	•	•	•	
Allow grazing and prescribed burns in the BC Zones of Basalt and Los Banos Creek use areas.		•	•	•

Table 4-1
Proposed Management Actions by Alternative and Area

Element	Alt 1	Alt 2	Alt 3 (PA)	Alt 4
Allow grazing in the BC Zones of Dinosaur Point and San Luis Creek use areas.		•	•	•
Convert the BC Zones at Medeiros Use Area (entire BC Zone) and part of Los Banos Creek Reservoir (along existing entry road) to FC to accommodate existing and future recreation demand and focus activity and development in geographically appropriate areas.			•	•
VISITOR EXPERIENCE, INTERPRETATION, AND EDUCATION				
Plan Area-wide				
Maintain existing trails and trailside exhibits.	•	•	•	•
Create additional interpretive programs, including themes described in Section 4.2.2.3.		•	•	•
Gonzaga Road Facilities Area				
Maintain existing CSP facilities.	•	•	•	•
Provide a new visitor's center within existing facilities.				•
Romero Visitor's Center				
Continue to offer educational information, literature, visitor programs, viewing stations with telescopes, and restrooms.	•	•	•	•
Consider partnership for development of interpretive programs with DWR.		•	•	•
Basalt Use Area				
Maintain entrance station, four-lane boat launch with a 80-foot boarding float, parking lot (for 278 vehicles or 156 with trailers), restrooms with flush toilets and showers, chemical toilets, information boards, and wind warning light. Maintain no-ski zone and 10 mph speed limit on reservoir on either side of Goosehead Point.	•	•	•	•
Basalt Quarry to remain closed to public access.	•	•	•	
Coordinate with Department of Water Resources (DWR) to allow for guided tours of Basalt Quarry.				•
Maintain trails and interpretive signage.	•	•	•	•
Develop multi-use trail (hiking, cycling, equestrian) to Pacheco State Park including a backpackers' camp. Where feasible, provide spring-fed water station.			•	•
Maintain existing camping area (79 tent/RV sites).	•			
Reconfigure 79 tent/RV sites or add sites to allow for larger RVs.		•	•	•
Add 30 RV campsites with full hookups.			•	•
Add hookups to all campsites and add laundry facility and refreshment stand.				•
Add group camp to accommodate up to 60 people.			•	
Add group camp to accommodate up to 100 people.				•
Add alternative overnight lodging such as cabins or yurts.			•	

Table 4-1
Proposed Management Actions by Alternative and Area

Element	Alt 1	Alt 2	Alt 3 (PA)	Alt 4
Add alternative overnight lodging such as cabins or yurts with utilities.				•
In the BC Zone, add backpackers campground with up to 10 tent sites, and add vault toilets.			•	
Maintain existing campfire center/outdoor gathering area (for approx. 60 people).	•			
Upgrade campfire center to accommodate regular programs and group events.		•	•	
Replace campfire center with amphitheater to accommodate larger groups.				•
Coordinate with DWR to explore allowing cycling/fishing on dam.			•	•
San Luis South (Quien Sabe, Golden Eye, Harper Lane, and Coyote Springs Areas)				
Maintain wind warning light at Quien Sabe Point and no-ski zone and 10 mph speed limit in Portuguese Creek area.	•	•	•	•
Maintain Lone Oak Trail from Basalt Use Area.	•	•	•	•
Provide group picnic facility with shade ramadas at Quien Sabe Point, accessible by foot, bike, or horseback; provide campground at Golden Eye with up to 25 tent sites and backpackers campground at Harper Lane with up to 10 tent sites; develop an equestrian camp and allow primitive trail access camping at Coyote Springs.				•
Dinosaur Point Use Area				
Maintain existing parking facilities (123 spaces for vehicles), shade ramadas (five), picnic benches, chemical toilets, information board.	•	•	•	•
Add restrooms with flush toilets.		•	•	•
Add 30 shade ramadas.			•	•
Allow concession.				•
Maintain multi-use trail along Dinosaur Point Road.	•	•	•	•
Develop trail linking Dinosaur Point to Pacheco State Park and San Luis Wildlife Area.			•	
Develop multi-use trail (hiking, cycling, equestrian) linking Basalt with Dinosaur Point Use Area (see above for Basalt).				•
Maintain existing four-lane boat launch with 80-foot boarding float.	•	•	•	
Expand boat launch.				•
Construct marina.				•
Allow concession.				•
Add 30 tent campsites.			•	•
At Whistler Point south of Dinosaur Point, allow primitive boat-in and trail access camping.				•
At Honker Bay north of Dinosaur Point, allow boat-in, low-impact day use (picnicking and hiking).				•

Table 4-1
Proposed Management Actions by Alternative and Area

Element	Alt 1	Alt 2	Alt 3 (PA)	Alt 4
Continue to allow street luge events with permission from the CSP Four Rivers Sector.	•	•	•	•
San Luis Creek Use Area				
Maintain entrance station, wind warning light, three-lane boat launch ramp with two 80-foot boarding floats, parking (390 spaces for vehicles; 171 for vehicles with trailers), two beaches, lifeguard stand, 148 shade ramadas with barbecues, picnic area, trail access, interpretive exhibits, dump station, chemical toilets, restrooms (with flush toilets and showers), and no-ski zone and 10 mph speed limit on water on the west side of O'Neill Forebay.	•	•	•	•
Provide new boarding float and ADA-accessible fishing pier; upgrade or replace lifeguard stand; consider connecting paving paths; explore concession opportunities.		•	•	•
Offer additional interpretive exhibits, programs.		•		
Expand boat launch.			•	•
Add separate launch area for personal watercraft.				•
Add children's fishing area.			•	
Construct marina.				•
Maintain the five group picnic facilities.	•		•	•
Expand the five group picnic facilities.		•		
Provide up to five additional group picnic facilities at day use areas (2 for 25-35 people each, 2 for 45-60 people each, and 1 for 75-100 people).			•	
Provide additional group picnic facilities as described for Alt. 3 but with a total of 4 facilities (instead of 2) for groups of 45-60.				•
Provide multipurpose building for group events and interpretive programs.		•	•	•
At North Beach, develop amphitheater for group events and interpretive programs.				•
Maintain existing 53 tent and RV campsites with electric and water hookups, fire pits, and picnic tables; and two group campsites (accommodates 90 campers total) with shared parking (approximately 36 vehicle spaces).	•	•	•	•
Add up to 30 tent sites at northwest shoreline.		•	•	•
Add one group campsite for up to 90 campers.			•	
Add two group campsites for up to 100 campers each.				•
Offer alternative overnight lodging such as up to 15 cabins or yurts with utilities.			•	
Offer alternative overnight lodging such as up to 30 cabins or yurts with utilities.				•

Table 4-1
Proposed Management Actions by Alternative and Area

Element	Alt 1	Alt 2	Alt 3 (PA)	Alt 4
In the Grant Line area on the northeast side of O'Neill Forebay (BC Zone), continue to allow boat-in low-impact day use (picnicking and hiking).	•	•	•	•
In the Grant Line area on the northeast side of O'Neill Forebay (BC Zone), allow boat-in primitive camping.				•
Work with DFW to reduce conflicts with hunting access from San Luis Creek Use Area to Lower Cottonwood Wildlife Area such as park use hours, gates, etc.		•	•	•
Medeiros Use Area				
Maintain entrance station, approximately 300 informal parking spaces, four portable water tanks, chemical toilets, and unimproved trails.	•	•	•	•
Boat launch to remain closed.	•			
Consider enhancements to allow reopening/relocating boat launch.		•	•	•
Add parking lot and restrooms near boat launch.			•	•
Add windsurfing launch area.				•
Pave all unpaved roads.			•	•
Develop water-themed interpretive program, including a wetland demonstration area.				•
Add a water-based play area for children to interpret the need and value of water quality and quantity.				•
Maintain 50 tent/RV sites (with shade ramadas, picnic tables, and barbecues) and 350 primitive campsites.	•	•	•	•
Add shelter and restrooms.			•	
Add shelter and restrooms with flush toilets.				•
Add up to 100 new tent/RV sites and 100 primitive campsites.			•	
Add up to 150 new tent/RV sites and 100 primitive campsites, along with wayside campground near entry station.				•
Offer alternative overnight lodging such as cabins or yurts with utilities.				•
Consider concessions, including food service and camping/fishing supplies.			•	
Allow for construction of a restaurant and motel in coordination with long-term concessionaire.				•
OHV Use Area				
Maintain unpaved OHV trails, parking, chemical toilets, and interpretive signage.	•	•	•	•
Allow for minor additions to existing facilities such as shade ramadas, vault toilet, minor infrastructure improvements.			•	
Add up to six primitive campsites.			•	•

Table 4-1
Proposed Management Actions by Alternative and Area

Element	Alt 1	Alt 2	Alt 3 (PA)	Alt 4
Allow for more intensive activity within existing OHV Use Area, such as a professional motocross track, and provide underground utilities (water and power).				•
Allow for potential future expansion of OHV Use Area if property becomes available.			•	•
Los Banos Creek Use Area				
Maintain two-lane boat launch ramp with 60-foot boarding float; 5 mph speed limit on entire reservoir; parking for approximately 40 vehicles with boat trailers; 14 North Shore campsites with shade ramadas, barbecues, and picnic tables; swimming area; hiking and equestrian trail access; "Path of the Padres" hiking trail; and chemical toilets.	•	•	•	•
Maintain entrance station in current location.	•	•		
Construct a new entrance station at Plan Area boundary and relocate staff housing and maintenance facilities.			•	•
Explore opportunities for expanding North Shore campground for up to 30 tent sites and providing restrooms with flush toilets.		•	•	•
Provide up to 20 tent/RV campsites on the South Shore.			•	
Provide up to 40 tent/RV campsites on the South Shore.				•
West of Los Banos Creek Use Area, develop 40 tent sites and a group camp in the La Plata area, and allow boat-in primitive camping at Padre Arroyo Flat.				•
Maintain equestrian camp in current location.	•			
Relocate equestrian camp.		•	•	•
Create trail linking Los Banos Creek Use Area to Basalt Use Area if allowed by owners of private properties.				•
Guided tours of the "Path of the Padres" trail and boat tour led by volunteer and CSP staff, camping, boating, fishing, swimming, horseback riding, radio-controlled plane and glider use, and trail use.	•	•	•	•
LOCAL AND REGIONAL PLANNING				
Provide for coordination among DWR, DFW, CSP, and Reclamation as well as with other agencies and stakeholders.		•	•	•
Provide for addressing conflicts between hunting and other uses on lands surrounding the Dinosaur Point Use Area.		•	•	•
Facilitate local and regional planning objectives by considering development of trails linking Plan Area with Pacheco State Park.			•	•
INFRASTRUCTURE AND OPERATIONS				
Circulation				
Maintain existing access routes and entry points.	•			

Table 4-1
Proposed Management Actions by Alternative and Area

Element	Alt 1	Alt 2	Alt 3 (PA)	Alt 4
Work with Caltrans to identify alterations to existing roadways, including improved turning lanes on SR 152 and SR 33 at Plan Area entry points; work with other agencies to improve signage outside of Plan Area and at entry points.		•	•	•
Work with Caltrans to explore improved access routes between SR 152 and Basalt Use Area, and SR 152 and San Luis Creek.		•	•	•
Work with Caltrans to explore interchange at San Luis Creek entry road with limited access overpass from Gonzaga Road, and crossing from Gonzaga Road to Medeiros Use Area with a blending lane to SR 152.			•	•
At the San Luis Creek Use Area, in the vicinity of the San Luis Creek Campground, allow for a new road for vehicle access to fishing area (Check 12) and potential new camping areas.			•	•
At Los Banos Creek Use Area, improve road at existing entry station to allow passage during periods of seasonal flooding.		•	•	•
Work with Caltrans to explore creation of new exit off of I-5 at Canyon Rd. for access to Los Banos Creek Use Area.				•
Utilities				
Upgrade utilities over time to meet current standards.	•	•	•	•
Provide for additional utility connections to accommodate additional hookups and electrical demand in areas of new or expanded development.			•	•
Maintain and repair existing lighting.	•			
Maintain and repair existing lighting using energy-efficient fixtures; add carbon-reducing features such as solar panels to offset carbon footprint.		•	•	•
Add new lighting as necessary for additional development.			•	•
WATER OPERATIONS				
Provide information about how to obtain wind and water level information.		•	•	•
Clarify allowable visitor access to sensitive areas such as dams and other water conveyance structures and facilities.	•	•	•	•
Explore engineering solutions for shallow areas at low water levels, including dredging and removal of sandbars.			•	•

PA = Preferred Alternative

4.4.1 Alternative 1: No Action/No Project Alternative

NEPA regulations (40 CFR 1502.14(d)) and CEQA Guidelines (Section 15126.6) require that a No Action (NEPA) and No Project (CEQA) alternative be analyzed in an EIS and an EIR, respectively, to allow decision-makers to compare the impacts of not approving the action with those of approving the action.

For Alternative 1, the current resource and recreation management direction and practices in the Plan Area would continue unchanged. The management elements listed for Alternative 1 in Table 4-1 are existing, ongoing activities in the Plan Area and represent the expected future condition if the Plan were not implemented. The previous plans described in Section 3.1 and Appendix A, Table A-1 would remain in effect.

Although water and land management zones for Alternative 1 are shown in Map 8, the proposed Plan would not be implemented, and no Plan measures would be applied to manage those zones. None of the new facilities or focused management plans identified in the action alternatives would be implemented. Utility upgrades would be necessary over time to adhere to current standards, but no provisions would be made to accommodate any increase in demand for electricity and potable/drinking water, or to add lighting in the Plan Area. The use of nonconformant two-stroke marine engines would not be phased out.

The existing invasive mussel inspection program in the Plan Area, launched by CSP on October 1, 2011, will continue for three years. If no funding is available after 2014, a watercraft operator self-inspection program would be implemented as part of Alternative 1 to meet the requirements of California Fish and Game Code Section 2302. The self-inspection program would be implemented consistent with the Level 1 Self-Inspection described in *Recommended Uniform Minimum Protocols and Standards for Watercraft Interception Programs for Dreissenid Mussels in the Western United States* (Pacific States Marine Fisheries Commission 2009).

Under this program, an inspection form would be made available at an entry station, kiosk, or message board. The form would have questions for the watercraft/equipment to answer and instructions for inspecting all designated areas and equipment. Before launching, boaters must confirm by signing and displaying a completed self-inspection form that watercraft, equipment, and trailer have not been in any water known or suspected of having quagga/zebra mussels in the past 30 days; have been cleaned, and to the extent practical, drained and dried; and have been visually inspected at the site prior to launching. The form would then be placed in or on the transport vehicle, where it can be easily seen. Completion and display of the inspection form would be voluntary. If needed to protect Plan Area infrastructure and ecosystems, other potential control measures could be evaluated including, but not limited to, mandatory use of the inspection form; screening interviews at the point of entry; a comprehensive watercraft/equipment inspection performed by trained inspectors of all high-risk watercraft/equipment; and/or decontamination, quarantine, or exclusion of suspect watercraft.

Section 5.4 evaluates the impacts associated with this alternative in relation to the action alternatives.

4.4.2 Alternative 2: Limited New Access and Development

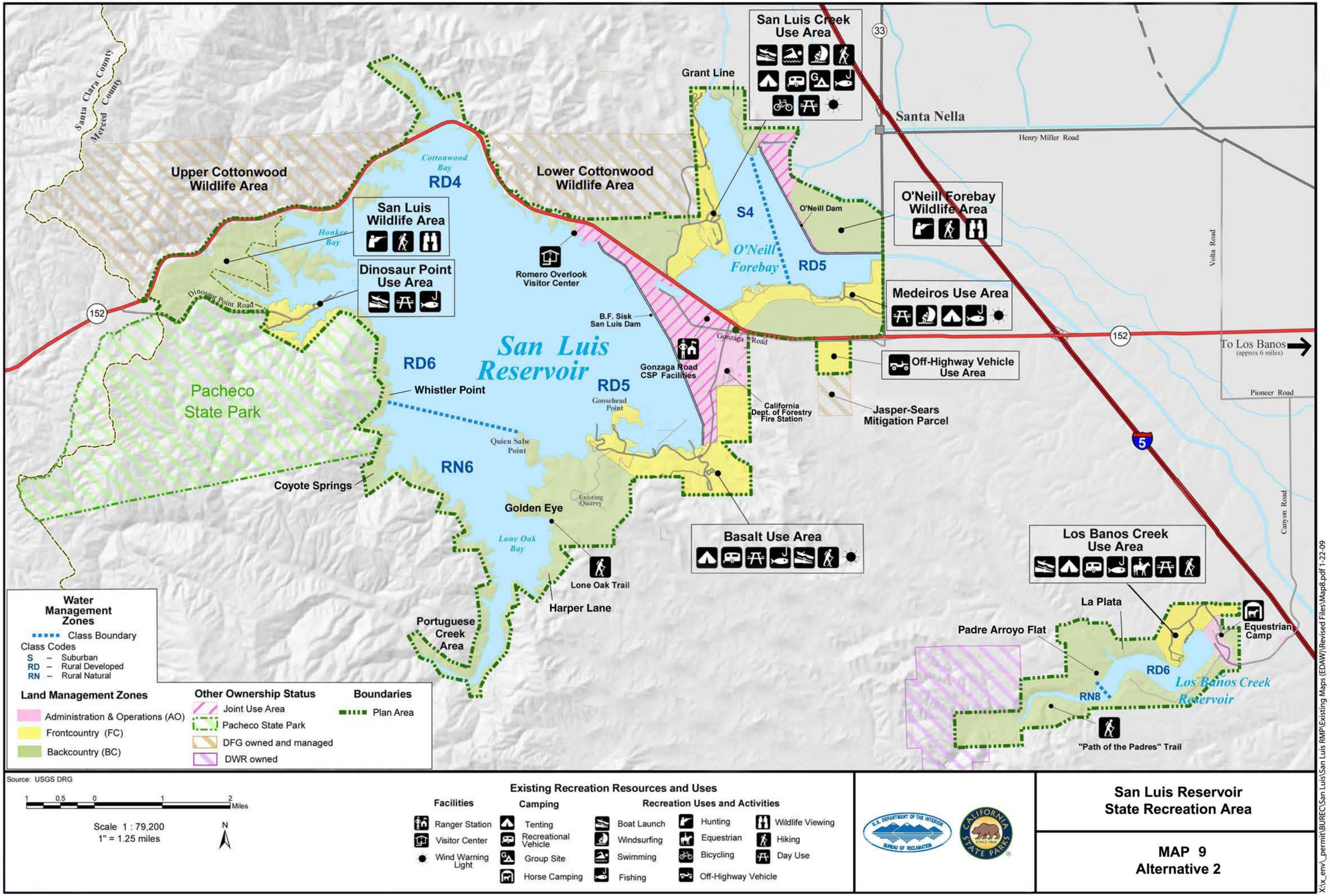
Alternative 2 would provide the least overall new visitor access and facility diversity of the action alternatives. General locations of the new facilities and features of Alternative 2 are shown on Map 9 and listed in Table 4-1. Management zone designations would remain the same as with Alternative 1. The following description of Alternative 2 is organized by the planning areas defined in Section 3.4.

Resource Management. Alternative 2 proposes the fewest physical additions and visitor use modifications in the Plan Area but includes several resource management components. Alternative 2 would implement focused management plans for the Plan Area resources described below. The preparation of these plans differs from other proposed management elements. Proposed recreational uses or facilities allowed under the Plan would be implemented at the discretion of Plan Area management and could be discontinued for the reasons described at the beginning of Section 4.4. In contrast, preparation of the focused management plans is part of Plan implementation and would be implemented within three to five years of Plan adoption, or sooner if funding is available. The focused management plans would be as follows:

- Boating management plan. A boating management plan would allow management personnel to identify boat densities that are compatible with the different WROS designations within the Plan Area (discussed further in Sections 4.3.1 through 4.3.3). Setting density thresholds is consistent with Goal VIS-F3 (Visitor Uses/Opportunities and Facilities) to manage water surfaces to accommodate a variety of different user groups and minimize conflicts among users. The total number of boats allowed daily could be managed by limiting the number of launches to the number of boat trailer parking spaces available, instituting a reservation system, monitoring, or other methods. Management personnel would have the flexibility to allow boat numbers to exceed maximum densities on holidays or high-use weekends if safety requirements are met. The boating management plan may consider data points such as accidents, violations, and historic data. The plan would be reviewed periodically to assess whether updates are necessary as a result of changes to boat types or boating areas. In keeping with Goal RES WQ-1 (Hydrology/Water Quality) to avoid adverse water quality effects from recreation, each of the action alternatives would impose a three-year phaseout period for nonconformant two-stroke engines. All recreational marine engines would be required to have a one-star, two-star, or three-star label. The boating management plan would specify enforcement measures that could be implemented after the phaseout period. Finally, the plan could include visitor education measures to prevent pollution from motorized watercraft, such as limiting engine operation at full throttle, following manufacturers' recommended maintenance schedules, eliminating unneeded engine idling, preventing gasoline spills and using caution when pumping/transferring fuel, and preparing engines properly for winter storage.

San Luis Reservoir State Recreation Area

MAP 9
Alternative 2



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- Cultural resources management plan. A cultural resources management plan could include BMPs for cultural resource protection, set forth a process to record and document cultural resources, and develop a long-range management strategy that evaluates preservation, stabilization, rehabilitation, or reconstruction of the Plan Area's significant cultural resources. By including a focused management plan for cultural resources, Alternative 2 would provide a greater degree of consistency with Goal RES-H1 (Cultural/Historic) and its guidelines than Alternative 1.
- Vegetation management statement. Consistent with Goals RES-V1 through RES-V5 (Vegetation), a vegetation management statement would provide a framework for identifying and prioritizing strategies to manage invasive species and weeds; special-status, wetland, and native vegetation; erosion and sedimentation; grazing; and prescribed burns and fuel loads. The statement would assess the adequacy of the existing vegetation and wetlands inventory (described in Section 2.6.2.1) and allow for preparation of a Plan Area vegetation map. The statement would also identify tools and techniques to manage vegetation and incorporate BMPs for native grassland rehabilitation. To minimize the propagation of invasive and non-native species, the plan would list local native species that are indigenous to the Plan Area or vicinity to be used for revegetation where feasible. The statement would address wildland fire and identify fire management measures, consistent with the National Fire Plan.
- Trails management plan. A focused trails management plan would be prepared in accordance with Goals VIS-T1 through VIS-T4 (Trails) to provide a framework for long-term trail system assessment and management. The plan would identify potential future trails and connections and determine single-use and multi-use options based on visitor experience and resource protection needs. This could involve reviewing parts of the Plan Area that are currently not accessible to the public to determine where to place new trails or branch off of existing trails. The plan would identify important natural resources (such as wildlife corridors) and cultural resources to consider in trail planning, to avoid resource fragmentation or degradation where feasible. The plan would also incorporate BMPs to maintain trails and minimize erosion, especially in areas where trail use could affect water quality.

In addition, Alternative 2 would allow for development of BMPs for rehabilitation of natural ecosystems (Goal RES-V4, Vegetation) and coordination with other agencies to protect special-status wildlife where necessary (Goal RES-W2, Wildlife).

Under Alternative 2 and the other action alternatives, geologic studies and geotechnical investigations would be performed as necessary before siting and design of permanent structures, campgrounds, roads, and trails to avoid or minimize potential damage from erosion, unstable soil, landslides, and earthquakes. In addition, erosion control and soil stabilization BMPs would be considered, including necessary erosion control plans for sites with high erosion

potential to minimize soil loss and sedimentation; revegetation of disturbed areas with native species when construction activities are complete; BMPs such as mulch or weed-free straw to provide groundcover where soils have been exposed at the surface without effective coverage; the siting of access, staging, and stockpiling areas on existing roads or trails to the extent possible; avoiding the placement or operation of heavy equipment on slopes steeper than 65 percent, and on slopes steeper than 50 percent in areas that are unstable; and developing specific measures as situations arise to minimize the effect of operations on slope instability if steep slopes are unavoidable.

Alternative 2 and the other action alternatives would also include measures to prevent the introduction of invasive mussels. The existing invasive mussel inspection program in the Plan Area, launched by CSP on October 1, 2011, will continue for three years. If no funding is available after 2014, a watercraft operator self-inspection program would be implemented as part of Alternative 2 to meet the requirements of California Fish and Game Code Section 2302. The self-inspection program would be consistent with the Level 1 Self-Inspection described in *Recommended Uniform Minimum Protocols and Standards for Watercraft Interception Programs for Dreissenid Mussels in the Western United States* (Pacific States Marine Fisheries Commission 2009). Under this program, an inspection form would be made available at an entry station, kiosk, or message board. The form would have questions for the watercraft/equipment to answer and instructions for inspecting all designated areas and equipment. Before launching, boaters must confirm by signing and displaying a completed self-inspection form that watercraft, equipment, and trailer have not been in any water known or suspected of having quagga/zebra mussels in the past 30 days; have been cleaned, and to the extent practical, drained and dried; and have been visually inspected at the site prior to launching. The form would then be placed in or on the transport vehicle, where it can be easily seen. Completion and display of the inspection form would be voluntary. If needed to protect Plan Area infrastructure and ecosystems, other potential control measures could be evaluated including, but not limited to, mandatory use of the inspection form; screening interviews at the point of entry; a comprehensive watercraft/equipment inspection performed by trained inspectors of all high-risk watercraft/equipment; and/or decontamination, quarantine, or exclusion of suspect watercraft.

Finally, Alternative 2 and the other action alternatives would allow for grazing and prescribed burns for fuel management in the BC Zones of Basalt and Los Banos Creek use areas, and for grazing in the BC Zones at Dinosaur Point and San Luis Creek use areas. These measures are consistent with Goal RES-V5 (Vegetation) to reduce the threat for wildland fire. Grazing, which is currently allowed in the BC Zone at Medeiros Use Area, would continue in accordance with federal and state policy guidelines and with completion of NEPA and CEQA analysis prior to renewal of the grazing lease.

Visitor Experience, Interpretation, and Education. This alternative would expand visitor experience and education compared with existing facilities and programs, but to a lesser degree than Alternatives 3 and 4. Visitor facility

modifications are generally consistent with Goals VIS-F1 through VIS-F3 (Visitor Uses/Opportunities and Facilities), although Alternative 2 provides for a minimal level of future recreation demand. Additions to facilities under this alternative would not change any WROS or land management zone designations compared from those identified for Alternative 1; accordingly, the target boat capacities identified in Sections 4.3.1.4, 4.3.2.4, and 4.3.3.4 also remain the same. This alternative does not include management actions that increase Plan consistency with Goals VIS-T1 through VIS-T4 (Trails), Goal VIS-C1 (Concession Opportunities), or Goal REG-L1 (Linkages).

At the Romero Visitor's Center, in addition to the existing educational information, literature, and visitor programs, interpretive programs would be considered in partnership with DWR. The Basalt Use Area campground would be reconfigured or sites would be added to accommodate larger RVs, and the existing campfire center would be upgraded with additional seating or other facility enhancements for regular programs and group events.

Alternative 2 would introduce no new recreational activities or facilities in the San Luis South area, southwest of Basalt Use Area. The Lone Oak Trail would remain accessible from Basalt Use Area, and the no-ski zone and 10 mph speed limit would remain in force in Lone Oak Bay and Portuguese Creek.

Changes at the Dinosaur Point Use Area under Alternative 2 would be limited to constructing restrooms with flush toilets. This alternative would allow for prescribed burns in the BC zone, away from visitor areas, as a fuel management measure. Street luge events would continue to be allowed with CSP's permission.

At San Luis Creek Use Area, Alternative 2 would provide for a new boarding float and ADA accessible fishing access (such as a pier). The existing lifeguard stand would be upgraded or replaced, and opportunities for concessions (such as food service or kayak, boat, and personal watercraft rentals) would be explored. The five group picnic facilities would be expanded to accommodate larger groups. Alternative 2 would allow for a multipurpose building to be constructed for interpretive activities, slideshows and movies, or other visitor events. Existing interpretive exhibits would be maintained, and additional interpretive exhibits and programs would be provided. Thirty tent sites would be added on the northwest shoreline of San Luis Creek Use Area. Existing paved walking paths could be connected to form longer trails.

Hunting access to Lower Cottonwood Wildlife Area, outside of the Plan Area, would be provided as it is now through the San Luis Creek Use Area entrance road. This alternative would provide for working with DFW to reduce conflicts with hunting access such as park use hours, gates, etc., in accordance with Goal REG-C1 (Interagency Cooperation) and its guidelines.

At the Medeiros Use Area, additional tent/RV or primitive campsites are not proposed, but additional camping would be added across O'Neill Forebay at the San Luis Creek Use Area, as noted above. Alternative 2 would allow for consideration of reopening or relocating the Medeiros Use Area boat launch.

No changes are proposed for the existing OHV Use Area. OHV use will be restricted to trails (including the existing track) and roads, in conformance with PRC Section 5001A3. Seasonal restrictions for Red Sticker OHVs will be continued.

At the Los Banos Creek Use Area, the addition of up to 30 tent sites and restrooms with flush toilets at the North Shore campground would be explored. The relocation of the existing equestrian camp would be considered, but the entrance station, maintenance facilities, and staff housing would remain in their current locations.

Alternative 2 would allow for creating additional interpretive programs, which would include the themes described in Section 4.2.2.3.

Local and Regional Planning. Alternative 2 and the other action alternatives provide for coordination among the four managing agencies (DWR, DFW, CSP, and Reclamation) as well as with other agencies and stakeholders (Goals REG-C1 and REG-C2, Interagency Cooperation). All action alternatives would also provide for addressing conflicts between hunting and other uses on lands surrounding the Dinosaur Point Use Area.

Infrastructure and Operations. Under Alternative 2, the managing agencies would work with Caltrans to identify alterations to existing roadways, including improved turning lanes on SR 152 and SR 33 at Plan Area entrances, and improved access routes between SR 152 and Basalt Use Area, and between SR 152 and San Luis Creek Use Area. The managing agencies would also work with other agencies to improve signage outside of the Plan Area and at Plan Area entry points. The road at the entrance station to Los Banos Creek Use Area would be improved to address periodic flooding issues from heavy rains and federally mandated water releases, which result in occasional closure of the area's access road. The improvements would allow uninterrupted access to the reservoir. Management actions related to circulation are consistent with Goals OPS-A1 through OPS-A4 (Plan Area Access and Circulation).

Utility upgrades would be necessary over time to adhere to current standards. Upgrades would include wear items on specific utilities, replacement of broken or damaged equipment, and replacing older equipment that is determined unsafe, as generally directed by Goal OPS-U1 (Utilities). Existing lighting would be maintained and repaired using energy-efficient fixtures. Carbon-reducing features such as solar panels would be added. Otherwise, operations and management facilities would not be improved or expanded. No new operational and management facilities would be constructed at Los Banos Creek Use Area.

Water Operations. In Alternative 2 and the other action alternatives, the managing agencies would provide information about to how obtain wind and water level information (Goal RES-C1, Climate). Visitor access to sensitive areas such as dams and other water conveyance facilities and structures would be clarified (Goal WA-A1, Restriction of Access to Dams and Power Facilities).

4.4.3 Alternative 3: Moderate New Access and Development (Preferred Alternative)

The primary components of this alternative are similar to those in Alternative 2 (Section 4.4.2), except Alternative 3 proposes additional development to accommodate visitor use and programs. The locations of new facilities and features of Alternative 3 are shown on Map 10 and listed in Table 4-1. The following description of Alternative 3 is organized by the planning areas defined in Section 3.4.

Resource Management. Alternative 3 proposes several physical additions and visitor use modifications, primarily on SRA lands within the Plan Area. The additions would be sited and developed to avoid conflicts with the Plan Area's sensitive resources (Goal VIS-F1). This alternative would implement the same focused management plans and other resource management elements as Alternative 2 (Section 4.4.2). As with Alternative 2, the focused management plans would be implemented within three to five years of Plan adoption. Visitor facility modifications are consistent with Goals VIS-F1 through VIS-F3 (Visitor Uses/Opportunities and Facilities) and provide for a greater level of future recreation demand than Alternative 2. In three locations described further below, these modifications result in changes to WROS and land management zone designations. Alternative 3 includes management actions that increase Plan consistency with Goals VIS-T1 through VIS-T4 (Trails), Goal VIS-C1 (Concession Opportunities), and Goal REG-L1 (Linkages).

Under Alternative 3, the land management designation of the Medeiros Use Area BC zone would change to FC accommodate an increase in visitor facilities. However, grazing would continue to be allowed in accordance with federal and state policy guidelines and with completion of NEPA and CEQA analysis prior to renewal of the grazing lease, unless grazing results in conflicts with visitor or other uses.

Visitor Experience, Interpretation, and Education. As with Alternative 2, a partnership with DWR for development of interpretive programs at the Romero Visitor's Center would be considered.

At Basalt Use Area, a multi-use trail for hiking, cycling, and equestrian use would be developed to link the area with Pacheco State Park. The trail would include a spring-fed water station and a backpackers' campground with vault toilets and up to 10 tent sites along the way. Providing a way for Plan Area users to connect with adjacent preserved lands would help to satisfy Goal REG-L1 (Linkages). In addition to reconfiguring the 79 existing tent/RV sites to accommodate larger RVs, 30 RV campsites with full hookups (electrical, water, and sewer) would be added. Alternative 3 would add a new group camp that could accommodate up to 60 people, as well as alternative overnight lodging such as cabins or yurts. As with Alternative 2, the existing campfire center would be upgraded to accommodate regular programs and group events. Because Alternative 3 would provide for a greater degree of active visitor activity in and around Basalt Use Area, the WROS designation for the eastern part of San Luis Reservoir would

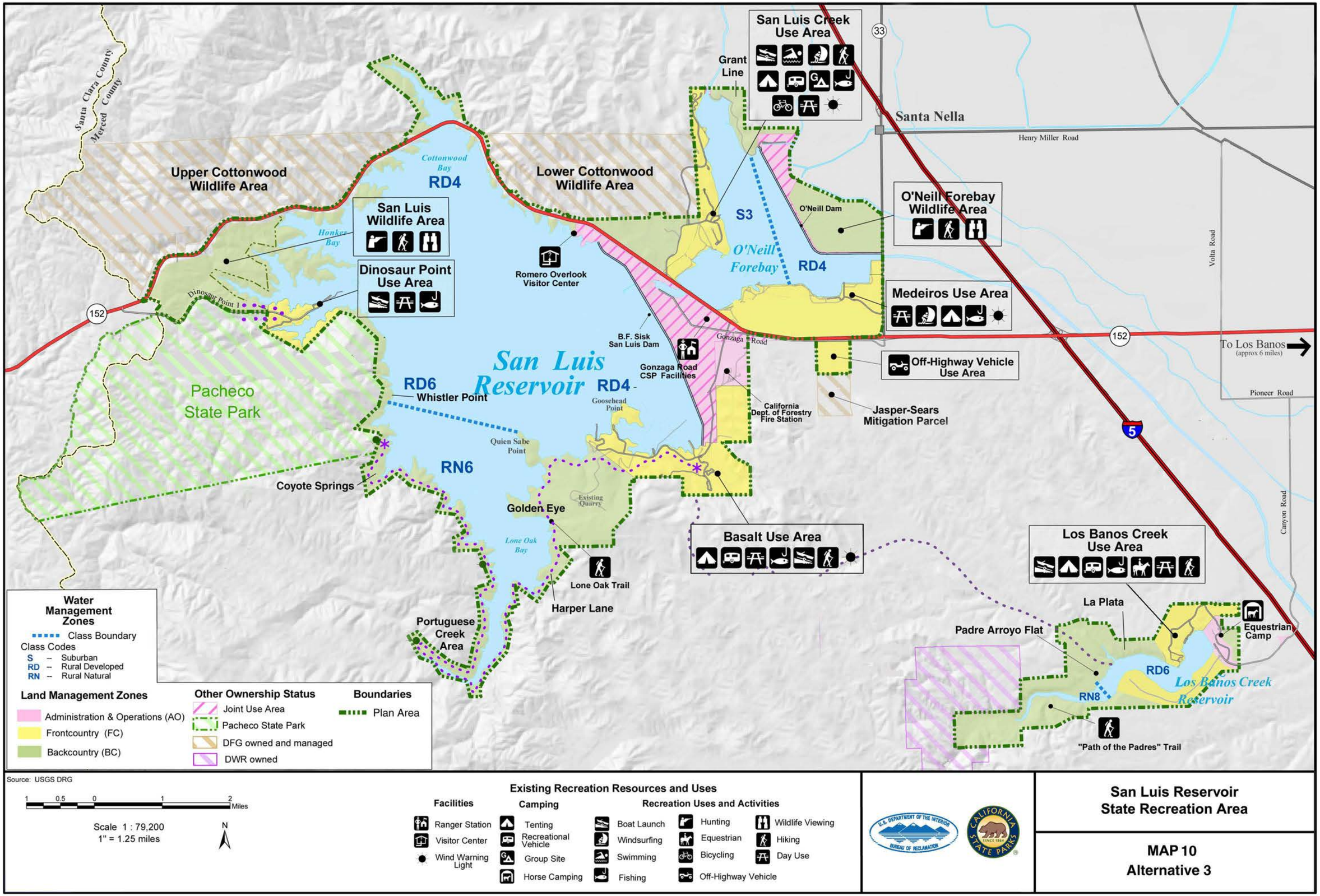
change from RD5 (for Alternatives 1 and 2) to RD4, closer to a Suburban WROS designation. Target boat densities would not change, as the same range applies to all Rural Developed WROS designations (Section 4.3.2.4). Except for the new multi-use trail that would pass through the BC Zone of Basalt Use Area, the other proposed visitor facilities would be focused in the FC Zone. The boundaries of the land management zones would also remain the same.

At Dinosaur Point Use Area, Alternative 3 would allow for the construction of restrooms with flush toilets, the addition of 30 shade ramadas and 30 tent campsites, and development of trails linking the use area to Pacheco State Park and San Luis Wildlife Area. The trail to Pacheco State Park could link with the trail from Basalt Use Area to the state park, effectively linking the Dinosaur Point and Basalt use areas (Goal REG-L1, Linkages).

At San Luis Creek Use Area, Alternative 3 would provide a new boarding float and ADA-accessible fishing access, upgrade or replace the lifeguard stand, connect existing paved trails, explore concession opportunities, provide a multipurpose building, and add 30 tent sites to the northwest shoreline as described for Alternative 2. The boat launch would be expanded by addition of a launch lane and a boarding float, and a children's fishing area would be added. The existing group picnic facilities would remain in place, and up to five additional group picnic facilities would be added (two for 25 to 35 people, two for 45 to 60 people, and one for 75 to 100 people). A group campsite for up to 90 campers would be added along with alternative overnight lodging such as up to 15 cabins or yurts. Some additional facilities could be sited in the extreme northwest corner of the use area, beyond the San Luis Creek campground. Because Alternative 3 would provide for a greater amount and intensity of visitor activity in and around San Luis Creek Use Area, the WROS designation for the western part of O'Neill Forebay would change from S4 (for Alternatives 1 and 2) to S3, closer to an Urban WROS designation. Target boat densities would not change, as the same range applies to all Suburban WROS designations (Section 4.3.1.4). As all proposed visitor facilities would be focused in the FC Zone, the boundaries of the land management zones would also remain the same.

At the Medeiros Use Area, Alternative 3 would also explore enhancements to allow reopening/relocating the boat launch as with Alternative 2, and would also add a parking lot and restrooms near the boat launch. Up to 100 new tent/RV sites and 100 primitive campsites would be added to the campground. A restroom/shelter with parking would be added. This alternative would convert the existing BC Zone of Medeiros Use Area to FC to accommodate additional visitation. Likewise, the WROS designation for the western part of O'Neill Forebay would change from RD5 (for Alternatives 1 and 2) to RD4, closer to a Suburban WROS designation. Target boat densities would not change, as the same range applies to all Rural Developed WROS designations (Section 4.3.2.4).

Alternative 3 would allow for minor additions to existing facilities at the OHV Use Area such as shade ramadas, vault toilets, up to six primitive campsites (with picnic tables, fire rings, and food lockers), and infrastructure improvements. The


San Luis Creek Use Area
Grant Line
Santa Nella
Henry Miller Road
Santa Clara County
Merced County
Upper Cottonwood Wildlife Area
Cottonwood Bay
RD4
Lower Cottonwood Wildlife Area
San Luis Wildlife Area
Honker Bay
Dinosaur Point Use Area
Dinosaur Point
152
Romero Overlook Visitor Center
S3
O'Neill Forebay
RD4
O'Neill Dam
O'Neill Forebay Wildlife Area
Volta Road
Medeiros Use Area
B.F. Sisk San Luis Dam
Gonzaga Road
Gonzaga Road CSP Facilities
San Luis Reservoir
RD6
RD4
Whistler Point
Goosehead Point
Off-Highway Vehicle Use Area
To Los Banos
(approx 6 miles)
Pacheco State Park
California Dept. of Forestry Fire Station
Jasper-Sears Mitigation Parcel
Pioneer Road
Quien Sabe Point
RN6
Coyote Springs
Existing Quarry
Golden Eye
Lone Oak Bay
Basalt Use Area
Los Banos Creek Use Area
Canyon Road
Lone Oak Trail
Harper Lane
Portuguese Creek Area
La Plata
Padre Arroyo Flat
Equestrian Camp
RD6
Los Banos Creek Reservoir
RN8
"Path of the Padres" Trail
Water Management Zones
Class Boundary
Class Codes
S – Suburban
RD – Rural Developed
RN – Rural Natural
Land Management Zones
Administration & Operations (AO)
Frontcountry (FC)
Backcountry (BC)
Other Ownership Status
Joint Use Area
Pacheco State Park
DFG owned and managed
DWR owned
Boundaries
Plan Area
Source: USGS DRG
1 0.5 0 1 2 Miles
Scale 1 : 79,200
1" = 1.25 miles
N
Existing Recreation Resources and Uses
Facilities
Ranger Station
Visitor Center
Wind Warning Light
Camping
Tenting
Recreational Vehicle
Group Site
Horse Camping
Recreation Uses and Activities
Boat Launch
Windsurfing
Swimming
Fishing
Hunting
Equestrian
Bicycling
Off-Highway Vehicle
Wildlife Viewing
Hiking
Day Use
San Luis Reservoir State Recreation Area
MAP 10
Alternative 3

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OHV Use Area could be expanded if additional adjacent property becomes available. If property were acquired for expansion, additional environmental review and a Plan amendment would be necessary.

As with Alternative 2, the addition of up to 30 tent sites on the North Shore at Los Banos Creek Use Area would be explored, along with the relocation of the equestrian camp. Under Alternative 3, up to 20 tent/RV sites would be added on the South Shore of Los Banos Creek Reservoir just off of Canyon Road, in an area where no formal visitor facilities currently exist. In addition, a new entrance station would be constructed at the Plan Area boundary, and maintenance facilities and staff housing would be relocated. As a result of the new visitor facilities on the South Shore, the land management zone designation in the approximate area of the tent/RV sites would change from BC to FC. The relatively small amount of additional visitor facilities would not result in any changes to WROS zones or target boat density at Los Banos Creek Reservoir.

Both Alternatives 2 and 3 would allow for creating additional interpretive programs, which would include the themes described in Section 4.2.2.3.

Alternative 3 proposes a greater degree of facility expansion than Alternative 2, but the changes would be predominantly confined to existing use areas.

Local and Regional Planning. This alternative would facilitate local and regional planning objectives by considering development of a multi-use trail linking Basalt Use Area with Pacheco State Park and another trail linking Dinosaur Point to adjacent Pacheco State Park and San Luis Wildlife Area, thereby enhancing the use and benefits of contiguous open space (Goal REG-L1, Linkages). It would also address hunting-related conflicts, in keeping with Goal VIS-F2 (Visitor Uses/Opportunities and Facilities). As with Alternative 2, Alternative 3 would provide for coordination among the four managing agencies in the Plan Area as well as with other agencies and stakeholders.

Infrastructure and Operations. Alternative 3 proposes the same circulation measures as Alternative 2 (Section 4.4.2). In addition, Alternative 3 proposes working with Caltrans to explore constructing an interchange at San Luis Creek Use Area for access from SR 152, with a limited access overcrossing connecting that area with the SRA administrative offices and Gonzaga Road. A crossing from Gonzaga Road to Medeiros Use Area with a blending lane onto SR 152 would also be explored. At the San Luis Creek Use Area, in the vicinity of the San Luis Creek Campground, Alternative 3 would allow for a new road that would provide vehicle access to the fishing area at Check 12 and potential new camping areas in the extreme northwest corner of the use area. At Medeiros Use Area, Alternative 3 would allow for paving all unpaved roads. As with Alternative 2, utilities would be upgraded as necessary to adhere to current standards. Under Alternative 3, additional utility connections would be installed as needed in areas of new or expanded development, to allow for hookups or additional electrical demand (Goal OPS-U1, Utilities). Carbon-reducing features such as solar panels would be

added. Existing lighting would be maintained and repaired using energy-efficient fixtures, and additional lighting would be installed where appropriate.

Water Operations. As with Alternative 2 (Section 4.4.2), the managing agencies would provide information about how to obtain wind and water level information, and visitor access to sensitive areas such as dams and other water conveyance facilities and structures would be clarified. Engineering solutions would be explored to improve safety and access in shallow water areas at low pool levels (e.g., dredging and removal of sandbars), particularly at O'Neill Forebay, which would be consistent with Goal WA-E1 (Water Level Fluctuations).

4.4.4 Alternative 4: Maximum New Access and Development

The primary components of this alternative are similar to those in Alternative 3; however, Alternative 4 proposes some alternate ways of providing access, more intensive development of certain use areas, and access and facilities in areas that are currently undeveloped. Some of the elements of Alternative 4 are based on proposals from previous documents for Plan Area development (see Section 3.1 and Appendix A, Table A-1) that were never implemented or constructed. In six locations described further below, management actions for Alternative 4 would result in changes to WROS and land management zone designations.

Locations of new facilities and features of Alternative 4 are shown on Map 11 and listed in Table 4-1. The following description of Alternative 4 is organized by the planning areas defined in Section 3.4.

Resource Management. Alternative 4 would include the same focused resource management plans as Alternatives 2 and 3 (Sections 4.4.2 and 4.4.3). As with Alternatives 2 and 3, the focused management plans would be prepared within three to five years of Plan adoption.

Visitor Experience, Interpretation, and Education. This alternative proposes some expansion in visitor facilities. Visitor facility modifications are generally consistent with Goals VIS-F1 through VIS-F3 (Visitor Uses/Opportunities and Facilities) and provide for the maximum level of future recreation demand of the three action alternatives. Alternative 4 includes management actions that increase Plan consistency with Goals VIS-T1 through VIS-T4 (Trails), Goals VIS-I1 through VIS-I3 (Interpretation and Education), Goal VIS-C1 (Concession Opportunities), and Goal REG-L1 (Linkages).

Alternative 4 would allow for a new visitor's center at the Gonzaga Road Facilities Area. One of the buildings adjacent to CSP headquarters for the Plan Area has a large room with a relief map of the Plan Area and other interpretive displays. Alternative 4 would provide for any additions and modifications needed for the space to serve as a visitor center. As with Alternatives 2 and 3, a partnership with DWR for development of interpretive programs at the Romero Visitor's Center would be considered.

At Basalt Use Area, guided tours of Basalt Quarry would be allowed in coordination with DWR, which is consistent with the interpretive themes and

San Luis Reservoir State Recreation Area

MAP 11
Alternative 4

San Luis Creek Use Area

Grant Line

Santa Nella

Henry Miller Road

Santa Clara County

Merced County

Upper Cottonwood Wildlife Area

Cottonwood Bay

RD4

Lower Cottonwood Wildlife Area

San Luis Wildlife Area

Honker Bay

Dinosaur Point Use Area

Dinosaur Point

152

Romero Overlook Visitor Center

S3

O'Neill Dam

O'Neill Forebay Wildlife Area

O'Neill Forebay

S4

Medeiros Use Area

Volta Road

B.F. Sisk San Luis Dam

Gonzaga Road

Gonzaga Road CSP Facilities

San Luis Reservoir

RD4

RD6

Whistler Point

Goosehead Point

Off-Highway Vehicle Use Area

To Los Banos (approx 6 miles)

Pioneer Road

Pacheco State Park

California Dept. of Forestry Fire Station

Jasper-Sears Mitigation Parcel

5

Quien Sabe Point

RD5

Coyote Springs

Existing Quarry

Golden Eye

Lone Oak Bay

Basalt Use Area

Canyon Road

Los Banos Creek Use Area

Lone Oak Trail

Harper Lane

Portuguese Creek Area

La Plata

Padre Arroyo Flat

Equestrian Camp

RD5

Los Banos Creek Reservoir

RN7

"Path of the Padres" Trail

Water Management Zones

Class Boundary

Class Codes

S – Suburban
RD – Rural Developed
RN – Rural Natural

Land Management Zones

- Administration & Operations (AO)
- Frontcountry (FC)
- Backcountry (BC)

Other Ownership Status

- Joint Use Area
- Pacheco State Park
- DFG owned and managed
- DWR owned

Boundaries

- Plan Area

Source: USGS DRG

1 0.5 0 1 2 Miles

Scale 1 : 79,200
1" = 1.25 miles

N

Existing Recreation Resources and Uses

Facilities

- Ranger Station
- Visitor Center
- Wind Warning Light

Camping

- Tenting
- Recreational Vehicle
- Group Site
- Horse Camping

Recreation Uses and Activities

- Boat Launch
- Windsurfing
- Swimming
- Fishing
- Hunting
- Equestrian
- Bicycling
- Off-Highway Vehicle
- Wildlife Viewing
- Hiking
- Day Use

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California State Parks

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guidelines in Goal VIS-I1 and VIS-I3 (Interpretive Themes). As with Alternative 3, Alternative 4 would include a multi-use trail to Pacheco State Park for hiking, cycling, and equestrian use. In addition to the campground modifications proposed in Alternative 3, Alternative 4 would add hookups to all campsites, a laundry facility, and a refreshment stand. Alternative 4 would add a group camp for up to 100 people (compared to 60 people for Alternative 3) and provide alternative overnight lodgings such as cabin and yurts with utilities. Instead of upgrading the existing campfire center (proposed for Alternatives 2 and 3), Alternative 4 would replace it with an amphitheater to accommodate larger groups. As with Alternative 3, Alternative 4 would have a WROS designation of RD4 for the eastern part of San Luis Reservoir (compared with RD5 for Alternatives 1 and 2). Target boat densities and boundaries of the land management zones would remain the same.

Alternative 4 would provide additional facilities along the southern part of San Luis Reservoir in areas that were envisioned for development in earlier planning documents (see Section 3.1 and Appendix A, Table A-1) but never developed. Due to its steep topography, the southern part of San Luis Reservoir (Lone Oak Bay and Portuguese Creek) can be subject to extreme water level fluctuations that are not compatible with boat-in camping and day use. Therefore, Alternative 4 includes access and facility development that is limited to landside areas in the BC Zone: a group picnic facility with shade ramadas at Quien Sabe Point, accessible by foot, bike, or horseback; a campground at Golden Eye with up to 25 tent sites; a backpackers campground at Harper Lane with up to 10 tent sites; and an equestrian camp and primitive trail access camping at Coyote Springs (see Map 11). The additional visitor access and facilities are not of a magnitude that would merit changing the BC Zone designation to FC. However, the visibility of additional visitors and facilities from the water surface in this relatively isolated area would result in a change in WROS zone from RN6 (with Alternatives 1, 2, and 3) to RD5, reflecting a greater overall degree of development. Accordingly, this WROS designation accommodates a greater target boat density for the southern part of San Luis Reservoir: 20 to 50 acres per boat for RD Zones compared with 50 to 110 acres per boat for Rural Natural.

At Dinosaur Point, Alternative 4 proposes to expand the existing four-lane boat launch, allow for construction of a marina, and provide for concessions. In addition to adding 30 tent campsites (as with Alternative 3), Alternative 4 would allow primitive boat-in and trail access camping at Whistler Point to the south, and boat-in, low-impact day use such as picnicking and hiking at Honker Bay to the north (see Map 11). Like Alternatives 2 and 3, Alternative 4 would allow street luge events with permission from CSP.

Alternative 4 would include some features proposed in Alternative 3 at San Luis Creek Use Area. It would construct a new boarding float and ADA-accessible fishing pier, upgrade or replace the lifeguard stand, allow for connecting paved paths, explore concession opportunities, expand the boat launch, provide a multipurpose building for group events and interpretive programs, and add up to 30 tent sites on the northwest shoreline. However, Alternative 4 would also allow

for construction of a marina and a separate launch area for personal watercraft. Like Alternative 3, Alternative 4 would provide up to five additional group picnic facilities at day use areas, but instead of two picnic areas for groups of 45-60 people each, Alternative 4 would include four such group picnic areas. In addition to the multipurpose building for group events and interpretive programs (Alternatives 2 and 3), Alternative 4 would provide an amphitheater in the North Beach area. This alternative would also add two group campsites for up to 100 campers each, add up to 30 cabins or yurts with utilities, and in the Grant Line area on the northeast side of O'Neill Forebay, allow boat-in primitive camping (Grant Line can only be accessed by boat). Some additional facilities could be sited in the extreme northwest corner of the use area, beyond the San Luis Creek campground. As with Alternative 3, Alternative 4 would have a WROS designation of S3 for the western part of O'Neill Forebay (compared with S4 for Alternatives 1 and 2). Target boat densities and boundaries of the land management zones would remain the same.

Under all three action alternatives, the managing agencies would work with DFW to reduce conflicts with hunting access to San Luis Wildlife Area.

At Medeiros Use Area, Alternative 4 includes the same components proposed for Alternative 3 but also provides for substantial additional development, consistent with the availability of undeveloped land as well as actions proposed in previous planning documents but not implemented (Section 3.1 and Appendix A, Table A-1). Alternative 4 would increase overnight capacity by adding up to 150 new tent/RV sites and 100 primitive campsites (50 more tent/RV sites than Alternative 3), a wayside campground near the Medeiros entrance station, and alternative overnight lodging such as cabins or yurts with utilities. Alternative 4 would also provide for a windsurfing launch area, a water-themed interpretive program with a wetlands demonstration area to interpret the function and need for wetlands, as well as a water-based play area for children that demonstrates the need for and value of water quality and quantity. Finally, this alternative would allow for construction of a restaurant and motel in coordination with a long-term concessionaire. As with Alternative 3, Alternative 4 would convert the existing BC zone of Medeiros Use Area to FC to accommodate the increase in visitation. Alternative 4 would discontinue grazing in Medeiros Use Area as it may conflict with increased visitor use in that area.

Because Alternative 4 would provide for the greater degree of visitation than the other alternatives, the WROS designation for the eastern part of O'Neill Forebay would change from RD5 for Alternatives 1 and 2 and RD4 for Alternative 3 to S4, reflecting a shift from Rural Developed to Suburban. Accordingly, this WROS designation accommodates a greater target boat density for the eastern part of O'Neill Forebay: 10 to 20 acres per boat for S Zones compared with 20 to 50 acres per boat for RD Zones.

At the OHV Use Area, Alternative 4 would provide for the addition of underground utilities such as water and power. Up to six primitive campsites (with picnic tables, fire rings, and food lockers) could be added. This alternative

would allow for more intensive activity in the OHV Use Area, such as by constructing a professional motocross track. If additional adjacent property becomes available, the OHV Use Area could be expanded. If property were acquired for expansion, additional environmental review and a Plan amendment would be necessary.

At Los Banos Creek Use Area, Alternative 4 proposes the same management actions as Alternative 3. Outside of the use area, Alternative 4 would provide up to 40 tent/RV sites on the South Shore just off of Canyon Road (compared with 20 tent/RV sites for Alternative 3). This alternative would also allow for 40 tent sites and a group camp in the La Plata area (west of Los Banos Creek Use Area) and boat-in primitive camping at Padre Arroyo Flat (Map 11). Finally, Alternative 4 would allow for creation of a trail linking Los Banos Creek Use Area to Basalt Use Area, consistent with Goal REG-L1 (Linkages). The trail could incorporate segments of decommissioned county roads that lie between the two areas. As the trail would cross private property between the two use areas, any trail development and use would have to be with permission from the affected landowners. As with Alternative 3, the land management zone designation in the approximate area of the new South Shore tent/RV sites would change from BC to FC to accommodate the new visitor facilities. Under Alternative 4, an additional area of the North Shore would also change from BC to FC because of the proposed facilities at La Plata and Padre Arroyo Flat. The presence and visibility of additional visitors, facilities, and potentially vehicles from the water surface would result in changes in WROS zones. The western side of Los Banos Creek Reservoir would be RN7, compared with RN8 for all other alternatives. The eastern side of the reservoir would be RD5, compared with RD6 for all other alternatives. The target boat density would remain the same.

In general, Alternative 4 proposes a greater degree of facility expansion than Alternatives 2 and 3. Some additional facilities and uses, such as those along the southern part of San Luis Reservoir and south and west of Los Banos Creek Use Area, would extend into undeveloped areas.

Local and Regional Planning. This alternative would facilitate local and regional planning objectives as described for Alternative 3.

Infrastructure and Operations. Alternative 4 would provide for the same management actions related to circulation and utilities as Alternative 3. However, it would also allow for working with Caltrans to explore creation of a new exit from I-5 to Canyon Road for access to Los Banos Creek Use Area.

Water Operations. Water operations improvements proposed in Alternative 4 would be the same as proposed in Alternative 3. The managing agencies would provide information about how to obtain wind and water level information, and visitor access to sensitive areas such as dams and other water conveyance facilities and structures would be clarified. Alternative 4 would provide for engineering solutions to be explored to improve safety and access in shallow water areas at low pool levels.

4.5 Carrying Capacity

PRC §5019.5 requires CSP to assess carrying capacity as part of General Plans for SRAs. Recreation carrying capacity has been defined as "a prescribed number and type of visitors that an area will accommodate given the desired natural/cultural resource conditions, visitor experiences, and management programs" (CSP 2010). The assessment helps to ensure that future visitor attendance and use do not exceed an SRA's ecological, spatial, facility, or social capacity. Exploring capacity is important in determining where capacity concerns may exist and where management priorities and monitoring programs should be directed. This section discusses the existing capacity of developed facilities in the Plan Area, adaptive management measures that may be used to achieve sustainable resources and social conditions during the planning horizon, and Plan Area quality indicators.

4.5.1 Existing Capacity

A summary of visitor use, parking capacity, and existing facilities is presented in Table 4-2. Table 4-3 provides details about ongoing or proposed facility improvements that will take place independent of Plan implementation. Together, this information describes the baseline condition for carrying capacity.

Table 4-2
Visitor Use, Existing Parking Capacity, and Existing Facilities

Use Area	Visitors[1]	Existing Parking Capacity[2]	Existing Facilities
San Luis Creek		698 auto spaces	–
Paid day use	137,913	–	148 shade ramadas[3]
Free day use	11,705	–	
Overnight use	10,987	–	53 tent/RV[4] 2 group sites (90 people)
Boats launched	3,371	(181 spaces for autos with boat trailers)	3-lane launch
Non-vehicle day use	N/A	–	–
Group camp	360	–	–
Total	164,336	698	55 campsites/148 ramadas (1,191 people)
Medeiros		300 (informal)	–
Paid day use	43,895	–	50 shade ramadas
Free day use	5,732	–	
Overnight use	9,479	–	50 tent/RV 300 primitive[5]
Boats launched	N/A	–	–
Non-vehicle day use	834	–	–
Group camp	N/A	N/A	N/A

Table 4-2
Visitor Use, Existing Parking Capacity, and Existing Facilities

Use Area	Visitors[1]	Existing Parking Capacity[2]	Existing Facilities
Total	59,950	300	350 campsites/50 w/ shade ramadas (1,020 people)
Basalt		511 auto spaces	–
Paid day use	32,752	–	–
Free day use	5,989	–	–
Overnight use	4,658	–	79 tent/RV
Boats launched	2,010	(54 spaces for autos with boat trailers)	4-lane launch
Non-vehicle day use	N/A	–	–
Group camp	N/A	–	–
Total	45,409	511	79 campsites (315 people)
Dinosaur Point		123 auto spaces	
Paid day use	17,441	–	5 shade ramadas
Free day use	3,727	–	
Overnight use	N/A	–	0
Boats launched	1,845	(additional auto and boat trailer parking on boat ramp)	4-lane launch
Non-vehicle day use	N/A	–	–
Group camp	N/A	–	–
Total	23,013	123	5 shade ramadas (30 people)
Los Banos Creek		40	–
Paid day use	22,649	–	–
Free day use	3,810	–	–
Overnight use	3,640	–	14 tent/RV w/shade ramadas
Boats launched	2,390	(All spaces allow autos with boat trailers)	2-lane launch
Non-vehicle day use	N/A	–	–
Group camp	N/A	–	N/A
Total	32,489	40	14 campsites w/shade ramadas (56 people)
OHV Use Area	2,026[6]	30 (informal)	2 picnic tables with shade ramadas
Paid day use	N/A	30	
GRAND TOTAL	492,717	1702	**- 497 campsites** (176 tent/RV, 300 primitive, 14 tent, 63 w/shade ramadas)

Table 4-2
Visitor Use, Existing Parking Capacity, and Existing Facilities

Use Area	Visitors[1]	Existing Parking Capacity[2]	Existing Facilities
			- 50 day use shade ramadas **(2,612 people)**

Notes:
[1] FY 2008–2009 visitor data from CSP Four Rivers Sector 2010, except where noted.
[2] Data taken from Table 2-23. Parking does not include spaces provided as part of campgrounds.
[3] Assumed 6 persons per shade ramada.
[4] Assumed 3 persons per tent site and 5 persons per RV site. To calculate total visitors, mixed sites were assumed to be used for tent sites and one half for RVs.
[5] Assumed 2 persons per primitive site.
[6] FY 2011–2012 visitor data from CSP Four Rivers Sector.

Table 4-3
Facility Summary Update

	Projects Completed since FY 2009-2010	Future Planned Projects
Plan Area-wide, where appropriate	Wind warning light upgrades	None
	Solar gates at four entrance areas	
San Luis Creek	Water treatment plant and lift station upgrades at group and day use areas	Install an ADA fishing pier near the boat ramp area
		Upgrade boat ramp
Medeiros	Completion of ADA updates to three new vault toilets	None
Basalt	Water treatment plant upgrade	Launch ramp
Dinosaur Point	None	Launch ramp parking area upgrades
Los Banos Creek	New replacement water tanks	None
	Four new ADA day-use picnic sites	
O'Neill Forebay	Installation of one new wind warning light tower and light	None
	ADA trail improvements	

Source: CSP Four Rivers Sector 2012.

Table 4-2 attempts to quantify the approximate number of visitors that can be accommodated at any one time at each use area (see the Total for each use area under "Existing Facilities"). As monthly attendance figures by use area are not available for recent fiscal years, it is not possible to quantify when and how often capacity is exceeded. However, a 2008 survey of CSP staff provided the following capacity recommendations (Aukerman, Haas, and Schuster 2008):

- San Luis Reservoir – Increase opportunities for boat mooring and boat rentals; add group camping and day use facilities.

- O'Neill Forebay – Increase group camping capacity, add launch facility, add restroom at Medeiros Use Area; to accommodate high levels of visitation on holiday weekends, add day use sites and parking.
- Los Banos Creek Reservoir – Add camping and day use facilities to accommodate high levels of visitation on holiday weekends.

Insufficient data exists to precisely quantify other parameters such as ecological or social capacity. However, the goals and guidelines outlined in Section 4.2 provide qualitative parameters for attaining the desired natural and cultural resource conditions, visitor experiences, and management efforts that are compatible with the existing and maximum future capacity of the Plan Area.

Part of Plan implementation will be to gather more information about visitor demographics and facility use as well as natural and cultural resource capacity. This will serve to create a more thorough baseline from which to verify if the proposed uses and facilities in this Plan are meeting the desired future conditions in the Plan Area (outlined in Sections 4.2 and 4.3) and the desired indicators and standards (see Section 4.5.3).

4.5.2 Adaptive Management

Adaptive management is an explicit and analytical process for adjusting management and research decisions to better achieve management objectives. The process includes a number of steps, beginning with the identification of issues, opportunities, and constraints (discussed in Section 3.4), a vision for the Plan Area (Section 4.1), and goals and guidelines for visitor use management that will lead to the desired future conditions (Section 4.2). The goals and guidelines and management zones established in this Plan serve to prescribe the future carrying capacity of the Plan Area by identifying the maximum number of facilities that may ultimately be developed. Adaptive management is an ongoing, iterative process of determining desired conditions, selecting and monitoring indicators and standards that reflect these desired conditions, and taking management action when the desired conditions are not being realized. If the managing agency determines that a specific location within the Plan Area is not meeting the desired future conditions, then management action would begin. Management action could determine that the violation was caused by natural variation (e.g., by a storm) or by human-induced variables (e.g., trampling associated with hiking). Management actions should comply with the requirements of NEPA/CEQA and other applicable regulations and could include, but are not limited to, the following:

- Site management (e.g., facility design, barriers, site hardening, area/facility closure, redirection of visitors to suitable sites);
- Regulation (e.g., the number of people, the location or time of visits, permitted activities, or allowable equipment);
- Enforcement of regulations (e.g., patrols, notification, citations);

- Education (e.g., information signs and exhibits, interpretive programs, visitor's center exhibits, brochures and fliers, public meetings, meetings with user groups); and
- Altering access (e.g., parking in proximity to sensitive resources, limiting certain types of access such as vehicular access in certain areas).

4.5.3 Plan Area Quality Indicators

Indicators and standards of quality are integral components of determining recreation carrying capacity of an area. Indicators are defined as measurable, manageable variables that help define the quality of the visitor experience; standards of quality are defined as the minimum acceptable condition of indicator variables (Manning 2001). Quality indicators assist land managers in determining whether desired future conditions are being met. For each of the planning areas, an overall goal is presented in Table 4-4, and quality indicators and corresponding management actions are shown to provide examples of indicators and adaptive management actions that could be used. These will be enhanced as the Plan is implemented.

Table 4-4
Plan Area Quality Indicators

Planning Area	Goal	Quality Indicators	Possible Management Actions
Resource Management	Protect and preserve, restore, and rehabilitate the physical, cultural, scenic, vegetative, and wildlife resources.		
Scenic/Aesthetic		- Scenic vistas are reduced or interrupted with features not compatible with landscape character. - New facilities dominate the landscape.	- Remove incompatible structure or elements.
Cultural/Historic		- Cultural resources are threatened or lost during construction.	- Where required, a qualified archaeologist will be present during construction or redesign project to avoid potential damage to resources.
Geology/Soils		- Erosion is occurring along trails or adjacent areas as evidenced by exposed tree roots and ruts.	- If erosion is caused by visitor use, limit intensity, duration, or type of use accordingly. - Consider trail closure and removal or relocation.

Table 4-4
Plan Area Quality Indicators

Planning Area	Goal	Quality Indicators	Possible Management Actions
Hydrology and Water Quality		- Sedimentation is evident in ponds and springs. - Water quality data show exceedances of constituents such as BTEX or total coliform clearly associated with visitor use.	- Ensure adequate plant cover over easily eroded soils or provide temporary stabilization during construction. - Suspend or limit swimming, boating, or other visitor uses until water quality standards are met.
Vegetation		- There are reduced occurrences of special-status species. - Invasive species are spreading or new occurrences are becoming evident.	- Restore habitat or reintroduce lost species. - Increase or alter removal program for invasive species. - Revegetate disturbed areas with native species.
Wildlife		- Wildlife is disturbed.	- Implement avoidance measures where necessary during construction
Visitor Use and Experience	Preserve and enhance optimum and diverse experiences for a wide range of visitors.		
Visitor Facilities		- Visitors complain about lack of necessary facilities or overcrowding.	-Improve facilities to accommodate visitor use. - Limit access during peak times.
Trails		- Conflicts such as accidents occur between users on multi-use paths.	- Consider limiting use of certain trails during peak times. -Increase and improve signage -Increase visitor education -Increase patrols including volunteer multi-use patrols

Table 4-4
Plan Area Quality Indicators

Planning Area	Goal	Quality Indicators	Possible Management Actions
Interpretive Themes		- Visitors complain about lack of Plan Area information. - Visitors display disrespect toward Plan Area resources.	- Interpretive materials and programs may need to be increased and/or improved.
Concession Opportunities		- Certain key interpretive programs cannot be fully implemented without concessionaire participation.	- Supplement interpretive activities with seasonal or temporary assistance, or from concessionaires.
Infrastructure and Operations	Ensure efficient, safe, and adequate infrastructure and operations.		
Plan Area Access and Circulation		- Accidents occur at SR 152 accessing the Plan Area.	- Work with Caltrans to get improvements funded and implemented.
Staffing Needs and Facilities		- Safety or overcrowded conditions are prevalent. - Seasonal workers cannot be accommodated.	- Explore feasibility of upgrading existing structures. - Add housing onsite.
Utilities		- Overcrowding of sanitary facilities reduces visitor experience	- Add or improve facilities to handle peak use.

5 Environmental Analysis

5.1 Introduction

5.1.1 Integrated Environmental Impact Statement/Environmental Impact Report

Both the NEPA and the CEQA encourage the use of an integrated EIS/EIR. CEQA and its guidelines contain numerous provisions allowing state and local agencies to use an EIS as a substitute for an EIR. The joint RMP/GP for the Plan Area, including the environmental analyses, is consistent with NEPA and CEQA requirements (40 CFR Parts 1500-1508; California PRC Section 21000 et seq.; California Code of Regulations [CCR] Section 15000 et seq.).

5.1.2 Purpose

The purpose of the EIS/EIR is to inform decision-makers and the public about any effects that could result from the implementation of the Plan. The EIS/EIR also provides information on potential growth-inducing impacts and cumulative impacts of past, present, and reasonably foreseeable future projects.

As required under NEPA, this EIS/EIR includes a description of the proposed action, an evaluation of the potential impacts of each alternative at equal levels of detail, and a description of the environmentally preferable alternative. As required under CEQA, an environmentally superior alternative is identified.

This document is a programmatic EIS/EIR for the Plan and, as such, does not contain project-specific analysis of proposed projects or management actions included in each alternative. Additional management planning, schematic design, and construction documentation would be completed as necessary before improvements were made. The information currently available is insufficient to support a project-specific analysis, but future projects would undergo subsequent NEPA and/or CEQA review as appropriate.

This programmatic EIS/EIR is intended for use in a "tiered" process of environmental review, and the discussion of project impacts is commensurate with the level of specificity of this Plan. Tiering in an EIS/EIR on a programmatic plan allows agencies to deal with broad environmental issues at the planning stage, followed by more detailed examination of actual development projects (that are consistent with the Plan) in subsequent NEPA and CEQA assessments. The assessments may later incorporate by reference the general discussion from the programmatic EIS/EIR, in this case the Plan, and concentrate solely on the issues specific to the later projects (PRC Section 21093: State CEQA Guidelines; CCR Section 15152 [40 CFR 1508.28]). Accordingly, the Plan and EIS/EIR constitute the first (broadest and most general) tier of environmental review. Specific

projects considered in this Plan may require subsequent environmental review that would tier off of this programmatic EIS/EIR.

5.1.3 Focus

Reclamation and CSP established the focus of this EIS/EIR after considering comments from public agencies and the community regarding the Plan (Section 6.1). Comments received on the 2005 Draft EIR were also reflected in the focus of this document. In addition, the preparers of this EIS/EIR coordinated with public agencies including the County of Merced, the SJVAPCD, and the DWR in the process of updating and revising the 2005 Draft EIR. Chapter 6 describes the public and agency involvement conducted to date.

5.1.4 Environmental Review Process

Consistent with NEPA/CEQA requirements, a good-faith effort was made during the preparation of this EIS/EIR to contact and consult affected agencies, organizations, and persons who may have an interest in this project. The effort included the circulation of an NOI/NOP, which began a 30-day comment period. The purpose of the NOI/NOP was to inform agencies and the public that a Draft EIS/EIR was being prepared for the Plan Area and to invite comments on the scope and content of the EIS/EIR. The letters and comments are summarized in Chapter 6 and included in Appendix C, along with the Draft EIS/EIR notices and other public outreach.

Upon issuance of this draft for public review, Reclamation filed a NOA for placement in the Federal Register, and CSP filed a NOC with the Governor's Office of Planning and Research, State Clearinghouse, indicating that a Draft Plan and EIS/EIR was completed and was available for public review. A review period (starting on the date the NOA was published in the Federal Register) was provided for the public and other agencies to review and comment on the Draft EIS/EIR. Public comments on the Draft EIS/EIR are included in Appendix D.

After the close of the public review period, Reclamation and CSP prepared responses to comments on the content and conclusions of the Draft EIS/EIR and revised the document as necessary to address the comments. The Draft EIS/EIR and technical appendices, as revised, together with the responses to comments, constitute the Final EIS/EIR.

Reclamation and CSP will review the Final EIS/EIR for adequacy and consider it for certification pursuant to the requirements of NEPA and CEQA. If Reclamation and CSP certify the Final EIS/EIR and decide to approve the Plan, a Record of Decision (ROD) will be prepared and filed with the Federal Register, and following Commission approval, a Notice of Determination will be prepared and filed with the State Clearinghouse. The ROD and Notice of Determination will include a description of the project, the date of approval, and the address where the Final EIS/EIR and record of project approval are available for review.

As described in Section 1.3.2, the Plan includes recommendations for various resource management actions and facility improvement projects. The

management actions and projects are defined at a conceptual or programmatic level in this Plan. Reclamation and CSP would review phasing, siting, and grading plans to ensure that they are consistent with the Plan. If Reclamation or CSP finds, pursuant to Sections 1500.4, 1500.5 and 1502.20 of the NEPA Guidelines and Section 15162 of the State CEQA Guidelines (CCR, Section 15000 et seq.) that no new effects could occur or no new mitigation measures would be required, they can approve the activity as being within the scope of the project covered by the EIS/EIR. In such a case, no new environmental documentation would be required. However, if a proposed action or project would have effects that were not examined in the EIS/EIR, preparation of an additional environmental document would be required (NEPA Regulations Section 1502.20 and State CEQA Guidelines Section 15168[c][1]).

5.2 Environmental Analysis Summary

An evaluation of environmental effects from the proposed action is provided in Sections 5.2.4 and 5.4.

The protection and rehabilitation of natural and cultural resources are key components of the Plan. Much of the Plan Area will remain undeveloped, thereby keeping wildlife habitat intact, protecting scenic resources, preserving native vegetation, safeguarding watershed water quality, and continuing historic and cultural landscape protection and interpretation. Additionally, the Plan allows for staff and public safety, appropriate infrastructure and operations, and coordination with regional planning efforts and initiatives. The Plan also includes conceptual locations for Plan Area facilities. Wildlife areas set aside for habitat mitigation when the Plan Area facilities were built will remain as managed by DFW, consistent with the original intent.

5.2.1 Summary of Alternatives Considered

In addition to the NEPA- and CEQA-mandated No Action/No Project Alternative, three action alternatives were considered during development of the Plan. Each alternative includes resource management actions to protect the physical resources of the Plan Area balanced with different scenarios for visitor facilities and experiences, while maintaining the Plan Area purpose and vision. In all three action alternatives, provisions have been made for infrastructure and operations, and for coordination with local and regional planning agencies and other entities. The goals and guidelines provided in Chapter 4 apply to all three action alternatives. A description of the alternatives is provided in Section 4.4, and an environmental evaluation of all alternatives is provided in Section 5.4. The following is a summary of the alternatives:

- Alternative 1, the No Action/No Project Alternative, would continue the management direction set by previous planning documents as well as ongoing programs initiated under existing legislation and regulations.

Alternative 1 is intended to reflect current and expected future conditions in the Plan Area should the proposed Plan not be implemented.

- Alternative 2: Limited new access and development. Alternative 2 would include the fewest physical additions and visitor use modifications among the action alternatives but would implement an array of resource management actions. Visitor access would remain the same as under Alternative 1.
- Alternative 3: Moderate new access and development (Preferred Alternative). Alternative 3 balances the need for future visitor facilities with resource management. This alternative anticipates increased future visitation by providing for physical additions and visitor use modifications but concentrates them in and around existing developed areas. Compared to Alternative 2, Alternative 3 would provide for the same level of resource management and a higher level of visitor access.
- Alternative 4: Maximum new access and development. Alternative 4 would provide for the most physical additions and visitor use modifications among the action alternatives, some in areas that are currently undeveloped. Compared to the other action alternatives, Alternative 4 would provide for the same level of resource management and the highest level of visitor access.

5.2.2 Plan Description

Chapter 4 presents the Plan description with the Plan Area purpose and vision, Plan Area-wide goals and guidelines, a delineation of management zones, and a description of the alternatives.

5.2.3 Assumptions and Methods for Evaluating Impacts

Impact analyses and conclusions are based on interdisciplinary team knowledge of resources and the Plan Area, reviews of existing literature, and information provided by experts in Reclamation, CSP, and other agencies. Impacts described in this section are based on the conceptual Plan as implemented by the proposed alternatives described in Chapter 4. The information used to establish a baseline of existing conditions (including applicable laws and regulations for each resource) is described in Chapter 2. The management alternatives have been configured to optimize benefits and minimize adverse effects on both ecosystem function and the human environment. In the absence of quantitative data, best professional judgment prevails. Protocol surveys for special-status species were not conducted as part of this programmatic planning effort.

One of the primary differences between NEPA and CEQA is the way significance is determined and discussed in environmental documents. Under NEPA, significance is used to determine whether an EIS or some lower level of documentation will be required. NEPA requires preparation of an EIS when the proposed federal action (project) as a whole has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity (40 CFR §1508.27). Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined

significant under NEPA. Under NEPA, once a decision to prepare an EIS is made, it is the magnitude of the impact that is evaluated, and no judgment of its significance is deemed important for the text. NEPA does not require that a determination of significance for individual resources be stated in an environmental document. Once the proposal itself is considered as a whole to have significant effects, all of its specific effects on the environment (whether or not "significant") must be considered, and mitigation measures must be developed where it is feasible to do so (40 CFR §1502.14(f), 1502.16(h), 1508.14, and the Council on Environmental Quality's [CEQ's] 40 Most Asked Questions #19a[7]).

CEQA, on the other hand, does require an identification of each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. A significant effect on any environmental resource triggers the preparation of an EIR. Each significant effect on the environment must be disclosed in the EIR and mitigated, if feasible. In addition, the CEQA Guidelines list a number of mandatory findings of significance that also require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance in CEQA.

According to the CEQA Guidelines Section 15382, a significant impact on the environment refers to a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance." Environmental impacts may be associated with visitor use, facility construction or rehabilitation, or development projects, and adverse impacts can range from negative visual impacts to degradation of water quality to the disturbance or loss of cultural and natural resources.

For the purposes of this document only, the terms used for impact magnitude (NEPA) and thresholds of significance (CEQA) are shown below. Mitigation measures are provided where applicable.

NEPA Impact Magnitude	CEQA Threshold
Beneficial	–
No impact	No impact
Minor adverse impact	Less than significant impact
Major adverse impact	Significant impact

As discussed above, this Plan is a first-tier EIS/EIR and, as such, the description of proposed development, program impacts, and associated mitigation are programmatic. The Plan goals and guidelines (Section 4.2) would provide program-level avoidance and/or minimization for effects that may result from proposed management actions. Additional program-level mitigation measures are provided in Section 5.4. As additional area development plans or specific projects

[7] http://ceq.hss.doe.gov/NEPA/regs/40/40p3.htm.

are proposed or developed, they will be subject to further environmental review. Project-specific mitigation measures may be implemented where necessary based on more specific project review. The potential mitigation measures identified in this section may be necessary for specific projects that could be implemented under this Plan. Impacts are summarized in Table 5-6, at the end of this chapter.

5.2.4 Environmental Effects Found Not to Be Significant

As required by CEQA (CEQA Guidelines §15128), this section presents discussions related to environmental effects found not to be significant. At this first tier of planning and environmental analysis, some topical issues were found not to be significant and were not evaluated further in this EIS/EIR. These topical issues are identified and briefly discussed in this section. If the Plan is amended in the future or conditions as presented herein change, these effects will have to be re-evaluated to ensure that they are still deemed to be not significant.

5.2.4.1 Agricultural and Forest Resources

Implementation of the Plan would not convert farmland to nonagricultural use. The Plan Area is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. Thus, the proposed Plan would have no effect on agricultural resources.

No lands in the Plan Area are zoned as forest land or timberland (Merced County 1990, Merced County Planning and Community Development Department 2008a, b). The Plan would not result in the conversion of forest land to non-forest use.

5.2.4.2 Geology and Soils

The action alternatives would not permit development of structures that are subject to the Alquist-Priolo Earthquake Fault Zoning Act in Alquist-Priolo fault zones. Geologic studies and site-specific geotechnical investigations for siting and design of permanent structures, campgrounds, roads, and trails to minimize potential damage from erosion, unstable soil, landslides, and earthquakes would be required. The risk related to a seismic event would not increase from current conditions as a result of Plan implementation.

5.2.4.3 Hazards and Hazardous Materials

A Spill Prevention, Control, and Countermeasure Plan is in place for the Plan Area and will be reviewed and updated in accordance with regulatory requirements independent of Plan implementation. Implementation of the Plan would not result in the release of hazardous substances, create a health hazard, expose people to any existing sources of health hazards, or increase a fire hazard. Implementation of the Plan would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials because no unusual use of hazardous materials is anticipated. Use of hazardous materials, as defined by and regulated through the CCR, is expected to be limited to the periodic use of pesticides and herbicides in conjunction with maintenance of the landscaping and control of invasive plants, and use of motor oils, gas, and similar materials for employee vehicles and maintenance equipment.

Application and storage of these substances in accordance with the manufacturers' specifications would not pose any significant hazards. This use would not cause a significant hazard to the public or result in a foreseeable upset or accident condition. Future projects would be subject to further, more detailed review. Should any hazardous substances or other health hazards be identified, appropriate warning and protective methods would be developed and implemented.

Remediation at the site of a former underground fuel storage tank and waste oil tank at the CSP operations area on Gonzaga Road (Section 2.9.3.3) will continue independent of Plan implementation.

5.2.4.4 Land Use and Planning

The Plan provides guidelines for future land use and development and is consistent with the Merced County General Plan. The Plan would not physically divide an established community or conflict with any HCP or Natural Communities Conservation Plan (NCCP); therefore, it would not cause a change in the environment related to land use and planning.

5.2.4.5 Indian Trust Assets and Indian Sacred Sites

The nearest Indian Trust Asset is approximately 70 miles northeast of the Plan Area. Implementation of the Plan will not affect Indian Trust Assets (Rivera 2010).

The NAHC was consulted in 2003 and again in 2011 regarding the presence of Native American cultural resources in the Plan Area. No Native American cultural resources were identified in the NAHC sacred lands file. Implementation of the Plan will not affect known Indian Sacred Sites.

5.2.4.6 Energy and Mineral Resources

The Plan policies encourage resource conservation and recreational uses for the Plan Area. Plan implementation in and of itself would not require additional energy. The potential development and improvements that are recommended in the Plan would require minimal amounts of energy and would not adversely affect peak- and base-period demands for electricity.

The Plan includes the protection of large expanses of undeveloped land and would not preclude the development of any mineral resources if found. Therefore, the proposed Plan would not have an adverse impact on the environment related to mineral resources.

5.2.4.7 Noise

Plan implementation would not expose visitors to excessive noise, groundborne vibration, or substantial increases in ambient noise. Additional visitor facilities and uses are concentrated in the Frontcountry (FC), Administration and Operations (AO), Rural Developed (RD), and Suburban (S) zones of existing use areas, where noise from visitor activities and vehicles exists and is consistent with the setting. CSP rules and regulations pertaining to visitor noise (e.g., radios must

not be audible beyond a visitor's immediate campsite regardless of the time of day or night; generators or other devices are not to be operated between the hours of 8 PM and 10 AM) would continue to apply and would not be affected by Plan implementation.

The effects of noise on biotic species are discussed in Section 5.4.3.

5.2.4.8 Socioeconomics

Implementation of the Plan would not result in impacts related to population, employment, or housing. The Plan would not induce substantial population growth in the area because it does not propose any substantial new housing or businesses. The Plan would not displace any people or housing or result in the need to construct replacement housing elsewhere. Implementation of the Plan could result in an increased need for staff, but the number of new jobs generated would not be significant and would not exceed the projected job growth in the area.

5.2.4.9 Environmental Justice

Executive Order 12898, Environmental Justice, is a federal requirement to identify the disproportionately high and adverse health and environmental effects on minority populations and low-income populations that could be caused by a proposed federal action. Accompanying Executive Order 12898 is a Presidential Transmittal Memorandum that references existing federal statutes and regulations, including NEPA, to be used in conjunction with the Executive Order. The Council on Environmental Quality (CEQ) issued Guidance Under NEPA in 1997 (CEQ 1997). Minority populations include all persons identified by the U.S. Census of Population and Housing to be of Hispanic origin, regardless of race, and all persons not of Hispanic origin other than White (i.e., Black, American Indian, Eskimo or Aleut, Asian or Pacific Islander, or other race).

No formal, commonly accepted significance criteria have been adopted for Environmental Justice impacts. However, the Presidential Memorandum accompanying the Executive Order directs federal agencies to include measures to mitigate disproportionately high and adverse environmental effects of proposed federal actions on minority and low-income populations. Federal agencies are also required to give affected communities opportunities to provide input into the NEPA process, including identification of mitigation measures. No specific significance thresholds have been developed. Application of Executive Order 12898 to NEPA documentation suggests that the following two questions should be examined:

- Is a federal project with significant adverse environmental impacts being proposed in a community comprised largely of minority or low-income persons?
- Would any significant adverse human health or environmental effects of the project disproportionately affect minority or low-income persons?

No aspect of the Plan or any of the action alternatives would result in disproportionately high and adverse human health or environmental effects on minority or low-income populations. Any restrictions on travel or access to areas of the Plan Area that might result from implementation of the Plan would be equally applied to all visitors, regardless of race or socioeconomic standing. Furthermore, none of the action alternatives would change current management direction or housing policies with respect to housing policies in the Plan Area or vicinity. Therefore, the Plan and the action alternatives would not result in the destruction or disruption of community cohesion or economic vitality, displacement of public and private facilities and services, and/or exclusion or separation of minority or low-income populations from the broader community.

5.3 Environmental Setting

The analysis of environmental consequences is based on the description of the existing Plan Area environment, resource values, and the local and regional vicinity presented in Chapter 2.

5.4 Environmental Consequences

5.4.1 Hydrology, Floodplain, and Water Quality

Hydrology refers to hydrologic processes such as flooding, erosion, deposition, and channel movement. Water quality, particularly the enhancement or degradation of water quality, relates to and has an effect on the suitability of surface water for recreational use and wildlife habitat. The Clean Water Act requires CSP and Reclamation to comply with federal, state, interstate, and local requirements; administrative authority; and sanctions with respect to the control and abatement of water pollution.

5.4.1.1 Impact Summary

The following mechanisms have the potential to affect hydrology, floodplains, and water quality in the Plan Area:

- Facilities maintenance and construction
- Trail and road use, maintenance, and construction
- Motorized vessel emissions
- Human use and waste disposal
- Climate change

Because the Plan Area includes few flood-prone areas and development is not proposed in these areas, none of the alternatives would have impacts associated with flooding and floodplains.

5.4.1.2 Impact Criteria (Hydrology and Floodplain/Water Quality)

- Beneficial Impact (NEPA): Impact that is detectable and positively alters historical or desired hydrology and floodplain or water quality conditions. Beneficial impacts would contribute to the enhancement of Plan Area water resources or the public's enjoyment of water resources, or would advance Plan Area goals for water quality. There is no CEQA equivalent to a NEPA beneficial impact.
- No Impact: Impact that cannot be detected.
- Minor Adverse Impact (NEPA): Impact that is detectable and within or below regulatory standards or thresholds for water quality, and does not interfere with Plan Area goals. This is equivalent to a CEQA less than significant impact.
- Major Adverse Impact (NEPA): Impact that is detectable and significantly and negatively alters historical baseline or desired water quality conditions. Major adverse impacts would contribute to the deterioration of water quality in the Plan Area, diminish the public's enjoyment of Plan Area resources, or interfere with Plan Area goals for water quality. A major adverse impact is equivalent to a CEQA significant impact, which would result from one or more of the following:
  - Violate any water quality standard or waste discharge requirements;
  - Substantially deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level;
  - Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite;
  - Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
  - Otherwise substantially degrade water quality;
  - Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood delineation map;
  - Place within a 100-year flood hazard area structures that would impede or redirect floodflows; or
  - Expose people or structures to significant risk of loss, injury, or death involving flooding, including that caused by dam or levee failures, seiche, tsunami, or mudflow.

5.4.1.3 Environmental Evaluation

Facilities Maintenance and Construction Each of the alternatives include maintenance or construction of sites and facilities including campgrounds, picnic areas, boat ramps, boarding floats, shade ramadas, and buildings. Maintenance and construction could expose loose soils, potentially increasing erosion and

siltation. Depending on the distance between the activity and the nearest Plan Area waterbody, minor adverse impacts could occur to surface waters due to erosion and a resulting temporary increase in turbidity or siltation in localized areas. The addition of new paved surfaces could increase the amount of impermeable surface within the Plan Area, potentially resulting in additional runoff and pollutants in runoff. Moreover, the use of construction equipment and related chemicals has a minor potential to result in the accidental release of pollutants. Any release of pollutants could affect surface water, runoff, and groundwater.

Maintenance and construction activities would have the potential to result in minor, short-term adverse effects to water quality within the Plan Area. The effects would vary by alternative as follows:

- Alternative 1, No Action/No Project, would not construct any additional features or facilities in the Plan Area, but standard maintenance activities would continue. These activities could have minor, short-term adverse effects to water quality, but to a lesser degree than the action alternatives, which all allow for additional construction.
- Alternative 2 proposes the fewest additional features and facilities of the three action alternatives. The water quality effects described above could result from expanding the group picnic facilities at San Luis Creek Use Area and the campground at Los Banos Creek Use Area, as well as from adding up to 30 tent sites at the northwest shoreline of San Luis Creek Use Area. In addition, Alternative 2 would allow for reopening or relocating the boat launch at Medeiros Use Area and removing sandbars in shallow water areas. If these actions were pursued, potential impacts to water quality from construction-related turbidity would range from minor to major and would likely require second-tier environmental review. The adverse effects to water quality from Alternative 2 would be greater than from Alternative 1 but less than Alternatives 3 and 4. Measures such as those described in Section 5.4.1.4 would reduce potential effects, but minor impacts could remain.
- Alternative 3 would allow for a greater degree of facility development than Alternatives 1 and 2. Effects to water quality could result from addition of several camping and day use facilities at Basalt, Dinosaur Point, San Luis Creek, Medeiros, and Los Banos Creek use areas, as well from expanding the boat launch at San Luis Creek Use Area and relocating the entrance station and maintenance facilities at Los Banos Creek Reservoir. Paving currently unpaved roads in Medeiros Use Area would increase the amount of impermeable surface runoff in that area. Like Alternative 2, Alternative 3 would allow for reopening or relocating the boat launch at Medeiros Use Area and removing sandbars in shallow water areas. If these actions were pursued, potential impacts to water quality from construction-related turbidity would range from minor to major and would likely require second-tier environmental review. Adverse effects to water quality from Alternative 3 would be greater than from

Alternatives 1 and 2 but are expected to remain short-term. Measures such as those described in Section 5.4.1.4 would reduce potential adverse effects, but minor impacts could remain.

- Alternative 4 would allow for the greatest degree of facility development of the action alternatives. In addition to including most components of Alternative 3, this alternative would provide for several new facilities that would increase the amount of impermeable surface, such as a new visitor's center at the Gonzaga Road Facilities Area and a restaurant and motel (in coordination with a long-term concessionaire) at Medeiros Use Area. Like Alternatives 2 and 3, Alternative 4 would allow for reopening or relocating the boat launch at Medeiros Use Area and removing sandbars in shallow water areas. If these actions were pursued, potential impacts to water quality from construction-related turbidity would range from minor to major and would likely require second-tier environmental review. Adverse effects to water quality from Alternative 4 would be greater than from the other alternatives and could range from minor to major, if the new facilities result in exceedance of any standards, substantially change drainage patterns, or contribute excessive runoff. Measures such as those described in Section 5.4.1.4 would reduce potential adverse effects, but minor impacts could remain.

When specific construction and maintenance activities are developed, a site-specific environmental analysis would be conducted and a more focused assessment of the activity's impacts to water quality would take place. If significant impacts to water quality were to be identified, the proposed project would be modified or mitigation measures would be implemented to reduce these impacts to minor impact levels (see Section 5.4.1.4).

Trail and Road Use, Maintenance, and Construction All of the alternatives include use and maintenance of existing roads and trails, and some action alternatives allow for construction of new roads and trails. Depending on the distance between the roads or trails and the nearest Plan Area waterbody, use, maintenance, and construction could result in minor adverse impacts to surface waters due to erosion and the resulting temporary increase in turbidity at localized areas. Impacts would be similar to those for facilities maintenance and construction, discussed above. Paving road and trails could increase runoff by adding impermeable surfaces. Spills of oil, grease, or other hydrocarbons from motor vehicles or construction equipment could affect surface water, runoff, and groundwater. The effects would vary by alternative as follows:

- Alternative 1, No Action/No Project, would not construct any new roads or trails, but use of those roads and trails, along with standard maintenance activities such as trail grading, would continue. These activities could have minor, short-term adverse effects to water quality, but to a lesser degree than the action alternatives.
- Alternative 2 proposes no additional trails. Alternative 2 and the other action alternatives would implement a trails management plan, which

would be a beneficial impact that would not be realized under Alternative 1. The plan would incorporate best management practices (BMPs) to maintain trails and minimize erosion, especially in areas where trail use could affect water quality. All of the action alternatives also allow for working with Caltrans to explore roadway access improvements, which, if pursued, would be subject to Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) permit requirements and storm water BMPs in addition to the measures proposed in Section 5.4.1.4. Continued trail and road use and potential development of roadway improvements with Alternative 2 would result in minor, short-term adverse water quality effects. These effects would be greater than with Alternative 1 but less than Alternatives 3 and 4. At Los Banos Creek Use Area, the access road at the entry station would be improved under Alternative 2 and the other action alternatives to address periodic flooding. This would be a beneficial impact that would not be realized under Alternative 1. Effects would be minimized to minor levels through implementation of the trails management plan and measures such as those described in Section 5.4.1.4.

- Alternative 3 includes new trails linking Basalt Use Area with Pacheco State Park and Dinosaur Point with surrounding areas. Construction of a trail through a currently undeveloped area has the potential for minor to major effects. Implementation of the trails management plan would minimize these effects to minor levels. Therefore, water quality effects from continued trail and road use and development of new trails would be minor and short-term. At San Luis Creek Use Area, Alternative 3 would allow for a construction of a new road for vehicle access to the fishing area at Check 12 as well as additional camping areas at the extreme northwest edge of the San Luis Creek Campground. Construction and operation of these new facilities could result in minor changes in drainage patterns and runoff quantities, but adverse effects would remain minor and short-term. Overall, Alternative 3 would have greater effects on water quality than Alternatives 1 and 2 but less than Alternative 4. Effects would be minimized to minor levels through implementation of the trails management plan and measures such as those described in Section 5.4.1.4.
- Alternative 4 includes two new trails, which would link Basalt Use Area with Dinosaur Point Use Area and Los Banos Creek Use Area with Basalt Use Area. Otherwise, trails and roads and the associated impacts from construction and use would be identical to Alternative 3. Construction of trails through currently undeveloped areas, including privately owned land between the two parts of the Plan Area, would have the potential for minor to major adverse effects. These effects would be minimized to minor levels through implementation of the trails management plan and other measures such as those described in Section 5.4.1.4. Effects would be minimized to minor levels through implementation of the trails management plan and measures such as those described in Section 5.4.1.4.

Motorized Vessel Emissions Any release of fuel or other pollutants from a motorized vessel has the potential to affect Plan Area water quality. Some personal watercraft and fishing boats with outboard motors have carbureted two-stroke engines (nonconformant engines) that release an unburned fuel mixture from the engine directly into the water. As a result of new emissions regulations, all recreational marine vessel engines and personal watercraft were required to have compliant two-stroke (direct injection) or four-stroke engines from 2008 onward (see Sections 2.4.3.3 and 2.5). Almost 50 percent of the remaining nonconformant two-stroke engines are projected to remain in use by 2012 (Federal Register 1996). No data are available for the percentage of vessels with nonconformant engines typically present in the Plan Area.

Potential water quality effects from motorized vessel emissions would vary by alternative as follows:

- Alternative 1, No Action/No Project, would not impose a timed phaseout of nonconformant two-stroke engines. The duration of nonconformant engine use in Plan Area waterbodies would be longer in the absence of a timed phaseout. Water quality data show that no water quality standards associated with vessel fuel discharges have been exceeded (see Section 2.4.3.2); however, continued use of nonconformant two-stroke engines is anticipated to have minor adverse impacts on water quality, which would be greater than with the action alternatives.
- Alternative 2 and the other action alternatives would impose a three-year phaseout of nonconformant two-stroke engines. During the three-year phaseout period, continued use of nonconformant two-stroke engines would have minor adverse impacts on water quality, followed by beneficial impacts after the phaseout. After the three-year phaseout period, all recreational marine engines in use in the Plan Area will be required to have a one-star, two-star, or three-star label (see Section 2.5.1.2). Enforcement measures will be specified in the boating management plan.

Human Use and Waste Disposal Recreational use in the Plan Area generates human waste. Possible sources of human waste pollution include developed campsites, primitive campsites, portable restrooms, and privately owned portable toilets, as well as body contact with reservoir waters. New or expanded facilities could accommodate a greater number of visitors. Additional campsites and restroom/toilet facilities would result in additional human waste. An increase in body contact with reservoir water from additional visitation has the potential to increase levels of coliform bacteria during periods of high visitation such as weekends and holidays.

These effects would vary by alternative as follows:

- Alternative 1, No Action/No Project, would not increase the number of campsites, add restroom/toilet facilities, or propose new or expanded facilities that could accommodate additional visitors and could result in additional human waste and body contact. The potential for minor adverse

water quality impacts associated with human waste and body contact would be lower than with the action alternatives.

- Alternative 2 would allow for adding up to 30 tent sites each at Los Banos Creek and San Luis Creek use areas. The additional camping capacity would accommodate more visitors and could result in additional human waste and body contact. This would slightly increase the potential for minor adverse water quality impacts compared with Alternative 1. Effects would be minimized to minor levels through implementation of measures such as those described in Section 5.4.1.4.
- Alternatives 3 and 4 would allow for the greatest increase in camping and day use capacity, and include additional restroom facilities at Dinosaur Point, Medeiros, and Los Banos Creek use areas. The additional camping and overnight lodging, restrooms, and day use capacity would accommodate more visitors than the other alternatives. The resulting increase in human waste and body contact would increase the risk for water quality impacts compared to Alternatives 1 and 2; however, potential adverse impacts would remain minor. Effects would be minimized to minor levels through implementation of measures such as those described in Section 5.4.1.4.

Climate Change As described in Section 2.2, San Luis Reservoir levels vary by year and season and decline by an average of more than 100 feet from the late winter to summer months. The fluctuation in reservoir levels requires a system of ramps that are operated to allow boat and water recreation access to the reservoir as water levels decline. This allows recreation access at even the lowest lake levels.

In the last 25 years, there have been two years (1989 and 2008) when droughts caused reservoir levels to be drawn down over 180 feet below normal high water level. Climate change has the potential to increase the frequency and magnitude of fluctuations in reservoir levels due to decreased snowpack and subsequent decreased summer runoff. As a result, the current ramp system may be necessary for recreational access to the reservoir on a more frequent basis, and other temporary or permanent infrastructure improvements may need to be implemented to accommodate water level changes. This condition would occur regardless of which alternative is implemented, including No Action/No Project. Plan implementation would have no impact on reservoir level fluctuations from climate change.

Groundwater levels and recharge rates have the potential to be affected by decreased precipitation in the Plan Area from climate change (see Section 2.2.2). This condition would occur regardless of which alternative is implemented, including No Action/No Project. Plan implementation would have no impact on groundwater level fluctuations from climate change.

5.4.1.4 Mitigation

The following measures would be considered and applied as necessary for all of the action alternatives during project construction and implementation.

Goals RES-WQ1 through RES-WQ4 Goals RES-WQ1 through RES-WQ4 and their associated guidelines (Section 4.2.1.4) will minimize or avoid potential impacts on hydrology and water quality from facilities maintenance and construction; trail and road use, maintenance, and construction; motorized vessel emissions; and human waste and disposal. In particular, RES-WQ1 provides for temporary suspension or limitation of visitor uses such as swimming or boating if water quality monitoring shows exceedances of standards that are clearly associated with recreational uses. The Plan proposes to continue monitoring at existing locations. In addition, project-specific mitigation measures will be developed and implemented on a project-by-project basis, if mitigation is necessary.

Mitigation Measure WQ1

- Develop and implement a stormwater pollution prevention plan to control erosion and sedimentation, both during and after construction, thereby reducing water pollution.
- Place construction debris in refuse containers at least daily.
- Dispose of refuse frequently. Avoid burning or burying refuse inside the Plan Area where feasible.
- Dispose of volatile wastes and oils in approved containers for removal from construction sites to avoid contamination of soils, drainages, and watercourses.
- Inspect equipment for hydraulic and oil leaks prior to use on construction sites, and implement inspection schedules to prevent contamination of soil and water.
- When using heavy equipment, keep absorbent pads, booms, and other materials on-site to contain oil, hydraulic fluid, and solvents.
- Incorporate methods for minimizing flood damage into the design of all new structures.
- Store and stabilize excavated material in upland areas to prevent discharge into water bodies or wetlands.

5.4.2 Air Quality

The SJVAPCD's Guide for Assessing and Mitigating Air Quality Impacts (SJVAPCD 2002) provides measures to avoid and minimize air quality impacts. These measures address the types of activities proposed in the action alternatives. The Plan incorporates measures from the SJVAPCD guidance (Section 5.4.2.4), which will be implemented as appropriate to avoid major adverse air quality impacts.

5.4.2.1 Impact Summary

The following mechanisms have the potential to affect air quality in the Plan Area:

- Criteria pollutant emissions from motorized vehicles and vessels
- Dust emissions caused by motorized vehicles, construction, or recreation
- Short-term combustion emissions caused by prescribed burning or wildland fires

- GHG emissions and climate change

None of the four alternatives would introduce stationary sources of air pollution into the Plan Area.

5.4.2.2 Impact Criteria (Air Quality)

- Beneficial Impact (NEPA): Impact that is detectable and positively alters historical or desired air quality conditions. Beneficial impacts would contribute to the enhancement of Plan Area air quality, the public's enjoyment of Plan Area resources, or would advance Plan Area goals for air quality. There is no CEQA equivalent to a NEPA beneficial impact.
- No Impact: Impact that cannot be detected.
- Minor Adverse Impact (NEPA): Impact that is detectable and within or below regulatory standards or thresholds for air quality, and does not interfere with Plan Area goals. This is equivalent to a CEQA less than significant impact.
- Major Adverse Impact (NEPA): Impact that is detectable and significantly and negatively alters historical baseline or desired air quality conditions. Major adverse impacts would contribute to the deterioration of air quality in the Plan Area, the public's enjoyment of Plan Area resources, or would interfere with Plan Area goals for air quality. A major adverse impact is equivalent to a CEQA significant impact, which would result from one or more of the following:
  - Conflict with or obstruct implementation of the applicable air quality plan;
  - Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
  - Result in a cumulatively considerable net increase of any criteria air pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);
  - Expose sensitive receptors to substantial pollutant concentrations; or
  - Create objectionable odors affecting a substantial number of people.

5.4.2.3 Environmental Evaluation

Criteria Pollutant Emissions from Motorized Vehicles and Vessels Vehicle and motorized watercraft emissions include ozone precursors, carbon monoxide, nitrogen and sulfur oxides, and particulate matter. These emissions have the potential to affect local and regional air quality. The action alternatives would support increased visitor use, associated vehicle travel, and motorized watercraft use, as well as construct visitor, operations, and maintenance facilities. The alternatives could also result in increased vehicle traffic to, from, and in the Plan Area.

The level of the potential increase in motorized vehicle and vessel use is unclear, since Plan Area visitation has fluctuated in recent years independent of local and regional population growth (see Chart 2-1). Future criteria pollutant emissions

related to Plan Area motorized vehicle, vessel, and OHV use were estimated using the CARB EMFAC 2007 model for motorized vehicles and the Offroad 2007 model for motorized vessels and OHVs. The modeling assumed a 98 percent increase in daily vehicle trips, boat launches, and OHV use in future year 2040 over existing conditions (Section 2.5.2 and Table 2-15). The increase was based on the California Department of Finance's projected population increase of 98 percent in 2040 for Merced County (DOF 2011). Applying this increase to Plan Area vehicle and vessel use is considered highly conservative. Santa Clara County, which is the source of at least a portion of Plan Area visitation,[8] is projected to have a 2040 population increase of only 21 percent. In addition, the 98 percent increase assumes that Plan Area visitation will nearly double.

Table 5-1
Future Criteria Pollutant Emissions from Plan Area Visitation (2040)

Type	CO	VOC	NO_x	PM_{10}	$PM_{2.5}$	SO_2
Vehicle Emission Factors (lb/mi)	0.0135	0.0013	0.0012	8.42252E-05	5.23E-05	9.00E-06
Vehicle Emissions (tons/yr)	12.744	1.248	1.158	0.079	0.049	0.008
Boat Emission Factors (ton/boat)	0.00037	1.97E-04	1.80E-05	2.59E-05	2.59E-05	4.48E-08
Evap Boat Factors (tons/boat)		2.71E-05				
Boat Emissions (tons/day)	0.01922	0.01171	0.00094	0.00135	0.00135	0.00000
Boat Emissions (tons/year)	7.02	4.28	0.34	0.49	0.49	0.00
OHV Exhaust Emission Factors (tons/OHV)	1.57E-04	5.77E-05	1.66E-06	8.11E-07	8.11E-07	8.35E-07
OHV Evaporative Emission Factors (tons/OHV)	--	1.91E-05	--	--	--	--
OHV Emissions (tons/day)	0.00172	0.00084	0.00002	0.00001	0.00001	0.00001
OHV Emissions (tons/year)	0.63	0.31	0.01	0.003	0.003	0.003
Total Emissions (tons/year)	**20.393**	**5.832**	**1.507**	**0.577**	**0.547**	**0.013**
SJVAPCD Thresholds (tons/year)	**NA**	**10**	**10**	**15**	**15**	**NA**
GCR De Minimis Levels (tons/yr)	**Attainment**	**10**	**10**	**100**	**100**	**Attainment**

[8] CSP does not have data for county of visitor origin, but because Santa Clara County is adjacent to the western side of the Plan Area, it is reasonable to assume that some vistors come from that county.

As shown in Table 5-1, future total emissions from the Plan Area would remain well below the SJVAPCD thresholds (where thresholds exist) and GCR de minimis levels. No exceedances would occur if Plan Area motor vehicle and vessel use doubled.

Another future year scenario was evaluated to determine potential air emissions from increased boating that could result from the action alternatives. In addition to the 98 percent increase in boating, vehicle, and OHV use based on potential population growth assumed for Table 5-1, the number of boat launches was doubled again, and the number of vehicles was adjusted to account for transporting the additional boats to the Plan Area. As shown in Table 5-2, future total emissions from the Plan Area would continue to remain below the SJVAPCD thresholds (where thresholds exist) and GCR de minimis levels for all pollutants except VOC. The VOC emissions are only slightly above the SJVAPCD and GCR de minimis level.

Table 5-2
Future Criteria Pollutant Emissions from Plan Area Visitation Based on Additional Boat Launches from Boating Enhancements (2040)

Type	CO	VOC	NO_x	PM_{10}	$PM_{2.5}$	SO_2
Vehicle Emission Factors (lb/mi)	0.0135	0.0013	0.0012	8.423E-05	5.23E-05	9.00E-06
Vehicle Emissions (tons/yr)	13.040	1.277	1.185	0.081	0.050	0.009
Boat Emission Factors (ton/boat)	0.00037	1.97E-04	1.80E-05	2.59E-05	2.59E-05	4.48E-08
Evap Boat Factors (tons/boat)		2.71E-05				
Boat Emissions (tons/day)	0.03832	0.02334	0.00187	0.00270	0.00270	0.00000
Boat Emissions (tons/year)	13.99	8.52	0.68	0.99	0.99	0.00
OHV Exhaust Emission Factors (tons/OHV)	1.57E-04	5.77E-05	1.66E-06	8.11E-07	8.11E-07	8.35E-07
OHV Evaporative Emission Factors (tons/OHV)		1.91E-05				
OHV Emissions (tons/day)	0.00172	0.00084	0.00002	0.00001	0.00001	0.00001
OHV Emissions (tons/year)	0.63	0.31	0.01	0.003	0.003	0.003
Total Emissions (tons/year)	**27.657**	**10.106**	**1.873**	**1.070**	**1.039**	**0.014**
SJVAPCD Thresholds (tons/year)	**NA**	**10**	**10**	**15**	**15**	**NA**
GCR De Minimis Levels (tons/yr)	**Attainment**	**10**	**10**	**100**	**100**	**Attainment**

Motor vehicle, boat, and OHV use would have to quadruple before any threshold apart from VOC would be exceeded; all other criteria emissions would remain below SJVAPCD thresholds and GCR de minimis levels. Although automotive and boat traffic would likely vary among the four alternatives, a quadrupling in future motor vehicle and vessel use in the Plan Area is unlikely to occur. None of the alternatives would result in levels of park visitation high enough to create heavy and sustained traffic patterns that would produce major air quality issues. The indirect effects of increasing vehicle traffic in the region from Plan implementation would result in only a minor increase in total vehicular emissions in the area.

In addition, new regulations are expected to reduce air emissions as motorized vehicle and vessel manufacturers improve their technology to meet emission standards. As described in Section 2.5, all marine outboard and personal watercraft engines manufactured in 2008 or later are required to comply with California Air Resources Board (CARB) 2008 exhaust emission standards for hydrocarbons and NO_x. All marine outboard and personal watercraft engines manufactured in 2010 or later will be required to comply with USEPA 2008 emission standards (USEPA 2008a), and spark-ignition marine vessel engines from 2012 and later will be required to comply with CARB and USEPA standards for evaporative emissions (CARB 2010c). Regulations regarding GHG emissions from motor vehicles (see below under "Greenhouse Gas Emissions") would also reduce criteria pollutant emissions.

Emissions effects would vary by alternative as follows:

- Alternative 1, No Action/No Project, would not construct any additional features or facilities in the Plan Area that would accommodate or support increased visitor use. Continued visitation and motorized vehicle and vessel use could have minor adverse effects to air quality, but to a lesser degree than the action alternatives. Airborne emissions such as VOC, NO_x, and CO from continued use of nonconformant two-stroke engines with Alternative 1 would have minor adverse impacts on air quality, which would be greater than with the action alternatives.
- Alternative 2 proposes the fewest additional features and facilities of the three action alternatives. A minor increase in visitors and motorized vehicle travel to, from, and in the Plan Area could result from expanding the group picnic facilities at San Luis Creek Use Area and the campground at Los Banos Creek Use Area, as well as adding up to 30 tent sites at the northwestern shoreline of San Luis Creek Use Area. Some increase in boating could occur from expanding the boat launch at Dinosaur Point Use Area or reopening/relocating the boat launch at Medeiros Use Area. Any addition in motorized vessel use would be offset by the three-year phaseout of nonconformant two-stroke engines that Alternative 2 and the other action alternatives would impose. The phaseout of nonconformant engines will reduce VOC, NO_x, and CO emissions. Since VOC and NOx are precursors to ozone formation, the phaseout will also reduce ozone creation. Overall,

Alternative 2 could result in minor adverse effects to air quality that are greater than Alternative 1 but less than Alternatives 3 and 4.

- Alternative 3 proposes many of the same expanded or additional facilities as Alternative 2, along with the three-year phaseout of nonconformant two-stroke engines, but includes features to accommodate a greater number of visitors. This alternative would allow for several new campsites and other facilities at Basalt, San Luis Creek, Medeiros, and Los Banos Creek use areas. Alternative 3 would allow for potential expansion of the OHV Use Area if new property becomes available, although any related increase in emissions would be minimized with continuation of seasonal restrictions on Red Sticker OHV use (Section 2.5.1.2). WROS designations for Alternative 3 would not result in any increases in boat density. Minor adverse air quality impacts from Alternative 3 would be greater than from Alternatives 1 and 2.
- Alternative 4 would allow for many of the same expanded or additional facilities as Alternative 3 but provides for a greater number of overnight and day use facilities. It also includes a separate launch area for personal watercraft at San Luis Creek Use Area and construction of a professional motocross track at the OHV Use Area. By providing the largest increase in facilities to accommodate additional visitors and motorized vehicle and vessel use, Alternative 4 could result in minor adverse air quality impacts that are greater than the other alternatives. In addition, WROS designations for Alternative 4 (Map 11) would allow for increases in boat density in the southern part of San Luis Reservoir (from 50–110 acres per boat with the other alternatives to 20–50 acres per boat with Alternative 4) and the eastern part of O'Neill Forebay (from 20–50 acres per boat with the other alternatives to 10–20 acres per boat with Alternative 4).[9] These changes in boat density would be partly offset by the three-year phaseout of nonconformant two-stroke engines; however, short-term, minor adverse effects could remain.

Dust Emissions Caused by Motorized Vehicles, Construction, or Recreation

Dust and particulate matter in the Plan Area are potentially generated from three sources: automobile traffic and OHV use on dirt roads and unpaved areas; nonmotorized recreational trail use, including hiking, horseback riding, and mountain biking; and grading disturbance from facilities construction. The dust generated by motor vehicles—including OHVs—driving on dirt roads and unpaved areas would result in localized minor adverse air quality impacts. Other recreational trail use such as hiking and horseback riding is not likely to result in air quality impacts because is not usually fast or intensive enough to create substantial dust clouds. Other effects of trail erosion are discussed in Section 5.4.1.2 (under Trail and Road Use, Maintenance, and Construction). Site maintenance and facilities construction that includes ground-disturbing activities could raise dust and cause minor adverse impacts to air quality.

[9] Acres per boat for each WROS zone are described in Sections 4.3.1 through 4.3.3.

These effects would vary by alternative as follows:

- Alternative 1, No Action/No Project, would not expand or construct facilities, roads, or trails, but use of unpaved roads and trails, along with standard maintenance activities such as trail grading, would continue. These activities could have minor, short-term adverse effects to air quality, but to a lesser degree than the action alternatives.
- Alternative 2 proposes some additional features and facilities that could accommodate or support additional visitors and increase motorized vehicle travel in unpaved areas (see "Emissions from Motorized Vehicles and Vessels," above). These changes could result in minor adverse effects to air quality that are greater than Alternative 1 but less than Alternatives 3 and 4. Implementation of a trails management plan that incorporates BMPs to reduce dust could have a beneficial impact on dust emissions that would not be realized under Alternative 1. With implementation of measures such as those described in Section 5.4.2.4, any residual impacts would be minor.
- Alternative 3 would allow for a greater number of features and facilities that could accommodate or support additional visitors and increase motorized vehicle travel in unpaved areas (see "Emissions from Motorized Vehicles and Vessels," above), compared with Alternative 2. This alternative would also allow for new trails linking Basalt Use Area with Pacheco State Park and Dinosaur Point with surrounding areas. As part of the proposed trails management plan, trail construction would incorporate BMPs to minimize dust emissions, and as stated above, routine trail use is not expected to create a substantial amount of dust. Potential expansion of the OHV Use Area, if new property becomes available, could result in an increase in dust emissions from additional OHV use. This increase could be partially offset by paving all unpaved roads in Medeiros Use Area, which is also proposed under Alternative 3. As with Alternative 2, implementation of a trails management plan could have a beneficial impact on dust emissions that would not be realized under Alternative 1. Overall, Alternative 3 could have minor adverse air quality impacts that are greater than Alternatives 1 and 2 but less than Alternative 4. With implementation of measures such as those described in Section 5.4.2.4, any residual impacts would be minor.
- Alternative 4 would allow for new trails linking Basalt Use Area with Dinosaur Point Use Area and Los Banos Creek Use Area and Basalt Use Area. In addition to allowing for expansion of the OHV Use Area, Alternative 4 proposes construction of a professional motocross track. The proposed trails and changes to the OHV Use Area would increase dust emissions compared with Alternative 3. This increase could be partially offset by paving all unpaved roads in Medeiros Use Area, which is also proposed under Alternative 4. Otherwise, facility, road, and trail maintenance and construction, and any associated increase in motorized vehicle travel on unpaved areas, would be the same as Alternative 3. Alternative 4 could result in minor to major adverse air quality impacts

from dust emissions. Implementation of measures such as those described in Section 5.4.2.4 would reduce the severity of impacts; however, minor adverse impacts would remain.

When specific construction and maintenance activities are developed, a site-specific environmental analysis would be conducted and a more focused assessment of the activity's impacts to air quality would occur. At that time, applicability of the SJVAPCD's Indirect Source Review Rule (Section 2.5.1.2) would be evaluated, although the 2 ton per year threshold of construction NO_x and PM_{10} emissions is not anticipated to be exceeded. If major impacts to air quality were to be identified, the proposed project would be modified or mitigation measures would be implemented to reduce these impacts to no-impact levels (see Section 5.4.2.4, Mitigation Measure AQ1).

Short-Term Combustion Emissions Caused by Prescribed Burning or Wildland Fires All four alternatives include the potential for short-term, localized impacts from wildland fires or prescribed burns. Prescribed burns are not conducted regularly in the Plan Area. These effects would vary by alternative as follows:

- Alternative 1, No Action/No Project, would not plan for or include prescribed burns. As prescribed burns reduce fuel loads that can contribute to wildland fires, the risk of wildland fire would be somewhat elevated under this alternative. Fires, whether accidental or prescribed, would result in temporary, localized increases in combustion emissions that would have minor adverse impacts on air quality.
- Alternatives 2, 3, and 4 include the development of a vegetation management statement, which would allow prescribed burning in accordance with the Cal Fire Vegetation Management Program (Section 3.2.5). The vegetation management statement would provide timing guidelines to minimize impacts to air quality (such as not conducting burns on days when air quality is below normal conditions). Residual impacts would still be detectable and therefore would be classified as minor.

Greenhouse Gas Emissions and Climate Change Motor-driven equipment used for activities such as digging, grading, and paving during construction of Plan Area facilities has the potential to generate additional ozone precursors, carbon monoxide, nitrogen and sulfur oxides, and particulate matter in the Plan Area. These localized, short-term increases would be greatest for Alternatives 3 and 4, and less for Alternative 2. Alternative 1 would involve no construction; therefore, emissions would not increase.

Motorized vehicle traffic to, from, and within the Plan Area also has the potential to result in GHG emissions. GHG emissions from existing vehicle, motorized watercraft, and OHV use were estimated using EMFAC 2007 for vehicles and Offroad 2007 for motorized vessels and OHVs, as described in Section 2.5.3. The CARB EMFAC 2007 post-processor was used to account for recently adopted

California GHG regulations for passenger vehicles. The modeling assumed a 98 percent increase in daily vehicle trips and boat launches in future year 2040, as was assumed for the estimate of future criteria pollutants (see "Criteria Pollutant Emissions from Motorized Vehicles and Vessels," above). Table 5-3 shows estimated GHG emissions from future vehicle and motorized watercraft use, quantified as the pollutants analyzed in Section 2.5.3.

Table 5-3
Future GHG Emissions (2040)

Parameter	Pollutant			
	CO_2	CH_4	N_2O	CO_2e
Vehicle Emission Factors (lb/mi)	0.91	1.05E-04	0.06	20.61
Vehicle Emissions (tons/yr)	435.34	0.05	30.29	9825.12
Boat Emission Factors (ton/boat)	2.83E-03	1.23E-05	7.92E-07	3.33E-03
Boat Emissions (tons/day)	0.07	3.23E-04	2.09E-05	0.09
Boat Emissions (tons/year)	27.23	0.12	0.01	32.08
OHV Exhaust Emission Factors (tons/OHV)	4.69E-04	3.56E-06	9.14E-07	8.27E-04
OHV Emissions (tons/day)	0.00515	0.00004	0.00001	0.00909
OHV Emissions (tons/year)	1.88	0.01	0.004	3.32
Total Emissions (tons/year)	917.78	0.35	59.99	19520.057
Total Emissions (metric tons/year)	832.59	0.31	54.42	17708.76

The emissions estimates shown in Table 5-3 are considered highly conservative and are not expected to be exceeded by any of the Plan alternatives. Compared to Alternative 1, Alternatives 2 through 4 would allow for some level of net increase in total vehicle hours in the Plan Area from the operation of motorized vessels or vehicles. Alternative 4 would increase it the most, and Alternative 2 the least. Unlike Alternative 1, the action alternatives would also impose a three-year phaseout of nonconformant two-stroke engines, which is not factored into the analysis and would provide some reduction of GHG emissions.

Another future year scenario was evaluated to determine potential GHG emissions from increased boating that could result from the action alternatives. In addition to the 98 percent increase in boating, vehicle, and OHV use based on potential population growth assumed for Table 5-1, the number of boat launches was doubled again, and the number of vehicles was adjusted to account for transporting the additional boats to the Plan Area. As shown in Table 5-4, future total emissions would increase. By accommodating expanded or additional boat launches, addition of marinas, and reopening of the Medeiros Use Area boat launch, Alternative 4 has the potential to increase GHG emissions the most, and Alternative 2 the least. Unlike Alternative 1, the action alternatives would also impose a three-year phaseout of nonconformant two-stroke engines, which is not factored into the analysis and would provide some reduction of GHG emissions.

Table 5-4
Future GHG Emissions from Plan Area Visitation Based on Additional Boat Launches from Boating Enhancements (2040)

Parameter	Pollutant			
	CO_2	CH_4	N_2O	CO_2e
Vehicle Emission Factors (lb/mi)	0.9134	1.05E-04	6.35E-02	20.61
Vehicle Emissions (tons/yr)	861.976	0.099	59.967	19453.74
Boat Emission Factors (ton/boat)	0.00283	1.23E-05	7.92E-07	3.33E-03
Boat Emissions (tons/day)				
Boat Emissions (tons/year)	0.14762	0.00064	0.00004	0.17
OHV Exhaust Emission Factors (tons/OHV)	4.69E-04	3.56E-06	9.14E-07	8.27E-04
OHV Emissions (tons/day)	0.00515	0.00004	0.00001	0.00909
OHV Emissions (tons/year)	1.88	0.01	0.004	3.32
Total Emissions (tons/year)	991.34	0.58	61.40	20035.62
Total Emissions (metric tons/year)	899.33	0.53	55.70	18176.01

As discussed in Section 2.5.1.5, no numeric thresholds of significance for GHG emissions exist. The SJVAPCD has established performance-based standards to assess significance of project-specific GHG emissions on global climate change. According to SJVAPCD guidelines, if Best Performance Standards (BPS) are adopted for a project, the GHG cumulative impacts can be considered less than significant. As of January 2012, the BPS that have been approved apply primarily to stationary sources. For projects that involve mobile sources such as this Plan, one of the following would be required to determine that the project would have a less than cumulatively significant impact:

- Demonstration of a 29 percent reduction in GHG emissions from business-as-usual, or
- Compliance with an approved GHG plan or mitigation program.

Few of the vehicles and vessels in use in the Plan Area are part of a fleet intended to operate within the Plan Area, thus it is infeasible to apply measures that would reduce GHG emissions by 29 percent. As vehicle manufacturers are expected to follow the California and federal GHG regulations for light-duty vehicles (Section 2.5.1.5), future GHG emissions are expected to decrease even if visitor use of the Plan Area increased (either from regional population growth or Plan elements that would accommodate additional visitation). Full implementation of the Pavley standards are expected to result in a 22 percent (for 2009–2012) to 30 percent (for 2013–2016) reduction in GHG emissions. When California and federal regulations to reduce GHG emissions are in effect, a combined 30 percent reduction in GHG emissions is expected to result from visitor vehicles in the Plan

Area. Therefore, at this time, any increase in GHG levels from Plan implementation would be considered minor and less than significant.

In addition, the Air Quality Element of the Draft Merced County General Plan Update (Policy AQ-1.5; Merced County 2011) calls for preparing a Climate Action Plan. That plan would include an inventory of 1990 and 2010 greenhouse gas emissions, determine project-related air quality impacts using analysis methods and significance thresholds recommended by the SJVAPCD, and identify strategies to achieve the SJVAPCD emission reduction targets of 5 percent by 2020 and 10 percent by 2035. If Merced County's proposed Climate Action Plan qualifies as an approved GHG plan or mitigation program in accordance with SJVAPCD guidelines, compliance with the Climate Action Plan would render GHG emissions from implementation of the San Luis Reservoir RMP/GP minor and less than significant.

5.4.2.4 Mitigation

The following would be considered and applied as necessary for all of the action alternatives, including during maintenance and construction activities.

Mitigation Measure AQ1 The following measures from the San Joaquin Valley Air Pollution Control District's Guide for Assessing and Mitigating Air Quality Impacts (SJVAPCD 2002) would be considered as appropriate for all of the action alternatives:

- Apply county general plan policies, local ordinances, and state and federal policies;
- Provide pedestrian/transit-oriented design elements where appropriate and feasible;
- Provide traffic flow improvements for areas affected by plan proposals, where practicable;
- At least twice daily, water all active construction areas, disturbed areas, stock piles, and other loose materials;
- Cover the loads of all trucks hauling soil, sand, and other loose materials;
- Water at least twice daily or pave all access roads, parking areas, and staging areas;
- Control fugitive dust emissions from clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities through watering or presoaking, where necessary;
- Sweep paved areas and roads to remove the accumulation of mud or dirt;
- Hydroseed or apply nontoxic soil stabilizers to inactive construction areas and replant vegetation in disturbed areas as quickly as possible;
- Limit traffic speeds on unpaved roads and minimize construction vehicle idling time;
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways;
- Design site layout and development to minimize the number of vehicle trips in the Plan Area, thereby reducing vehicle-related emissions;

- Minimize construction-related vehicle trips through carpooling and the elimination of unnecessary trips during project construction; and
- Use up-to-date technology in all furnaces, boilers, engines, and other lodging- and visitor-related air pollutant sources associated with new buildings and facilities.

In addition, cleaner diesel or electric technologies will be used for construction in the Plan Area to the extent feasible.

5.4.3 Biological Resources

5.4.3.1 Impact Summary

The following activities and management actions have the potential to affect biological resources in the Plan Area:

- Facility maintenance, expansion, and development
- Camping, boat use, and day use
- Trail and road use and construction
- Resource management, including prescribed burns
- Climate change

5.4.3.2 Impact Criteria (Biological Resources)

- Beneficial Impact (NEPA): Impact that is detectable and positively alters historical or desired conditions. Beneficial impacts would contribute to the enhancement of vegetation, wildlife, fisheries and aquatic communities, or special-status species. There is no CEQA equivalent to a NEPA beneficial impact.
- No Impact: Impact that cannot be detected.
- Minor Adverse Impact (NEPA): Impact that is detectable and within or below regulatory standards or thresholds, and does not interfere with Plan Area goals. This is equivalent to a CEQA less than significant impact.
- Major Adverse Impact (NEPA): Impact that is detectable and significantly and negatively alters historical baseline or desired conditions of biological resources. Major adverse impacts would contribute to the deterioration of vegetation, wildlife, fisheries and aquatic communities, or special-status species. A major adverse impact is equivalent to a CEQA significant impact, which is gauged as being equivalent to one or more of the following results:
  - A substantial adverse effect, either directly or indirectly through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by DFW or USFWS;
  - A substantial adverse modification to designated critical habitat regulated by the USFWS;
  - A substantial adverse effect on any riparian or other sensitive natural community identified in local or regional plans, policies, and regulations, or by DFW or USFWS;

  - A substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pools, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
  - Substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
  - Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP.

Potential impacts to special-status species (those covered by ESA and/or CESA) in this section have been evaluated using the terminology and the degree of impact as described above. Potential impacts to special-status species were not addressed using ESA or CESA terminology or methodology. Project-level actions discussed under each alternative will not be implemented until separate NEPA and/or CEQA compliance is completed. At that time, project-level (site-specific) impacts to special-status species will be evaluated, and consultation under ESA and/or CESA would be initiated as needed.

5.4.3.3 Environmental Evaluation

Facility Maintenance, Expansion, and Development All of the alternatives assume that existing facilities would be maintained, and the action alternatives allow for some replacement or expansion of existing facilities and construction of new facilities. This subsection addresses maintenance, expansion, and development of facilities other than trails and roads, which are addressed below under the subheading "Trail and Road Use and Construction." Ongoing maintenance and facility expansion and development could have a range of direct and indirect effects to biological resources from the following mechanisms:

- Loss of or disturbance to trees, sensitive habitat, or special-status vegetation or wildlife species
- Introduction of invasive species
- Reduction in habitat quality
- Habitat fragmentation

For individual development projects proposed in all action alternatives, a site-specific environmental review and focused analysis of potential impacts to biological resources would be conducted as appropriate. The design and siting of expanded or new facilities would avoid sensitive resources to the extent feasible. If major adverse impacts to biological resources are identified, the proposed project would be modified to reduce those impacts, and/or project-specific mitigation measures would be developed to compensate for impacts.

Potential effects are described below for vegetation and wildlife by alternative.

Vegetation and Natural Communities No special-status plant species or trees protected by local policies or ordinances have been recorded in the Plan Area, and the Plan Area is not subject to an HCP or NCCP. However, the Plan Area contains potential wetland vegetation and vernal pool complexes, potential habitat for special-status plants, and two special-status communities (sycamore alluvial woodland and valley sink scrub). Construction of expanded or new facilities and maintenance of existing facilities could have temporary and permanent effects ranging from short-term vegetation disturbance (such as trampling from construction equipment or staging) to direct removal or permanent alteration. Ground disturbance related to construction or maintenance can increase the ability of nonnative or invasive species to spread, including on the tires of construction vehicles. With implementation of the Plan, major adverse impacts on vegetation and natural communities would be avoided, but minor adverse impacts could occur. The effects would vary by alternative as follows:

- Alternative 1, No Action/No Project, would not construct any additional features or facilities in the Plan Area, but standard, ongoing facility maintenance would continue. These activities could have short-term, minor adverse effects, but to a lesser degree than the action alternatives.
- Alternative 2 proposes the fewest additional features and facilities of the three action alternatives. Minor removal or other disturbance of native vegetation could result from expanding the group picnic facilities at San Luis Creek Use Area and the campground at Los Banos Creek Use Area, adding up to 30 tent sites at the northwestern shoreline of San Luis Creek Use Area, and relocating the equestrian camp at Los Banos Creek Use Area. Alternative 2 and the other action alternatives would implement a focused vegetation management statement to allow for rehabilitation of natural ecosystems using BMPs (described in detail in Section 4.4.2), which would have a beneficial impact that would not be realized under Alternative 1. Alternative 2 and the other action alternatives would allow for reopening or relocating the boat launch at Medeiros Use Area and exploring engineering solutions for shallow-water areas in O'Neill Forebay, including dredging and removal of sandbars. These activities have the potential to temporarily or permanently affect wetland vegetation if any is present. Minor adverse effects to vegetation caused by maintenance, expansion, or construction from Alternative 2 would be greater than from Alternative 1 but less than from Alternatives 3 and 4. Prudent siting of new facilities and implementation of other measures such as those described in Section 5.4.3.4 would reduce potential impacts to minor.
- Alternative 3 would allow for additional camping facilities at all of the use areas, including alternative overnight lodging such as cabins or yurts at Basalt and San Luis Creek use areas. This alternative also provides for new or expanded day use facilities such as 30 shade ramadas at Dinosaur Point Use Area; a new boarding float, ADA-accessible fishing pier, and additional group picnic facilities at San Luis Creek Use Area; and shelter and restrooms at Medeiros Use Area. The proposed improvements would

not overlap with CNDDB-recorded occurrences of special-status plants (Map 6g) or habitat communities (Map 6h), wetlands recorded in the National Wetland Inventory (Map 6a), or vernal pool habitat recorded in Holland 2009 (Map 6b). In addition, these facilities would be primarily sited in FC Zones, where development is already present; therefore, no major adverse impacts to vegetation are anticipated. Like Alternative 2, Alternative 3 would also allow for reopening or relocating the boat launch at Medeiros Use Area and dredging/removing sandbars in shallow-water areas in O'Neill Forebay, and in addition would expand the boat launch at San Luis Creek Use Area. These actions have the potential to temporarily or permanently affect wetland vegetation if any is present. Minor to major adverse effects to vegetation could result from Alternative 3, but prudent siting of new facilities and implementation of other measures such as those described in Section 5.4.3.4 would reduce potential impacts to minor.

- Alternative 4 would construct many of the same additional facilities as Alternative 3 but would also allow for a new marina and a personal watercraft launch area at San Luis Creek Use Area; a marina at Dinosaur Point Use Area; construction of a restaurant and motel at Medeiros Use Area; and potential reconfiguration of the OHV Use Area to include a professional motocross track. Alternative 4 would provide for the most new camping facilities of the action alternatives, including a new wayside campground near the entrance station for Medeiros Use Area. Waterside facilities such as new or enhanced marinas and the personal watercraft launch could have minor to major adverse effects on wetland vegetation if any is present. Addition of a motocross track within the existing boundaries of the OHV Use Area is not anticipated to have major adverse effects because no special-status vegetation or habitat communities are known to exist there, but expansion of the OHV Use Area could result in the loss of native grassland, a minor adverse impact. Minor to major adverse effects to vegetation could result, but prudent siting of new facilities and implementation of other measures such as those described in Section 5.4.3.4 would reduce potential impacts to minor.

Wildlife Special-status mammals, amphibians, birds, and reptiles are known to occur or have potential habitat in Plan Area, and the western side of the Plan Area is within designated critical habitat for California red-legged frog (federally listed as threatened and a California species of special concern). None of the proposed facilities would remove large tracts of potential habitat or substantially reduce opportunities for wildlife movement. Most development would be confined to existing developed FC zones and would have relatively small footprints. However, construction of expanded or new facilities and maintenance of existing facilities could have temporary and permanent effects ranging from short-term disturbance caused by construction noise and equipment, to direct removal or permanent alteration of potentially suitable habitat. With implementation of the Plan, major adverse impacts on wildlife would be avoided, but minor adverse impacts could occur. The effects would vary by alternative as follows:

- Alternative 1, No Action/No Project, would not construct any additional features or facilities in the Plan Area, but standard, ongoing activities would continue. These activities could have short-term, minor adverse effects to wildlife, but to a lesser degree than the action alternatives.
- Alternative 2 proposes the fewest additional features and facilities of the three action alternatives. The construction or expansion of facilities at San Luis Creek Use Area (expanding the five group picnic areas, constructing a multipurpose building, and adding up to 30 tent sites on the northwestern shoreline) could have minor, temporary effects to American badger habitat (Map 6c). Alternative 2 and the other action alternatives would allow for reopening/relocating the boat launch at Medeiros Use Area. Although CNDDB records from the 1930s exist for blunt-nosed leopard lizard near Medeiros Use Area and San Joaquin kit fox have been documented in the vicinity (Maps 6f and 6c), the species are not expected to be affected by the proposed boat launch work. At Los Banos Creek Use Area, adding up to 30 tent sites at the existing campground on the North Shore and relocating the equestrian camp has the potential to result in minor temporary and/or permanent effects to San Joaquin whipsnake and western pond turtle (Map 6f). Minor adverse effects to wildlife caused by maintenance, expansion, or construction from Alternative 2 would be greater than from Alternative 1 but less than from Alternatives 3 and 4. Site-specific impacts to wildlife from proposed features or facilities will be evaluated in detail in project-level documents. These documents will specify location- and species-specific BMPs and measures such as those described in Section 5.4.3.4 to minimize and avoid impacts to wildlife populations. Minor residual impacts could remain.
- Alternative 3 would have potential effects to the same wildlife species as Alternative 2. However, it would include a greater degree of facility development in each location discussed above and also allow for Backcountry (BC) Zones at Medeiros and Los Banos Creek use areas to become FC Zones. Facilities would be sited to not interfere with potential San Joaquin kit fox use of artificial dens that have been installed in the Plan Area. At the OHV Use Area, Alternative 3 would provide for minor additions to existing facilities such as shade ramadas, minor infrastructure improvements, addition of six primitive campsites, and potential future expansion of the area if new property becomes available. Expansion of the OHV Use Area could affect habitat for San Joaquin kit fox (Map 6c) and blunt-nosed leopard lizard (Map 6f). Minor adverse effects to wildlife caused by maintenance, expansion, or construction from Alternative 3 would be greater than from Alternatives 1 and 2 but less than from Alternative 4. As described for Alternative 2, project-level documents will address potential site-specific wildlife impacts and location- and species-specific BMPs and measures such as those described in Section 5.4.3.4 to minimize and avoid those impacts. Minor residual impacts could remain.
- Alternative 4 would construct many of the same additional facilities as Alternatives 2 and 3 but would also allow for a new marina and a personal

watercraft launch area at San Luis Creek Use Area; a marina at Dinosaur Point Use Area; construction of a restaurant and motel at Medeiros Use Area; and potential reconfiguration of the OHV Use Area to include a professional motocross track. Alternative 4 would provide for the most new camping facilities of the action alternatives, including a new wayside campground near the entrance station for Medeiros Use Area. Expanding the boat launch at Dinosaur Point Use Area would require construction activity near designated CRLF critical habitat and anecdotal sightings of CRLF, although the nearest CNDDB occurrences of CRLF are close to 2 miles away (Map 6d). Alternative 4 would affect the same wildlife species as Alternative 3, but potential effects from Alternative 4 would be generally greater because of additional development in the locations described above. Minor to major adverse effects to wildlife caused by maintenance, expansion, or construction from Alternative 4 would be greater than from the other alternatives. As described for Alternatives 2 and 3, project-level documents will address potential site-specific wildlife impacts and location- and species-specific BMPs and measures such as those described in Section 5.4.3.4 to minimize and avoid those impacts. Minor residual impacts could remain.

Camping, Boat Use, and Day Use All of the alternatives would continue recreational uses in the Plan Area. The action alternatives would allow for some expansion of facilities that would accommodate increased visitation and recreation uses. Increased recreation could have a range of direct and indirect effects to biological resources from the following mechanisms:

- Reduction in habitat quality caused by human disturbance, including increased presence, noise, and light
- Disturbance to vegetation that provides habitat for special-status species
- Introduction of invasive species, including invasive mussels

With all alternatives, visitor use of the Plan Area can be expected to increase as a result of population growth in Merced County and other nearby counties over the Plan horizon (Section 2.12). In general, effects would be concentrated in the vicinity of visitor-serving facilities. The degree of those effects would depend on the proximity of campsites, day use areas, interpretive facilities, and shoreline areas to sensitive biological resources.

With all alternatives, the potential exists for wildlife to forage on human food at camping and picnic facilities as a result of improper storage or disposal. Human food may attract and support raccoons or striped skunks in mesic areas such as Basalt and Los Banos Creek use areas. These animals can carry rabies and pose an epidemiological threat to wildlife such as San Joaquin kit fox. Availability of human food may also alter the behavior of kit fox, which are adept at changing foraging patterns in urban areas to scavenge for food (USFWS 1998). Access to human food may also support feral cats, feral dogs, and red fox, a competitor of San Joaquin kit fox for food and dens.

Noise and light associated with RV traffic, generators, and large groups of people (50 or more) in group picnic or camping facilities, especially during the dusk through dawn hours, have the potential to degrade habitat quality for animals such as San Joaquin kit fox and potentially nesting birds. Boating has the potential to introduce noise disturbance and human presence to shoreline areas and result in potential disturbance to waterfowl.

Finally, with all alternatives, boating and other water-based recreation could result in the introduction of invasive quagga mussels *(Dreissena rostriformis bugensis)* or zebra mussels *(D. polymorpha)* (Section 2.6.6.1). Invasive mussels can multiply quickly and clog waterways and infrastructure (e.g. pipelines), affect lake ecosystems, and create costly maintenance issues. The mussels consume large amounts of phytoplankton in water, which can lead to a reduction in zooplankton, some crustaceans, and fish (California Science Advisory Panel 2007). The decrease of phytoplankton also increases water clarity (DFG 2008), which can cause an explosive growth of bottom algae. The result can be a shift in native species and a disruption of the ecological balance of entire bodies of water. California Fish and Game Code Section 2302 was enacted to require any entity that owns or manages a reservoir where public recreational, boating, or fishing is allowed to assess the vulnerability of the reservoir to infestation by invasive mussels and to develop and implement a program to prevent the introduction of invasive mussels.

As described in Section 2.9.1, a mandatory vessel inspection program was implemented in the Plan Area in October 2011. The inspection program is designed to address not only boats, personal watercraft, kayaks, canoes, sailboards, inflatables, and float tubes but also items on these vessels that are exposed to water, such as lifejackets, ropes, and wetsuits (which must be dry to ensure no mussels or larvae, if attached, have survived). The program will remain in place until October 2014 and may continue if funding is available.

Potential effects to wildlife and vegetation are described below by alternative.

- Alternative 1, No Action/No Project, would not construct any additional features or facilities in the Plan Area to accommodate increased visitation or recreation. Table 4-1 lists current recreation uses for Alternative 1. Assuming visitor use would increase as a result of population growth, minor adverse effects to wildlife and vegetation could occur from increased recreation and use of existing facilities. Alternative 1 would not provide for the development and implementation of focused management plans for boating, vegetation, and trails, which would be included with the action alternatives. With the current mandatory vessel inspection program, no impacts from the introduction of invasive mussels are expected. If no funding is available to continue the program, Alternative 1 would include a voluntary self-inspection program for watercraft operators to comply with California Fish and Game Code Section 2302 and allow for other potential inspection or control measures. Overall effects for Alternative 1 would be minor.

- Alternative 2 would provide for minor increases in recreation at Basalt, San Luis Creek, and Los Banos Creek use areas by allowing for a minor expansion in camping facilities. Adding sites and or reconfiguring the campground to accommodate larger RVs would be considered at Basalt Use Area. This alternative would allow for expanding the group picnic facilities at San Luis Creek Use Area and adding up to 30 tent sites each at the San Luis Creek and Los Banos Creek use areas. The increase in camping capacity could result in more human disturbance such as noise and trash, which could interrupt wildlife foraging and nesting patterns. The addition of camping and day use facilities could accommodate a nominal increase in boating (assuming that some of the additional visitors bring boats). Relocating/reopening the boat launch at Medeiros Use Area could also attract a greater number of boats on San Luis Reservoir and O'Neill Forebay. Additional boating in any Plan Area waterbody could slightly increase disturbance to lake waterfowl and also increase the risk of potential impacts from invasive mussels. Alternative 2 would provide for the development and implementation of focused management plans for boating, vegetation, and trails, which would benefit Plan Area biological resources. With the current mandatory vessel inspection program, no impacts from the introduction of invasive mussels are expected. If no funding is available to continue the program, this alternative would include a watercraft operator self-inspection program to comply with California Fish and Game Code Section 2302, allow for evaluating other potential inspection or control measures, and include measures such as those described in Section 5.4.3.4 to mitigate potential impacts if invasive mussels were detected in Plan Area waterbodies. This would reduce the potential major adverse impacts from introduction or infestation of invasive mussels to minor levels. Site-specific impacts to wildlife from proposed features or facilities will be evaluated in detail in project-level documents. These documents will specify location- and species-specific BMPs and measures such as those described in Section 5.4.3.4 to minimize and avoid impacts to wildlife populations. However, minor adverse residual impacts could remain. Overall, Alternative 2 could have minor adverse effects from recreation that would be greater than with Alternative 1 but less than with Alternatives 3 and 4.
- Alternative 3 would allow for increased camping, boating, and water sport opportunities by providing additional camping capacity at Basalt and Medeiros use areas; a backpackers campground with up to 10 tent sites and vault toilets in the Basalt BC Zone; up to 30 tent sites at Dinosaur Point Use Area; an expanded boat launch and additional camping and group picnic facilities at San Luis Creek Use Area; up to six primitive campsites, minor infrastructure improvements, and potential expansion of the OHV Use Area; a shelter/restroom and parking at Medeiros Use Area; and additional tent/RV campsites at Los Banos Creek Use Area where no visitor facilities currently exist. The resulting increases in camping and boating opportunities could have minor to major adverse effects to

vegetation and wildlife, by increasing the human traffic, trash, and noise around the use areas and on the water. In particular, the addition of up to 100 new tent/RV sites and 100 primitive sites at Medeiros Use Area would increase the human and vehicle traffic, noise, and trash, which could interrupt wildlife foraging and nesting patterns. As with Alternative 2, Alternative 3 includes potentially relocating/reopening the boat launch at Medeiros Use Area, which could result in an increase in boating and therefore increase the risk of potential impacts from invasive mussels. Overall, Alternative 3 could have minor to major adverse effects from recreation that would be greater than with Alternatives 1 and 2 but less than with Alternative 4. As with Alternative 2, with the current mandatory vessel inspection program, no impacts from the introduction of invasive mussels are expected. If no funding is available to continue the program, Alternative 3 would implement a watercraft operator self-inspection program, allow for evaluating other potential inspection or control measures, and include measures such as those described in Section 5.4.3.4 to mitigate potential impacts if invasive mussels were detected in Plan Area waterbodies, which would reduce potential major adverse impacts to minor levels. Alternative 3 would also provide for the development of project-level documents to address potential site-specific wildlife impacts and location- and species-specific BMPs and measures such as those described in Section 5.4.3.4 to minimize and avoid those impacts; however, minor adverse residual impacts would remain.

- Alternative 4 would have generally the same effects from recreation as Alternative 3, except the level of disturbance to vegetation and wildlife has the potential to be greater. Alternative 4 would provide slightly more camping capacity than Alternative 3, including in areas where no visitor facilities currently exist (La Plata, Padre Arroyo Flat [for boat-in primitive camping], and South Shore at Los Banos Creek Reservoir). WROS designations for Alternative 4 (Map 11) would allow for increases in boat density in the southern part of San Luis Reservoir (from 50–110 acres per boat with the other alternatives to 20–50 acres per boat with Alternative 4) and the eastern part of O'Neill Forebay (from 20–50 acres per boat with the other alternatives to 10–20 acres per boat with Alternative 4). In addition, Alternative 4 would allow for both expansion of the boat launch at Dinosaur Point and consideration of relocating/reopening the boat launch at Medeiros Use Area, which could result in an increase in boating and the associated risk of potential impacts from invasive mussels. The primary difference between the two alternatives would be at the OHV Use Area, where Alternative 4 would allow for reconfiguration of the existing area, potentially by creating a professional motocross track. As with Alternatives 2 and 3, with the current mandatory vessel inspection program, no impacts from the introduction of invasive mussels are expected. If no funding is available to continue the program, Alternative 4 would implement a watercraft operator self-inspection program, allow for evaluating other potential inspection or control measures, and include

measures such as those described in Section 5.4.3.4 to mitigate potential impacts if invasive mussels were detected in Plan Area waterbodies, which would reduce potential major adverse impacts to minor levels. Alternative 4 would also provide for the development of project-level documents to address potential site-specific wildlife impacts and location- and species-specific BMPs and measures such as those described in Section 5.4.3.4 to minimize and avoid those impacts; however, minor adverse residual impacts would remain.

Trail and Road Use and Construction Trail and road use in and around the Plan Area will occur with all alternatives. Trail and road use and construction could have a range of direct and indirect effects to biological resources as a result of the following:

- Disturbance of habitat that provides food and shelter for special-status wildlife species
- Disturbance of wildlife, including wildlife foraging, through increased presence of humans and their canine companions
- Injury or mortality to individuals by vehicle strikes or other means
- Disturbance of wildlife migration and movement corridors
- Disturbance of native vegetation and potential introduction of non-native or invasive species

With all alternatives, vehicles could hit wildlife species that use the Plan Area for movement and foraging, potentially resulting in injury or mortality. State Route (SR) 152 bisects summer and winter habitat for California red-legged frog, and the species has been observed on both sides of the road.

Current state law (Title 14, California Code of Regulations, Section 4312) prohibits dogs on trails and off-leash. There have been no reports of pets harassing wildlife on trails or elsewhere in the Plan Area**.** Trail improvements under the action alternatives would not increase habitat fragmentation appreciably. Trails would have native soil surfaces and be relatively narrow, which will not create barriers to the free movement of species. Scat from local wildlife is frequently found on existing trails in the Plan Area, and it is likely that wildlife would respond similarly to any new trails implemented under the action alternatives.

For individual trail/road use projects proposed in all action alternatives, a site-specific environmental study and focused analysis of potential impacts to biological resources would be conducted. The design and maintenance of any new trails and roads would account for sensitive resources to the maximum extent feasible and avoid effects where practicable. If major adverse impacts to biological resources are identified, the proposed project would be modified to reduce those impacts, and/or project-specific mitigation measures would be developed to compensate for specific impacts.

Potential effects are described below for vegetation and wildlife by alternative.

Vegetation and Natural Communities Alternative 1 would not construct or allow for any additional trails or roads in the Plan Area, but standard maintenance activities such as trail grading would continue. These activities could have short-term, minor adverse effects to vegetation, but to a lesser degree than the other action alternatives.

- Alternative 2 would not construct or allow for any additional trails or roads in the Plan Area, but this and the other action alternatives would provide for improving the existing road at the Los Banos Creek Use Area entrance station, where flooding occurs from seasonal rains and water releases. Roadwork in this area could affect wetland vegetation if any is present along the roadway, resulting in minor to major adverse effects. Standard maintenance activities such as trail grading would continue and could have short-term, minor adverse effects to vegetation. For Alternative 2, prudent siting of new trails and implementation of measures such as those described in Section 5.4.3.4 would avoid or minimize potential impacts.
- Alternative 3 would allow for the development of two multi-use trails linking Basalt Use Area with Pacheco State Park and linking Dinosaur Point with Pacheco State Park and the San Luis Wildlife Area, as well as construction of a road from San Luis Creek Campground to Check 12 in San Luis Creek Use Area. The construction of new trails through undeveloped areas increases the potential for impacts to native vegetation and habitat for special-status vegetation, and for the spread of invasive species. Minor to major adverse effects to vegetation could result from Alternative 3, but prudent siting of new trails and roads and implementation of measures such as those described in Section 5.4.3.4 would reduce potential impacts to minor.
- Alternative 4 would allow for trails linking Basalt Use Area with Dinosaur Point and Los Banos Creek Use Area with to Basalt Use Area. The trail from Los Banos Creek Use Area has the potential to affect valley sink scrub and sycamore alluvial woodland, if present (Table 2-17 and Map 6h), through vegetation removal during construction and habitat disturbance from hikers and regular trail maintenance. This alternative would also include a road from San Luis Creek Campground to Check 12 in San Luis Creek Use Area. Minor to major adverse effects to vegetation could result, but prudent siting of new trails and other facilities and implementation of measures such as those described in Section 5.4.3.4 would reduce potential impacts to minor.

Wildlife

- Alternative 1 would not construct or allow for any additional trails or roads in the Plan Area, but standard maintenance activities such as trail grading would continue. These activities could have short-term, minor adverse effects to wildlife, but to a lesser degree than the other action alternatives.

- Alternative 2 would not construct or allow for any additional trails or roads in the Plan Area, but as noted above, roadwork would be conducted to address flooding near the entrance station to Los Banos Creek Use Area. This activity could have minor to major adverse effects to San Joaquin whipsnake and western pond turtle (Map 6f). Standard maintenance activities such as trail grading would continue, which could have short-term, minor adverse effects to wildlife, but to a lesser degree than the other action alternatives.
- Alternative 3 would allow for the development of two multi-use trails linking Basalt Use Area with Pacheco State Park and linking Dinosaur Point with Pacheco State Park and with the San Luis Wildlife Area. The creation of new trails could lead to the disturbance of wildlife habitat, and human presence on new trails along the shoreline of San Luis Reservoir could disturb foraging patterns for wildlife that use the lake shore for food and water. The construction or expansion of facilities at San Luis Creek Use Area could include a potential interchange for access from SR 152, which could disturb or remove American badger habitat (Map 6c). Major adverse impacts from trail or road development, maintenance, and use would be avoided through implementation of measures such as those described in Section 5.4.3.4; however, minor adverse impacts could remain.
- Alternative 4 would include generally the same trail and road improvements proposed for Alternative 3, and impacts would be minor to major as described for Alternative 3. In addition, Alternative 4 would also allow for a new trail linking Los Banos Creek Use Area with Basalt Use Area. This trail has the potential to increase human traffic, trash, and disturbance in an area with documented San Joaquin kit fox occurrences and potential habitat for San Joaquin pocket mouse (Map 6c).[10] The construction of the trail and introduction of human activity could affect San Joaquin kit fox if present in the area, as well as other wildlife species that use the area for foraging and movement. For all proposed trails, construction and use would result in minor habitat loss and may result in a very slight fragmentation of habitat, particularly for kit fox. However, San Joaquin kit fox may actually use the trails (Cypher 2008); therefore, only minor adverse impacts are expected. Project-specific documents with location- and species-specific BMPs and mitigation measures such as those described in Section 5.4.3.4 would minimize and avoid impacts; however, minor adverse residual impacts would remain.

Resource Management, Including Prescribed Burns All of the action alternatives assume some resource management activities will be undertaken in the Plan Area. Plan goals and guidelines listed in Sections 4.2.1.5 and 4.2.1.6 provide for identifying, maintaining, and—where appropriate—protecting and/or

[10] Although San Joaquin pocket mouse has been affected by habitat loss, it currently has no federal or state listing status.

restoring biological resources. The action alternatives propose resource management strategies such as developing a vegetation management statement (described in Section 4.4.2 and Goals RES-V4 and RES-V5) and a trails management plan, conducting habitat rehabilitation, inventorying wildlife species in the Plan Area, and maintaining wildlife corridors where feasible. These actions would result in beneficial impacts that would not be realized under Alternative 1, No Action/No Project.

All four alternatives include the potential for short-term, localized impacts from wildland fires or prescribed burns. Prescribed burns are not conducted regularly in the Plan Area.

Prescribed burns are typically conducted during the fall and winter months when fuel conditions make it harder for the fire to burn out of control. These burns also typically occur outside of the nesting and breeding season to minimize impacts to wildlife. The impact of prescribed burns within the Plan Area is difficult to predict, but some of the factors influencing the potential effect on the landscape include the timing, site topography, vegetation composition, fuel conditions, existing firebreaks, and intended size of the burn. Under normal conditions, a prescribed burn conducted in accordance with approved Cal Fire procedures and control measures that also takes into account regional wildlife concerns has a minimal impact on natural resources. The use of fire as a landscape management tool also carries inherent risks, such as delay in regrowth and decrease in wildlife food sources. In addition, if the burns are conducted in a manner not consistent with Cal Fire and/or do not take into account the moisture content of the fuel load and animal nesting and breeding periods, there could be a risk of a major impact to biological resources within the Plan Area.

Alternatives 2, 3, and 4 include the development of a vegetation management statement, which would allow prescribed burning in accordance with the Cal Fire Vegetation Management Program (Section 3.2.5). Compliance with Cal Fire procedures and control measures would avoid major adverse impacts to biological resources. Minor adverse residual impacts could remain.

Climate Change Climate change could result in the increased variability of and overall reduction in precipitation in the Plan Area (Section 2.2.2). Decreased precipitation could reduce the area and persistence of wetlands and vernal pools, if present. Decreased precipitation could also reduce or eliminate vegetation or water-dependent habitats for special-status species. In addition, higher air temperatures could increase water temperatures, resulting in increased stress on fisheries. Warmer water temperatures could also increase the potential for invasive species infestations; for example, quagga mussel reproduction cycles respond favorably to warmer water temperatures (Reclamation 2011a). These conditions would occur regardless of which alternative is implemented, including No Action/No Project. Plan implementation would have no impact on biological resources with regard to climate change.

5.4.3.4 Mitigation

In addition to Goals and Guidelines RES-V1 through V5 and RES-W1 through W2, the mitigation measures listed below are examples of feasible measures that could be applied if Plan goals and guidelines are not sufficient to reduce potential impacts on biological resources. Individual projects will be carried out at different times in the Plan Area, and more detailed mitigation measures would be determined if needed on a project-specific basis. In addition to the measures detailed below, the implementation of Mitigation Measure AQ1 and WQ1 will reduce impacts to vegetation and wildlife in the Plan Area by reducing the potential for erosion and sedimentation into species habitat and the loss of valuable topsoil.

Mitigation Measure BIO1 Before siting new facilities that would require ground disturbance, assessments would be conducted to determine whether wetland vegetation, special-status plants, or special-status natural communities occur at the project site. If wetland vegetation, special-status plants, or special-status natural communities are identified, the facility site would be sited to avoid or minimize effects to these biological resources. If avoidance of impacts to wetland vegetation, special-status plants, or special-status natural communities is not possible, the following are some examples of mitigation measures that could be implemented to reduce the impacts.

- If a sensitive natural community were damaged or destroyed as a result of facility construction, an appropriate type and amount of natural community would be restored in a suitable location.
- If native grassland were removed, an appropriate amount of suitable native grassland habitat would be enhanced or restored. Enhancement or restoration would include weed management and planting and/or seeding of native plants collected from the local watershed.

Mitigation Measure BIO2 Before new facilities are sited, assessments would be conducted to determine whether special-status wildlife species or habitat for those species occur at the project site. If special-status wildlife species or habitat is identified, the facility would be relocated to avoid the species or habitat. If avoidance and minimization of impacts to special-status wildlife species or habitat is not possible, the following are some examples of mitigation measures that could be implemented to reduce the impacts.

- Implement additional signage or patrols in new camping and day use areas to ensure that visitors understand and comply with Plan Area regulations under all alternatives.
- Operate concession stands such that trash and food products are inaccessible to animals at all times, under all alternatives.
- Time construction activities in the vicinity of special-status species habitat as appropriate to avoid impacts to the species, particularly nesting raptors, aestivating CRLF, and migrating waterfowl during their breeding period.

Mitigation Measure BIO3 In the event that invasive mussels are identified in the Plan Area, the following control and eradication methods could be evaluated.

- The control and eradication methods outlined in the California Science Advisory Panel report *California's Response to the Zebra/Quagga Mussel Invasion in the West* (May 2007) are incorporated by reference. Methods that have been identified as technically feasible include dewatering, isolation and treatment, covering, heating, biocide treatment, mechanical removal, and/or a combination of these methods.
- If an infestation occurred at some future date, additional methods could be available that would be considered for implementation. Reclamation, in coordination with other state and federal agencies, is conducting research and field testing in several areas (Reclamation 2009), including field trials using *Pseudomonas fluorescens*, antifouling and foul-release coatings, ultraviolet (UV) treatment, controlling mussels with natural predators, and quagga mussel control using copper-ion generators.

Mitigation Measure BIO4 The trails management plan will provide measures to avoid and minimize impacts to natural resources during trail construction, and the vegetation management statement will address invasive plant species and weed control. If it is not possible to avoid or minimize impacts from trail and road use and construction or from resource management, including prescribed burns, the following are some examples of mitigation measures that could be implemented to reduce the impacts.

- Monitor any known sensitive vegetation or natural community that occurs near trails to ensure its protection. If the vegetation or community occurs near trail edges and is subject to trampling, fencing and educational signs should be installed to prevent people from entering these areas.
- Expand annual weed control activities if there is a noticeable increase in weeds along trails to reduce the opportunities for weeds to spread into native areas.
- Create a Prescribed Burn Plan in accordance with the Cal Fire Vegetation Management Program for each proposed prescribed burn.
- Seek partnerships with adjacent private landowners on fuel management, including the use of prescribed burns. Ensure that prescribed burns on adjacent private lands do not adversely affect water quality and sediment conditions in the Plan Area through such coordination and partnerships.

5.4.4 Cultural Resources

As described in Chapter 2, a total of 51 prehistoric and historic cultural resources have been identified in the Plan Area. The resources include 40 in or around San Luis Reservoir, 10 at Los Banos Creek Reservoir, and one at O'Neill Forebay. In addition to these resources, a number of historic sites are known to exist in the Plan Area but have not been formally recorded (such as a toll road and precursor to SR 152 constructed by Andrew Firebaugh in 1857). Although numerous cultural resource studies have taken place in the SRA since the early 1960s, no

inclusive systematic inventory of prehistoric and historic sites has been conducted. As a result, large portions of the Plan Area have never been surveyed and undocumented resources may exist in the area. Because of this likelihood, future developments in the Plan Area may have the potential to disturb cultural resources; however, cultural resource goals and guidelines will reduce impacts to these resources. For actions that will involve new ground-disturbing activity, an appropriate level of archaeological survey (which may include archival documentation, pedestrian survey, and/or subsurface exploration if necessary) will be conducted prior to disturbance in accordance with all applicable federal and state statutes.

5.4.4.1 Impact Summary

The following mechanisms have the potential to affect cultural resources in the Plan Area:

- Unauthorized collection and vandalism at cultural resource sites
- Ground-disturbing activities associated with facility installation or improvements, including new trail or road construction
- Prescribed burns and vegetation management
- Climate change

5.4.4.2 Impact Criteria (Cultural Resources)

- Beneficial Impact: Impact that would occur if a planning element results in enhanced visitor awareness regarding the fragile and irreplaceable nature of cultural resources, or if opportunities for public interpretation of cultural resource sites are implemented. There is no CEQA equivalent to a NEPA beneficial impact.
- No Impact: Impact that cannot be detected.
- Minor Adverse Impact: Impact to a cultural resource that does not qualify as a historic property, historic resource, or unique archaeological resource. This is equivalent to a CEQA less than significant impact.
- Adverse Impact: Impact that would occur if a proposed undertaking results in a Finding of Adverse Effect to a Historic Property in accordance with Section 106 or significant impact to a historic resource or a unique archaeological resource. An adverse impact is equivalent to a CEQA significant impact, which would result from one or more of the following:
  - A prehistoric or historic archaeological site or property of historic or cultural significance to a community or ethnic social group;
  - A prehistoric or historic archaeological site determined to be an "important archaeological resource" as defined in the State CEQA Guidelines;
  - A property that is listed or eligible for listing on the California Register/National Register; or
  - Any human remains, historic or prehistoric, including those interred outside of marked formal cemeteries.

In the event a significant cultural resource (historic property), as defined by the NRHP criteria; an historic resource, as defined by CRHR criteria; or a unique archaeological resource, as defined by CEQA; is identified that may be affected by future projects, the potential for impacts (effects) will be taken into consideration, and measures to avoid the resource will be considered. In the event the resource cannot be avoided, it would be resolved (36 CFR Section 800.6) through the resolution of adverse effect as spelled out in either a MOA or a PA executed by the federal agency and SHPO. The resource would be subject to mitigation measures such as data recovery, further study, enhanced recordation, interpretation, physical protection, or some combination of these measures.

5.4.4.3 Environmental Evaluation

Unauthorized Collection and Vandalism Under all alternatives, existing visitor uses have some potential to disturb or destroy cultural resources, particularly those that are not documented. The action alternatives include additional features or facilities in the Plan Area that would accommodate or support increased visitor use. Increased visitation, or visitation to parts of the Plan Area that are currently inaccessible, could affect cultural resources. These effects would vary by alternative as follows:

- Alternative 1, the No Action/No Project Alternative, would not accommodate or support additional visitors to the Plan Area. The continuation of existing visitor uses could have minor adverse to adverse effects on cultural resources.
- Alternative 2 has some potential to increase visitation by allowing for improvements or additions to campgrounds and day use facilities. Recorded prehistoric or historic resources are not known to exist in most areas where improvements or additions are proposed, although no final conclusions can be reached about the level of impact to cultural resources until project footprints are identified and an appropriate level of archaeological survey is conducted. The addition of 30 tent sites at Los Banos Creek Use Area included in Alternative 2 and the other action alternatives could expose two prehistoric housepit sites (CA-Mer-36 and CA-Mer-37) to increased unauthorized collection and other forms of disturbance. These sites are inundated at least part of the year. By including an appropriate level of archaeological survey, development of a cultural resources management plan, and appropriate measures from Section 5.4.4.4, adverse impacts from Alternative 2 would be avoided, although minor impacts could remain. Alternative 2 would have a slightly greater potential for unauthorized collection or vandalism of cultural resources than would Alternative 1, but less than from Alternatives 3 and 4.
- Alternative 3 proposes a greater number of features and facilities in the Plan Area that would accommodate or support increased visitor use than does Alternative 2. Most would be in areas with no recorded prehistoric or historic resources, although no final conclusions can be reached about the level of impact to cultural resources until project footprints are identified

and an appropriate level of archaeological survey is conducted. This alternative would have the same potential impacts listed for Alternative 2. In addition, the proposed multi-use trail linking Basalt Use Area with Pacheco State Park could expose eight documented prehistoric sites (Table 5-5) to new visitation and potential unauthorized collection or vandalism. Four of the sites are particularly sensitive, as they are typically above the high-water line of San Luis Reservoir. In addition, trail use has the potential to affect undocumented historic resources related to the original site of Rancho San Luis Gonzaga. The original land-grant period ranch and the Pacheco Adobe were in an area now under the reservoir and dam, but related structure remains and features could still be present. Although not formally surveyed or recorded, the Rancho San Luis Gonzaga site could constitute a significant cultural resource, and any related facility remains or features disturbed by visitation or other Plan Area activities would constitute a significant impact.

Alternative 3 would have a slightly greater potential for unauthorized collection or vandalism of cultural resources than the other alternatives. As with Alternative 2, by including an appropriate level of archaeological survey, development of a cultural resources management plan, and appropriate measures from Section 5.4.4.4, adverse impacts from Alternative 3 would be avoided, although minor impacts could remain.

Table 5-5
Documented Cultural Resource Sites at San Luis Reservoir Potentially Affected by Alternative 3: Basalt Use Area to Pacheco State Park Trail (listed North to South)

Site Number	Site Type	Comment
CA-Mer-83	Prehistoric - midden	Above high water line
CA-Mer-138	Prehistoric - midden	Above high water line
CA-Mer-42	Prehistoric – midden	May be inundated part of year
CA-Mer-82	Prehistoric – midden	May be inundated part of year
CA-Mer-41	Prehistoric – midden	May be inundated part of year
CA-Mer-139	Prehistoric – midden	Above high water line
CA-Mer-32	Prehistoric/historic	Above high water line
CA-Mer-31	Prehistoric - midden	May be inundated part of year

- Alternative 4 would have generally the same potential impacts as those listed for Alternative 3, except that it would include the following additional actions:
  - The southernmost extent of a proposed trail from Los Banos Creek Use Area to Basalt Use Area could affect two prehistoric sites (CA-Mer-97 and CA-Mer-98) along the northern shore of the reservoir, as well as undocumented cultural resources over a large unsurveyed area. Although both sites are below the high water line

during part of the year, such a trail would result in higher levels of visitation to the area.
  - A new exit off of I-5 at Canyon Road for access to Los Banos Creek Reservoir that is being considered with this alternative could result in indirect impacts from increased visitation. Roadway access improvements would be developed in coordination with Caltrans and would be subject to detailed environmental review.
- By including an appropriate level of archaeological survey, development of a cultural resources management plan, and appropriate measures from Section 5.4.4.4, adverse impacts from Alternative 4 would be avoided, although minor impacts could remain.

Ground-Disturbing Activities Other than the trails and features described above in "Unauthorized Collection and Vandalism," construction of the majority of facilities proposed in the action alternatives would take place in existing developed areas that are likely to have low potential for cultural resource impacts. (No final conclusions can be reached about the level of impact to cultural resources until project footprints are identified and an appropriate level of archaeological survey is conducted.) The effects of ground-disturbing activities on cultural resources would vary from minor adverse to adverse by alternative based on the degree of new facility development proposed, with the greatest potential for disturbance associated with Alternatives 3 and 4.

The action alternatives include an appropriate level of archaeological survey, development of a cultural resources management plan, and appropriate measures from Section 5.4.4.4 that would reduce potential adverse impacts to minor.

Prescribed Burns and Vegetation Management Prescribed burns are not conducted regularly in the Plan Area and are included in the action alternatives in certain BC Zones to reduce the threat for wildland fire. Weed eradication (mowing, weed whacking and native plant restoration) and selective use of herbicides on invasive species are ongoing and would continue with all Plan alternatives. These activities have a potential to affect both documented and undocumented archaeological and historic resources through exposure, which could subject the resources to vandalism or unauthorized collection, or inadvertent disturbance or destruction. These effects would vary by alternative as follows:

- Alternative 1, No Action/No Project, would not plan for or include prescribed burns. Weed eradication would continue. The continuation of existing vegetation management practices could have minor adverse to adverse effects on cultural resources.
- Alternatives 2, 3, and 4 would allow for prescribed burns in the BC Zones of Basalt and Los Banos Creek use areas. Vegetation management practices would continue in accordance with the vegetation management statement that would be included for the action alternatives. The cultural resources management plan that would be implemented under the action alternatives will identify known cultural resources sites in areas where

prescribed burns and vegetation management activities will take place and include BMPs for cultural resource protection. Additional measures such as those described in Section 5.4.4.4 would minimize adverse impacts; however, minor adverse residual impacts could remain.

Climate Change Climate change could decrease precipitation and increase temperatures in the Plan Area (Section 2.2.2), which could result in drier vegetation that is more susceptible to wildfires. Climate change would not directly affect cultural resources in the Plan Area; however, a fire that is triggered by the dry vegetation could result in the exposure or disturbance/destruction of a cultural resource site. This condition would occur regardless of which alternative is implemented, including No Action/No Project. Plan implementation would have no impact on exposure or destruction of cultural resources from climate change.

5.4.4.4 Mitigation

The following measures would be considered and applied as necessary for all of the action alternatives during project construction and implementation.

Goal RES-H1 Goal RES-H1 and associated guidelines require that efforts be made to minimize impacts on cultural resources when future facilities are sited. With proper precautions, proposed facilities could be sited and constructed in a way that would not result in substantial impacts on existing known and unrecorded resources.

Mitigation CUL1 In addition to the Plan goals and guidelines, the following measures would be considered and applied as necessary for all of the action alternatives during project construction to avoid or minimize adverse impacts.

- Prior to any specific proposed undertaking that would have the potential to affect cultural resources, a cultural resources inventory will be conducted for the areas of potential effects by qualified personnel who meet the Secretary of the Interior's professional qualification standards (36 CFR Part 61). This effort may be in conjunction with consultation with members of the local Native American community and consultation with other interested members of the public as appropriate. This inventory would identify the known cultural resources that would be affected by a proposed project. The cultural resources would then be evaluated for their eligibility for the NRHP or CRHR. If the affected resource is not significant (does not qualify as an historic property, historic resource, or unique archaeological resource), then no mitigation would be required and the impact would be considered minor. If the affected resource qualifies as an historic property, historic resource, or unique archaeological resource and the impacts can be mitigated (treated) through the Section 106 process and CEQA, there would be no residual impact (i.e., considered less than significant under CEQA). If the resource cannot be mitigated through the Section 106 process, Reclamation may still be able to conclude the Section 106 Process as described in 36 CFR Part 800.7 (Failure to resolve adverse effects) of the Section 106 implementing regulations. Reclamation may

also elect to reconsider the action to the affected resource, seek measures to resolve adverse impacts outside the Section 106 process, or implement the project upon conclusion of the Section 106 process.

- In the event a significant cultural resource, as defined by the NRHP and CRHR criteria, is identified and has the potential to be adversely affected, appropriate measures will be taken to avoid the resource. In the event the resource cannot be avoided, measures such as data recovery, further study, enhanced recordation, interpretation, physical protection, or some combination of these measures will be implemented. With implementation of these measures, residual minor impacts would likely result in a finding of no adverse effect or no significant impact.

Mitigation CUL2 Prescribed burn areas and areas where weed eradication and pest management would take place shall be monitored and/or surveyed as appropriate for early detection and evaluation, if required, of previously unknown cultural resources. The cultural resources management plan should be implemented for known cultural resources sites that qualify as historic properties and will be exposed to prescribed burns and vegetation management. Burning, mowing and weed whacking, and pest eradication activities should occur seasonally in the known prescribed burn areas. Residual impacts would be minor. With implementation of these measures, residual minor impacts would likely result in a finding of no adverse effect.

5.4.5 Scenic/Aesthetics

As described in Section 2.8, the Plan Area offers scenic qualities including expansive vistas of rolling terrain and open water. In addition, SR 152 in the Plan Area is a county- and state-designated scenic highway. Built structures and operational facilities remind visitors of the Plan Area's purpose of water storage and distribution. The expansion of existing facilities and construction of new facilities in the Plan Area could have the potential to reduce these scenic qualities. The Plan includes scenic/aesthetic goals and guidelines to reduce or avoid impacts to these resources.

5.4.5.1 Impact Summary

The following mechanism has the potential to affect scenic resources and aesthetics in the Plan Area:

- Facilities expansion and construction.
- Climate change

5.4.5.2 Impact Criteria (Scenic/Aesthetics)

- Beneficial Impact: Impact that would occur if the visual quality or the visual character of an existing viewshed improved as a result of a specific Plan element or group of elements, or if a new viewshed was created. There is no CEQA equivalent to a NEPA beneficial impact.
- No Impact: No detectable change in the quality or visual character of a viewshed.

- Minor Adverse Impact: Impact that would occur if a specific element or group of elements results in a decrease in the visual quality or visual character of a viewshed. This impact would be minimal or temporary, but detectable. A minor adverse impact is equivalent to a less-than-significant impact under CEQA.
- Major Adverse Impact: Impact that would occur if a specific element or group of elements results in a permanent, highly noticeable, and substantial decrease in the visual quality or visual character of a viewshed. A major adverse impact is equivalent to a significant impact under CEQA and would result from one or more of the following:
  - A substantial adverse effect on a scenic vista;
  - Substantial damage to scenic resources, including but not limited to trees, rock outcroppings, and historic buildings;
  - Substantial degradation of the existing visual character or quality of the site and its surroundings; or
  - Creation of a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

5.4.5.3 Environmental Evaluation

Facilities Expansion and Construction The action alternatives would allow for the development of additional visitor facilities including day-use, camping, shoreline and water surface facilities, maintenance, and staff facilities in the Plan Area. The additional development of current use areas (with more facilities or a change in size of existing facilities) could affect the Plan Area's existing scenic quality and character by reducing scenic vistas and open landscape character or damaging scenic resources. In addition, new facilities have the potential to create new sources of light or glare, which could affect day or nighttime views in the area. Effects to scenic resources and aesthetics would vary by alternative as follows:

- Alternative 1, the No Action/No Project Alternative, would not involve expansion of existing facilities or construction of new facilities. Alternative 1 would have no impact to scenic resources or aesthetics.
- Alternative 2 would include the fewest physical additions and visitor use modifications of the action alternatives. Constructing a multipurpose building for group events and interpretive programs at San Luis Creek Use Area and expanding existing campgrounds at San Luis Creek, Los Banos Creek, and Basalt use areas could have minor adverse impacts to scenic resources, including new sources of light and glare. These facilities are not anticipated to affect views from SR 152, a designated scenic highway. Goals RES-S1 and RES-S5 and their associated guidelines (Section 4.2.1.1) would reduce visual impacts from new or expanded facilities, although minor adverse impacts could remain.
- Alternative 3 would allow for several additional features and facilities that have the potential to affect scenic resources and aesthetics. This alternative would allow for larger expansions of campgrounds than Alternative 2 (including 30 new tent sites at Dinosaur Point and up to 20

tent/RV sites on the South Shore of Los Banos Creek Reservoir); expansion of the boat launch at San Luis Creek Use Area; and construction of a ranger station, staff housing, and maintenance facilities at Los Banos Creek Use Area. At the OHV Use Area, Alternative 3 would provide for the addition of six primitive campsites, minor additions to existing facilities such as shade ramadas, and potential future expansion of the area if new property becomes available. Expansion of the OHV Use Area would involve the construction and use of unpaved OHV trails on adjacent undeveloped lands. The majority of the proposed development under Alternative 3 would be in FC zones, where existing facilities are concentrated. Nonetheless, these actions would have minor adverse impacts to scenic resources and aesthetics, including new sources of light and glare; minor changes in the Plan Area viewshed from SR 152, a designated scenic highway; and increased visibility of human-made features and reminders of human presence in a primarily undeveloped environment, both from land and water. Goals RES-S1 and RES-S5 and their associated guidelines would reduce visual impacts from new or expanded facilities, although minor adverse impacts could remain.

- Alternative 4 would allow for the same features and facilities proposed for Alternative 3 but would accommodate more overnight and day use, as well as other facilities that have the potential to affect scenic resources and aesthetics. Alternative 4 would allow for expansion of boat launches at the San Luis Creek and Dinosaur Point use areas; and construction of marinas at Dinosaur Point and San Luis Creek use areas. At Medeiros Use Area, this alternative includes construction of a wayside campground in an undeveloped area near the entrance station as well as a motel and restaurant in coordination with a long-term concessionaire. At the OHV Use Area, Alternative 4 would allow for potential reconfiguration of the OHV Use Area to include a professional motocross track. Addition of a professional motocross track at the OHV Use Area could involve placement of fill or ramp structures to make the existing flat terrain more hilly. In general, the majority of the proposed development under Alternative 4 would be in FC and AO zones, where existing facilities are concentrated. Nonetheless, these actions would have minor adverse impacts to scenic resources and aesthetics, including new sources of light and glare; minor changes in the Plan Area viewshed from SR 152, a designated scenic highway; and increased visibility of human-made features and reminders of human presence in a primarily undeveloped environment, both from land and water. Goals RES-S1 and RES-S5 and their associated guidelines would reduce visual impacts from new or expanded facilities, although minor adverse impacts could remain.

Climate Change Climate change could reduce precipitation and increase temperatures in the Plan Area (Section 2.2.2), which could result in a reduction of vegetation or drier vegetation. In addition, climate change could increase the frequency of low water levels in San Luis Reservoir (Section 5.4.1.3, under Climate Change). A drier or less vegetated environment or a regularly lower

reservoir could adversely affect the scenic quality of the Plan Area. These conditions would occur regardless of which alternative is implemented, including No Action/No Project. Plan implementation would have no impact on decreased aesthetic quality from climate change.

5.4.5.4 Mitigation

The following measures would be considered and applied as necessary for all of the action alternatives during project construction and implementation.

Goals RES-S1 through RES-S5 Goals RES-S1 through RES-S5 and their associated guidelines (Section 4.2.1.1) would minimize or avoid potential impacts on scenic resources and aesthetics from facilities expansion and construction and installation of additional lighting. The visual assessments and careful siting of new structures within viewsheds would preserve scenic vistas, maintain large expanses of open space, and use design and materials in keeping with the character of the Plan Area. Goal RES-S5 would minimize the intensity of additional lighting and consider techniques to reduce light pollution. In addition, specific mitigation measures will be developed and implemented on a project-by-project basis, if mitigation is necessary.

5.4.6 Recreation

5.4.6.1 Impact Summary

The following mechanisms have the potential to affect recreation in the Plan Area:

- Temporary construction activities at camping and recreation facilities
- Addition of new recreation activities and facilities
- Management of boat density levels
- Climate change

5.4.6.2 Impact Criteria (Recreation)

- Beneficial Impact: The impact of the action is positive. There is no CEQA equivalent to a NEPA beneficial impact.
- No Impact: The impact is at the lower level of detection; there would be no measurable change.
- Minor Adverse Impact: The impact is slightly adverse, but detectable; there would be a small change. This impact category is equivalent to a less-than-significant impact under CEQA.
- Major Adverse Impact: The impact is adverse and severe; there would be a highly noticeable, long-term or permanent measurable change. A major adverse impact on recreation would indicate a marked decline in the quality or quantity of opportunities to participate in a recreation activity as a result of implementing an alternative. Therefore, to determine whether an impact is major, this discussion considers the effect of an alternative on recreational facilities, the setting and physical resources, and use density.

A major adverse impact is also equivalent to a CEQA significant impact, which would result from the following:[11]

- Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

5.4.6.3 Environmental Evaluation

Visitors to the Plan Area participate in a wide variety of activities. Popular water-based recreation includes fishing, boating, windsurfing, swimming, water skiing, and personal watercraft use. Camping, hiking, picnicking, horseback riding, seasonal hunting, and wildlife viewing are also common. Under each of the alternatives described in Section 4.4, opportunities for recreationists to engage in any or all of these activities depend on: 1) the availability of appropriate facilities and resources, 2) the quality of these resources and settings, and 3) the density of recreational use. Recreation goals and preferences will vary and may even conflict among users, and Plan Area managers will have to make decisions that guide recreational uses. Management actions for each alternative are intended as broad guidelines and may be altered based on actual usage. For example, management actions may be adjusted during holiday and high-use summer weekends when visitation is high. Management actions will influence visitor perceptions of the quality of the recreation experience.

As described in Section 4.3, management zones were assigned to the Plan Area for each alternative, based on projections for types of use, management actions, and physical and social settings. For recreational resources, these zones serve as a guide to understanding the types and locations of the opportunities that make up the spectrum of recreation intensity (RN, RD, and S for water-based management and BC and FC for land-based management; Administration and Operations is not, by nature, a recreation zone). The attributes that differentiate these management zones have implications on the recreational opportunities and benefits that recreationists may experience.

Under all alternatives, applicable federal and state regulations would be followed, and appropriate actions to ensure compliance would be taken. The existing recreational facilities will be upgraded as necessary to comply with applicable laws and regulations, such as ADA. At a minimum, existing facilities that are currently in compliance with governing laws and regulations will continue to be maintained under all alternatives, and no adverse impacts to recreation would occur as a result. Regular maintenance will preserve the quality of the facilities, which would have a beneficial impact for users. Continued use of recreational facilities would not result in substantial physical deterioration of those facilities.

[11] CEQA also identifies the following as an impact criterion for recreation: "Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?" This question as it pertains to other environmental resource areas is analyzed throughout Chapter 5 of this document.

Seasonal events and activities would continue to be accommodated and are not anticipated to result in recreation impacts.

Speed limits and no-ski zones in controlled areas of San Luis Reservoir, O'Neill Forebay, and Los Banos Creek Reservoir will be continued regardless of the alternative selected, enhancing safety for recreation users such as swimmers who may be sharing the lake with boaters. These restrictions would also have other beneficial impacts that could enhance the recreational experience of swimmers and shoreline campers such as by reducing noise levels, depending on the relative location and speed of watercraft. Enforcing restrictions would have minor adverse impacts on some recreational users.

Plan implementation could result in effects to recreation from the following mechanisms.

Temporary Construction Activities at Camping and Recreation Facilities Maintenance, expansion, or addition of camp sites, shade ramadas, boat launches, trails and other recreation facilities could have temporary, minor construction-related impacts such as fugitive dust and noise, disruption to visitor circulation, and restriction to visitor areas. These activities could affect the quality of the recreation experience for visitors near construction areas. In most cases, construction would take place in FC Zones, where activity rather than quiet and passive recreation is typical (Section 4.3.5). Construction-related effects would be minor under all alternatives, primarily because improvements would be planned to take place during off-peak times. Some minor adverse impacts would remain and would be greater for Alternatives 3 and 4 than for Alternatives 1 and 2.

Addition of New Recreation Activities and Facilities Recreational opportunities are determined by the physical infrastructure available to support recreational activities, access to recreational resources, and the services provided in the Plan Area. Over time, the opportunities relative to increasing demand (from regional population growth, for example) will decline without proportionate increases in recreational resources. The quality of visitor experiences may differ based on the user group in question. However, impacts to recreational experiences are determined by the quality of the available resources and settings provided in the Plan Area and the density of recreational use.

Under the No Action/No Project Alternative (Alternative 1), management would basically maintain the status quo. Alternatives 2, 3, and 4 provide for a range of increases in the amount of recreational facilities and services and variation in recreational experiences at the Plan Area, with Alternative 2 representing the lowest increase and Alternative 4 representing the highest increase. At the low end of the range (Alternative 2), the amount of facilities, services, and opportunities allowed under the Plan may be perceived as insufficient by those seeking a more active and varied recreation experience, whereas the same amount may be considered optimum for those seeking a more passive or primitive experience. At the high end of the range (Alternative 4), the Plan would allow for a substantial expansion in recreational facilities, services, and opportunities,

which would benefit those seeking a more active and varied recreation experience but could compromise recreational quality for those seeking a more passive or primitive experience. Alternative 3 is intended to balance the quality of recreational experiences with opportunities for various user groups.

The effects of adding new recreation activities and facilities would vary by alternative as follows:

- Alternative 1, No Action/No Project, would not add recreational facilities or activities, and management zones would remain the same throughout the Plan horizon. Basic infrastructure and operational improvements would be implemented to comply with applicable laws and regulations, as under all alternatives, and any increase in demand and visitor use would be accommodated at a minimal level. Alternative 1 would not fully satisfy Goal VIS-F1, which includes providing new visitor facilities and uses that enhance recreational enjoyment of the Plan Area while avoiding resource degradation. Over the course of the Plan horizon, regional population growth could result in demand being exceeded in more locations and more frequently than at present. The likelihood of visitors being turned away or having lower-quality recreational experiences would be higher than with the other alternatives, and the variety of recreational experiences would not change from current conditions. Periodic minor adverse impacts could occur.
- Alternative 2 emphasizes expansion of, or minor additions to, existing recreational facilities and activities, such as reconfiguring the camping area and upgrading the campfire center at Basalt Use Area; expanding the group picnic facilities at San Luis Creek Use Area; reopening or relocating the boat launch at Medeiros Use Area; and providing for additional interpretive programs throughout the Plan Area. Although Alternative 2 would maintain the same management zones as Alternative 1, it would accommodate additional/future demand and visitor use to a greater degree than Alternative 1 and would satisfy Goal VIS-F1. The increase in the variety of recreational experiences would be less than for Alternatives 3 and 4. No impacts to the quality of visitor experiences are expected to occur.
- Alternative 3 would modify some existing management zone designations to provide for a moderate level of additional recreational facilities and activities. Campsites would be added in Basalt, San Luis Creek, Medeiros, and Los Banos Creek use areas, and the variety of camping opportunities would be increased (by adding hookups to some sites and providing alternative overnight lodging such as camping and yurts, for example). Campsites would also be added at the OHV Use Area and Dinosaur Point (where none currently exist). Alternative 3 would provide new trails and trailside facilities that would accommodate a greater variety of recreational opportunities and would provide greater compliance with Goals VIS-F1, VIS-T1, and VIS-T3 than Alternatives 1 and 2. Because Alternative 3 would allow for additional facilities, particularly in use areas

such as San Luis Creek and Los Banos Creek where capacity is exceeded several days each year, this alternative would also accommodate a greater increase in visitor use over the Plan horizon, in accordance with Goal VIS-F2. The management zone designations concentrate the majority of additional facilities and uses in areas of high visitor use, which would preserve recreational quality for visitors who prefer a passive or primitive experience. Finally, all of the action alternatives include developing and implementing a new boating management plan and a trails management plan. The plans would help to minimize potential conflicts that could result from differences in visitor use (such as between anglers and personal watercraft users, or equestrians and bicyclists). These factors comprise a beneficial impact.

- Alternative 4 would modify several existing management zone designations to provide for a maximum level of additional recreational facilities and activities. Campsites and day use facilities would be added in generally the same locations as proposed for Alternative 3; however, the visitor capacity of those facilities would be greater than with Alternative 3. In some cases (such as the proposed group picnic facilities at San Luis Creek Use Area), the size and capacity of the facilities may result in a visitor density that compromises the quality of the recreational experience for some. Overnight and day use facilities would also be allowed in areas where they currently do not exist (such as the campgrounds at Golden Eye and La Plata, and a motel at Medeiros Use Area), and new activities and services could be offered (such as tours of Basalt quarry, a trail between Los Banos Creek and Basalt use areas, and a concession at Dinosaur Point). Like Alternative 3, Alternative 4 would comply with Goals VIS-F1, VIS-T1, and VIS-T3. However, the expansion in recreational facilities and activities could increase the potential for conflicts among users, which would constitute a minor adverse impact and would be less consistent with Goal VIS-F3. As some impacts to the quality of visitor experiences are expected even with implementation of the boating and trails management plans, minor adverse impacts could remain.

Management of Boat Density Levels As described in Sections 4.3.1 through 4.3.3, each WROS zone is associated with a range of acceptable boats per acre. The range is designed to be consistent with the recreation purpose and intent for each zone. In the Plan Area, the highest numbers of boats per acre are allowed in S Zones, consistent with the active nature of water recreation in that zone; the lowest numbers are allowed in the RN Zone, consistent with the primitive nature of water recreation in that zone.

In order to maintain the quality and character of the proposed WROS zones for each of the alternatives (shown in Maps 8 through 11), Plan Area managers will need to establish measures to ensure that the target ranges of boats for the WROS zones are not regularly exceeded. When boat density exceeds the target range, the quality of the recreation experience may be compromised for some water recreation users.

Effects would vary by alternative as follows:

- With Alternative 1, No Action/No Project, no formal system would be in place to manage boat densities; the ability to enter and launch at any Plan Area water body would be limited only by the availability of boat trailer parking. Although management zones for Alternative 1 are shown in Map 8, the proposed Plan would not be implemented, no Plan measures would be applied to manage those zones, and the March 1972 Boating Plan for San Luis Reservoir State Recreation Area and other guidance set forth in previous planning documents described in Section 3.1 would essentially remain in effect. The 1972 Boating Plan would allow for a substantially higher boat density than that associated with the WROS zones for existing conditions and Alternative 1 (Map 8). The 1972 Boating Plan set thresholds of 2.5 acres per boat in 5 mph speed zone areas and 7 acres per boat in all other areas. (The 1966 Recreation Development Plan for Los Banos Creek Reservoir did not specify any target metrics for boat density.) The target boat densities with the proposed Plan range from 10 to 20 acres per boat for S Zones (on the high end) to 50 to 110 acres per boat for RN Zones (on the low end). Under Alternative 1, no thresholds would be in place to manage water surfaces to accommodate a variety of different user groups and minimize conflicts among users; consequently, Goal VIS-F3 (Visitor Uses/Opportunities and Facilities) would not be satisfied. High boat densities currently occur during peak use periods and can be expected to occur more frequently in the future from increased visitation related to regional population growth. This could reduce recreation quality for some visitors and increase potential boating safety concerns. Minor to major adverse impacts could occur.
- Alternatives 2 and 3 would not change WROS classes in any Plan Area waterbody (Maps 9 and 10); as a result, the target boat ranges associated with the WROS zones shown in Map 8 for existing conditions and Alternative 1 would not increase. However, the action alternatives provide for development and implementation of a boating management plan that would identify boat densities that are compatible with the different WROS designations. Setting density thresholds is consistent with Goal VIS-F3 (Visitor Uses/Opportunities and Facilities) to manage water surfaces to accommodate a variety of different user groups and minimize conflicts among users. The total number of boats allowed daily could be managed by limiting the number of launches to the number of boat trailer parking spaces available, instituting a reservation system, monitoring, or other methods. Management personnel would have the flexibility to allow boat numbers to exceed maximum densities on holidays or high-use weekends if safety requirements are met. The boating management plan may consider data points such as accidents, violations, and historic data. The plan would be reviewed periodically to assess whether updates are necessary as a result of changes to boat types or boating areas. Implementation of the boating management plan would help to prevent adverse impacts associated with high boat densities and reduced recreation

quality. During peak use periods, there is a potential that visitors may be turned away from their preferred boat launch site and encouraged to launch elsewhere (for example, when Los Banos Creek Reservoir is at maximum allowed capacity but capacity is available at Dinosaur Point). This could result in a minor residual impact.

- Alternative 4 would change WROS designations as shown in Map 11. As a result, this alternative would allow for increases in boat density in the southern part of San Luis Reservoir (from 50–110 acres per boat with the other alternatives to 20–50 acres per boat with Alternative 4) and the eastern part of O'Neill Forebay (from 20–50 acres per boat with the other alternatives to 10–20 acres per boat with Alternative 4). As with Alternatives 2 and 3, Alternative 4 would provide for development and implementation of a boating management plan, which is consistent with Goal VIS-F3 and would help to prevent adverse impacts associated with high boat densities and reduced recreation quality. Because the allowable maximum number of boats per acre would be higher than with Alternatives 2 and 3, boating demand could be met more frequently during high-use periods than with Alternatives 2 and 3. The higher density could reduce recreation quality for some visitors. Minor residual impacts could occur and could be greater than with the other action alternatives.

Climate Change As described in Sections 2.2.2 and 5.4.1.3, climate change could increase the frequency of low water levels in San Luis Reservoir. Recreation access to the reservoir would be possible regardless of reservoir elevation, but a lower (and thus smaller) reservoir cannot hold as many vessels and recreationists, which may result in restrictions on use. Warmer water temperatures from climate change could also increase the potential for invasive species infestations (Reclamation 2011b). An invasive mussel infestation in the Plan Area would result in restrictions on vessel use for an undetermined period of time. These conditions would occur regardless of which alternative is implemented, including No Action/No Project. Plan implementation would have no impact on recreation access restrictions due to low reservoir levels or invasive mussel infestations that result from climate change.

Potential climate change effects (in terms of GHG emissions) from Plan-related motorized vehicle and vessel use are described in Section 5.4.2.3, under Greenhouse Gas Emissions and Climate Change. Nonmotorized vehicle and vessel use and other forms of recreation are not expected to contribute to climate change.

5.4.7 Circulation

5.4.7.1 Impact Summary

The following mechanisms have the potential to affect circulation in the Plan Area:

- Increased traffic to, from, and within the Plan Area
- Vehicle turning conflicts and other access issues at Plan Area access points

- Increased parking demand
- Climate change

5.4.7.2 Impact Criteria (Transportation)

- Beneficial Impact: Impact that would occur if visitor access to and circulation within the Plan Area is improved. An activity would be considered a beneficial impact if it improves conditions beyond the No Action/No Project Alternative. There is no CEQA equivalent to a NEPA beneficial impact.
- No Impact: Impact that would occur if planning elements result in no changes over the existing conditions.
- Minor Adverse Impact: Impact that would occur if a Plan element leads to a decrease in visitor access or circulation within the Plan Area. This impact would be minimal or temporary, but detectable. This impact category is equivalent to a less-than-significant impact under CEQA.
- Major Adverse Impact: Impact that would occur if a Plan element results in a considerable decrease in visitor access or circulation within the Plan Area. This type of impact would often be long term, highly noticeable, and substantial. A major adverse impact is equivalent to a CEQA significant impact, which would result from one or more of the following:
  - Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel, and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
  - Conflict with an applicable congestion management program, including but not limited to LOS standards and travel demand measures established by the county congestion management agency for designated roads or highways;
  - A change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
  - Substantially increased hazards caused by a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
  - Inadequate emergency access; or
  - Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

5.4.7.3 Environmental Evaluation

Increased Traffic to, from, and within the Plan Area Traffic on SR 152 currently exceeds capacity during peak hours, and additional development has been approved in the region that would further increase automobile and truck

traffic along SR 152. Regional planning documents include the future widening and partial rerouting of SR 152 to accommodate the increase in traffic volumes and maintain an acceptable level of service (Sections 3.3.9 through 3.3.11). Projected increases in local and regional population (Section 2.12.2.1) will result in additional traffic on roadways in the Plan Area vicinity. Traffic congestion may reduce circulation along the Plan Area's roadway network and increase driving time for visitors to access various parts of the Plan Area. These effects will occur regardless of alternative or Plan implementation.

The action alternatives could increase visitation by providing for the development of additional facilities and uses. Increased visitor use could result in an increase in vehicle trips in and near the Plan Area, thereby contributing to traffic congestion on SR 33, SR 152, and other roadways near the Plan Area.

Under all of the alternatives, the Plan Area would remain accessible via bicycle from SR 152, a designated bike route. In addition, the existing Plan Area trail system provides nonmotorized options for traveling within use areas, and additional trails included in the action alternatives would facilitate nonmotorized travel between use areas.

When specific projects are developed, a site-specific environmental analysis would be conducted and a more focused analysis of the proposed project's impacts to circulation could occur. At that time, more clearly defined visitor access and circulation impacts may be identified. If significant visitor access or circulation impacts were to be identified, the proposed project would be modified or mitigation measures would be implemented to reduce these impacts. Effects related to increased visitation would vary by alternative as follows:

- Alternative 1, the No Action/No Project Alternative, would not improve or develop new facilities and features that would accommodate additional visitor traffic to the Plan Area. Alternative 1 would maintain existing trails but would not provide for new trails. This alternative would not affect local traffic or nonmotorized transportation in the Plan Area.
- Alternatives 2, 3, and 4 provide for facilities and features that could support or accommodate additional visitor traffic, although the increase is not expected to be substantial. SR 152 and SR 33 are the primary roadways for which recent Plan Area data are available (see Section 2.10.3.1). The combined average of peak daily trips to the Plan Area in fiscal year (FY) 2007–2008 was 1,167. This total is approximately 5 percent of FY 2007–2008 annual average daily traffic (AADT) on SR 152 and 13 percent of the AADT on SR 33. Even if the number of vehicle trips associated with the Plan Area increased by 50 percent (an increase that is much higher than anticipated), the total number of trips would account for less than 7 percent of the existing combined AADT for SR 152 and SR 33 in the vicinity of the Plan Area. Because the amount of traffic generated by visitor trips to the Plan Area constitutes a small portion of overall traffic in the area, implementation of Alternatives 2, 3, or 4 would have a minor adverse impact on local traffic.

- Alternatives 3 and 4 also provide for new trail development. Alternative 3 would allow for development of a multi-use trail for hiking, cycling, and equestrian use to link Basalt Use Area with Pacheco State Park, as well as trails linking Dinosaur Point to Pacheco State Park and San Luis Wildlife Area. Alternative 4 would allow for development of a multi-use trail from Basalt Use Area to Pacheco State Park and a trail linking Basalt Use Area with Los Banos Creek Use Area. New trail connections would facilitate nonmotorized travel between these locations and could result in a reduction in motor vehicle trips. This would have a beneficial effect on traffic that would not be realized under Alternatives 1 and 2.

Vehicle Turning Conflicts and Other Access Issues CSP staff have identified access between SR 152 and the San Luis Creek Use Area and Gonzaga Road facilities as a primary safety concern due to high traffic volumes and limited blending and turning lanes on SR 152. Access between Dinosaur Point Road and SR 152 could be improved by enhanced turning lanes and sight distance, and the General Plan for Pacheco State Park includes proposed improvements to safety and traffic flow at that intersection.

CSP staff must use SR 152 and SR 33 to travel between San Luis Creek and Medeiros use areas, which lengthens staff travel time for patrolling and monitoring. Distance to Los Banos Creek Use Area from the other use areas and the current indirect route requires substantial time for staff coordination of maintenance and operations activities.

SR 152, SR 33, and other project area roadways and their signage are under the jurisdiction of Caltrans or local agencies. Improved signage and roadway blending/ turning lanes could increase safety and efficiency for visitors and staff traveling between major roadways and Plan Area facilities but would not be subject to the Plan. Effects related to turning conflicts and other access issues would vary by alternative as follows:

- Alternative 1, the No Action/No Project Alternative, does not include measures to address turning conflicts, create more efficient access routes, or improve signage. In the absence of planning and coordination on these issues, conditions could worsen with regional traffic growth. Major adverse effects are unlikely to occur because it is expected that the agencies with jurisdiction over nearby signage and roadways would continue to incorporate improvements over time; however, minor adverse impacts could remain.
- Alternative 2 provides for working with Caltrans to identify alterations to existing roadways, including improved turning lanes on SR 152 and SR 33 at Plan Area entry points, improved access between SR 152 and Basalt Use Area, and improved access between SR 152 and San Luis Creek Use Area. Alternative 2 also provides for working with other agencies to improve signage outside of the Plan Area and at entry points. Minor adverse impacts could remain, but the management approach proposed for

this alternative could have benefits that would not be realized under Alternative 1.

- Alternatives 3 and 4 include the same measures proposed for Alternative 2 and would also provide for working with Caltrans to explore the potential for an interchange at the San Luis Creek Use Area entry road with a limited access overpass from Gonzaga Road, and a crossing from Gonzaga Road to Medeiros Use Area with a blending lane to SR 152. This would increase safety and efficiency for visitors and staff traveling between these areas. Minor adverse impacts could remain, but the management approach proposed for this alternative could have benefits that would not be realized under Alternatives 1 and 2.
- Alternative 4 would also provide for working with Caltrans to explore the creation of a new exit off of I-5 at Canyon Road for access to Los Banos Creek Reservoir. At present, no direct access from I-5 exists, although it is approximately 2 miles east of the reservoir. Visitors and staff must travel toward Los Banos on SR 152 to Volta Road, turn right on Pioneer Road, turn left on Canyon Road, and turn right into the Plan Area, a distance of approximately 10 miles from SR 152. Impacts from this action would be subject to further environmental review and could range from minor to major; however, the reduction in travel distance and time in this part of the Plan Area would be a beneficial effect that would not be realized under Alternatives 1, 2, and 3.

Parking Demand As described in Section 2.10.4, the Plan Area currently experiences parking shortages only at San Luis Creek and Los Banos Creek use areas during peak visitation periods. Sufficient parking is available at Basalt, Dinosaur Point, and Medeiros use areas and capacity is not exceeded. Increased visitor use, either from regional population growth or from Plan Area improvements introduced by the action alternatives, could contribute to peak use parking shortages in the Plan Area. This effect would vary by alternative as follows:

- Alternative 1, the No Action/No Project Alternative, would not provide improved or new facilities and features that would accommodate additional visitors to the Plan Area. Some increase in visitor attendance could be accommodated as some parking areas do not currently fill to capacity. No adverse impacts are anticipated.
- Alternative 2 proposes some enhanced or new facilities that could accommodate additional visitors, primarily from adding capacity at campgrounds at Basalt, San Luis Creek, and Los Banos Creek use areas. The increase in visitor attendance could be accommodated at Basalt Use Area regardless of improvements to facilities. This alternative could have minor adverse impacts to parking capacity at San Luis Creek and Los Banos Creek use areas.
- Alternative 3 would allow for new and expanded day use and camping facilities that could accommodate a greater number of Plan Area visitors but would not specifically add parking except at Medeiros Use Area.

Where RV site capacity is increased, parking is automatically included, such as at Basalt (where the camping area would be reconfigured or sites would be added to allow for larger RVs, and 30 RV campsites would be added) and Medeiros use areas (where up to 100 new tent/RV sites could be added). Alternative 3 would also allow for providing up to 20 tent/RV sites on the South Shore of Los Banos Creek Reservoir, which again would automatically include parking in this constrained area; however, additional parking would need to be identified if up to 30 tent sites were added on the North Shore, as proposed in this alternative. Other facilities would allow for an increase in day use and overnight use without specifically creating additional parking capacity: at Basalt Use Area, a new group camp could accommodate up to 60 people; at Medeiros, 100 primitive campsites could be accommodated; and at Los Banos Creek, the campground could be expanded by up to 30 tent sites. During nonpeak visitation periods, impacts to parking capacity would be minor. Major short-term impacts that could occur during peak periods such as holiday weekends would be reduced to minor levels through implementation of measures such as those described in Section 5.4.7.4.

- Alternative 4 would have generally similar impacts to parking to Alternative 3, although Alternative 4 would accommodate a greater number of visitors. In addition, WROS designations for Alternative 4 would allow for increases in boat density in the southern part of San Luis Reservoir (from 50–110 acres per boat with the other alternatives to 20–50 acres per boat with Alternative 4) and the eastern part of O'Neill Forebay (from 20–50 acres per boat with the other alternatives to 10–20 acres per boat with Alternative 4), which could result in greater demand for boat trailer parking. As with Alternative 3, impacts to parking capacity would be minor during nonpeak visitation periods. Major short-term impacts that could occur during peak periods such as holiday weekends would be reduced to minor levels through implementation of measures such as those described in Section 5.4.7.4. These effects would be greater with Alternative 4 than any of the other alternatives.

Climate Change Potential climate change effects (in terms of GHG emissions) from increased traffic in the Plan Area are described in Section 5.4.2.3, under Greenhouse Gas Emissions and Climate Change. Climate change is not expected to affect circulation or parking in the Plan Area.

5.4.7.4 Mitigation

The following measures would be considered and applied as necessary for all of the action alternatives during project construction and implementation.

Goals OPS-A1 through OPS-A4 Implementation of Goals OPS-A1 through OPS-A4 and their associated guidelines would help to address and offset circulation and traffic concerns associated with Plan implementation.

Mitigation Measure TR1 In addition to the Plan's goals and guidelines, the following measures would be considered and applied as necessary for all of the action alternatives during project construction and implementation, to avoid or minimize impacts.

- As part of the construction management plan for all of the action alternatives, develop a traffic and pathways diversion and circulation plan to ensure that safe and efficient traffic and pedestrian flow is maintained during construction and to protect sensitive resources. This plan will be reviewed by Plan Area resources, operations, and visitor safety staff prior to approval.
- Where necessary, signage will be provided at the entry stations, along the roadways, and at critical intersections noting where construction activities are taking place.
- Where necessary, a visitor communication and protection plan will be developed to ensure that visitors are safely and efficiently routed around construction in the Plan Area. This plan will include means for communicating construction and closure schedules to the public, adequate barriers to keep visitors clear of active construction areas, and clear signage to direct visitors to open Plan Area destinations during construction. Interpretation for visitors of the activities, value, and effects of ongoing construction projects will be included.
- In areas where parking capacity has the potential to be exceeded, designate overflow parking areas that are large enough to accommodate demand.

5.4.8 Utilities and Emergency Services

As described in Section 2.11, utilities in the Plan Area include wastewater facilities, water storage tanks, high-voltage power lines, and propane tanks; and public services include fire protection, security, and medical aid. New or expanded facilities could include additional utility infrastructure and potentially increase demand for utilities and public services. The Plan includes goals and guidelines to reduce or avoid effects to these resources.

5.4.8.1 Impact Summary

The following mechanisms have the potential to affect utilities and emergency services in the Plan Area:

- Facilities expansion and construction
- Increased demand for emergency services resulting from increased visitation
- Climate change

5.4.8.2 Impact Criteria (Utilities and Emergency Services)

- Beneficial Impact: Impact that is detectable and that significantly and positively alters historical or desired conditions of the utilities and public services. There is no CEQA equivalent to a NEPA beneficial impact.
- No Impact: Impact to utilities and public services that cannot be detected.

- Minor Adverse Impact: Impact to utilities and public services that is detectable but does not interfere with Plan Area goals. This is equivalent to a CEQA less than significant impact.
- Major Adverse Impact: Impact to utilities and public services that is detectable and negatively alters historical baseline or desired conditions. Major adverse impacts would contribute to the deterioration of safe conditions in the Plan Area, the public's enjoyment of Plan Area, or would interfere with Plan Area goals for providing services. A major adverse impact is equivalent to a CEQA significant impact, which would result from one or more of the following:
  - Exceedance of wastewater treatment requirements of the California Regional Water Quality Control Board;
  - The need for new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
  - The need for new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
  - A lack of sufficient water supplies available to serve the project from existing entitlements and resources;
  - A determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's demand in addition to the provider's existing commitments;
  - An increased demand for police protection and fire and emergency services exceeding existing or planned staffing levels; or
  - An increase in response times to calls for police protection and fire and emergency services exceeding existing levels or established performance standards.

5.4.8.3 Environmental Evaluation

Facilities Expansion and Construction Maintenance and safety upgrades to utilities would be required under all alternatives. These upgrades would include wear items on specific utilities, replacement of broken or damaged equipment, and replacement of older equipment that is determined to be unsafe. The replacement of old systems such as leaking water tanks and treatment facilities would have the potential to at least partly offset an increase in visitation and demand from either regional population growth or additional facilities/uses included in the action alternatives. Development of facilities in areas currently without utility service could require additional utility infrastructure and connections, as well as associated service capacity, supply, and maintenance. Project-level analysis would be required to verify existing capacities and to determine the extent of effects from specific development on utility systems in the Plan Area. Effects to utilities would vary by alternative as discussed below.

- Alternative 1, the No Action/No Project Alternative, would not include the construction of any additional features or facilities; therefore, no new or expanded utility infrastructure and connections would be required. Utilities would be upgraded over time to meet current standards, and existing lighting would be maintained and repaired as needed. Alternative 1 would have no effects on utilities related to facilities expansion or construction.
- Alternative 2 would include the fewest physical additions and visitor use modifications of the action alternatives. Like Alternative 1, Alternative 2 would provide for upgrading utilities as needed to meet current standards. Alternative 2 would also including maintaining and repairing existing lighting using energy-efficient fixtures, and adding carbon-reducing features such as solar panels. Alternative 2 could have minor effects related to facilities expansion or construction, which would be reduced by implementation of measures such as those described in Section 5.4.8.4.
- Alternative 3 would include a greater number of features and facilities in the Plan Area than Alternative 2. The addition of RV hookups and other utilities could require new or expanded utility infrastructure and connections. Providing water service at Medeiros Use Area may require a new distribution system but would be limited to new facilities proposed in the immediate vicinity and may use existing infrastructure along SR 33 to reduce crossing SR 152 and O'Neill Forebay. Potential expansion of the OHV Use Area could require new or expanded water and wastewater treatment facilities. Where new hookups and other electrical connections are proposed for Alternative 3, electric service facilities may need to be expanded or added to accommodate the additional demand. As development is proposed mainly in and around areas already serviced by utility infrastructure, additional capacity for most utilities could be readily available, and the need for extensive new distribution lines and associated maintenance may be reduced. Although Alternative 3 would have a greater potential to affect utilities than Alternatives 1 and 2, Alternative 3 would also upgrade and replace Plan Area utility infrastructure, which could partly offset an increase in demand. Utility upgrades, benefits from carbon-reducing measures such as solar panels, and implementation of measures such as those described in Section 5.4.8.4 would reduce adverse impacts, although minor impacts could remain.
- Alternative 4 proposes more intensive development of certain use areas, including a restaurant and motel at Medeiros Use Area. Potential impacts for Alternative 4 would range from minor to major and would be greater than with Alternative 3. Utility upgrades, benefits from carbon-reducing measures such as solar panels, and implementation measures such as those described in Section 5.4.8.4 would reduce adverse impacts to minor levels.

Increased Demand for Emergency Services Projected increases in local and regional population (Section 2.12.2.1) could result in additional demand for recreation at Plan Area facilities. As a result, an increased demand for emergency services could occur under all alternatives. The action alternatives include

additional features and facilities that could support increased visitor use in the Plan Area. An increase in visitation beyond that associated with regional population growth could result in a greater need for additional fire protection, security, and medical aid. Project-level analysis of potential impacts on public services would be performed as needed for the action alternatives. Effects to public services would vary by alternative as discussed below.

- Alternative 1, the No Action/No Project Alternative, would not accommodate or support additional visitors to the Plan Area. Additional visitation resulting from population growth would result in the need for additional fire protection, security, and medical aid. This alternative would not provide for exploring ways to increase efficiency of emergency services. This would be a minor to major adverse impact.
- Alternative 2 includes some enhanced or new facilities that could accommodate additional visitors, primarily from adding capacity at campgrounds at Basalt, San Luis Creek, and Los Banos Creek use areas. This could result in an increased need for patrols, as well as the potential need for increased fire and emergency services. Minor adverse impacts could occur, which would be reduced by implementation of measures such as those described in Section 5.4.8.4.
- Alternatives 3 and 4 would allow for more features and facilities in the Plan Area that could accommodate increased visitor use than with Alternative 2. This could result in a greater potential need for patrols and fire and other emergency services than under Alternative 2, and could result in minor to major adverse impacts. Some proposed management actions, such as working with Caltrans to explore an interchange at the San Luis Creek Use Area entry and paving unpaved roads in Medeiros Use could benefit Plan Area staff, Cal Fire, and other emergency response agencies by facilitating access. In addition, Goal OPS-A2 and its guideline allow for exploring the use of private roads if needed for emergency response. These factors would reduce adverse impacts, but minor impacts could remain.

Climate Change Plan implementation has the potential to increase water use and demand but not to the extent that energy use from water circulation and treatment would measurably increase GHG emissions. Warmer temperatures associated with climate change (Section 2.2.2) could increase the demand for air conditioning in the Plan Area and therefore increase electricity use and subsequent GHG emissions from power generation. Additional visitation related to Plan implementation could also increase electricity use (and GHG emissions from power generation), but the increase would be minor relative to existing and projected electricity generation in surrounding communities. GHG emissions from generation of water supply and electricity for the Plan Area are expected to be highest for Alternative 4 and lowest for Alternative 1, but would be minor for all alternatives. Goal OPS-RE1 provides for use of carbon-reducing measures that could offset these effects, although minor impacts could remain.

5.4.8.4 Mitigation

Standard measures would be applied as necessary for actions that involve changes in utility infrastructure or provision of public services. These measures include notification of utilities and emergency response units prior to construction activities; observing standard clearances between sewer mains; and observing guidelines specified in the International Plumbing Code, Building Officials and Code Administration National Plumbing Code, National Electric Code, and the National Fire Protection Code regarding utilities installation and/or abandonment of pipelines.

The following measures would be considered and applied as necessary for all of the action alternatives during project construction and implementation.

Goal OPS-A2 The Plan Area and surrounding vicinity contains a number of small private or abandoned public roads, some of them unimproved. Goal OPS-A2 and its guideline allow for working with surrounding landowners to clarify the ownership and location of roads and the possibility for Plan Area staff members and entities such as Cal Fire to use the roads if needed for emergency response.

Goal OPS-U1 Goal OPS-U1 includes two guidelines for continuance of long-term infrastructure function in the Plan Area. They allow for devising a strategic plan, in collaboration with the Santa Nella County Water District, for providing water distribution systems in use areas such as Medeiros; and assessing utility needs and improvements comprehensively to avoid unnecessary ground disturbance and utility work.

Goal OPS-RE1 Goal OPS-RE1 allows for incorporating solar and other carbon-reducing measures into Plan Area facilities, improvements, and maintenance and operations.

Mitigation Measure UPS1 In addition to the Plan goals and guidelines, the following measures would be considered and applied as necessary for all of the action alternatives during project construction and implementation.

- Maintain and use existing utilities infrastructure and facilities, when possible, to minimize impacts from construction of additional facilities.
- Avoid trees and existing buildings and facilities that would be affected during construction of additional utilities infrastructure and facilities, to the degree possible.
- Promptly reconnect utility services that are unexpectedly interrupted by construction activities. In addition, provide advanced notification to residents, concessionaires, and others in the event that utility services will be disrupted.

5.4.9 Impact Summary

Table 5-6 provides a summary of environmental consequences for each resource discussed above.

Table 5-6
Impacts Summary

Impact	Alternative 1	Alternative 2		Alternative 3		Alternative 4	
	Impact Magnitude	Impact Magnitude	Impact After Mit.	Impact Magnitude	Impact After Mit.	Impact Magnitude	Impact After Mit.
HYDROLOGY AND FLOODPLAIN/WATER QUALITY (Section 5.4.1)							
Erosion, siltation, turbidity, pollutant release, or additional runoff from facilities maintenance and construction	Minor	Minor to Major	Minor	Minor to Major	Minor	Minor to Major	Minor
Erosion, siltation, turbidity, pollutant release, or additional runoff from trail and road use, maintenance, and construction	Minor	Minor	Minor	Minor	Minor	Minor to Major	Minor
Motorized vessel emissions of fuel or other pollutants	Minor	Minor	NA	Minor	NA	Minor	NA
Contaminants from human use (including body contact with reservoir water) and waste disposal	Minor	Minor	Minor	Minor	Minor	Minor	Minor
Reservoir fluctuations from climate change	No Impact	No Impact	NA	No Impact	NA	No Impact	NA
AIR QUALITY (Section 5.4.2)							
Criteria pollutant emissions from motorized vehicles and vessels	Minor	Minor	NA	Minor	NA	Minor	NA
Dust emissions from motorized vehicles, construction, and recreation	Minor	Minor	Minor	Minor	Minor	Minor to Major	Minor
Short-term combustion emissions from prescribed burning or wildland fires	Minor	Minor	NA	Minor	NA	Minor	NA
Greenhouse gas emissions from maintenance and construction equipment and motorized vehicle and watercraft use	Minor	Minor	NA	Minor	NA	Minor	NA

Table 5-6
Impacts Summary

Impact	Alternative 1	Alternative 2		Alternative 3		Alternative 4	
	Impact Magnitude	Impact Magnitude	Impact After Mit.	Impact Magnitude	Impact After Mit.	Impact Magnitude	Impact After Mit.
BIOLOGICAL RESOURCES (Section 5.4.3)							
Loss of or disturbance to trees, sensitive habitat, or special-status species; introduction of invasive species; reduction in habitat quality; or habitat fragmentation related to facility maintenance, expansion, and development							
Vegetation and Natural Communities	Minor	Minor	Minor	Minor to Major	Minor	Minor to Major	Minor
Wildlife	Minor	Minor	Minor	Minor	Minor	Minor to Major	Minor
Reduction in habitat quality caused by human disturbance, including increased presence, noise, and light; disturbance to vegetation that provides habitat for special-status species; or introduction of invasive species, including invasive mussels, related to camping, boat use, and day use	Minor	Minor to Major	Minor	Minor to Major	Minor	Minor to Major	Minor
Disturbance of habitat, wildlife, or movement corridors; injury or mortality to individuals by vehicle strikes; or disturbance of native vegetation and potential introduction of non-native or invasive species from trail and road use and construction							
Vegetation and Natural Communities	Minor	Minor to Major	Minor	Minor to Major	Minor	Minor to Major	Minor
Wildlife	Minor	Minor to Major	Minor	Minor to Major	Minor	Minor to Major	Minor

Table 5-6
Impacts Summary

Impact	Alternative 1	Alternative 2		Alternative 3		Alternative 4	
	Impact Magnitude	Impact Magnitude	Impact After Mit.	Impact Magnitude	Impact After Mit.	Impact Magnitude	Impact After Mit.
Disturbance to plant or wildlife species from resource management, including prescribed burns	Minor to Major	Minor to Major	Minor	Minor to Major	Minor	Minor to Major	Minor
Reduced wetland and species habitat, increased stress on fisheries, and increased potential for invasive species infestations from climate change	No Impact	No Impact	NA	No Impact	NA	No Impact	NA
CULTURAL RESOURCES (Section 5.4.4)							
Unauthorized collection and vandalism at cultural resource sites from visitor access and use	Minor to Major	Minor to Major	Minor	Minor to Major	Minor	Minor to Major	Minor
Exposure or inadvertent disturbance/destruction of cultural resources from ground-disturbing activities associated with facility construction or improvements	No Impact	Minor to Major	Minor	Minor to Major	Minor	Minor to Major	Minor
Exposure or inadvertent disturbance/destruction of cultural resources from prescribed burns and vegetation management	Minor to Major	Minor to Major	Minor	Minor to Major	Minor	Minor to Major	Minor
Exposure or inadvertent disturbance/destruction of cultural resources from climate change	No Impact	No Impact	NA	No Impact	NA	No Impact	NA
SCENIC/AESTHETIC RESOURCES (Section 5.4.5)							
Reduction of scenic vistas, damage to scenic resources, or light or glare from facilities expansion and construction	No Impact	Minor	Minor	Minor	Minor	Minor	Minor
Reduction in scenic quality from climate change related loss of vegetation or decrease in reservoir levels	No Impact	No Impact	NA	No Impact	NA	No Impact	NA

Table 5-6
Impacts Summary

Impact	Alternative 1	Alternative 2		Alternative 3		Alternative 4	
	Impact Magnitude	Impact Magnitude	Impact After Mit.	Impact Magnitude	Impact After Mit.	Impact Magnitude	Impact After Mit.
RECREATION RESOURCES (Section 5.4.6)							
Fugitive dust and noise, disruption to visitor circulation, and restriction to visitor areas from temporary construction activities at camping and recreation facilities	Minor	Minor	NA	Minor	NA	Minor	NA
Addition of new activities and facilities	Minor	No Impact	NA	Beneficial	NA	Minor	NA
Reduced recreation quality from management of boat density levels	Minor to Major	Minor	NA	Minor	NA	Minor	NA
Recreation access restrictions due to climate change related low reservoir levels or invasive species infestation	No Impact	No Impact	NA	No Impact	NA	No Impact	NA
CIRCULATION (Section 5.4.7)							
Increased traffic to, from, and within the Plan Area	No Impact	Minor	NA	Minor	NA	Minor	NA
Vehicle turning conflicts and other access issues at Plan Area access points	No Impact	Minor	NA	Minor	NA	Minor to Major	NA
Increased parking demand	No Impact	Minor	NA	Minor to Major	Minor	Minor to Major	Minor
UTILITIES AND EMERGENCY SERVICES (Section 5.4.8)							
Disruption to utility service or emergency services from facilities expansion and construction	No Impact	Minor	Minor	Minor to Major	Minor	Minor to Major	Minor
Increased demand for emergency services resulting from increased visitation	Minor to Major	Minor	Minor	Minor to Major	Minor	Minor to Major	Minor

Table 5-6
Impacts Summary

Impact	Alternative 1	Alternative 2		Alternative 3		Alternative 4	
	Impact Magnitude	Impact Magnitude	Impact After Mit.	Impact Magnitude	Impact After Mit.	Impact Magnitude	Impact After Mit.
GHG emissions from generation of water supply and electricity for Plan Area use	Minor	Minor	Minor	Minor	Minor	Minor	Minor

Notes:
NA = Not applicable
Impact magnitudes are based on the impact criteria defined for each resource area in Section 5.4.

5.5 NEPA/CEQA Environmentally Preferable/Superior Alternative

The CEQ's NEPA regulations require that "the alternative or alternatives which were considered to be environmentally preferable" be identified at the time an agency issues its Record of Decision (40 CFR 1505.2). Environmentally preferable is defined as "the alternative that will promote the national environmental policy as expressed in Section 101 of the NEPA, meaning the alternative that causes the least damage to the biological and physical environment. In addition, it also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources" (CEQ 1981). The CEQ's NEPA regulations do not require that the alternative be adopted.

Section 101 of the NEPA states that:

> … it is the continuing responsibility of the Federal Government to (1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations; (2) assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings; (3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences; (4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice; (5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and (6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

The CEQA Guidelines (Section 15126.6[a] and [e][2]) require that the analysis of alternatives in an EIR include an identification of the "environmentally superior alternative" among all of those considered. In addition, if the No Project Alternative is identified as environmentally superior alternative, the EIR must also identify the environmentally superior alternative among the other alternatives. Under CEQA, the goal of identifying the environmentally superior alternative is to assist decision-makers in considering project approval. CEQA does not require an agency to select the environmentally superior alternative (State CEQA Guidelines, Sections 15042-15043).

Alternative 1, the No Action/No Project Alternative, would result in no additional development or visitor uses but would not implement any of the focused management plans listed in Table 4-1 (boating, cultural resources, trails, and vegetation). The lack of additional resource protection afforded by these plans could result in impacts including disturbance to plants and wildlife from prescribed burns, unauthorized collection and vandalism at cultural resource sites, and reduced quality of recreation due to high boat density levels. Alternative 2 would include the fewest physical additions and visitor use modifications of the action alternatives and include the implementation of focused resource management plans for boating, cultural resources, trails, and vegetation. Alternative 3 would implement the same focused resource management plans but also

provide for physical additions and visitor use modifications concentrated in and around existing developed areas. Alternative 4 would also implement the same focused management plans and provide for the most physical additions and visitor use modifications among the action alternatives, some in areas that are currently undeveloped.

Alternative 1, No Action/No Project, would have the lowest level of development impacts but would not ensure future protection of resources because it would not implement the focused resource management plans and other plan policies. Alternative 3 would be the Environmentally Preferred/Environmentally Superior Alternative because it would provide more resource protection than Alternative 1 through the implementation of focused management plans, better accommodate future Plan Area visitation than Alternative 2 through provision of more physical additions and visitor uses, and provide better resource protection than Alternative 4 by focusing those additions and visitor uses in and around existing developed areas rather than in currently undeveloped areas. Consistent with NEPA Section 101, Alternative 3 would provide a balance between population and Plan Area resource use.

5.6 Unavoidable Adverse Impacts

The environmental evaluation in this first-tier programmatic EIS/EIR identified no unavoidable adverse impacts that would result from the Plan. The potential impacts from proposed management actions, given the current baseline, would be avoided, minimized, or mitigated through a combination of appropriate facility siting and other best management practices, implementation of focused management plans, Plan goals and guidelines, and resource-specific measures listed in Section 5.4.

5.7 Significant Irreversible and Irretrievable Commitment of Resources and Environmental Impacts

No significant irreversible changes to the natural environment are anticipated from the adoption and implementation of this Plan. Although any facilities development, including structures, roads, and trails, may be considered a long-term commitment of resources, impacts can be reversed through removal of facilities and discontinued use. In areas where impacts have become unacceptable, either from excessive use or from a change in environmental conditions, CSP may consider removal, replacement, or realignment of facilities, such as trails and campsites, or closes areas on a seasonal or temporary basis until conditions can improve.

The construction and operation of facilities may require the use of nonrenewable resources. This impact would be minor because of the limited number of facilities planned for development and the consideration of sustainable practices in site design, construction, maintenance, and operations as proposed in the Plan. Sustainable principles used in design and management emphasize environmental

sensitivity in construction, the use of nontoxic materials and renewable resources, resource conservation, recycling, and energy efficiency.

In addition, many cultural resources are considered unique and nonrenewable. Destruction of any significant cultural resource may be considered a significant, irreversible effect. To avoid this impact, proposed development sites will be surveyed for cultural resources, all site and facilities designs will incorporate methods for protecting and preserving significant cultural resources, and human activities will be monitored as necessary to protect cultural resources.

The loss of special-status plants and animals also could be a significant, irreversible impact. To avoid such impacts, proposed development sites will be surveyed for biological resources, all sites and facility designs will incorporate methods for protecting and preserving significant biological resources, and human activities will be monitored to ensure protection of biological resources.

5.8 Growth-Inducing Impacts

An EIS/EIR must include a discussion of the ways in which a proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment (State CEQA Guidelines [Title 14 CCR, Section 15126.2[d]] and NEPA [40 CFR 1508.8[b]]). Projects that would remove obstacles to population growth, such as an expansion of a wastewater treatment plant, are also considered when discussing growth inducement. Increases in population may also tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects.

Implementation of the Plan could result in an increase in visitation to the Plan Area. The Plan includes a recommendation for new visitor facilities, thereby increasing visitor capacity. Providing increased awareness of the Plan Area through improved signage and other infrastructure improvements could attract more visitors. Improving trail connections between the Plan Area and adjacent and nearby public lands may contribute to the potential for increased overnight use in areas of the SRA that currently lack these opportunities.

The increased capacity may increase the need for additional permanent and seasonal staff at the SRA. The Plan also includes a recommendation for consideration of additional seasonal staff housing and improvements to existing staff housing. These proposals would result in a minimal, direct population growth impact on the area. Improvements to the Plan Area's utilities, including future water supply and sanitary systems, will be self-contained for Plan Area use only and would not encourage population growth in the surrounding area.

Increased visitation to the Plan Area may create additional tourism and the need for tourist services in the adjacent communities and surrounding region. The Plan could potentially foster economic growth in the region by encouraging an increase

in supporting recreation and tourist services, such as recreation equipment, supplies, food, and related facilities.

Although population growth in the state and region will continue to create an increased use and demand for recreational opportunities in the Plan Area, increased use and demand will not have permanent, irreversible impacts in the region.

5.9 Cumulative Impacts

5.9.1 Introduction

"Cumulative impacts" refers to two or more individual effects that may be significant when considered together or that compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact of several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (State CEQA Guidelines: CCR Section 15355). CEQ/NEPA regulations (40 CFR 1508.27[b]) also require discussion of actions with individually insignificant but cumulatively significant impacts.

Large-scale transportation projects and other actions requiring federal approval are subject to laws and permit processes requiring consideration of and mitigation for impacts to publicly owned parkland, cultural resources, water quality, wetlands and waters of the U.S., and special-status species and their habitats. These laws and requirements are designed to assure that the impacts of such undertakings are fully mitigated and do not contribute to cumulative impacts.

Some types of local development projects are not subject to the same types of laws and permit requirements as federal actions. New development that may occur during the planning horizon is planned in Santa Nella, Los Banos, and Gustine and on surrounding ranch properties near the Plan Area. These developments include residential subdivisions and commercial uses. To the extent that impacts would occur in the region due to these activities or others, any loss, disturbance, or degradation of the resources resulting from the Plan would contribute to cumulative impacts.

Some future projects that are proposed in or near the Plan Area have the potential to contribute to cumulative impacts, including the B.F. Sisk (San Luis) Dam Safety of Dams Project (Section 3.3.9), the San Luis Reservoir Low Point Improvement Project (Section 3.3.8), and the San Luis Renewable Resource Project (Section 3.3.15.1). As each project is still in the planning stages, neither project-specific potential environmental impacts nor cumulative impacts can be identified. Descriptions of the projects and proposed alternatives (if known) are provided in Chapter 3. When these proposed projects are advanced for

environmental review, their cumulative impacts, including those to the Plan Area, will have to be considered in their respective environmental documents.

Resources for which cumulative impacts could occur, either from the San Luis Reservoir RMP/GP alone or in combination with other projects, are discussed below.

5.9.2 Hydrology, Floodplain, and Water Quality

Water quality in the Plan Area is heavily influenced by storage level and season (Section 2.4). The Panoche–San Luis Reservoir watershed contains waterbodies that are categorized as impaired, with both San Luis Reservoir and O'Neill Forebay listed as Category 5 (at least one beneficial use is not supported and a TMDL is needed; SWRCB 2010). The DWR Sanitary Survey Report (DWR 2001) identifies a number of potential contaminant sources for San Luis Reservoir and O'Neill Forebay, which include sources outside of the Plan Area (such as the Delta-Mendota Canal, agricultural activities, traffic accidents/spills) in addition to Plan Area recreation (Tables 2-4 and 2-7, Section 2.4.3.1).

Because the Plan Area includes few flood-prone areas and development is not proposed in these areas, none of the San Luis Reservoir RMP/GP alternatives would have impacts associated with flooding and floodplains. All of the alternatives could result in impacts to hydrology and water quality (Section 5.4.1.3). Impacts with Alternative 1 would be minor. Impacts with Alternatives 2, 3, and 4 would range from minor to major and could result from facilities maintenance and construction; trail and road use, maintenance, and construction; motorized vessel emissions; and human waste and disposal. Impacts would be avoided or minimized with implementation of Goals RES-WQ1 through RES-WQ4 and their associated guidelines (Section 4.2.1.4) and Mitigation Measure WQ1 (Section 5.4.1.4). In particular, RES-WQ1 provides for temporary suspension or limitation of visitor uses at a Plan Area reservoir if water quality monitoring shows exceedances of standards that are clearly associated with recreational uses, such as total coliform bacteria and BTEX. Water quality monitoring at existing locations would continue. In addition, project-specific mitigation measures will be developed and implemented on a project-by-project basis, if mitigation is necessary.

Implementation of the Santa Nella Community Specific Plan (Section 3.3.2), Villages of Laguna San Luis Community Plan (Section 3.3.4), and Fox Hills Community Specific Plan (Section 3.3.5) would convert agricultural and open space land to developed urban uses including residential, commercial, and public facilities. The Quinto Solar PV Project (Section 3.3.15.2) would construct an electrical substation and switchyard, a 5,000-square-foot operations and maintenance building, unpaved access roads, and other features on what is now agricultural land. These projects would contribute to cumulative impacts by increasing potential erosion, siltation, turbidity, pollutant releases, and runoff volumes.

Of the three community plans, the only development that has taken place as of December 2012 is in the Santa Nella Community Specific Plan area, where 184 single-family homes have been completed to the northeast O'Neill Forebay. However, partial or full implementation of these plans is reasonably foreseeable during the 25-year planning horizon for the San Luis Reservoir RMP/GP.

The environmental documents for each of the community plans and the Quinto Solar PV Project include mitigation measures to avoid significant impacts from increased surface runoff due to altered drainage patterns and increased pollutants and contaminants in surface and groundwater. Each of these projects and other related projects in the surrounding area would be required to prepare and implement storm water pollution prevention plans, include design features and measures to prevent flooding, and provide facilities with sufficient capacity to accommodate stormwater flow. Combined, the projects are not expected to result in cumulatively significant hydrology, floodplain, or water quality impacts.

Although all of the San Luis Reservoir RMP/GP alternatives could result in impacts to hydrology and water quality, Alternative 1 would have minor impacts, and Alternatives 2, 3, and 4 include measures to reduce impacts to minor levels. As a result, none of the alternatives are expected to have cumulatively considerable or significant impacts on hydrology, floodplains, and water quality. However, minor water quality impacts from the community plans, the Quinto Solar PV Project, and the San Luis Reservoir RMP/GP alternatives could contribute incrementally to cumulative impacts of the already-impaired waterbodies within the Panoche–San Luis Reservoir watershed.

5.9.3 Air Quality

5.9.3.1 Criteria Pollutants

Air quality in the Plan Area and Merced County will be affected by ongoing and future development activities, which will result in increased vehicle miles traveled (VMTs). The combined average of peak daily trips to the Plan Area in fiscal year (FY) 2007-2008 was 1,167 (Table 2-24). Even if the number of vehicle trips associated with the Plan Area increased by 50 percent, the total number of trips would account for less than 7 percent of the combined AADT for SR 152 and SR 33 in the project vicinity (Section 5.4.2.3). When the potential increase in VMTs is considered cumulatively, an increase in vehicle trips to and within the Plan Area could have a minor effect on air quality because the area is already in nonattainment of federal ozone and $PM_{2.5}$ standards and state ozone, PM_{10} and $PM_{2.5}$ standards. Of the four alternatives, San Luis Reservoir RMP/GP Alternatives 3 and 4 would have the highest potential to contribute to cumulative air quality effects because they would allow for a greater degree of visitation and, presumably, vehicle traffic. Contributions to cumulative air quality effects are expected to remain minor because recent state emissions standards would reduce overall countywide emissions from VMTs and offset increases in Plan Area visitor use emissions.

In particular, the CARB's LEV standards impose strict emission reduction requirements on all passenger cars, light trucks, and medium-duty passenger vehicles sold in California. Introduced in 1990, the LEV standards were designed to reach the state's clean air goal through improved reductions in smog-producing automotive emissions. The first LEV standards, in effect from 1994 through 2003, were replaced with the more stringent LEV II regulations from 2004 through 2010. When LEV II was fully implemented in 2010, the statewide emissions reduction was estimated at 155 tons per day (CARB, no date). LEV III standards, currently in development, will impose even stricter emissions requirements (CARB 2010b). In the San Joaquin Valley air basin, emissions reductions are also expected as a result of incentive measures in the SJVAPCD's 2007 Ozone Plan, which is designed to reduce ozone-forming NOx emissions by 50 tons per day in 2012, 56 tons per day in 2015, 41 tons per day in 2020, and 26 tons per day in 2023 (SJVAPCD 2007). Therefore, ozone emissions from future Plan Area visitor use would have a less than significant contribution to cumulative air quality impacts.

While LEV II standards and the 2007 Ozone Plan would offset the ozone emissions associated with increased visitor usage and associated VMTs, they do not address $PM_{2.5}$ exhaust emissions or $PM_{2.5}$ fugitive dust emissions associated with vehicle travel. (The draft LEV III standards do, however, include a reduction in particulate matter emissions; CARB 2010b.) The majority of $PM_{2.5}$ emissions result from industrial, farming, prescribed burning and disposal sources. $PM_{2.5}$ on-road mobile exhaust emissions contribute 10.5 percent and $PM_{2.5}$ fugitive dust emissions from paved road travel contribute 6.7 percent of total $PM_{2.5}$ emissions in the air basin (CARB 2010b). The majority of $PM_{2.5}$ emissions result from industrial, farming, prescribed burning and disposal sources (CARB 2010b). Exhaust and fugitive dust from visitor use of the Plan Area are not expected to result in a cumulatively considerable net increase in $PM_{2.5}$ emissions. On-road mobile exhaust emissions and fugitive dust emissions represent a total of approximately 17.5 percent of total $PM_{2.5}$ emissions, and contributions from the Plan Area would represent only a small percentage of that total. The measures listed in Section 5.4.2.4 would further reduce cumulative contributions to less-than-considerable net increases in $PM_{2.5}$ emissions.

Other proposed projects in the Plan Area and vicinity have the potential to contribute to cumulative air quality impacts. As developments such as the Santa Nella Community Specific Plan (Section 3.3.2), the Villages of Laguna San Luis Community Plan (Section 3.3.4), and the Quinto Solar PV Project (Section 3.3.15.2) apply for approvals from permitting agencies, mitigation measures to reduce air quality impacts of the developments would be included in environmental documents. These ongoing and future developments that will increase area traffic or contribute temporary construction emissions will affect air quality in the Plan Area and adjacent vicinity. As all projects in the air basin are subject to the same SJVAPCD requirements to avoid major adverse air quality impacts, no cumulatively considerable effects are anticipated.

5.9.3.2 Greenhouse Gases

As described in Section 5.4.2.2, the model used to estimate GHG emissions for existing Plan Area conditions (CARB 2006) does not account for recently adopted state and federal GHG regulations for passenger vehicles that are designed to reduce future GHG emissions. As a result, using the model to determine future GHG emissions from Plan implementation and a potential increase in visitor usage would grossly overestimate future GHG emissions. Since vehicle manufacturers are expected to follow the California and federal GHG regulations for light-duty vehicles, future GHG emissions are expected to decrease even if visitor use of the Plan Area increased.

As discussed in Section 2.5.1.5, SJVAPCD guidelines state that if Best Performance Standards (BPS) are adopted for a project, the GHG cumulative impacts would be less than significant. As of January 2012, the BPS that have been approved apply primarily to stationary sources. Because no BPS for mobile sources have been approved, the San Luis Reservoir RMP/GP needs to demonstrate a 29 percent reduction in GHG emissions from business-as-usual to show that Plan implementation would have a less than cumulatively significant impact.

Full implementation of the Pavley standards are expected to result in a 22 percent (for 2009–2012) to 30 percent (for 2013–2016) reduction in GHG emissions. When California and federal regulations to reduce GHG emissions are in effect, a combined 30 percent reduction in GHG emissions is expected to result from visitor vehicles in the Plan Area. This would be in accordance with the 29 percent reduction recommended by the SJVAPCD for a project to not result in a cumulatively significant impact.

5.9.4 Biological Resources

Biological resources in the Plan Area and adjacent vicinity will be affected by ongoing and future agricultural, residential, and other development. In general, cumulative impacts to vegetation would include continued decreases in native plant species and increases in invasive weeds. Cumulative impacts to wildlife and special-status species would generally result from continued removal of habitat and increased habitat fragmentation. Cumulative impacts could also result from the increased availability of human food as a result of improper storage or disposal. The availability of human food can alter the behavior of wildlife such as San Joaquin kit fox and expose them to disease or competition from other foraging animals.

The following projects within or adjacent to the Plan Area have the potential to contribute cumulative biological impacts to those of the San Luis Reservoir RMP/GP.

Villages of Laguna San Luis Community Plan The Villages of Laguna San Luis Community Plan (Section 3.3.4) would be implemented by a series of Master Plans and allow for development of a mixture of urban land uses including:

- 3,011 acres of residential land uses (estimated to accommodate 15,895 housing units);
- 176 acres of commercial land uses;
- 204.5 acres of employment-generating land uses;
- 180 acres of schools;
- 41 acres for water and wastewater treatment facility; and
- 109.6 acres for public facilities (e.g., fire station, sheriff substation, and landfill).

The balance of the site (87 percent) would remain in open space reserved for San Joaquin kit fox habitat (Section 3.3.4).

As described in the Final EIR, approximately 158,570 acres of grasslands and dry-farmed land provide habitat for the Santa Nella satellite San Joaquin kit fox population (Merced County Planning and Community Development Department 2008c). The Final EIR identifies direct project-related impacts to approximately 2.25 percent, or 886 acres, of land that has potential to provide denning, resting, and foraging habitat for the kit fox. This represents 0.56 percent of the existing kit fox habitat available to the satellite population. The Final EIR provides on-site and off-site habitat preservation and management measures for the loss of potential kit fox habitat and states that the project would not preclude existing opportunities for the San Joaquin kit fox to disperse northward through the Santa Nella area. Mitigation includes the designation of 1,059 acres of on-site open space as a kit fox preserve, installation of kit fox crossings along newly constructed roads, and installation of barriers between development and the kit fox open space preserve. The County and project applicants will coordinate with Reclamation and other landowners within the proposed kit fox open space preserve to develop a Kit Fox Conservation Plan that provides for kit fox habitat connectivity and dispersal. The kit fox open space preserve would also be used to provide suitable habitat for Swainson's hawk, CRLF, CTS and other special-status species. (Merced County Planning and Community Development Department 2008c).

Santa Nella Community Specific Plan The Santa Nella Community Specific Plan (Section 3.3.2) would consist of the following land uses:

- 13,334 acres of residential land uses (mixture of low to high density residential);
- 264.4 acres of commercial land uses;
- 26 acres of office commercial;
- 191.1 acres of light industrial;
- 99.1 acres of schools;
- 120 acres of golf;
- 189.5 acres of institutional;
- 289 acres for canals/wasteways; and
- 47 acres for SR 33.

As stated in Section 3.3.2, much of the development proposed in this 2000 plan has not yet occurred. If built, land uses allowed in the plan would contribute to cumulative impacts to San Joaquin kit fox.

The Santa Nella Community Specific Plan area is within a known dispersal corridor used by two subpopulations of San Joaquin kit fox. The area is also used for denning and foraging habitat. Implementation of the plan would directly affect the species through the loss of potential migrating, denning, and foraging habitat. The Santa Nella Community Specific Plan Final Recirculated Program EIR includes mitigation measures for the loss of breeding, foraging, and dispersal habitat through preservation of on-site habitat or acquisition of suitable off-site habitat. The off-site habitat would be located as close as possible to the Santa Nella Community Specific Plan area. The Mitigation Plan for the Restoration and Preservation of Habitat and Movement Corridors for the San Joaquin Kit Fox states that wildlife corridors would be established within the Santa Nella Community Specific Plan to allow for movement between the satellite San Joaquin kit fox populations. These corridors would include escape burrows, refuges and new crossings (Harvey 2004).

Quinto Solar PV Project The Quinto Solar PV Project (Section 3.3.15.2) would construct approximately 306,720 solar PV panels, an electrical substation and switchyard, overhead and underground utility lines, a 5,000 square-foot operations and maintenance building, unpaved access roads, security fencing, and a temporary staging area within approximately 528 acres of the 1,012-acre proposed project site. The March 2012 Draft EIR (Merced County Planning and Community Development Department 2012) identifies significant and potentially significant biological impacts during project construction and/or operation to American badger, burrowing owl, San Joaquin kit fox, Swainson's hawk, western spadefoot, loggerhead shrike, grasshopper sparrow, and nesting migratory birds and raptors. Mitigation includes standard measures such as worker training, preconstruction surveys, imposition of buffer zones around nest sites, work windows to avoid the nesting season, and entrapment avoidance for San Joaquin kit fox. The Quinto Solar PV Project Draft EIR also provides for habitat and protective measures to promote San Joaquin kit fox movement corridor connectivity north of Santa Nella, including the creation of a new mitigation easement over a 110-acre grassland area to the north of the project site.

Conclusion The EIRs for the Villages of Laguna San Luis Community Plan, Santa Nella Community Specific Plan, and Quinto Solar PV Project provide mitigation that would reduce project-related impacts to San Joaquin kit fox to less-than-significant levels. The proposed San Luis Reservoir RMP/GP has the potential to result in minor adverse effects to San Joaquin kit fox habitat, as described in Section 5.4.3.3, and includes measures such as those described in Section 5.4.3.4 to avoid or minimize those effects. Combined, the projects would not result in cumulatively considerable or significant effects to San Joaquin kit fox.

Although San Luis Reservoir RMP/GP Alternatives 2, 3, and 4 may increase recreational use and result in potential impacts to biological resources other than San Joaquin kit fox, they include a framework in which to better manage these resources and any potential cumulative impacts. However, under Alternative 1, the existing framework to manage biological resources would not be sufficient to properly manage increased pressure on those resources from population growth and development in the area. Therefore, minor cumulative impacts would be associated with Alternative 1, but not with Alternatives 2, 3, and 4.

5.9.5 Scenic/Aesthetics

As described in Section 5.4.5.4, San Luis Reservoir RMP/GP Alternatives 2, 3, and 4 would have minor impacts to scenic vistas, scenic resources, and light and glare that could be minimized or avoided through implementation of Goals RES-S1 through RES-S5 and their associated guidelines (Section 4.2.1.1). In addition, specific mitigation measures will be developed and implemented on a project-by-project basis, if mitigation is necessary.

Implementation of the Santa Nella Community Specific Plan (Section 3.3.2), Villages of Laguna San Luis Community Plan (Section 3.3.4), and Fox Hills Community Specific Plan (Section 3.3.5) would convert agricultural and open space land to developed urban uses including residential, commercial, and public facilities. Depending on the development and area, permanent adverse effects to views of the Diablo Range (a local scenic vista), views from SR 152 (a state and county scenic highway), and the general viewshed of the development areas could occur. Full implementation of the three community plans would also introduce new light sources in the western portion of Merced County, which could obscure views of stars and other features of the night sky.

Of the three community plans, the only development that has taken place as of July 2012 is in the Santa Nella Community Specific Plan area, where 184 single-family homes have been completed to the northeast O'Neill Forebay. However, partial or full implementation of these plans is reasonably foreseeable during the 25-year planning horizon for the San Luis Reservoir RMP/GP. At approximately 3 miles from Los Banos Creek Reservoir, the Fox Hills Community is unlikely to result in major adverse impacts to the viewshed for visitors to Los Banos Creek Use Area. Both the Santa Nella and Villages of Laguna San Luis community plan areas are immediately adjacent to San Luis Reservoir SRA (specifically Medeiros Use Area, O'Neill Forebay, and O'Neill Forebay Wildlife Area). Both developments would include measures to minimize light intrusion as well as design, architectural, development, and landscaping standards to lessen the impact from the conversion of open space and agricultural land to urban development. However, residual impacts to distant views from Medeiros Use Area, O'Neill Forebay, and O'Neill Forebay Wildlife Area toward the northwest, west, and southwest are likely to remain.

Both construction and operation of the Quinto Solar PV Project (Section 3.3.15.2) would affect the visual setting of the San Luis Creek Campground at the San Luis Use Area. Temporary nighttime construction lighting and permanent security

lighting for the operations and maintenance building, switchyard, and substation would be visible to campground visitors and cause "sky glow" effects. In addition to requiring that temporary nighttime construction lighting be shielded to reduce sky glow, the project's Draft EIR states that construction lighting would be prohibited after 7 PM within 500 feet of campsites unless agreed upon by the CSP Superintendent for the Four Rivers Sector. If the nighttime construction lighting is powered by diesel generator or another noise-generating source, the use of such lighting near the San Luis Creek Campground could be more restricted (Merced County Planning and Community Development Department 2012).

Solar arrays and the substation and switchyard of the Quinto Solar PV Project would be highly visible to visitors to the San Luis Creek Campground, especially to campers staying at campsites closest to the common boundary between the campground and Quinto Solar PV Project Site Area 1 to the west and north. The Quinto Solar PV Project Draft EIR includes mitigation measures for long-term visual effects to the San Luis Creek Campground. The measures include a lighting plan to prevent light spillover and sky glow effects from the substation and switchyard from affecting nighttime views at the campground. Landscape planting would also be installed to shield views of project facilities from the San Luis Reservoir Plan Area (Merced County Planning and Community Development Department 2012).Although the project includes measures to minimize and mitigate for impacts to the San Luis Reservoir SRA and the local visual environment, residual impacts would remain.

The individual community plans and the Quinto Solar PV Project may not result in major adverse visual impacts to views from, and the viewshed around, San Luis Reservoir SRA. Together, the projects would have the cumulative effect of replacing views of open areas with those of development. Compared to the community plans and the Quinto Solar PV Project, cumulative scenic/aesthetic impacts from implementation of the San Luis Reservoir RMP/GP would be minor.

5.9.6 Recreation

As described in Section 5.4.6.3, implementation of the San Luis Reservoir RMP/GP action alternatives could have minor impacts on recreation as a result of disruptions from temporary construction activities, addition of new activities and facilities, and management of boat density levels.

Implementation of the Santa Nella Community Specific Plan (Section 3.3.2), Villages of Laguna San Luis Community Plan (Section 3.3.4), and Fox Hills Community Specific Plan (Section 3.3.5) can be expected to increase visitation to existing recreational facilities, including San Luis Reservoir SRA. Together, full buildout of the three community plans would add approximately 70,000 people to the local population (Santa Nella Community Specific Plan, 18,941; Villages of Laguna San Luis Community Plan, 44,773; and Fox Hills Community Specific Plan, 7,184).

Substantial development in these areas is not expected in the near future due to current economic conditions. Of the three community plans, the only development that has taken place as of July 2012 is in the Santa Nella Community Specific Plan area, where 184 single-family homes have been completed. However, partial or full implementation of these plans is reasonably foreseeable during the 25-year planning horizon for the San Luis Reservoir RMP/GP. As development occurs, visitation to San Luis Reservoir SRA can be expected to increase. For example, the Villages of Laguna San Luis Community Plan includes a trail system linking the community plan area to San Luis Reservoir SRA (Merced County Planning and Community Development Department 2008c).

While each individual community plan may not result in the substantial physical deterioration of San Luis Reservoir SRA, full buildout of the three plans would increase recreation demand at San Luis Reservoir SRA. Each community plan includes recreational facilities to minimize cumulatively considerable impacts to recreation; however, residual cumulative impacts could remain. Compared to the community plans, cumulative impacts to recreation from implementation of the San Luis Reservoir RMP/GP would be minor.

5.9.7 Circulation

As described in Section 5.4.7.3, projected increases in local and regional population will result in additional traffic on roadways in the Plan Area vicinity. Traffic congestion may impair circulation along the Plan Area's roadway network and increase driving time for visitors to access various parts of the Plan Area. These effects will occur regardless of alternative or Plan implementation. The action alternatives could increase visitation by providing for the development of additional facilities and uses. Increased visitor use could result in an increase in vehicle trips in and near the Plan Area, thereby contributing to traffic congestion on SR 33, SR 152, and other roadways near the Plan Area. Because the amount of traffic generated by visitor trips to the Plan Area constitutes a small portion of overall traffic in the area, implementation of Alternatives 2, 3, or 4 would have a minor adverse impact on local traffic.

Existing LOS data for SR 152 and SR 33 in the Plan Area vicinity are not available, but SR 152 east of Gilroy and on the eastbound ascent to Pacheco Pass is nearing capacity and will exceed capacity by 2015 (VTA 2010). MCAG's 2011 Regional Transportation Plan forecasts that by 2035, both SR 152 and SR 33 in the Plan Area vicinity will operate at LOS F (MCAG 2010a). Improvements to the SR 152 corridor are planned but have not yet been implemented, as described in Sections 3.3.11 and 3.3.12.

Considered cumulatively, additional traffic related to increased Plan Area visitation would contribute to an exceedance of capacity, although the contribution would be very slight (Section 5.4.7.3). Any addition to existing traffic in this area under any alternative, including No Action/No Project, would result in additional congestion and a slightly accelerated degradation of LOS. Of the four alternatives, Alternatives 3 and 4 would result in the greatest potential

contribution to cumulative adverse traffic impacts, assuming all proposed facilities and uses are implemented.

Other proposed projects in the Plan Area and vicinity have the potential to contribute to cumulative circulation impacts. Developments such as the Santa Nella Community Specific Plan (Section 3.3.2) and Villages of Laguna San Luis Community Plan (Section 3.3.4) are required to evaluate and mitigate for the local and regional traffic impacts of the developments. The Villages of Laguna San Luis Community Plan, for example, will require that the developer contribute "fair share" funding toward roadway improvements at several locations where the development is projected to result in substantial traffic increases, including improvements at the intersection of SR 33 and SR 152 and widening SR 152 to six lanes east of I-5 (Merced County Planning and Community Development Department 2008d). Although these improvements could benefit travelers and staff entering and leaving the San Luis Reservoir SRA, residual cumulative impacts from development-related traffic are likely to remain.

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6 Consultation, Coordination, and Distribution

6.1 Public Involvement Program

Public outreach for the RMP/GP began in 2002. A mailing list was compiled using the names and addresses of Plan Area visitors and participants in interpretive programs, as well as other agencies and entities required by NEPA and CEQA. A variety of methods, such as public meetings, surveys, and newsletters, were used to reach out to stakeholders of the Plan Area and to identify their needs and concerns for its future. The following outlines the components and dates of the public scoping efforts:

- Notice of Preparation (NOP) – November 22, 2002
- Notice of Intent (NOI) filed in the Federal Register – February 7, 2003
- Newsletter No. 1 and Survey – December 2002 (mailed)
- Public Scoping Meeting No. 1 – January 11, 2003
- Public Scoping Meeting No. 2 – February 20, 2003
- Newsletter No. 2 and Stakeholder Summary – May 2003 (mailed and distributed on-site)
- Public Meeting No. 3 – May 27, 2003
- Focus Group Meeting Striped Bass Association – September 10 , 2003
- Focus Group Meeting San Luis Sailboard Patrol – October 18, 2003

The survey information and any written or spoken comments were included in the summaries of the public meetings and the stakeholder summary. The meeting summaries, stakeholder comments, NOP and the newsletters, including a copy of the survey, are provided in Appendix C. The mailing list database has been maintained throughout the planning process and is updated as new requests for information are received. Entries are deleted for survey respondents who indicate on the survey that they want to be removed from the database.

The public review and comment period for the Draft EIS/EIR began on August 3, 2012, and ended on October 5, 2012. The following took place on August 3, 2012, to advertise the issuance of the Draft EIS/EIR and date, time, and location of the public meeting:

- A Notice of Availability (NOA) was filed in the Federal Register
- A Notice of Completion (NOC) and CEQA NOA were filed with the State Clearinghouse

- Announcements of the availability of the Draft EIS/EIR and planned public meeting were published in the *Los Banos Enterprise, Merced Sun-Star,* and *Modesto Bee*
- Reclamation issued a press release
- A CEQA NOA was posted at the Merced County Clerk's office
- A CEQA NOA was posted at all public entrances and meeting places at San Luis Reservoir State Recreation Area, and copies of project mailers made available at the CSP office on Gonzaga Road
- Printed copies were made available for public review at the following locations:
  - CSP Four Rivers Sector Office, 31426 Gonzaga Road, Gustine, CA 95322
  - Los Banos Library, 1312 South 7th Street, Los Banos, CA 93635
  - Bureau of Reclamation, South-Central California Area Office, 1243 N Street, Fresno, CA 93721
  - California State Parks, Northern Service Center, One Capitol Mall, Suite 410, Sacramento, CA 95814
  - Bureau of Reclamation, Mid-Pacific Region, Regional Library, 2800 Cottage Way, Sacramento, CA 95825
  - Bureau of Reclamation, Denver Office Library, Building 67, Room 167, Denver Federal Center, 6th and Kipling, Denver, CO 80225
  - Natural Resources Library, U.S. Department of the Interior, 1849 C Street NW, Main Interior Building, Washington, DC 20240-0001
- Copies of the document were distributed to the project mailing list
- The document was posted online at the Reclamation and CSP Web sites (http://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=548 and http://www.parks.ca.gov/?page_id=22642).

The notices are presented in Appendix C. Public comments and responses from Reclamation and CSP are presented in Appendix D.

A public meeting for the Draft EIS/EIR was held on August 23, 2012, 6:30 PM to 9:00 PM at the CSP Four Rivers Sector Office, 31426 Gonzaga Road, Gustine, CA. The purpose of the meeting was to inform the public of the proposed actions and alternatives for the RMP/GP and to receive public comments. A presentation was given to summarize the RMP/GP and the CEQA/NEPA process. Information stations staffed by personnel from Reclamation, CSP, and their consultant URS were provided to describe the study area, management actions and management zone designations for each alternative, and impacts of each alternative. No public comments were received during the public meeting.

6.1.1 Consultation with the U. S. Fish and Wildlife Service

The USFWS responded to the NOI/NOP in a letter dated January 7, 2003, which is summarized in Table 6-1. Reclamation and CSP met with the Endangered Species Division staff of the USFWS on February 13, 2003, to inform USFWS

staff about the Plan and proposed action. In July 2003, Reclamation and CSP sent USFWS draft alternatives maps and descriptions for implementation of the Plan. Comments were received on this information in October 2003 from USFWS staff. Comments were incorporated into the Plan, alternatives, and associated environmental analysis. Additionally, all mailings and meeting notices regarding the Plan and environmental review were sent to USFWS throughout the planning process.

As stated previously, new or expanded facilities or activities described in this Plan have been identified at a conceptual level only and do not have specific locations or footprints; therefore, the environmental analysis contained in this EIS/EIR is programmatic in nature. Project-level actions discussed under each alternative will not be implemented until separate NEPA and/or CEQA compliance is completed. At that time, project-level (site-specific) impacts to special-status species will be evaluated, and consultation with the USFWS will be initiated.

6.1.2 Consultation with the California State Historic Preservation Officer

The SHPO was contacted initially on July 22, 2003, to ascertain information regarding Section 106 of NHPA compliance for the proposed Plan. Based on conversations with various staff at SHPO concluding on July 30, 2003, Reclamation has determined that the current action is not an "undertaking" pursuant to Section 106 and that the Plan provides specific goals and guidelines to comply with Section 106 during implementation of the Plan. Upon approval of the Plan, Reclamation and CSP may choose the option of seeking a programmatic agreement with SHPO. The agreement would cover Section 106 consultation processes and agency roles and responsibilities. Otherwise, individual projects identified as Federal undertakings would require Section 106 consultations. SHPO is on the mailing list and will receive all correspondence related to the Plan.

6.1.3 Consultation with Caltrans

On September 11, 2003, a meeting with representatives from the California Department of Transportation (Caltrans) District 10 was conducted to discuss possible improvements and safety issues related to the Plan Area ingress and egress. Following this meeting, the goals and guidelines that are part of this Plan and related to transportation at State Route (SR) 152 and Interstate 5 (I-5) are a result of recommendations and possible actions that will need to be coordinated with District 10 staff.

6.1.4 Consultation with Native Americans

All mailings concerning the Plan and associated meetings were sent to the mailing list compiled for the Plan Area, which includes several Native Americans who have expressed interest in the Plan Area. A letter was sent on July 11, 2003, to the NAHC informing the commission of the proposed action and its location. A response received on August 15, 2003, states: "A record search of the sacred land files has failed to indicate the presence of Native American resources in the immediate Plan Area. The absence of specific site information in the sacred lands

file does not indicate the absence of cultural resources in any Plan Area." Additionally, the commission provided a list of two individuals who may have knowledge of cultural resources in the area. These individuals were contacted via telephone on two occasions and have been placed on the mailing list for Plan Area information. No correspondence has been received from any Native American individuals or groups.

A supplemental sacred lands file search request was sent to the NAHC on October 20, 2011. A response received on October 27, 2011, confirmed that the results of the original sacred lands file search have not changed. In addition, the NAHC included a list of five individuals who may have knowledge of cultural resources in the area. Those individuals have been added to the Plan mailing list, and were sent mailed notification of the availability of the Draft EIS/EIR for public review and the August 23, 2012, public information meeting. Follow-up letters were sent to the listed individuals in April 2013. Ed Ketchum, the Tribal Historian of the Amah Mutsun Tribal Band, provided additional information on April 27, 2013. Mr. Ketchum's letter is included in Appendix D (Comment L-2).

Native American consultation will be conducted as required under Section 106 either on individual projects or under a programmatic agreement, should one be developed.

6.1.5 Other Consultation

In January 2012, Reclamation and CSP provided DWR and DFW with copies of the Administrative Draft RMP/GP and Draft EIS/EIR for review and comment before public circulation. Copies were sent to the following:

- Jim Thomas, Field Division Chief, California Department of Water Resources, San Luis Field Division
- William Cook, Jr., California Department of Fish and Game, Los Banos Wildlife Complex
- Terry Palmisano and Julie Vance, California Department of Fish and Game, San Joaquin Valley-Southern Sierra Region 4

No comments were received from DWR or DFW staff on the January 2012 draft.

6.1.6 Summary of Issues Raised During Scoping

All correspondence received during the planning process in the form of letters or survey responses is summarized in Table 6-1. Additionally, comments and issues raised during public scoping meetings are included in the meeting summaries presented in Appendix C.

Table 6-1
Scoping Comment Summary

Person & Affiliation	Comment Type	Comments, Issues, and Suggestions
Jan C. Knight Chief, Endangered Species Division, USFWS	Letter	• Protection of federally listed threatened and endangered species (a list of threatened and endangered species was enclosed) • Protection of kit fox corridor by conserving a continuous linkage of habitat along the eastern edge of the Diablo Range in western Merced County
Chrystal Meier CEQA Intern, San Joaquin Valley Air Pollution Control District	Letter	• Control of project-related air pollutant emissions associated with the project and associated traffic increases, particularly ozone and PM_{10} emissions • Inclusion of features designed to reduce vehicle trips and increase walking, bicycling, transit use, and energy conservation • Proper preparation of an air quality analysis to determine project impacts
Tom Dumas Chief, Office of Intergovernmental Review and Intermodal Planning, DOT	Letter	• Preparation of a Traffic Impact Study when future development activities are determined, as will be required by Caltrans
Jim Thomas Chief, San Luis Field Division, Division of Operations and Maintenance, DWR	Letter	• Continued operation of dam and power facilities by DWR to meet SWP needs will not be disrupted, including maintenance of dams and surrounding areas • Development of increased security precautions for facilities (a list of security concerns was included) • Protection of reservoir and water quality against contamination from recreational activities, including motor boating, livestock pasturing, and increased sediment runoff
Chet Vogt	Letter	• Implement a grazing-rest regime for grasslands in the area in order to maintain and expand the populations of native perennial plants, which is essential to maintaining species survival, soil health, water penetration; a grazing-rest regime will also maintain the landscape in a “short grass” condition vital for other threatened species such as the kit fox and tiger salamander • Both overgrazing and undergrazing can harm the ecological and recreational resources in the Plan Area

Table 6-1
Scoping Comment Summary

Person & Affiliation	Comment Type	Comments, Issues, and Suggestions
Michael F. Garnero San Luis Sailboard Safety Patrol	Survey	• Maintain water levels in O'Neill Forebay above 220 feet • Provide better access to water for windsurfers to launch
George Stricker	Survey	• Construct better road access to properties beyond park
Stan Pleskunas	Survey	• Allow fishing access before sunrise and after sunset • Cut channels in the flats of O'Neill Forebay (southwest corner) • Eliminate summer weeds and silting problems • Establish a minimum water level in O'Neill Forebay and do not go below • Fishery enhancement projects should be conducted • DFW should enforce regulations against poaching • Improving the Forebay would create a high-quality sailing location and improve fish and wildlife habitat
Ferdinand Morales-Arcay Templo Ebenezev Christian Center	Survey	• Additional restrooms and showers • SR 152 is extremely difficult to cross because of the high volume of traffic in the area • The Basalt driveway lacks adequate lighting • Enlarge group areas to accommodate larger groups
Lyndy Walker	Survey	• Protect plants and wildlife
Ben Bacigalupi	Survey	• Provide additional drinking water sources and maintain drinking water quality • Construct additional changing rooms • Equip restrooms with running water • Continue the weed-elimination project currently underway • Maintain higher water levels • There is a lack of shaded areas

Table 6-1
Scoping Comment Summary

Person & Affiliation	Comment Type	Comments, Issues, and Suggestions
Olga St. John	Survey	• Do not install electric hookups in tent-camping area
George Ground San Luis Sailboard Safety Patrol	Survey	• Maintain a minimum water level of 220 feet in O'Neill Forebay • Low water levels in O'Neill Forebay would not be an issue if there were no ridges near the water level; dredging and removing ridges could present an opportunity to allow more variation in water levels without disrupting recreation on the Forebay (currently, buoys are placed on ridges to warn windsurfers and other users) • Pave some of the dirt roads for dust control
Allan Parnell Bennison	Survey	• Put together interpretive signs identifying unusual plants and geologic formations throughout the recreation area • Provide informational materials regarding San Luis Reservoir's history and role in the SWP and CVP • Remove the two gates leading to Basalt rock quarry (if not on private property)
Arnold Jorgenser San Luis Sailboard Safety Patrol	Survey	• Improve roads throughout the recreation area, including maintaining dirt roads to prevent "washboard" formation • Eliminate the dense weeds that grow in the Forebay in late summer
Tom McCubbin San Luis Sailboard Safety Patrol	Survey	• Maintain higher water levels in O'Neill Forebay • Eliminate weeds in the reservoir and Forebay • Plant additional trees around the existing cabanas • Maintain natural landscape and prevent overdevelopment
M. H. Parden	Survey	• Enlarge camping spaces to accommodate larger vehicles/groups • Fix electric and water hookups at camping areas • Plant additional trees, especially in camping areas • Keep all camping areas open throughout the year

Table 6-1
Scoping Comment Summary

Person & Affiliation	Comment Type	Comments, Issues, and Suggestions
Mrs. J. Martin	Survey	• Plant additional trees for shade and privacy • Provide additional campsites/campgrounds • Create additional hiking trails
Judy and Ron Davenport	Survey	• Construct a trail from San Luis Reservoir to Los Banos Creek Reservoir, preferably a loop trail • Keep the area natural and simple
Robin Lee	Survey	• Protect habitat over human concerns/amenities • Reduce the amount of impervious surfaces to lessen pollution and erosion impacts • Follow green building guidelines • Improvements should be of the nature of lowering human impact on the habitat
Patricia Snoke Gustine Historical Society	Survey	• Protect kit fox
Tony Cerda Costanoan Rumsen Carmel Trip	Survey	• Conduct an extensive study of the first people to live in the area
Steve Pearl Wildfro Racing LLC	Survey and Scoping Meeting	• Improve turnoffs on Dinosaur Point Road • Improve exits from the area, including from Dinosaur Point Road onto SR 152 West, from the Basalt Use Area onto SR 152 West, and from San Luis Creek Use Area onto SR 152 East (all are left turns) • Provide an information/service booth at entrance to Dinosaur Point parking area • Encourage the further development of gravity sports in the Dinosaur Point area • Increase the technical nature of Dinosaur Point Road to provide improved street luge conditions, and improve the system for keeping cars off of the road during luge runs • Construct roads dedicated to street luge (rather than dual use) • Maintain park beauty and peacefulness

Table 6-1
Scoping Comment Summary

Person & Affiliation	Comment Type	Comments, Issues, and Suggestions
John Fulton	Survey	• Control invasive, exotic plant species • Eucalyptus trees provide less valuable habitat than blue oaks and other native plants • Address the issue of bicycle restrictions and allow biking on trails where it is currently prohibited due to low levels of trail maintenance
Robert and Harriet Jakovina Defenders of Wildlife	Survey	• Remove fences on old roads • Prohibit autos and trucks from accessing frog pond areas • Open the entire recreation area to public uses (no closed areas)
Pamela Myatt	Survey	• Protect and enhance wildlife habitat • Upgrade bathrooms and showers at Basalt area • Construct a bicycle path around the lake • Improve hiking trails and maps • Increase patrols at Los Banos Creek camping area to prevent disruptive behavior
Fred Yost	Survey	• Protect wildlife • Prevent litter and overcrowding • Provide shade closer to water • Provide camping areas closer to the water

Table 6-1
Scoping Comment Summary

Person & Affiliation	Comment Type	Comments, Issues, and Suggestions
Bruce and Stephanie Hochuli San Luis Sailboard Safety Patrol	Survey and Scoping Meeting	• Remove non-native vegetation from lake to provide clearer water and enhance lake usage • Maintain unspoiled natural beauty and avoid overcrowding of recreation area • Open the launch ramp on the Medeiros side of O'Neill Forebay during all seasons • Eliminate the weeds that clog recreation in the lake and Forebay • Are water supply goals for CVP users and increased water levels in O'Neill Forebay mutually exclusive? Maintain a minimum water level of 219 feet • Provide automated water level information that is up to date; the current system often provides data that are several days old and no longer useful • The 10 mph speed limit on O'Neill Forebay should be clearly marked throughout the Forebay; currently it is only marked at the boat launch area • Provide a good launch ramp for personal watercraft; the current launch area is difficult to use • Do gates at the Medeiros boat launch area provide increased security, and are they necessary? Remove the gates at the Medeiros boat launch area • Construct loop trail around the reservoir for bicycles and allow mountain biking on primitive and un-maintained trails where it is now prohibited; the current trail does not make a complete loop • Why has San Luis Dam been closed to bicyclists, but not to hikers, since September 11? Open San Luis Dam to cyclists • The abundance of power lines in the area is a concern to wind surfers, many of whom are moving into kite surfing; the number of power lines in the area should be minimized, and their location should allow for all recreational opportunities in the area • Maintain ample parking very near to the water at O'Neill Forebay • Remove the submerged pipe near the Medeiros Use Area, as this pipe causes serious injuries to forebay users • A viewing platform at O'Neill Forebay is not a priority.

Table 6-1
Scoping Comment Summary

Person & Affiliation	Comment Type	Comments, Issues, and Suggestions
Darryl Henley	Survey	• Do not build a dam in Menjoulet Canyons
Hector R. Guerra San Joaquin Valley Air Pollution Control District	Survey	• Reduce air quality impacts associated with the recreation area • Prevent air quality impacts associated with additional projects
David March	Survey	• Maintain/improve water quality in the reservoir • Maintain/improve hiking opportunities
Bruce Frohman Modesto City Council	Survey	• Maintain the natural scenery • Minimize the amount of new road construction
Robert K. Elsensohn San Luis Sailboard Safety Patrol	Survey	• Maintain primitive facilities and continue to provide campsites near the waters' edge • Minimize water level fluctuation in O'Neill Forebay • Eliminate speeding and littering in the area • Dredge the windsurfing areas and eliminate weeds on O'Neill Forebay for safety
Cindy Skemp	Survey	• Eliminate vandalism and litter throughout the area • Provide showers by the day-use area, on the windsurfing side • Provide sailboard/windsurfing access to the upper lake • Maintain higher water levels in O'Neill Forebay
Manuel Lucero	Survey	• Pump septic tanks more often • Continue to maintain clean and quiet campgrounds
Michael F. Garnero San Luis Sailboard Safety Patrol	Survey	• Improve access to water for windsurfers carrying their boards and gear • Address low water levels in O'Neill Forebay; maintain a minimum water level of 220 feet

Table 6-1
Scoping Comment Summary

Person & Affiliation	Comment Type	Comments, Issues, and Suggestions
Randolph O. Kelly Department of Fish and Game Senior Biologist Supervisor	Survey	• Reduce the dramatic fluctuations in water levels • Improve habitat and vegetation in the reservoir, which will also improve habitat for aquatic species
Vern Masse	Scoping Meeting	• Water levels in O'Neill Forebay should be addressed, with the goal of maintaining higher and more stable water levels
Mandeep Bling Department of Water Resources	Scoping Meeting	• The primary purpose of San Luis Reservoir is to distribute water to the existing contracts • Every effort is made to minimize fluctuations of water levels at O'Neill Forebay
Clyde Strickler Department of Parks and Recreation (Retired Superintendent)	Scoping Meeting	• DWR and Reclamation have always worked closely with CSP to resolve recreation-related issues, such as the water level in O'Neill Forebay, as they did with Los Banos Creek Use Area
Dan Applebee Department of Fish and Game	Scoping Meeting	• What is the current level of hunting in the recreation area? • What are the limits placed on personal watercraft on the reservoir and the Forebay? • Though the General Plan has no legal authority to solve existing conflicts, the issue of water levels should be addressed in the Plan
Ricardo Cortesa Bureau of Reclamation	Scoping Meeting	• What opportunities are currently available in the recreation area for equestrians?
Robert King Merced County Planning Department	Scoping Meeting	• Include the protection of kit fox corridors and other habitat conservation measures in the plan • Merced County would like to see State Parks partner with the County in developing the Habitat Conservation Plan for the area
Tom Young Department of Water Resources	Scoping Meeting	• There is an automated water level recorder for O'Neill Forebay that could possibly be updated to record data over smaller time intervals and transfer information to the California Data Exchange, which would provide much better water level information to the public. As requested by the SLSSP and other recreational users, this should be looked into.

Table 6-1
Scoping Comment Summary

Person & Affiliation	Comment Type	Comments, Issues, and Suggestions
Sam Halsted	Scoping Meeting	• Maintain open space throughout the recreation area and its surroundings • Future uses along Whiskey Flat Road should be limited; the area should not be used for parking or park access, as this may disrupt ranches along the road • State Parks should increase efforts to eradicate feral pigs from the area
Mike Mulligan Compliance Specialist, Department of Fish and Game	Scoping Meeting	• Use the General Plan as a means of filling some of the gaps in knowledge regarding issues associated with the reservoir and Forebay • Maintain or expand the hunting and fishing opportunities in the recreation area • Take advantage of the opportunity provided by the Plan for a long-term Section 1600 permit for ongoing maintenance activities • Address the issue of permits for endangered species
Public Comments (Anonymous)	Second Alternatives Workshop (June 2003)	• Maintain existing waterfowl hunting opportunity on and along shorelines of reservoir and forebay • Allow boat-access camping (dispersed, primitive camping) on San Luis Reservoir shoreline in primitive areas • Improve SR 33 turn lanes • Don't encourage personal watercraft by providing rental units • Survey and monitor cultural resources • Are cell towers appropriate?
Paul Larron	Letter – 7/16/03	• Member of Turlock Horseman's Club that hold organized rides in California rangelands; they enjoy seeing cattle grazing and appreciate what they do for the landscape. Ungrazed patches seem to turn weedy and pose a fire danger

Note: Additional public comments are included in the meeting summaries dated 1/11/03 and 5/27/03 in Appendix C

Caltrans = California Department of Transportation
CVP = Central Valley Project
DFW = California Department of Fish and Wildlife
DWR = California Department of Water Resources
SR = State Route
SWP = State Water Project

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8 Glossary of Terms

Aesthetics: The visual, audible, and other sensory factors within the Plan Area setting and its surrounding landscapes that, taken together, establish character or sense of place.

Active fault: A fault that has moved recently and which is likely to move again. For planning purposes, an "active fault" is usually defined as one that shows movement within the last 11,000 years and can be expected to move within the next 100 years.

Ambient air quality: The atmospheric concentration (amount in specified volume of air) of a specific compound as actually experienced at a particular geographic location that may be some distance from the source of the relevant pollutant emissions.

Archaeological: Pertaining to the material remains of past human life, culture, or activities.

Best Available Control Technology (BACT): The most stringent emission limit or control technique that has been achieved in practice that is applicable to a particular emission source.

Best Management Practice(s) (BMP): The most current methods, treatments, or actions in regard to environmental mitigation responses.

Biodiversity: Biological diversity in an environment as indicated by numbers of different species of plants and animals, as well as the relative abundance of all the species within a given area.

Buffer: Land that protects natural and/or cultural values of a resource or park from adverse effects arising outside the buffer.

California State Parks and Recreation Commission: A commission established in 1927 to advise the Director of the California Department of Parks and Recreation on the recreational needs of the people of California. In 1928 it gathered support for the first State Park bond issue. The commission schedules public hearings to consider classification or reclassification and the approval of CSP's general plan (and amendments) for each park.

California Environmental Quality Act (CEQA): A state law (PRC §21000 et seq.) requiring state and local agencies to take actions on projects with consideration for environmental protection. If a proposed activity may result in a significant adverse effect on the environment, an EIR must be prepared. General plans require a "program EIR" and park development projects require a project environmental document.

Clean Water Act: A law enacted in 1972 to create a basic framework for current programs to control water pollution; provides statutory authority for the National Pollutant Discharge Elimination System (NPDES).

Concession: A contract with persons, corporations, partnerships, or associations for the provision of products, facilities, programs, and management and visitor services that will provide for the enhancement of park visitor use, enjoyment, safety, and convenience. Concession developments, programs, and services must be compatible with a park's classification and general plan provisions.

Conservation easement: Acquisition of rights and interests to a property to protect identified conservation or resource values using a reserved interest deed. Easements may apply to entire parcels of land or to specific parts of the property. Most are permanent, although term easements pose restrictions for a limited number of years. Land protected by a conservation easement remains on the tax rolls and is privately owned and managed; landowners who donate conservation easements are generally entitled to tax benefits.

Cultural landscape: A geographic area (including both the cultural and natural resources) associated with a historic event, activity, or person or exhibiting cultural or aesthetic values. This type is a landscape that evolved through use by people whose activities or occupancy shaped it.

Cultural resource: A resource that exists because of human activities. Cultural resources can be prehistoric (dating from before European settlement) or historic (post-European contact).

Cumulative impact: As defined by the State CEQA Guidelines (§15355), two or more individual effects that are considerable when considered together, or that compound or increase other environmental impacts.

Degradation: The reduction of environmental quality in an area through a lessening of diversity, the creation of growth anomalies, or the supplanting of native species by non-native plant and animal species.

Demographic: Having to do with a particular characteristic of a segment of the public at large; may be connected to the group's age, the region where the group resides, a particular recreational interest, economic status, etc.

Effect/impact: An environmental change; as defined by State CEQA Guidelines §15358: (1) Direct or primary effects are caused by the project and occur at the same time and place; (2) Indirect or secondary effects are caused by the project and are late in time or farther removed in distance, but still reasonably foreseeable. Indirect or secondary effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water quality and other natural systems, including ecosystems.

Endangered species: A species of animal or plant whose prospects for survival and reproduction are in immediate jeopardy from one or more causes. The U.S.

Fish and Wildlife Service and/or the California Department of Fish and Game make this designation.

Environment: As defined in State CEQA Guidelines §15360, "the physical conditions which exist within the area which will be affected by a proposed project, including land, air, water, mineral, flora, fauna, noise, and objects of historical and aesthetic significance."

Environmental impact report (EIR): A report required by CEQA that assesses all the environmental characteristics of an area and determines what effects of impacts will result if the area is altered or disturbed by a proposed action. If a proposed activity may result in a significant adverse effect on the environment, an EIR must be prepared. General plans require the preparation of a "program" EIR appropriate to its level of specificity.

Environmentally sensitive: An area in which plant or animal life or their habitats are either rare or especially valuable because of their role in an ecosystem. Such areas can be easily disturbed or degraded by human activities and developments.

Exotic species: A species occurring in an area outside of its historically known natural range that has been intentionally introduced to or has inadvertently infiltrated into the system. Also known as non-native, ornamental, or introduced species. Exotic animals prey upon native species and compete with them for food and habitat. Exotic plant species can convert native ecosystems into a non-native dominated system that provides little benefit to other species in the ecosystem.

Floodplain: A lowland or relatively flat area adjoining inland or coastal waters that is subject to a one or greater chance of flooding in any given year (i.e., 100-year flood).

Geology: The scientific study of the origin, history, and structure of the earth.

General Plan: A legal planning document that provides guidelines for the development, management, and operation of a unit of the State Park system. A general plan evaluates and defines land uses, resource management, facilities, interpretation, concessions, and operations of a park and addresses environmental impacts in a programmatic manner. A park must have an approved general plan before any major development project is implemented.

Grade: The degree of rise or descent of a sloping surface.

Habitat: The physical location or type of environment, in which an organism or biological population lives or occurs. It involves an environment of a particular kind, defined by characteristics such as climate, terrain, elevation, soil type, and vegetation. Habitat typically includes shelter and/or sustenance.

Hazardous material: Any substance that, because of its quantity, concentration, physical or chemical characteristics, poses a significant presence or potential hazard to human health and safety or to the environment. Lead-based paint is an example of a hazardous material.

Hydrology: Pertaining to the study of water on the surface of the land, in the soil and underlying geology, and in the air.

Impervious surface: Any material that reduces or prevents absorption of water into land.

Infrastructure: Public services and facilities, such as sewage-disposal systems, water supply systems, other utility systems, and road and site access systems.

Interpretation: A communication process designed to reveal meanings and relationships of our cultural and natural heritage through involvement with objects, artifacts, landscapes, sites, and oral histories.

Kilowatt: A measure of the rate of electrical flow equal to 1,000 watts.

Kilowatt-hour: A measure of quality of electrical consumption equal to the power of 1 kilowatt acting for 1 hour.

Landform: Configuration of land surface (topography).

Mean sea level: The average altitude of sea surface for all tidal stages.

Mitigation measure: A measure proposed that would eliminate, avoid, rectify, compensate for, or reduce significant environmental effects (see State CEQA Guidelines §15370).

National Register of Historic Places (NRHP): The official federal list of buildings, structures, objects, sites, and districts worthy of historic preservation. The register recognizes resources of local, State, and national significance, and includes four criteria under which a resource can be considered significant for listing on the Register. The registers lists those properties: (1) that are associated with events that made a significant contribution to the broad patterns of our history, (2) that are associated with the lives of persons significant in our past, (3) that embody the distinctive character of a type, period, or method of construction or that represent the work of a master, or that possess an artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction, and (4) that have yielded or may be likely to yield information important in prehistory or history.

Native species: A plant or animal that is historically indigenous to a specific site area.

Open space: An area with few or no paved surfaces or buildings, which may be primarily in its natural state or improved for use as a park.

Public Resources Code (PRC): California code addressing natural, cultural, aesthetic, and recreation resources of the State.

Riparian habitat: The vegetative and wildlife areas that are adjacent to perennial and intermittent streams and are delineated by the existence of plant species normally found near fresh water.

Runoff: That portion of rainfall or surplus water that does not percolate into the ground (flows overland), and is discharged into surface drainages or bodies of water.

Septic system: An onsite sewage treatment system that includes a settling tank through which liquid sewage flows and in which solid sewage settles and is decomposed by bacteria in the absences of oxygen. Septic systems are often used where a municipal sewer system is not available.

Significant effect on the environment: As defined by State CEQA Guidelines §15382, a substantial or potentially substantial, adverse change on any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself will not be considered a significant effect on the environment. A social or economic change related to physical change may be considered in determining whether the physical change is significant.

Special-status species: Plant or animal species that are typically listed (State and federal) as endangered, rare, and threatened, plus those species considered by the scientific community to be deserving of such listing.

Threatened species: An animal or plant species that is considered likely to become endangered throughout a significant portion of its range within the foreseeable future because its prospects for survival and reproduction are in jeopardy from one or more causes. The U.S. Fish and Wildlife Service and/or the California Department of Fish and Game make this designation.

Topography: Graphic representation of the surface features of a place or region on a map, indicating their relative positions and elevations.

Trailhead: The beginning of a trail, usually marked by information signs.

Viewshed: The area that can be seen from a specified location.

Watershed: The total area above a given point on a watercourse that contributes water to the flow of the watercourse; entire region drained by a watercourse.

Wetland: The environment of subtidal, mudflats, tidal salt marsh, periodically inundated or brackish marsh, diked marshland, associated upland, and freshwater marsh.

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