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Before The Federal Energy Regulatory Commission

**APPLICATION FOR NEW LICENSE**

**OROVILLE FACILITIES  
FERC PROJECT NO. 2100**



**VOLUME VII**

**PDEA APPENDICES  
Part 4 - Figures Volume**



**State of California  
The Resources Agency  
Department of Water Resources**

**January 2005**

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**BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION  
APPLICATION FOR NEW LICENSE**

**APPLICATION OF  
STATE OF CALIFORNIA  
THE RESOURCES AGENCY  
DEPARTMENT OF WATER RESOURCES**

**FOR THE  
OROVILLE FACILITIES  
FERC PROJECT NO. 2100**

**PURSUANT TO:**  
Code of Federal Regulations  
Title 18—Conservation of Power and Water Resources  
    Chapter 1, Subchapter B  
        Part 4, Subpart D, Section 4.38  
    Part 4, Subpart F, Sections 4.50 and 4.51  
        and  
    Part 16, Subpart B

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Letter of Transmittal

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Part 1 – Exhibits A, B, C, D and H

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Exhibit A: Project Description

Exhibit B: Project Operation and Resource Utilization

Exhibit C: Construction History and Proposed Construction Schedule

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**Volume II: Application and Technical Exhibits**

**Part 2 – Exhibits F and G (*Not for public distribution - CEII*)**

Exhibit F: Supporting Design Report and General Design Drawings

Exhibit G: Project Maps

*Note: Volume II is being provided to FERC only. It contains Critical Energy Infrastructure Information (CEII), which under FERC's Order No. 630-A is being withheld from public viewing. To view this information, a CEII request may be filed under the provisions of 18 C.F.R. Section 388.113 or a FOIA request may be filed under 18 C.F.R. Section 388.108.*

*The California Public Records Act does not require the disclosure of any record the disclosure of which is exempted or prohibited pursuant to federal law (Cal. Govt. Code Section 6254(k)).*

**Volume III: Preliminary Draft Environmental Assessment (PDEA)**

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Chapter 1.0 Application

Chapter 2.0 Purpose of Action and Need for Power

Chapter 3.0 Proposed Action and Alternatives

Chapter 4.0 Consultation and Compliance

Chapter 5.0 Environmental Consequences

Chapter 6.0 Developmental and Economic Analysis

Chapter 7.0 Comprehensive Development Analysis and Recommendations

Chapter 8.0 Recommendations of Fish and Wildlife Agencies

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B Project Description/Information

C Modeling Tools and Results

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- E Biological Assessments and Opinions
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- H List of Proposed Plans and Programs
- I Draft Recreation Management Plan

**Volume VII: PDEA Appendices: Part 4 – Figures Volume**

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## **APPLICATION FOR NEW LICENSE**

**OROVILLE FACILITIES  
FERC PROJECT NO. 2100**

**Volume VII: PDEA Appendices: Part 4 – Figures Volume**

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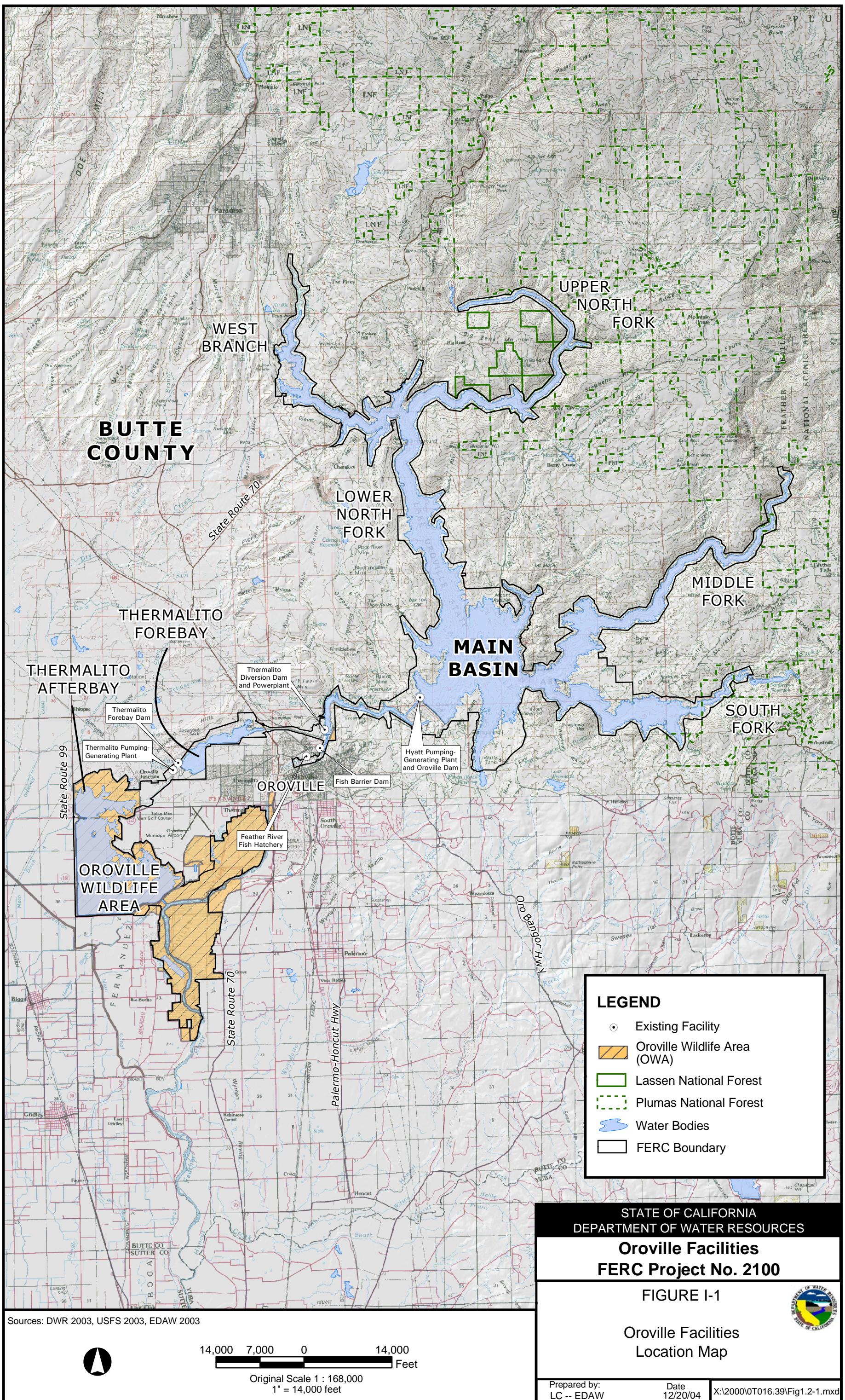
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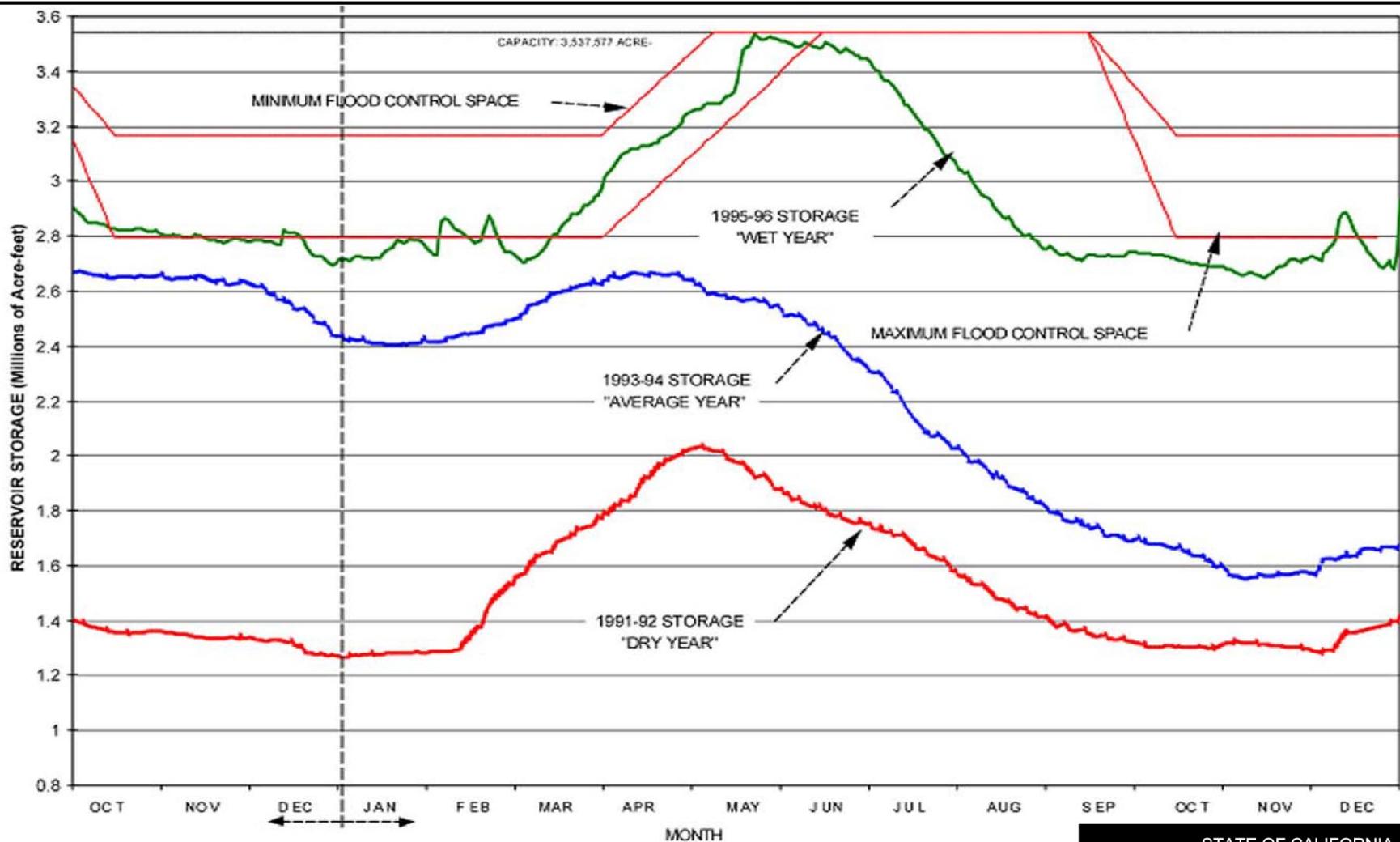
## **CHAPTER 3**

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PROPOSED ACTION AND ALTERNATIVES

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COMBINATION WATER / CALENDAR YEAR

STATE OF CALIFORNIA  
DEPARTMENT OF WATER RESOURCES

**Oroville Facilities**  
**FERC Project No. 2100**

FIGURE 3.1-2

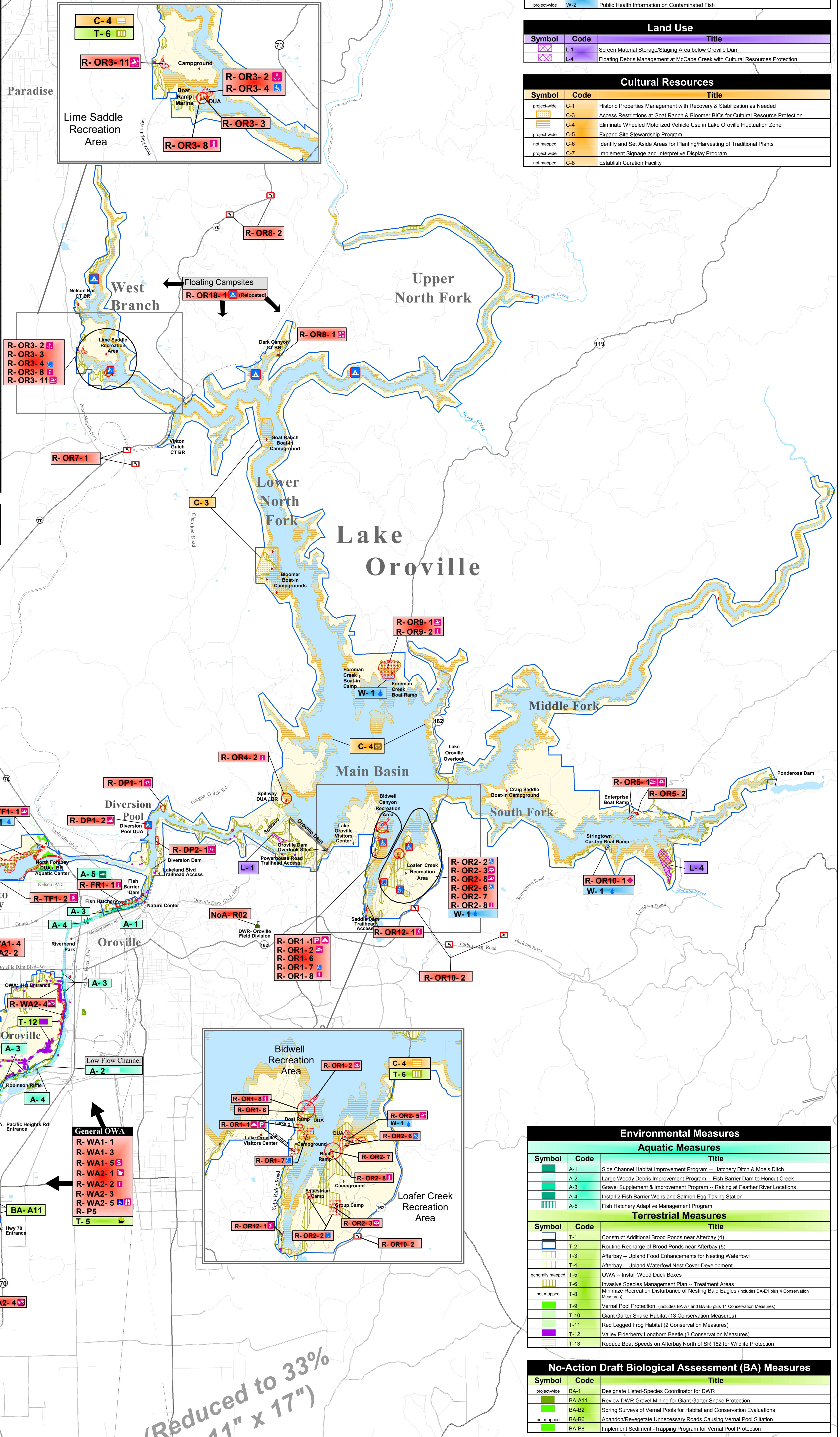
Lake Oroville Water Levels  
for Dry, Average and Wet Water Years



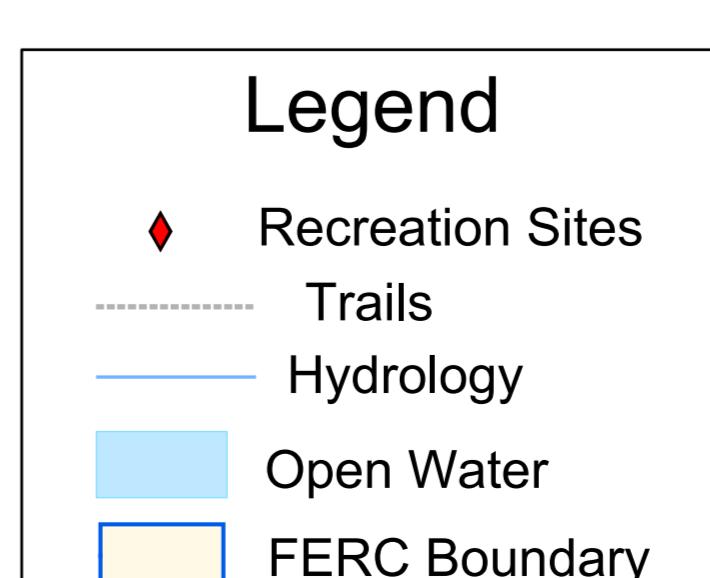
Source: DWR -- Operations Control Office

# Proposed Action

Measures highlighted in yellow are unique to the Proposed Action



Note: The map does not include the existing measures which continue through the Alternatives.



STATE OF CALIFORNIA  
DEPARTMENT OF WATER RESOURCES  
**Oroville Facilities**  
**FERC Project No. 2100**

**FIGURE 3.2-1**

Alternative Measures and Projects  
Proposed Action -- Index

Prepared by: PJ & DF - EDAW, Inc. Date: 1/18/05 P20010s016.gisarcmap\pdes\_a1t\_poster.mxd

**Proposed Action**

# Proposed Action -- Tables

(PM&E measures highlighted in yellow are unique to the Proposed Action)

## Recreational Measures

| Symbol           | Code     | Title  |
|------------------|----------|--|
|                  | R-DP1-1  | Construct Additional DUA Facilities at Diversion Pool  |
|                  | R-DP1-2  | ADA Fishing Pier along Burma Road  |
|                  | R-DP2-1  | Shoreline Access and Day Use Facilities at Lakeland Blvd   |
|                  | R-FR1-1  | Potential I&E Enhancements at Feather River Hatchery   |
|                  | R-OR1-1  | Expand Bidwell Marina Parking / Relocate 38 Campsites at Bidwell Canyon                              |
|                  | R-OR1-2  | New Low-Water Boat Ramp at Bidwell   |
|                  | R-OR1-6  | Additional Boarding Dock(s) at Bidwell   |
|                  | R-OR1-7  | ADA Enhancements at Bidwell Marina   |
|                  | R-OR1-8  | Boater Information on Facilities Access and Alternatives at Bidwell                                  |
|                  | R-OR2-2  | ADA Enhancements at Loafer Creek Equestrian Camp & Group Camp  |
|                  | R-OR2-3  | Add Group RV Camping at Loafer Creek   |
|                  | R-OR2-5  | Feasibility Study for Improved Swim Facility Options at Loafer Creek                                 |
|                  | R-OR2-6  | Improve Shoreline & ADA Access to DUA, Swim Beach & Cove / Add Fish Cleaning Station at Loafer Creek |
|                  | R-OR2-7  | Additional Boarding Dock(s) at Loafer Creek BR   |
|                  | R-OR2-8  | Boater Information on Facilities Access and Alternatives at Loafer Creek                             |
|                  | R-OR3-2  | Encourage Repairs to Marina Complex at Lime Saddle   |
|                  | R-OR3-3  | Add Additional Boarding Dock(s) at Lime Saddle BR  |
|                  | R-OR3-4  | Upgrade Marina Complex at Lime Saddle for ADA Accessibility  |
|                  | R-OR3-8  | Boater Information on Facilities Access and Alternatives at Lime Saddle                              |
|                  | R-OR3-11 | Feasibility Study for New Swimming Opportunities at Lime Saddle                                      |
|                  | R-OR4-2  | Boater Information on Facilities Access and Alternatives at Spillway                                 |
|                  | R-OR5-1  | Launch Ramp Extension at Enterprise BR / Add 10 Picnic Sites   |
|                  | R-OR5-2  | Add Boarding Dock at Enterprise Boat Ramp  |
|                  | R-OR7-1  | Directional Signs for Vinton Gulch Car-top BR at SR 70 and Cherokee Rd                               |
|                  | R-OR8-1  | Reconstruct Restroom Building at Dark Canyon   |
|                  | R-OR8-2  | Directional Signs for Dark Canyon Car-top BR at SR 70 (2)  |
|                  | R-OR9-1  | Improve Shoreline for Swimming / Add DUA Amenities / Redirect Recreation Use at Foreman Creek        |
|                  | R-OR9-2  | Public Education on Cultural & Sensitive Resources Preservation at Foreman Creek                     |
|                  | R-OR10-1 | Warning Sign for Damaged Roadbed at Stringtown   |
|                  | R-OR10-2 | Directional Signs for Stringtown Car-top BR at Stringtown Rd / Hurleton Rd / Forbestown Rd           |
|                  | R-OR12-1 | New Shoreline Access Trail at Saddle Dam   |
|                  | R-OR18-1 | Relocate 3 Existing Floating Campsites Closer to Lime Saddle   |
|                  | R-TA1-1  | Directional Signs for Wilbur Road BR (3)   |
|                  | R-TA2-1  | Add Swim Beach / Construct 10 New Family Picnic-Shade Facilities at Larkin Rd                        |
|                  | R-TA2-2  | Directional Signs for Larkin Rd BR (3)   |
|                  | R-TF1-1  | North Forebay Opportunities for Swimming Water Condition Improvements & Facilities                   |
|                  | R-TF1-2  | Trail Opportunities at North Forebay   |
|                  | R-TF1-3  | North Forebay Shoreline Access / Add Fish Cleaning Station   |
|                  | R-TF1-4  | Facility Improvements to Aquatic Center  |
|                  | R-TF2-1  | Provide ADA Accessible Fishing Pier at South Forebay   |
|                  | R-TF2-2  | Trail Opportunities at South Forebay   |
|                  | R-TF2-3  | Expand Day Use / Add Swimming Facilities at South Forebay  |
| generally mapped | R-WA1-1  | OWA -- Inter-Agency Resolution of Recreation vs Wildlife Management Conflicts                        |
|                  | R-WA1-2  | Construct Organized Camping at Afterbay Outlet   |
| generally mapped | R-WA1-3  | OWA -- Increased Visitor Management  |
|                  | R-WA1-4  | Directional Signs for Afterbay Outlet BR (3)   |
| generally mapped | R-WA1-5  | OWA -- Evaluate Options for Additional Revenue Sources for Facilities & Services                     |
|                  | R-WA1-6  | Add Day Use Facilities at Afterbay Outlet  |
| generally mapped | R-WA2-1  | OWA -- More Trash Receptacles and Signage  |
| generally mapped | R-WA2-2  | OWA -- Post Regulations and Educational Signage on Fishing   |
| generally mapped | R-WA2-3  | OWA -- More Enforcement of Regulations   |
|                  | R-WA2-4  | OWA -- Restrict Vehicular Use in Selected Areas (3)  |
| generally mapped | R-WA2-5  | OWA -- Develop 2 Watchable-Wildlife Sites  |
| not mapped       | R-DU-1   | Dispersed Use Areas -- Provide More Trash Receptacles and Litter Pick-up                             |
| not mapped       | R-DU-2   | Dispersed Use Areas -- Periodic Monitoring of Existing and Potential New Sites                       |
| project-wide     | R-P1     | Recreation Mgmt Plan / Clarification of Agency Responsibilities                                      |
| generally mapped | R-P5     | OWA -- Wildland Fire Evacuation Plan   |
| project-wide     | R-P6     | Trails Program -- Develop/Implement Capital and O&M Measures   |
| project-wide     | R-P7     | I&E Program -- Develop/Implement Capital and O&M Measures  |

### Key to Geographic Designation in Recreation Measure Codes

|                           |                                    |
|---------------------------|------------------------------------|
| DP -- Diversion Pool      | TF -- Thermalito Forebay           |
| FR -- Feather River       | WA -- Oroville Wildlife Area (OWA) |
| OR -- Lake Oroville       | DU -- Dispersed Use Areas          |
| TA -- Thermalito Afterbay | P -- Project-wide / Programmatic   |

## No-Action Recreational Measures

| Symbol       | Code    | Title   |
|--------------|---------|---|
| project-wide | NoA-R01 | Promotion of Oroville Recreation Facilities               |
|              | NoA-R02 | FERC License Coordination Unit at Oroville Field Division |

## Engineering and Operations

| Engineering   |      |   |
|---------------|------|---|
| Symbol        | Code | Title   |
|               |      | (Same as Existing Conditions)   |
| Water Quality |      |   |
| Symbol        | Code | Title   |
|               | W-1  | Swim Area Bacteria Monitoring / Health Education (7 locations)                |
| project-wide  | W-2  | Public Health Information on Contaminated Fish                                |
| Land Use      |      |   |
| Symbol        | Code | Title   |
|               | L-1  | Screen Material Storage/Staging Area below Oroville Dam                       |
|               | L-4  | Floating Debris Management at McCabe Creek with Cultural Resources Protection |

## Cultural Resources

| Symbol       | Code | Title   |
|--------------|------|---|
| project-wide | C-1  | Historic Properties Management with Recovery & Stabilization as Needed            |
|              | C-3  | Access Restrictions at Goat Ranch & Bloomer BICs for Cultural Resource Protection |
|              | C-4  | Eliminate Wheeled Motorized Vehicle Use in Lake Oroville Fluctuation Zone         |
| project-wide | C-5  | Expand Site Stewardship Program   |
| not mapped   | C-6  | Identify and Set Aside Areas for Planting/Harvesting of Traditional Plants        |
| project-wide | C-7  | Implement Signage and Interpretive Display Program                                |
| not mapped   | C-8  | Establish Curation Facility   |

## Environmental Measures

| Aquatic Measures     |      |  |
|----------------------|------|--|
| Symbol               | Code | Title  |
|                      | A-1  | Side Channel Habitat Improvement Program -- Hatchery Ditch & Moe's Ditch                             |
|                      | A-2  | Large Woody Debris Improvement Program -- Fish Barrier Dam to Honcut Creek                           |
|                      | A-3  | Gravel Supplement & Improvement Program -- Raking at Feather River Locations                         |
|                      | A-4  | Install 2 Fish Barrier Weirs and Salmon Egg-Taking Station   |
|                      | A-5  | Fish Hatchery Adaptive Management Program  |
| Terrestrial Measures |      |  |
| Symbol               | Code | Title  |
|                      | T-1  | Construct Additional Brood Ponds near Afterbay (4)   |
|                      | T-2  | Routine Recharge of Brood Ponds near Afterbay (5)  |
|                      | T-3  | Afterbay -- Upland Food Enhancements for Nesting Waterfowl   |
|                      | T-4  | Afterbay -- Upland Waterfowl Nest Cover Development  |
| generally mapped     | T-5  | OWA -- Install Wood Duck Boxes   |
|                      | T-6  | Invasive Species Management Plan -- Treatment Areas  |
| not mapped           | T-8  | Minimize Recreation Disturbance of Nesting Bald Eagles (includes BA-E1 plus 4 Conservation Measures) |
|                      | T-9  | Vernal Pool Protection (includes BA-A7 and BA-B5 plus 11 Conservation Measures)                      |
|                      | T-10 | Giant Garter Snake Habitat (13 Conservation Measures)  |
|                      | T-11 | Red Legged Frog Habitat (2 Conservation Measures)  |
|                      | T-12 | Valley Elderberry Longhorn Beetle (3 Conservation Measures)  |
|                      | T-13 | Reduce Boat Speeds on Afterbay North of SR 162 for Wildlife Protection                               |

## No-Action Draft Biological Assessment (BA) Measures

| Symbol       | Code   | Title   |
|--------------|--------|---|
| project-wide | BA-1   | Designate Listed-Species Coordinator for DWR                            |
|              | BA-A11 | Review DWR Gravel Mining for Giant Garter Snake Protection              |
|              | BA-B2  | Spring Surveys of Vernal Pools for Habitat and Conservation Evaluations |
| not mapped   | BA-B6  | Abandon/Revegetate Unnecessary Roads Causing Vernal Pool Siltation      |
|              | BA-B8  | Implement Sediment-Trapping Program for Vernal Pool Protection          |

Note: The map does not include the existing measures which continue through the Alternatives.

STATE OF CALIFORNIA  
DEPARTMENT OF WATER RESOURCES

## Oroville Facilities FERC Project No. 2100

FIGURE 3.2-1a

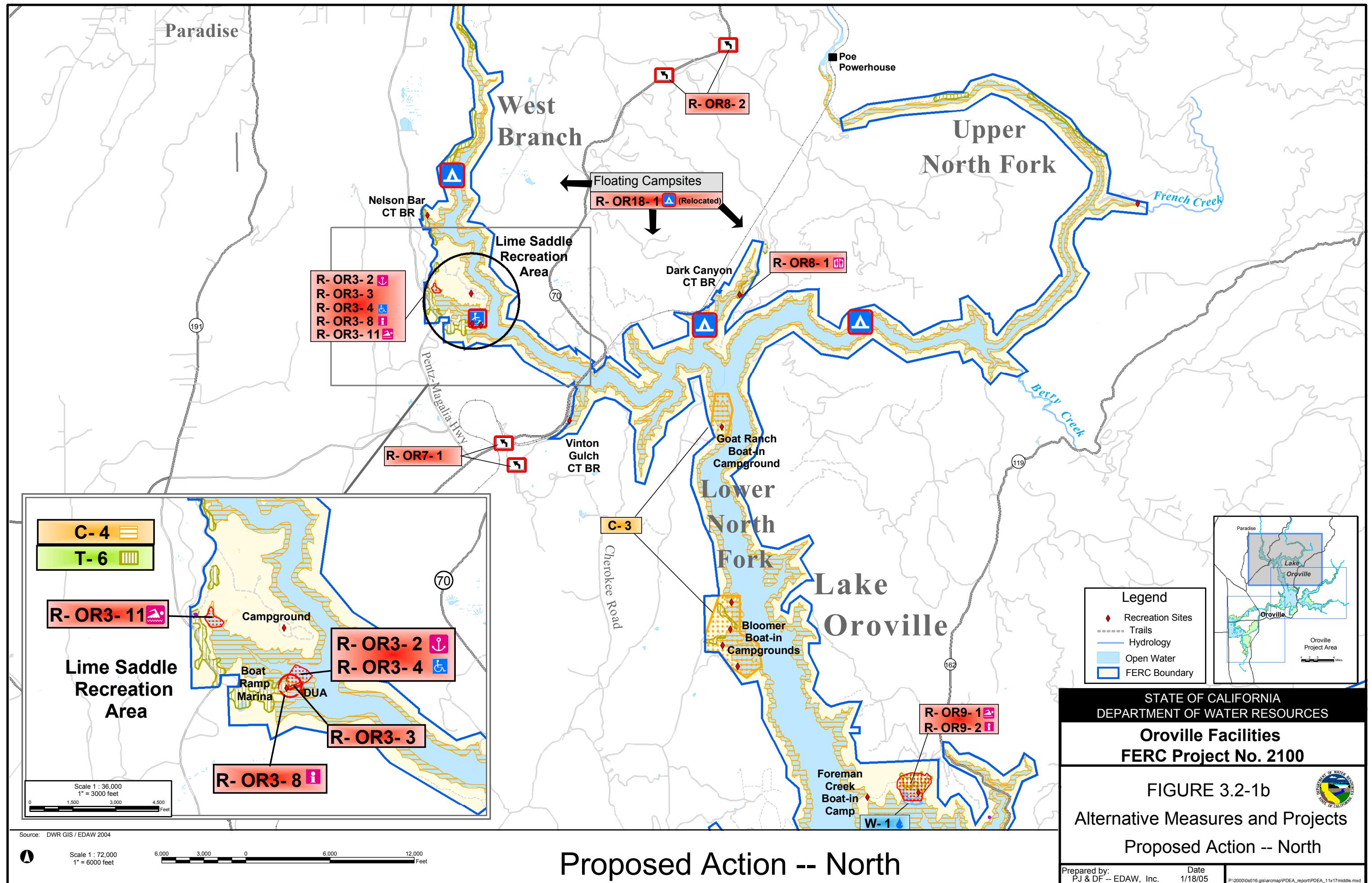
### Alternative Measures and Projects Proposed Action -- Tables

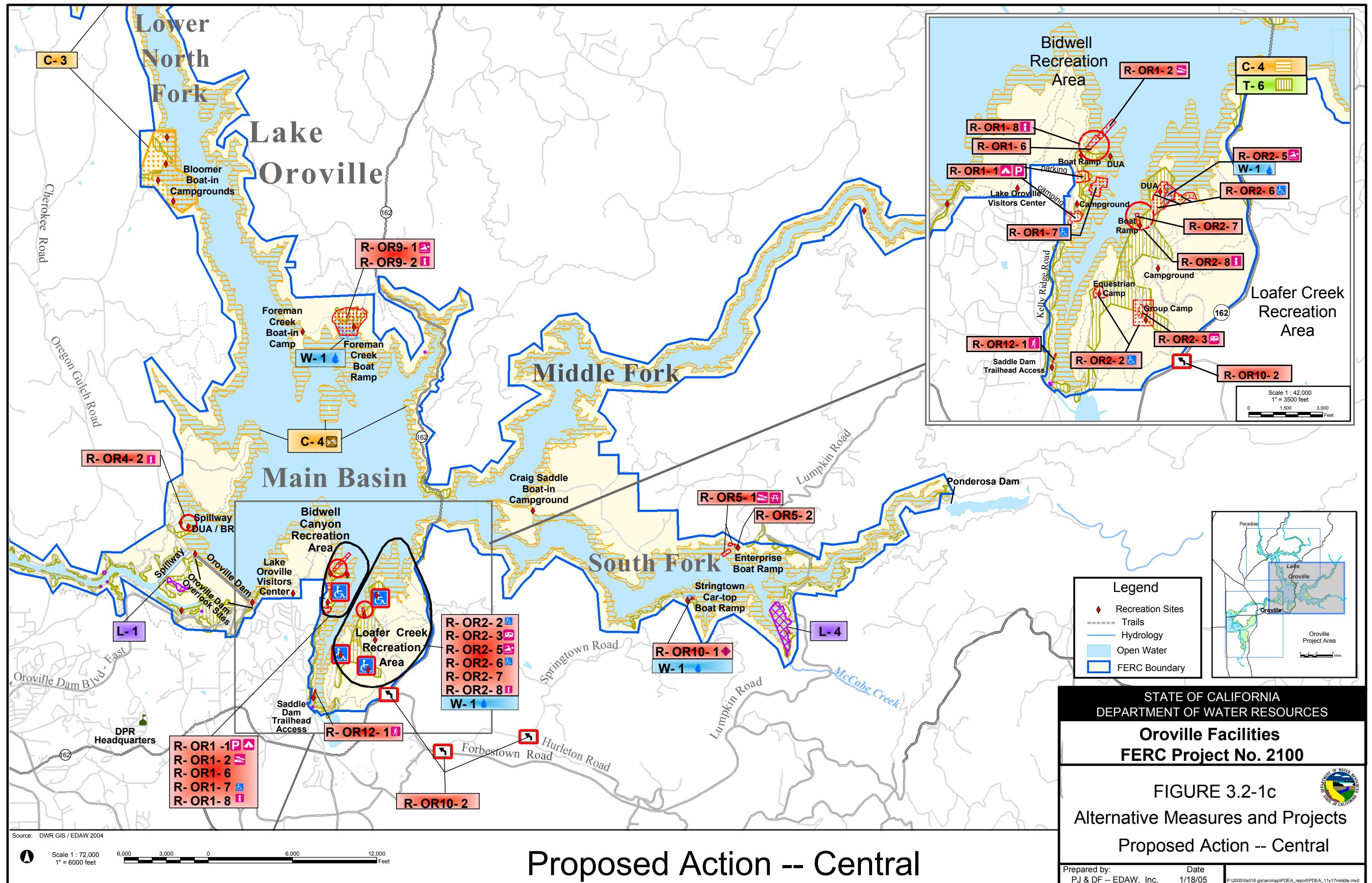
Prepared by:  
PJ & DF -- EDAW, Inc.

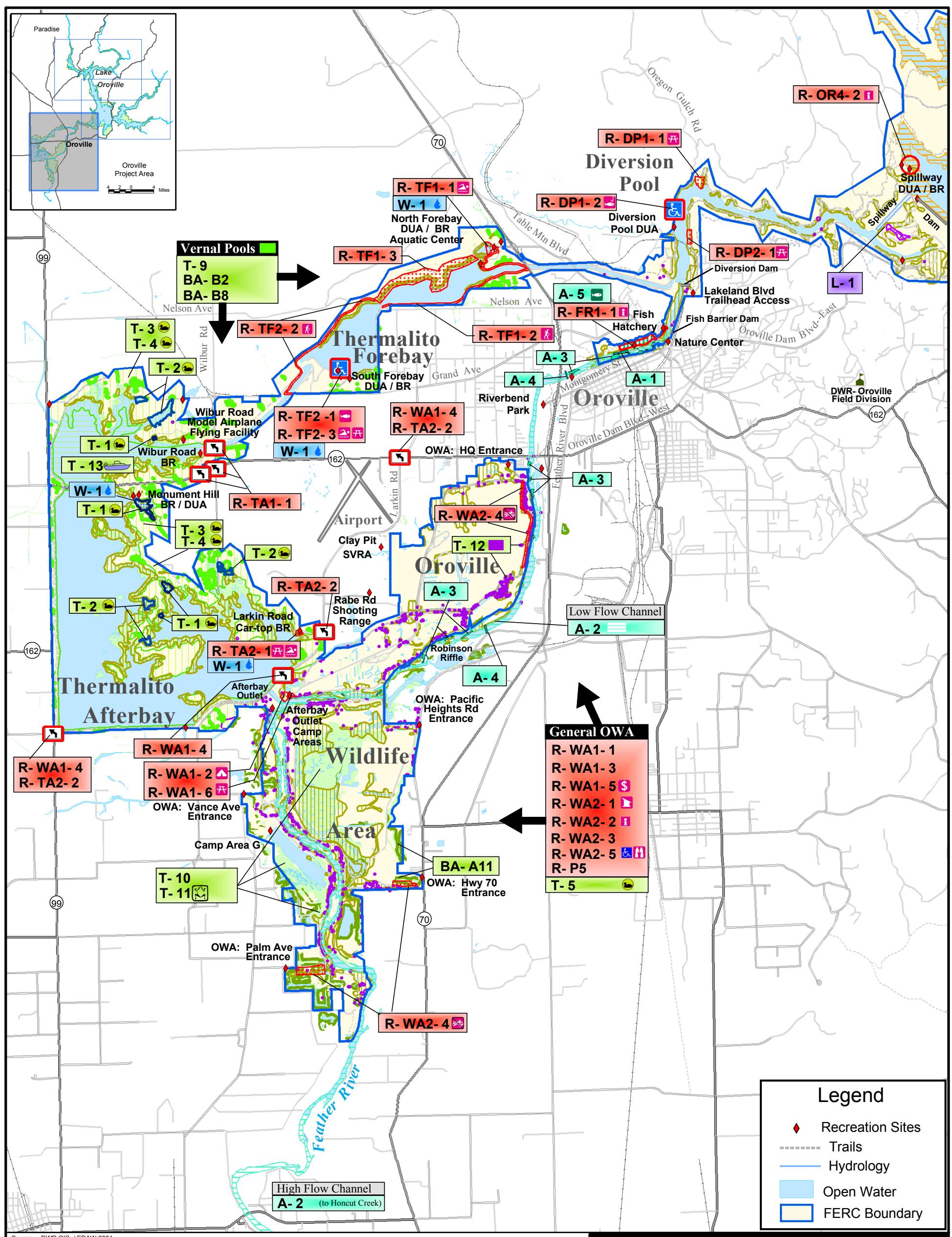
Date  
1/18/05

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STATE OF CALIFORNIA  
DEPARTMENT OF WATER RESOURCES

Oroville Facilities  
FERC Project No. 2100

FIGURE 3.2-1d


Alternative Measures and Projects  
Proposed Action -- South



Proposed Action -- South

# Alternative 2

Measures highlighted in yellow are unique to Alternative 2



Note: The map does not include the existing measures which continue through the Alternatives.

Source: DWR GIS / EDAW 2004



1 0.5 0 1 2 3 4 5 Miles  
Original Scale 1 : 47,520  
1" = 0.75 miles

Alternative 2



Prepared by: PJ & DF -- EDAW, Inc. Date: 1/18/05 P:\\200\\0016.gis\\arcmap\\pdes\\alt2\_post.mxd

# Alternative 2 -- Tables

(PM&E measures highlighted in yellow are unique to Alternative 2)

## Recreational Measures

| Symbol           | Code     | Title   |
|------------------|----------|---|
| DP               | R-DP1-1  | Diversion Pool: Provide Day Use Sites for Trail Users and Boaters                                       |
| ADA              | R-DP1-2  | ADA Fishing Pier along Burma Road   |
| DP               | R-DP1-3  | Create Whitewater Park below Diversion Dam  |
| DP               | R-DP1-4  | Use of DWR Property by Diversion Dam for Flexible Event Center  |
| DP               | R-DP2-1  | Shoreline Access and Day Use Facilities at Lakeland Blvd  |
| O                | R-FR1-1  | Potential I&E Enhancements at Feather River Hatchery  |
| DP               | R-FR1-2  | Add Spawning/Riffle Observation Access  |
| DP               | R-OR1-1  | Expand Bidwell Marina Parking / Relocate 38 Campsites at Bidwell Canyon                                 |
| DP               | R-OR1-2  | New Low-Water Boat Ramp at Bidwell  |
| DP               | R-OR1-3  | Increase High-Water Parking at Bidwell Boat Ramp  |
| DP               | R-OR1-4  | Add Camp Store at Bidwell   |
| DP               | R-OR1-5  | Modify Existing Building for Activity Facility at Bidwell   |
| DP               | R-OR1-6  | Additional Boarding Dock(s) at Bidwell  |
| ADA              | R-OR1-7  | ADA Enhancements at Bidwell Marina  |
| O                | R-OR1-8  | Boater Information on Facilities Access and Alternatives at Bidwell                                     |
| DP               | R-OR1-9  | Temporary Event Grandstand Space at Bidwell   |
| DP               | R-OR2-1  | Open Service Road for Car-top Boat Ramp beyond Loafer Creek DUA   |
| ADA              | R-OR2-2  | ADA Enhancements at Loafer Creek Equestrian Camp & Group Camp   |
| DP               | R-OR2-3  | Add Group RV Camping at Loafer Creek  |
| DP               | R-OR2-4  | Construct New Campground Activity Facility at Loafer Creek  |
| DP               | R-OR2-5  | Based on Feasibility Study Outcome -- Construct Swimming Facility at Either Loafer Creek or Lime Saddle |
| ADA              | R-OR2-6  | Improve Shoreline & ADA Access to DUA, Swim Beach & Cove / Add Fish Cleaning Station at Loafer Creek    |
| DP               | R-OR2-7  | Additional Boarding Dock(s) at Loafer Creek BR  |
| O                | R-OR2-8  | Boater Information on Facilities Access and Alternatives at Loafer Creek                                |
| DP               | R-OR3-1  | Improve Day Use Area at Lime Saddle   |
| DP               | R-OR3-2  | Encourage Repairs to Marina Complex at Lime Saddle  |
| DP               | R-OR3-3  | Add Additional Boarding Dock(s) at Lime Saddle BR   |
| ADA              | R-OR3-4  | Enhance Marina Complex at Lime Saddle for ADA Accessibility   |
| DP               | R-OR3-5  | Add Boat Landing Ramp and Access at Lime Saddle Campground  |
| DP               | R-OR3-6  | New Shoreline Day Use Area at Parish Cove   |
| DP               | R-OR3-7  | Trail Connecting Lime Saddle Campground Area to Marina  |
| O                | R-OR3-8  | Boater Information on Facilities Access and Alternatives at Lime Saddle                                 |
| DP               | R-OR3-9  | Add 25-50 RV/Tent Campsites to Lime Saddle, As Needed   |
| DP               | R-OR3-10 | Add Group RV Campsite at Lime Saddle, As Needed   |
| DP               | R-OR3-11 | Based on Feasibility Study Outcome -- Construct Swimming Facility at Either Loafer Creek or Lime Saddle |
| DP               | R-OR3-12 | Increase Parking at Lime Saddle Marina / Consider Expansion on PG&E Property                            |
| DP               | R-OR3-13 | Construct New Low-Water Access Boat Ramp at Lime Saddle   |
| DP               | R-OR4-1  | Extend Spillway Boat Ramp   |
| O                | R-OR4-2  | Boater Information on Facilities Access and Alternatives at Spillway                                    |
| DP               | R-OR4-3  | Review and Modify "En-Route" RV Camping at Spillway   |
| DP               | R-OR5-1  | Launch Ramp Extension at Enterprise BR / Add 10 Picnic Sites  |
| DP               | R-OR5-2  | Add Boarding Dock(s) at Enterprise Boat Ramp  |
| TR               | R-OR7-1  | Directional Signs for Vinton Gulch Car-top BR at SR 70 and Cherokee Rd                                  |
| TR               | R-OR8-1  | Reconstruct Restroom Building at Dark Canyon  |
| TR               | R-OR8-2  | Directional Signs for Dark Canyon Car-top BR at SR 70 (2)   |
| DP               | R-OR9-1  | Improve Shoreline for Swimming / Add DUA Amenities / Redirect Recreation Use at Foreman Creek           |
| DP               | R-OR9-2  | Public Education on Cultural & Sensitive Resources Preservation at Foreman Creek                        |
| TR               | R-OR10-1 | Improve DUA and Parking Facilities at Stringtown  |
| DP               | R-OR10-2 | Directional Signs for Stringtown Car-top BR at Stringtown Rd / Hurleton Rd / Forbestown Rd              |
| DP               | R-OR12-1 | New Shoreline Access Trail at Saddle Dam  |
| DP               | R-OR17-1 | Construct 30-50 Vehicle Parking Spaces for Dam Overlook   |
| A                | R-OR18-1 | Add 3 New Floating Campsites to Northern Arms of Lake Oroville  |
| DP               | R-OR19-1 | Non-motorized Boater Take-out or Tow Service from Dark Canyon   |
| DP               | R-OR19-2 | Provide River Flow and Reservoir Level Information for Whitewater Boaters                               |
| TR               | R-TA1-1  | Directional Signs for Wilbur Road BR (3)  |
| DP               | R-TA2-1  | Add Swim Beach / Construct 10 New Family Picnic-Shade Facilities at Larkin Rd                           |
| TR               | R-TA2-2  | Directional Signs for Larkin Rd BR (3)  |
| DP               | R-TF1-1  | North Forebay -- Improvement of Swimming Water Conditions & Facilities                                  |
| DP               | R-TF1-2  | Trail Opportunities at North Forebay  |
| DP               | R-TF1-3  | North Forebay Shoreline Access / Add Fish Cleaning Station  |
| DP               | R-TF1-4  | Facility Improvements to Aquatic Center   |
| ADA              | R-TF2-1  | Provide ADA Accessible Fishing Pier at South Forebay  |
| DP               | R-TF2-2  | Trail Opportunities at South Forebay  |
| DP               | R-TF2-3  | Expand Day Use / Add Swimming Facilities at South Forebay   |
| generally mapped | R-WA1-1  | OWA -- Inter-Agency Resolution of Recreation vs Wildlife Management Conflicts                           |
| DP               | R-WA1-2  | Construct Organized Camping at Afterbay Outlet  |
| generally mapped | R-WA1-3  | OWA -- Increased Visitor Management   |
| TR               | R-WA1-4  | Directional Signs for Afterbay Outlet BR (3)  |
| generally mapped | R-WA1-5  | OWA -- Evaluate Options for Additional Revenue Sources for Facilities & Services                        |
| DP               | R-WA1-6  | Add Day Use Facilities at Afterbay Outlet   |
| generally mapped | R-WA2-1  | OWA -- More Trash Receptacles and Signage   |
| generally mapped | R-WA2-2  | OWA -- Post Regulations and Educational Signage on Fishing  |
| generally mapped | R-WA2-3  | OWA -- More Enforcement of Regulations  |
| DP               | R-WA2-4  | OWA -- Restrict Vehicular Use in Selected Areas (3)   |
| generally mapped | R-WA2-5  | OWA -- Develop 2 Watchable-Wildlife Sites   |
| not mapped       | R-DU-1   | Dispersed Use Areas -- Provide More Trash Receptacles and Litter Pick-up                                |
| not mapped       | R-DU-2   | Dispersed Use Areas -- Periodic Monitoring of Existing and Potential New Sites                          |
| project-wide     | R-P1     | Recreation Mgmt Plan / Clarification of Agency Responsibilities   |
| generally mapped | R-P5     | OWA -- Wildland Fire Evacuation Plan  |
| project-wide     | R-P6     | Trails Program -- Develop/Implement Capital and O&M Measures and Modify for Multi-Use                   |
| project-wide     | R-P7     | I&E Program -- Develop/Implement Capital and O&M Measures   |

## Key to Geographic Designation in Recreation Measure Codes

DP -- Diversion Pool  
 FR -- Feather River  
 OR -- Lake Oroville  
 TA -- Thermalito Afterbay  
 TF -- Thermalito Forebay  
 WA -- Oroville Wildlife Area (OWA)  
 DU -- Dispersed Use Areas  
 P -- Project-wide / Programmatic

## No-Action Recreational Measures

| Symbol       | Code    | Title   |
|--------------|---------|---|
| project-wide | NoA-R01 | Promotion of Oroville Recreation Facilities               |
| project-wide | NoA-R02 | FERC License Coordination Unit at Oroville Field Division |

Source: DWR 2004

## Engineering and Operations

### Engineering

| Symbol     | Code | Title   |
|------------|------|---|
| green line | O-1  | Maintain Minimum Flow of 800 cfs Downstream of Diversion Dam & Hatchery |
| green line | O-2  | Seasonal Temperature Targets at Robinson Riffle                         |
| green line | O-3  | Low Flow Channel: Increase Minimum Flow to 1200 cfs (May 1-June 15)     |

### Water Quality

| Symbol          | Code | Title  |
|-----------------|------|--|
| blue water drop | W-1  | Swim Area Bacteria Monitoring / Health Education (6 locations) |
| project-wide    | W-2  | Public Health Education on Contaminated Fish                   |

## Land Use Management

| Symbol    | Code | Title   |
|-----------|------|---|
| crosses   | L-1  | Screen Material Storage/Staging Area below Oroville Dam                       |
| crosses   | L-2  | Develop Fuel Load Management Plan for Wildland/Urban Interface of Kelly Ridge |
| checkmark | L-3  | Transfer BLM Lands within Project Boundary to DWR                             |
| crosses   | L-4  | Floating Debris Management at McCabe Creek with Cultural Resources Protection |

## Cultural Resources

| Symbol       | Code | Title   |
|--------------|------|---|
| project-wide | C-1  | Historic Properties Management with Recovery & Stabilization as Needed            |
| orange dots  | C-2  | Relocate Mortar Cupules from near Fish Hatchery                                   |
| orange dots  | C-3  | Access Restrictions at Goat Ranch & Bloomer BICs for Cultural Resource Protection |
| orange line  | C-4  | Eliminate Wheel Motorized Vehicle Use in Lake Oroville Fluctuation Zone           |
| project-wide | C-5  | Expand Site Stewardship Program with Full-Time Funding                            |
| not mapped   | C-6  | Identify and Set Aside Areas for Planting/Harvesting of Traditional Plants        |
| project-wide | C-7  | Implement Signage and Interpretive Display Program                                |
| not mapped   | C-8  | Establish Curation Facility   |

## Environmental Measures

### Aquatic Measures

| Symbol           | Code | Title   |
|------------------|------|---|
| teal square      | A-1  | Side Channel Habitat Improvement Program -- Along Low-Flow Channel              |
| green line       | A-2  | Large Woody Debris Improvement Program -- Fish Barrier Dam to Honcut Creek      |
| teal square      | A-3  | Gravel Improvement Program -- Raking at Feather River Locations                 |
| teal square      | A-4  | Install 2 Fish Barrier Weirs and Salmon Egg-Taking Station                      |
| teal square      | A-5  | Fish Hatchery Adaptive Management Program with Water Sterilization Element      |
| teal square      | A-6  | Fish Hatchery -- Adipose Clip All Hatchery-Reared Steelhead and Spring-Run Fish |
| outside map area | A-7  | Lower Feather River -- Allow for Sturgeon Passage                               |

### Terrestrial Measures

| Symbol           | Code | Title  |
|------------------|------|--|
| blue grid        | T-1  | Construct Additional Brood Ponds near Afterbay (4)   |
| blue rectangle   | T-2  | Routine Recharge of Brood Ponds near Afterbay (5)  |
| green squares    | T-3  | Afterbay -- Upland Food Enhancements for Nesting Waterfowl   |
| green squares    | T-4  | Afterbay -- Upland Waterfowl Nest Cover Development  |
| generally mapped | T-5  | OWA -- Install Wood Duck Boxes   |
| yellow squares   | T-6  | Invasive Species Management Plan -- Treatment Areas  |
| not mapped       | T-8  | Minimize Recreation Disturbance of Nesting Bald Eagles (includes BA-E1 plus 4 Conservation Measures) |
| green square     | T-9  | Vernal Pool Protection (11 Measures)   |
| light green      | T-10 | Giant Garter Snake Habitat (13 Conservation Measures)  |
| light green      | T-11 | Red Legged Frog Habitat (2 Conservation Measures)  |
| purple           | T-12 | Valley Elderberry Longhorn Beetle (3 Conservation Measures)  |
| light green      | T-13 | Reduce Boat Speeds on Afterbay North of SR 162 for Wildlife Protection                               |

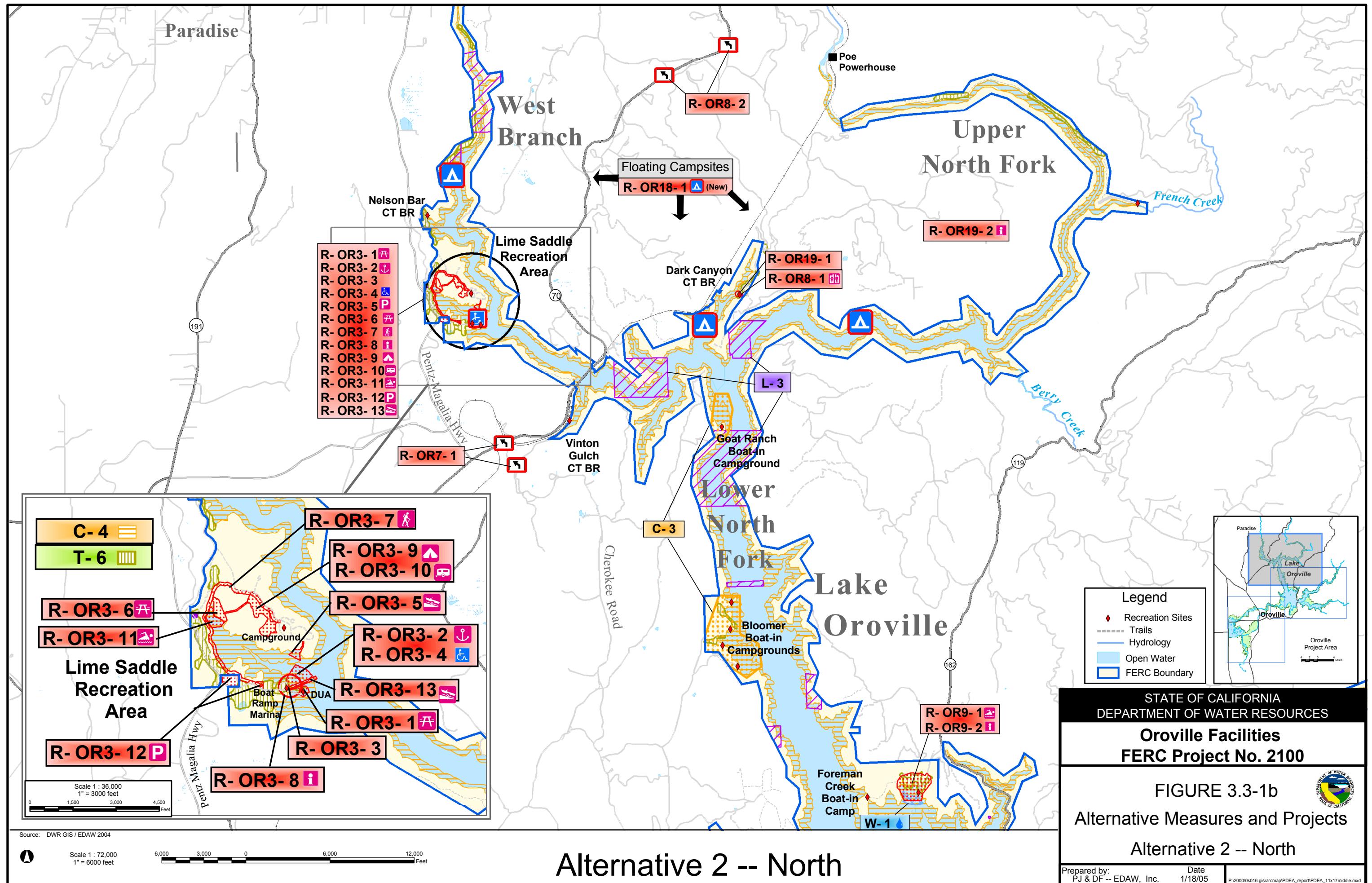
## No-Action Draft Biological Assessment (BA) Measures

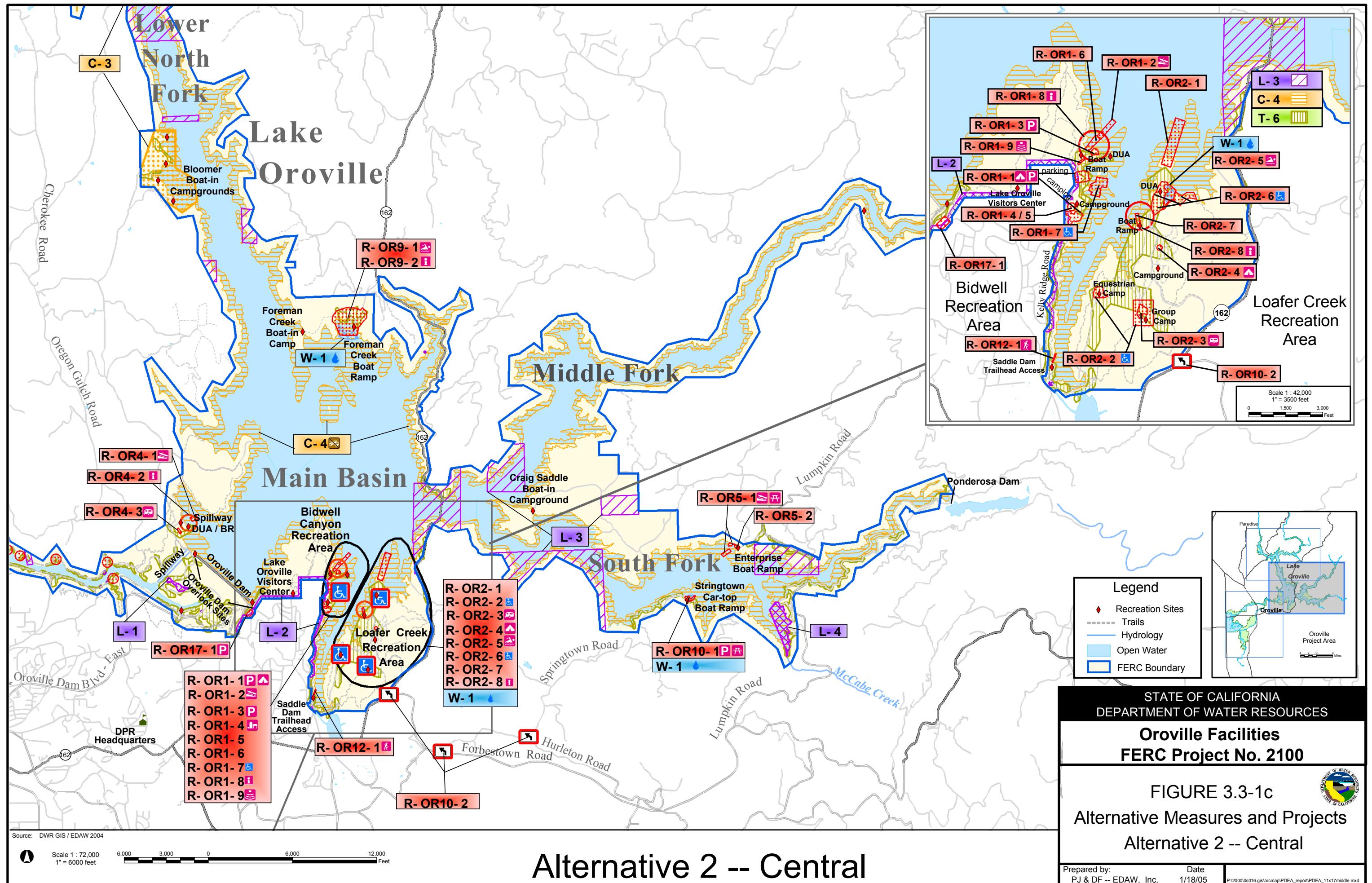
| Symbol       | Code   | Title   |
|--------------|--------|---|
| project-wide | BA-1   | Designate Listed-Species Coordinator for DWR                            |
| green square | BA-A11 | Review DWR Gravel Mining for Giant Garter Snake Protection              |
| green square | BA-B2  | Spring Surveys of Vernal Pools for Habitat and Conservation Evaluations |
| not mapped   | BA-B6  | Abandon/Revegetate Unnecessary Roads Causing Vernal Pool Siltation      |
| green square | BA-B8  | Implement Sediment-Trapping Program for Vernal Pool Protection          |

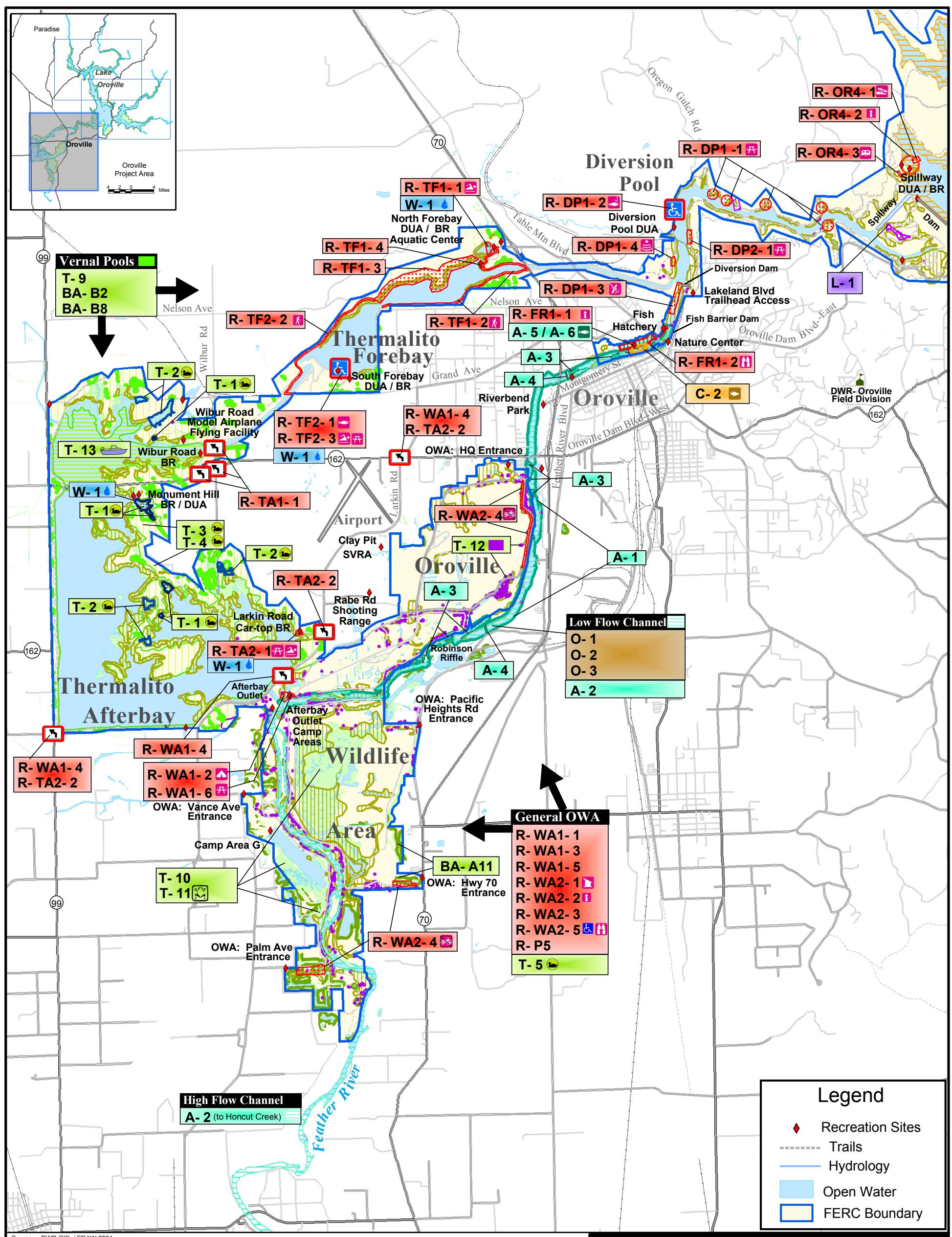
Note: The map does not include the existing measures which continue through the Alternatives.

## STATE OF CALIFORNIA DEPARTMENT OF WATER RESOURCES

### Oroville Facilities FERC Project No. 2100







STATE OF CALIFORNIA  
DEPARTMENT OF WATER RESOURCES

Oroville Facilities  
FERC Project No. 2100

FIGURE 3.3-1d

Alternative Measures and Projects

Alternative 2 -- South



Alternative 2 -- South

