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## EXECUTIVE SUMMARY

### ES.1 INTRODUCTION

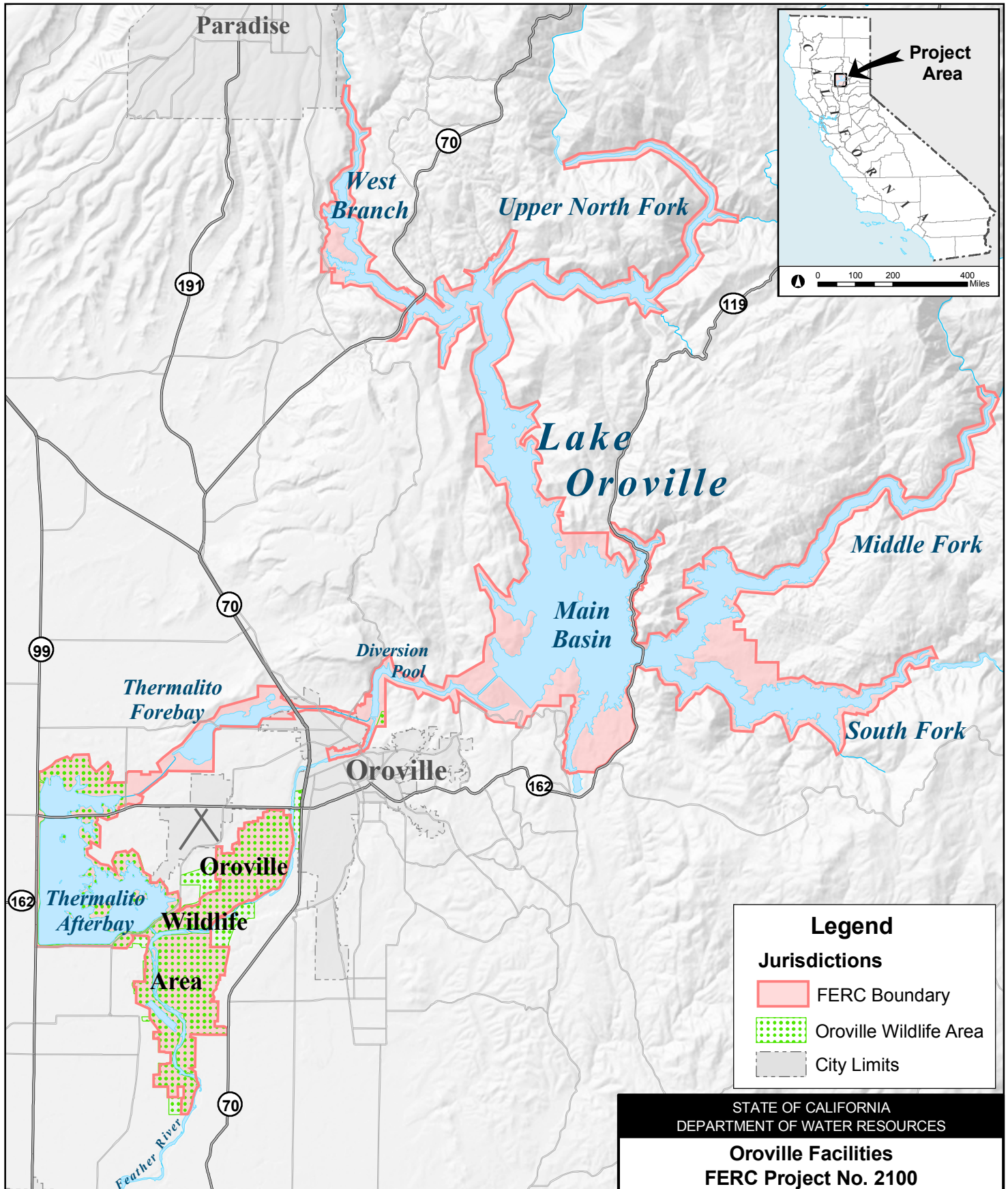
This Draft Environmental Impact Report (DEIR) evaluates the potential environmental impacts that may be associated with the *Settlement Agreement for Licensing of the Oroville Facilities Project No. 2100* signed March 21, 2006 (SA). The Oroville Facilities Federal Energy Regulatory Commission (FERC) Project No. 2100 (Oroville Facilities)—previously known as the Feather River Project or the Oroville Division, State Water Facilities—is located on the Feather River in the Sierra Nevada foothills in Butte County, California. Oroville Dam is located 5 miles east of the City of Oroville and about 130 miles northeast of San Francisco. The Oroville Facilities were developed as part of the State Water Project (SWP), a water storage and delivery system of reservoirs, aqueducts, power plants, and pumping plants designed to store and distribute water to supplement the needs of urban and agricultural water users in both northern and southern California, the San Francisco Bay area, the San Joaquin Valley, and the central coast region of the State. As part of the SWP, the Oroville Facilities are also operated for flood management, power generation, water quality improvement in the Sacramento–San Joaquin Delta, recreation, and fish and wildlife enhancement. Figure ES-1 shows the location and components comprising the Oroville Facilities.

The Oroville Facilities are operated in part pursuant to a license issued by FERC. The existing license for the Oroville Facilities, issued on February 11, 1957, expired on January 31, 2007. The Oroville Facilities are currently operating under an annual license issued by FERC effective February 1, 2007. If a new license is not issued on or before January 31, 2008, this annual license will be renewed automatically. The California Department of Water Resources (DWR) is seeking a new federal license from FERC to continue generating hydroelectric power while continuing to meet existing commitments and complying with regulations pertaining to water supply, flood control, the environment, and recreational opportunities.

### ES.2 OBJECTIVES OF THE PROPOSED PROJECT

The Proposed Project is the SA that was submitted to FERC on March 24, 2006, as supplemental information to support the license application that DWR filed in January 2005 for consideration as future license conditions for the Oroville Facilities for the next 50 years.

The objective of the Proposed Project is the continued operation and maintenance of the Oroville Facilities for electric power generation, including implementation of any terms and conditions to be considered for inclusion in a new FERC hydroelectric license. The continued operation of the Oroville Facilities for electric power generation alleviates the need for new power resources that would otherwise be required to replace the 762 megawatts (MW) of capacity and roughly 2.4 million megawatt-hours (MWh) per year of energy generated by the three Oroville Facilities power plants.



Source: CA Spatial Information Library / DWR GIS / EDAW 2007

STATE OF CALIFORNIA  
DEPARTMENT OF WATER RESOURCES

**Oroville Facilities  
FERC Project No. 2100**

DRAFT ENVIRONMENTAL IMPACT REPORT

**FIGURE ES-1  
Oroville Facilities  
FERC Project Area**



As an integral part of the SWP, water stored in Lake Oroville is released from the Oroville Facilities to meet a variety of statutory, contractual water supply, flood management, and environmental commitments. These contractual, flood management, fishery, water quality, and other environmental obligations are defined in numerous operating agreements that specify timing, flow limits, storage amounts, and/or constraints on water releases. The Proposed Project is consistent with these existing commitments and no changes to the contractual obligations or to the general pattern of these releases are anticipated.

The Oroville Facilities are also important components of the Sacramento River Flood Control Project, the flood management system for areas along the Feather and Sacramento rivers downstream of Oroville Dam. The Oroville Facilities provide flood protection benefits to Oroville, other portions of Butte County, Marysville, Yuba City, other portions of Yuba and Sutter counties, and many smaller communities downstream to Sacramento. The Oroville Facilities also provide protection to 283,000 acres of developed agricultural lands and a variety of transportation and other public utility infrastructure. Pursuant to Section 204 of the Flood Control Act of 1958, flood control operations at Oroville are governed by the rules and regulations prescribed by the Secretary of the Army. The Proposed Project is consistent with existing U.S. Army Corps of Engineers (USACE) flood management objectives.

### **ES.3 PURPOSE OF THE DRAFT ENVIRONMENTAL IMPACT REPORT**

DWR has determined that preparation and certification of an environmental impact report (EIR) to satisfy the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.) is required before implementation of the Proposed Project (that is, the SA). DWR, as lead agency under CEQA, has prepared this DEIR to evaluate the potential effects of implementing the SA as new license terms and conditions for the continued operation of the hydroelectric component of the Oroville Facilities. In compliance with CEQA (Section 21002.1(a)), the DEIR publicly discloses potential significant environmental impacts that may result from approval of the Proposed Project, recommends mitigation measures related to the implementation of actions included in the SA, and evaluates alternatives to the Proposed Project. This DEIR also provides the information needed by the California Department of Fish and Game (DFG) to support compliance with the California Endangered Species Act (CESA).

Before FERC can issue a new license to DWR, the State Water Resources Control Board (SWRCB) must first issue a water quality certificate pursuant to Section 401 of the Clean Water Act and the Porter-Cologne Act, Water Code Section 13160 et seq. In issuing its water quality certification, the SWRCB certifies that the Proposed Project will comply with specified provisions of the Clean Water Act, including water quality standards that are developed pursuant to state law and in satisfaction of Clean Water Act Section 303 (33 U.S. Code 1313). Preparation and certification of an EIR under the terms of CEQA is required before the SWRCB can take action. This DEIR is intended to fulfill that purpose, and considers three alternatives: the No-Project Alternative, the

Proposed Project (SA), and the FERC Staff Alternative described in the FERC Draft Environmental Impact Statement (DEIS) released for public review on September 29, 2006.

#### **ES.4 SCOPING, DEVELOPMENT, AND SUPPORT FOR THE PROPOSED PROJECT (SETTLEMENT AGREEMENT)**

Since its commencement in 2001, the process for relicensing the Oroville Facilities has been broad-based, collaborative, and representative of a wide array of stakeholder interests, including affected federal and State agencies, local governmental entities, tribal interests, non-governmental organizations, and local residents. The relicensing process was conducted under FERC's Alternative Licensing Procedure (ALP), and it involved the substitution of the Environmental Report normally required as Exhibit E with a Preliminary Draft Environmental Assessment (PDEA). As a result, the participants in the collaborative relicensing process were extensively involved in scoping issues, submitting study requests, formulating study scopes, reviewing study results, and commenting on the draft license application and draft PDEA. DWR previously released its Scoping Document 1—Notice of Preparation on September 20, 2002, and Scoping Document 2—Amended Notice of Preparation on February 25, 2003. During the ALP and public scoping process under CEQA, a number of substantive comments were received stating concerns about various issues, including recreational opportunities, fisheries, and public services.

After DWR submitted its draft license application and draft PDEA, the stakeholders continued to negotiate and ultimately developed the SA, which was signed by 52 parties and adopted by DWR as the Proposed Project and submitted to FERC on March 24, 2006. The SA is the result of the broad-based relicensing effort and represents the culmination of substantial efforts on the part of each Settling Party<sup>1</sup> to craft a settlement that would garner support among the wide array of interests represented in the collaborative. With near-unanimous endorsement from federal and State resource

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<sup>1</sup> The other Settling Parties include Alameda County Flood Control & Water Conservation District, Zone 7, Alameda County Water District, American Rivers, American Whitewater, Antelope Valley—East Kern Water Agency, Berry Creek Citizens Association, California Department of Boating and Waterways, California Department of Fish and Game, California Department of Parks and Recreation, California State Horsemen's Association, California State Horsemen's Association Region II, Castaic Lake Water Agency, Central Coast Water Agency, Chico Paddleheads, Citizens for Fair and Equitable Recreation, City of Oroville, Coachella Valley Water District, County of Kings, Crestline—Lake Arrowhead Water Agency, DC Jones, Desert Water Agency, Empire West Side Irrigation District, Feather River Low Flow Alliance, Feather River Recreation and Parks District, International Mountain Bicycling Association, Kern County Water Agency, Kon Kow Valley Band of Maidu, Lake Oroville Bicyclist Organization, Littlerock Creek Irrigation District, Metropolitan Water District of Southern California, Mojave Water Agency, Napa County Flood Control and Water Conservation District, National Marine Fisheries Service, Oak Flat Water District, Oroville Area Chamber of Commerce, Oroville Downtown Business Association, Oroville Economic Development Corporation, Oroville Parks Commission, Oroville Recreation Advisory Committee, Oroville Redevelopment Agency, Oroville Rotary Club, Palmdale Water District, San Bernardino Valley Municipal Water District, San Gabriel Valley Municipal Water District, San Geronio Pass Water Agency, Santa Clara Valley Water District, Solano County Water Agency, State Water Contractors, Inc., Town of Paradise, Tulare Lake Basin Water Storage District, and United States Department of the Interior on behalf of its component bureaus.

agencies, local governments, and environmental organizations, the SA is a comprehensive settlement package that by its terms resolves all relicensing issues among the Settling Parties associated with DWR's pending Application for New FERC License for continued operation of the Oroville Facilities, FERC Project No. 2100. DWR and the Settling Parties believe that the SA appropriately balances all interests and resources related to relicensing the Oroville Facilities.

The SA includes Appendix A, which incorporates all of the protection, mitigation, and enhancement (PM&E) measures that the Settling Parties believe to be under FERC's jurisdiction in Proposed License Articles, and Appendix B, which includes all of the PM&E measures and other agreements that the Settling Parties believe to be outside of FERC's jurisdiction or that are commitments made by parties other than DWR. In its DEIS for the Project, FERC evaluated only Appendix A of the SA as DWR's new preferred alternative in lieu of the preferred alternative identified in DWR's January 2005 Application. This DEIR analyzes the potential impacts of implementing the SA, including all its appendices, as DWR's Proposed Project.

## **ES.5 OTHER APPROVALS**

As lead agency, DWR must consult with and seek comments on its DEIR from "state, federal, and local agencies which exercise authority over resources which may be affected by the project." (Public Resources Code Section 21104.) Likewise, FERC regulations require that applicants consult with appropriate resource agencies and other entities before filing an application for license. These consultations represent the first step in complying with the Fish and Wildlife Coordination Act, the federal Endangered Species Act (FESA), the National Historic Preservation Act (NHPA), and California Endangered Species Act (CESA).

In separate letters, both dated October 24, 2006, FERC requested formal consultation with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) under FESA. The letters direct the agencies to review information contained in the FERC DEIS and DWR's Draft Biological Assessment (BA) filed with FERC on July 27, 2006, and requests that the federal agencies provide their biological opinions (BO) on FERC's findings no later than 135 days from receipt of the requests. On April 9, 2007, USFWS issued a Final Terrestrial BO for the project.

DWR has contacted DFG regarding compliance with CESA, and it is anticipated that DFG will issue a consistency determination pursuant to Section 2080.1(c) of the Fish and Game Code.

The draft Historic Properties Management Plan (HPMP) described in Section 5.8 of the DEIR was developed in compliance with the requirements of Section 106 of the NHPA and in consultation with Native American Tribes, the U.S. Bureau of Land Management (BLM), the U.S. Forest Service (USFS), and other applicable agencies and communities.

## **ES.6 EXISTING FACILITIES AND OPERATIONS**

The Project encompasses 41,200 acres and includes Oroville Dam and Reservoir, Hyatt Pumping-Generating Plant, Thermalito Diversion Dam Power Plant, and the Thermalito Pumping-Generating Plant with combined licensed generating capacity of approximately 762 MW. Oroville Dam, along with 2 small saddle dams, impounds Lake Oroville, a 3.5-million-acre-foot (maf) capacity storage reservoir with a surface area of 15,810 acres at its normal maximum operating level. Other project features include Thermalito Diversion Dam, the Feather River Fish Hatchery, the Fish Barrier Dam, Thermalito Forebay, Thermalito Afterbay, the Oroville Wildlife Area (OWA), and numerous recreation facilities.

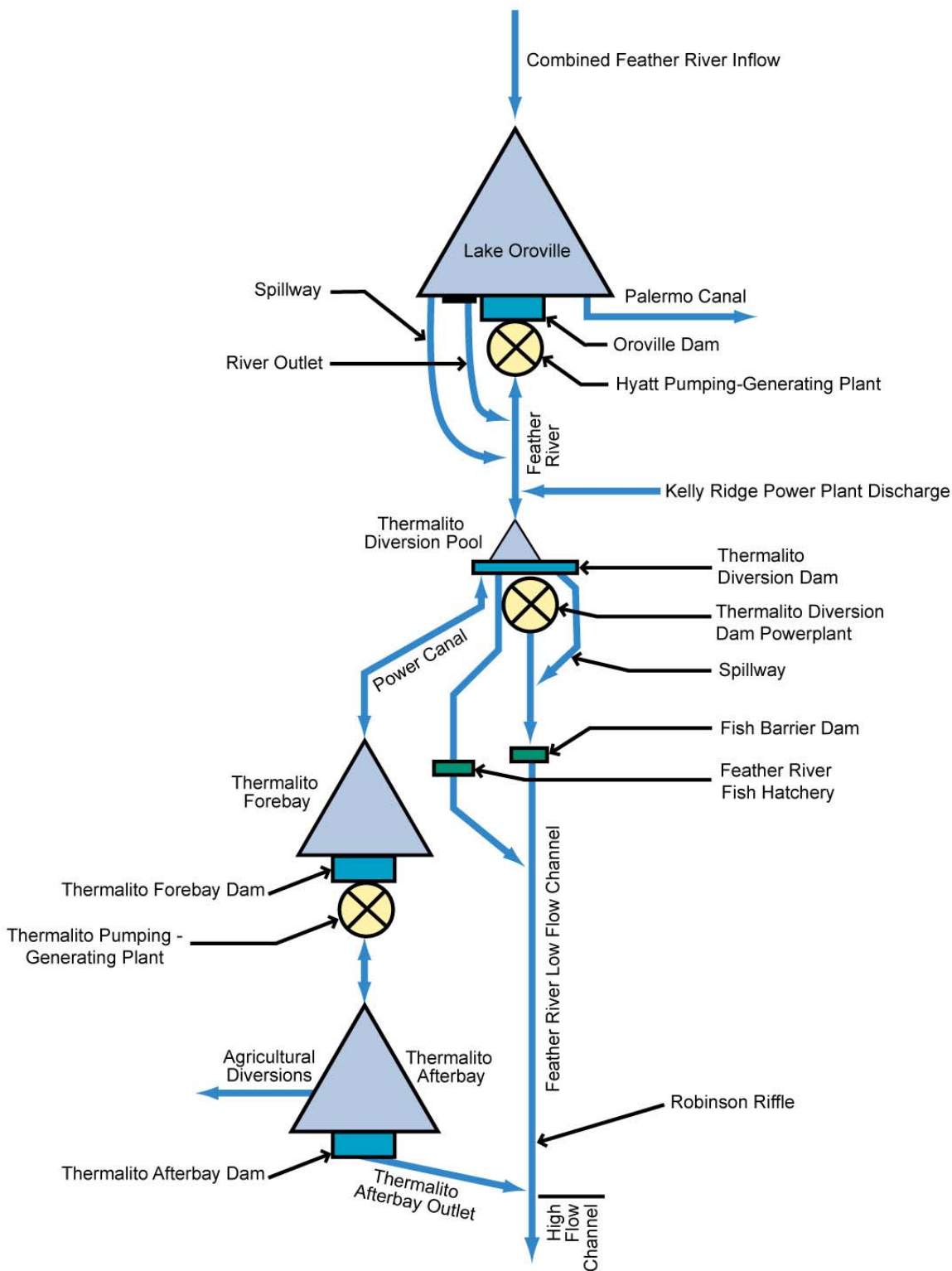
### **ES.6.1 Releases and Power Operations**

Lake Oroville stores and releases water that flows into the reservoir from upstream reservoir releases and winter and spring runoff within the watershed. Water is released from the Oroville Facilities as part of a coordinated effort to meet water supply, flood protection, water quality improvement, and fish and wildlife enhancement requirements. Typically, power is generated when water is released from Lake Oroville through the Oroville Facilities for these purposes. Power is also generated through pump-back operations within the constraints established by the annual water operations plan. The annual water operations plan, developed through coordination with other federal, State, and local agencies, considers forecasted water supply, projected operations of the Central Valley Project, and regulatory and contractual obligations. The annual water operations plan is updated and reissued each month through April to reflect changes in hydrology and downstream operations. Figure ES-2 contains a flow diagram that illustrates the overall Oroville Facilities configuration and primary water storage and release points.

Storage in Thermalito Forebay and Thermalito Afterbay is used to generate power and maintain uniform flows in the Feather River downstream of the Oroville Facilities. Thermalito Afterbay also provides storage for pump-back operations. The pump-back operations are designed to use water that is in excess of what is required for downstream flow requirements for pumping back into Thermalito Forebay and then into Lake Oroville during off-peak hours. This water is then released again during on-peak hours when power values increase. A detailed description of Oroville Facilities power operations and releases made for various purposes, including entitlements, water quality, and in-stream flow for the Feather River, can be found in Chapter 3.0 of the DEIR.

### **ES.6.2 Environmental Facilities and Operations**

The Oroville Facilities include facilities and operations to help protect and enhance fish and wildlife species and their habitat. Many of the environmental programs implemented within the FERC Project boundary are cooperatively managed or are based on agreements with other agencies such as DFG and USFWS. This includes operation and maintenance of facilities such as the Feather River Fish Hatchery and the



Source: MWH

Figure ES-2. Oroville Facilities flow diagram.

OWA and implementation of measures developed in consultation to protect species that are listed under FESA and/or CESA.

The Feather River Fish Hatchery is an anadromous fish hatchery built to compensate for the loss of spawning grounds and rearing areas for returning salmon and steelhead that resulted from the original construction of Oroville Dam. The hatchery complex consists of the Fish Barrier Dam and fish ladder, water supply lines and aeration tower, collection and holding tanks, enclosed spawning and early incubation facilities, grow-out ponds, and fish transport vehicles. The Feather River Fish Hatchery artificially spawns thousands of returning salmon and steelhead each year. DFG operates the hatchery under contract to DWR, and DWR pays for most hatchery-associated expenses. Water is released from the Oroville Facilities storage reservoirs to support fish hatchery operations. Each year, approximately 9,000–18,000 salmon and 2,000 steelhead are artificially spawned, a process that produces 18–20 million eggs. Salmon and steelhead are raised at the hatchery, then transported in oxygenated, temperature-controlled tanks for release in the Feather and Sacramento rivers, in Lake Oroville and other California reservoirs, and in San Pablo Bay near San Francisco Bay.

The OWA comprises approximately 11,000 acres west of Oroville that are managed for wildlife habitat and recreational activities. It includes Thermalito Afterbay and surrounding lands (approximately 6,000 acres) along with 5,000 acres adjoining the Feather River. The 5,000-acre area straddles 12 miles of the Feather River and includes willow and cottonwood-bordered ponds, islands, and channels. As a result of interagency agreements negotiated between DWR and DFG, DFG manages portions of Thermalito Afterbay and other OWA locations and is responsible for providing staff to manage and operate the OWA and setting and enforcing guidelines for public use of this area. DFG allows public use from 1 hour before sunrise to 1 hour after sunset. In addition, a designated area for overnight camping allows for a maximum stay of 14 nights in any calendar year. DWR, DFG, the California Waterfowl Association, and other stakeholders have worked cooperatively to reduce waterfowl losses and increase production in the OWA through programs that have included brood pond construction/maintenance in Thermalito Afterbay and planting/maintenance of upland forage and cover crops in the OWA to provide winter waterfowl forage and nesting cover.

DWR also manages a coldwater and warmwater sport fishery in Lake Oroville. DWR funds a full-time fishery biologist and a salmonid stocking program. Habitat improvements for warmwater game fish include brush shelter construction, planting of willows and/or buttonbush slips and annual grasses, irrigation systems, and channel catfish spawning structure construction.

### **ES.6.3 Recreational Facilities and Operations**

The Oroville Facilities support a wide variety of recreational opportunities, including boating (several types), fishing (several types), fully developed and primitive camping (including boat-in and floating sites), picnicking, swimming, horseback riding, hiking, off-road bicycling, wildlife viewing, and hunting. There are also visitor information sites with

cultural and informational displays about the developed facilities and the natural environment. The majority of recreation facilities in the project area are within the Lake Oroville State Recreation Area (LOSRA), which has numerous facilities and sites offering diverse recreational opportunities. The LOSRA, managed by the California Department of Parks and Recreation (DPR), includes Lake Oroville and the surrounding lands and facilities within the Project area as well as the land and waters in and around the Diversion Pool and Thermalito Forebay, downstream of Oroville Dam. Additional recreational facilities and opportunities exist within the Project area but outside the LOSRA, specifically the OWA including Thermalito Afterbay, and the Feather River Fish Hatchery. Some facilities cross over from outside to inside the LOSRA, such as the extensive and popular trail system.

DWR also provides funding to the Butte County Sheriff's Department for boat and vehicular patrol services and security, to DPR for law enforcement and recreation management within the FERC Project boundary, to DFG for law enforcement and environmental and land management, and to Butte County for mosquito abatement efforts. In addition, DWR partners with the Oroville Chamber of Commerce to promote use of Lake Oroville through support of various festivals, aquatic camps, fishing tournaments and equestrian events. In addition, the California Highway Patrol fulfills an overarching law enforcement role for all of the Oroville Facilities. DWR also has a contract for private security services, which provides trained guards at various locations within the Project area.

A complete description of the recreation opportunities provided by the Oroville Facilities can be found in Chapter 3.0 of the DEIR.

## **ES.7 THE PROPOSED PROJECT AND ALTERNATIVES**

State CEQA Guidelines Section 15126.6(a) requires that an EIR include a comparative evaluation of the Proposed Project with alternatives that are capable of attaining most of the project's basic objectives. The three alternatives evaluated in the DEIR are briefly described below. A full description of these alternatives can be found in Chapter 3.0 of the DEIR.

### **ES.7.1 The No-Project Alternative**

CEQA requires the evaluation of the No-Project Alternative, against which the effects of the action alternatives can be compared. The purpose of describing and analyzing a No-Project Alternative for the Oroville Facilities is to allow decision-makers to better understand the environmental consequences of continuing to operate the project under the terms and conditions of its existing FERC license. Such consequences can then be compared to those associated with alternatives proposed for the project.

Under the No-Project Alternative, the Oroville Facilities would continue to be operated as it is now under the terms and conditions in the existing FERC license, and no new PM&E measures would be implemented, other than those arising from existing legal

obligations and agreements. In addition, DWR would continue existing operations and maintenance practices needed to maintain the Oroville Facilities.

The No-Project Alternative includes all existing facilities and operations, conditions of the existing FERC license, environmental commitments such as those associated with DWR's water rights, recreation programs, and other agreements that affect current Oroville Facilities operations. In addition, the No-Project Alternative includes changes that occurred during the ALP collaborative effort. This includes interim measures implemented by DWR primarily for recreational purposes, including restroom upgrades, equestrian campground enhancements, numerous day-use facilities improvements, and over \$5 million toward design, permitting, and construction of Riverbend Park along the eastern bank of the Feather River adjacent to the City of Oroville.

DWR entered into early and informal consultation with USFWS to identify and resolve issues related to terrestrial listed species prior to the initiation of formal consultation and FERC license application filing. USFWS recommended four measures for early implementation (under the existing FERC license) to minimize or avoid take of federally listed species related to ongoing project activities. These measures include the identification of a listed-species coordinator within DWR, measures pertaining to the giant garter snake, measures pertaining to the bald eagle, and measures pertaining to the vernal pool-related species. These measures are described in a draft BA (see Appendix E of the PDEA), covering terrestrial resources, and are included in the No-Project Alternative.

### **ES.7.2 The Proposed Project**

The Proposed Project is the continued operation of the Oroville Facilities under a new FERC License pursuant to the terms of the SA. The measures included within the SA are divided into two categories: Appendix A contains PM&E measures recommended to be included in the new Project License; Appendix B contains those measures agreed to among the parties to the SA but not to be included in the new Project License. Appendix C describes the Ecological Committee in detail, while Appendix D describes the SWRCB's participation in the SA negotiation. The Proposed Project also includes USFS Final Section 4(e) Conditions, and a multi-party Draft Habitat Expansion Agreement, which are included in the SA as Appendix E and Appendix F, respectively. A subset of the SA Settling Parties including NMFS, USFWS and DFG and Pacific Gas and Electric Company separately negotiated a Habitat Expansion Agreement (HEA) to address blockage of upstream passage by anadromous fish caused by several dams on the Feather River, including Oroville Dam. The SA Settling Parties have completed negotiations of the HEA, which includes the development of spawning habitat for 2,000–3,000 spring-run Chinook salmon. NMFS and USFWS have reserved their authority to prescribe fishways, pursuant to Section 18 of the Federal Power Act and consistent with the HEA, during the term of the new FERC license.

The planning and execution of Proposed Project SA articles that involve site preparation and construction activities to be undertaken by DWR would include the adoption of numerous Best Management Practices (BMPs) designed to avoid or mitigate short-term

effects typically associated with such activities. The BMPs to be adopted as part of the Proposed Project are presented in Appendix D of this DEIR.

The Proposed Project considered in this DEIR includes actions described in the SA designed for immediate implementation as well as future actions to develop numerous plans and programs. While implementation of these yet-to-be-detailed plans and programs will likely lead to future actions that will require additional environmental analysis, the preparation of many of these plans do not result yet in a physical change to the environment and therefore cannot be evaluated on a project-specific level. As noted in Chapter 5.0 of this DEIR, these programs and plans have been assessed at a program level of detail. Individual actions that are well described in the SA and are ready for analysis have been analyzed in the DEIR at a project level of detail. Additional CEQA review of these plans and programs will be necessary prior to implementation of specific activities not addressed at a project level of detail in this DEIR.

### ***ES.7.2.1 SA Appendix A***

In general, SA Appendix A includes a commitment by DWR to develop, in consultation with stakeholders, numerous environmental plans and programs. These environmental plans and programs would improve fish spawning and rearing habitat to complement FESA anadromous fish species recovery programs, support the Feather River Fish Hatchery, provide additional habitat for waterfowl, provide protection for terrestrial FESA species, monitor water quality in project waters, improve habitat for warmwater fish species and improve the coldwater fishery in Lake Oroville, and provide new management direction for the OWA. Plans and programs to be developed and implemented during the life of the new license include:

- Lower Feather River Habitat Improvement Plan—overall management strategy to coordinate the various habitat improvements of the Oroville facilities to enhance the benefits to fish and wildlife species;
- Gravel Supplementation and Improvement Program—to supplement gravel in the lower Feather River suitable for spring-run and fall-run Chinook salmon or steelhead;
- Channel Improvement Program—to increase the quality and complexity of salmonid spawning and rearing habitat in two existing side channels and to increase quantity of spawning and rearing habitat through the construction of five additional side channel riffle/glide complexes;
- Structural Habitat Supplementation and Improvement Program—to support restoration and improvement of salmonid rearing habitat in the lower Feather River below Oroville Dam by providing in-stream cover, edge and channel complexity through the addition of structural habitat including large woody debris (LWD), boulders, and other native objects;

- Fish Weir Program—to initially provide a counting weir to determine abundance of early returning (phenotypic spring-run) Chinook salmon and steelhead and later a barrier weir to spatially separate spring-run and fall-run in the Low Flow Channel to create a dedicated spawning preserve to protect the spring-run Chinook salmon;
- Riparian and Floodplain Improvement Program—to improve riparian habitat and habitat for associated terrestrial and aquatic species and connect portions of the Feather River to its floodplain within the OWA;
- Feather River Hatchery Management Program—overall management strategy to ensure the continued operation of the Hatchery in cooperation with DFG for the production of anadromous salmonids;
- Lake Oroville Warmwater Fishery Habitat Improvement Program—to build on the existing program by increasing and/or improving the structural complexity of the Lake Oroville fluctuation zone to benefit warmwater fish spawning and rearing;
- Lake Oroville Coldwater Fishery Improvement Program—to build on the existing program and stock coldwater fish in Lake Oroville to improve the coldwater sport fishery;
- Water Quality Monitoring Program—an expansion of the existing water quality monitoring plan to document water quality conditions in Project-affected waters including contributions from upstream sources, pathogen levels at recreation sites, effects of Project operations on thermal regimes, and long-term trends through the life of the license;
- OWA Management Plan—overall management plan for the OWA to include conservation measures required by final federal Biological Opinions, strategies to minimize current wildlife/recreation conflicts, resolution of access issues, and agency management and funding responsibilities; and
- Invasive Plant Management Plan—to manage and reduce native and non-native invasive plant species populations within the FERC Project boundary.

The plans and programs would be developed in coordination with an Ecological Committee (EC) established by DWR to advise on ecological issues related to the implementation of the new License. As described in the SA, the EC will be comprised of Settling Parties who represent relevant federal and State regulatory agencies, local governmental entities and Native American tribes, and other interested parties to the SA.

The SA includes a commitment by DWR to increase minimum instream flow releases in the Low Flow Channel (LFC) to benefit anadromous species. The SA also requires that DWR complete a Feasibility Study and Implementation Plan to evaluate possible facilities modifications that could be implemented to improve water temperature conditions for salmonids downstream. For purposes of analysis in this DEIR, the period

of time before facilities modification is referred to as the interim operating period of the Proposed Project, while the post-facilities modification period is referred to as post-facility modification. The first phase, or initial new license period, would include operational modifications such as increased minimum in-stream flows, use of the river valves to augment flow releases (to meet hatchery temperature objectives), shutter manipulation, and curtailment of pump-back operations to improve temperature conditions for anadromous fish until facilities modifications to provide colder water for coldwater fisheries benefits to the LFC and High Flow Channel (HFC) are constructed. The second phase, or post-facility modification, could include construction of one or more physical modifications described below.

SA Appendix A includes two separate documents as proposed license articles developed through the collaborative relicensing process: the SA Recreation Management Plan (RMP), which provides a long-term plan to enhance recreational resources; and the draft HPMP, which provides a framework to protect sensitive cultural and historical resources in the project area.

In general, the Proposed Project would result in recreation facility changes that would improve accessibility; provide additional and improved day use facilities, trails and trail facilities, parking areas, group day use shelters, picnic tables, and sanitation facilities, and provide for campground expansion and/or improvements at Bidwell Canyon, Loafer Creek, the Thermalito Afterbay Outlet, and the floating campsites. The Proposed Project would also enhance boating facilities (including increased access during times of low reservoir levels) and develop two Americans with Disabilities Act (ADA) accessible bank-fishing piers (South Thermalito Forebay and the Diversion Pool). The SA RMP contains various specific triggers to address increased recreation demand. The SA includes formation and support of a Recreation Advisory Committee (RAC), to include local governments, local interest groups, relevant State agencies, and DWR, among others. The RAC would periodically review recreational use data for project facilities and would recommend modifications to the RMP over time throughout the term of the new FERC license. The RAC would replace the Oroville Recreation Advisory Committee (ORAC), established during the existing FERC license. As such, coordination and cooperation with these participants would continue as defined in the RMP and in large part through the formation and continued activities of the RAC.

Under the Proposed Project, measures for the protection of or compensation for the ongoing project effects on cultural resources are proposed within the draft HPMP. The draft HPMP defines the area of potential effects and includes measures to address ongoing effects, including those on or affecting BLM and National Forest System lands; protocols for proposed future actions, including inadvertent discoveries and emergency situations; programs for future inventory and resource evaluation; a public education and information program; roles, responsibilities, and reporting requirements; and procedures for review and update of the draft HPMP.

### **ES.7.2.2 SA Appendix B**

In addition to the measures in the SA that are incorporated into the Proposed License Articles in Appendix A to be included in the New Project License, DWR has agreed under the SA to undertake several measures that are beyond the scope of the FERC license. While these measures were essential for acceptance of the SA and will ultimately benefit recreation, socioeconomics, and environmental resources in the Project region, the SA Settling Parties believe that they should not be incorporated into any new license issued by FERC for the continued operation of the Project.

Nonetheless, these measures are evaluated for potential environmental impacts as appropriate in the DEIR. These additional measures are set forth in Appendix B to the SA and are summarized briefly below.

- Project Supplemental Benefits Fund—designed to allow the benefits of the Project to be extended into the local communities in the vicinity of the FERC Project boundary and to create additional benefits by funding local projects as determined by a locally controlled steering committee.
- Feather River Whitewater Boating Opportunity Feasibility Study—to guide future whitewater recreation decisions and activities.
- Analysis of a Non-Motorized Water Trail Shoreline Access—to conduct an analysis of non-motorized trail shoreline access opportunities along the Feather River within and in the vicinity of the FERC Project boundary.
- Fuel Load Management Plan—to develop a plan to manage fuels within the Project area and improve interagency planning, management, and coordination.
- Additional gaging—to improve flood forecasting and monitoring.
- Feather River Fish Hatchery Funding—to provide all necessary funding to DFG to implement the Feather River Fish Hatchery Program.
- Gravel Supplementation—to initiate early efforts to obtain all necessary permits for supplementation of spawning gravels suitable for spring-run and fall-run Chinook salmon and steelhead as described in Appendix A of the SA.
- Oroville Wildlife Management Plan—agreement by DFG to use its best efforts to obtain adequate funding to share the cost to develop an OWA Management Plan as described in Appendix A of the SA.
- Revision of Speed Limit Regulation for Thermalito Afterbay—agreement by DFG to make a recommendation to the California Fish and Game Commission to rescind the speed limit for that portion of Thermalito Afterbay south of State Route 162.
- Flow/Temperature to Support Anadromous Fish—agreement by DWR to begin necessary studies for the refurbishment or replacement of the river valves once

the SA is executed and filed with FERC. In addition, DWR agreed to develop a Reconnaissance Study of Facilities Modifications to address temperature habitat needs for anadromous fisheries in the LFC and the HFC.

In addition to the SA, the Proposed Project includes existing measures described in the No-Project Alternative unless otherwise indicated.

### **ES.7.3 FERC Staff Alternative**

After evaluating DWR's SA, including mandatory conditions filed pursuant to Section 4(e) and Section 18 of the Federal Power Act (FPA), and other recommendations from resource agencies and interested entities under Sections 10(a) and 10(j) of the FPA, FERC staff identified additional measures that FERC considers necessary or appropriate for continued operation of the Oroville facilities (FERC 2006). The measures are, for the most part, revisions to articles contained within the SA. However, sufficient differences between DWR's Proposed Project and the FERC Staff Alternative warrant an evaluation as a separate alternative in this DEIR. The FERC Staff Alternative does not include measures described in Appendix B of the SA with the exception of the Fuel Load Management Plan, nor does it include the HEA.

Under the FERC Staff Alternative, DWR would obtain Commission approval prior to implementing any modification to the minimum in-stream flow regime or water temperature objectives described in the SA. The FERC Staff Alternative also revises monitoring associated with the Gravel Supplementation and Improvement Program to include a provision to monitor 10 riffles every 5 years or after a high-flow event, assess the adequacy of the volume of gravel used, and replace gravel as necessary. If monitoring of 10 sites, as proposed, reveals that objectives are not being met, the FERC Staff Alternative would expand the monitoring effort to include all 15 sites and replace gravel as necessary.

The FERC Staff Alternative revises the implementation schedule for the Riparian and Floodplain Improvement Program to include a provision to implement 50 percent of the selected measures within 10 years and the remaining measures within 12 years of the issuance of any new license for the Oroville facilities.

The FERC Staff Alternative revises the RMP to include a requirement to establish standards for Project area trails and to conduct baseline inventory of trail conditions using these established standards developed for Project area trails prior to proposing any changes to trail use designation. Trail conditions would be monitored and reported on through the term of any new license issued. The recreation monitoring program would be expanded to include non-trail users to detect latent demand and unmet user needs related to trails. The non-motorized trails program would be revised based on the trail condition inventory, analysis of the survey and trail use data, and results of the feasibility studies for new trails. Recommendations, if appropriate, for changing trail use designations and a proposed implementation schedule would be included.

Under the FERC Staff Alternative, the Foreman Creek boat launch on Lake Oroville would be closed to recreational use while DWR develops a plan for protecting cultural resources that considers a spectrum of possible actions, including installing recreational facilities to redirect recreational use away from cultural resources (as described in SA Article A129) and discontinuing recreational use at the site. DWR would prepare a plan within 6 months of license issuance in consultation with local Native American tribes.

The FERC Staff Alternative also revises the RMP to include a provision to develop site plans and reconstruct the boat-in campgrounds at Bloomer, Goat Ranch, and Craig Saddle within the first 10 years after license issuance.

The Fuel Load Management Plan would become an Appendix A, FERC jurisdictional action under the FERC Staff Alternative and DWR would be required to prepare a biological evaluation of the effects of any Proposed Project construction activities on USFS special-status species or their habitat on FS lands.

Under the FERC Staff Alternative, the one-time interim project that seeded the downstream face of Oroville Dam with a wildflower mixture dominated by poppies would be continued as necessary. The FERC Staff Alternative would not require DWR funding associated with the July 4th fireworks displays at Lake Oroville due to the lack of project nexus.

The FERC Staff Alternative would require DWR to revise and resubmit the draft HPMP to provide rationale for proposing to evaluate only 20 percent of the sites and to provide for evaluating all sites within the fluctuation zone.

## **ES.8 RESULTS OF THE IMPACT ASSESSMENT**

Chapter 5.0 of this document provides an analysis of the environmental consequences or “impacts” of the Proposed Project. In accordance with Section 15123 of the State CEQA Guidelines (California Code of Regulations Title 14), a summary of the impacts of the Proposed Project is provided in Section 5.16 of the DEIR. Table 5.16-1 includes mitigation measures that are recommended to bring potential impacts of the Proposed Project within identified thresholds of significance. Finally, the table indicates that implementation of the recommended mitigation measures would reduce impacts to less-than-significant levels.

The results of the impact assessment indicate that either action alternative would result in an increase in quantity and/or quality of aquatic and terrestrial habitat and recreational opportunities when compared to the No-Project Alternative. Construction-related activities would result in short-term impacts on soils, aquatic and terrestrial habitat, cultural resources, traffic, air quality, water quality, noise, and visual resources. The potentially significant environmental impacts identified during the DEIR analysis would be mitigated to less-than-significant levels. No unavoidable significant impacts under CEQA have been identified. The DEIR Table 5.16-1 shows those impacts that

are potentially significant and the mitigation that reduces the level to less than significant.

### **ES.9 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED**

During public scoping and the ALP process, a number of substantive comments were received stating concerns about various issues, most of which have been resolved. Areas of remaining controversy are: protection and management of cultural resources, water temperature for agricultural diversions, trail use designations, socioeconomics, road maintenance, public safety, and public health. These issues were considered during the ALP development of the SA Articles and Sections that are incorporated in the Proposed Project.

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