

## **COVER SHEET**

**FEDERAL ENERGY REGULATORY COMMISSION  
FINAL ENVIRONMENTAL IMPACT STATEMENT  
FOR THE OROVILLE FACILITIES PROJECT  
Docket No. P-2100-052**

**Section 1  
Purpose of Action and Need for Power  
Pages 1 to 12  
FEIS**

## **1.0 PURPOSE OF ACTION AND NEED FOR POWER**

On January 26, 2005, the California Department of Water Resources (DWR) filed an application with the Federal Energy Regulatory Commission (Commission or FERC) for a new major license for the existing Oroville Facilities (FERC Project No. 2100). The 762-megawatt (MW) project is located on the Feather River, in Butte County, California, near the community of Oroville (figure 1). The Oroville Facilities are located at river mile (RM) 59 from the Feather River's confluence with the Sacramento River. The site is located in central California about 130 miles northeast of San Francisco, California. The project occupies 41,540 acres including 1,620 acres of federal lands managed by the U.S. Department of Agriculture, Forest Service (Forest Service; within the Plumas and Lassen National Forests) and the U.S. Bureau of Land Management (BLM; 4,620 acres).<sup>8</sup> The project would be expected to generate an average of 2,382,000 megawatt-hours (MWh) annually under current conditions. DWR does not propose any modifications to the Oroville Facilities that would either add new generation equipment or increase the generating capability of the existing three power plants. However, DWR does propose continuing to operate and maintain the Oroville Facilities with new environmental and recreational measures. These measures could be either structural or operational improvements that could affect future project costs and the amount of annual generation.

### **1.1 PURPOSE OF ACTION**

The Commission must decide whether to issue a new license to DWR for the Oroville Facilities and what conditions, if any, should be placed on that license. Issuing a license would allow DWR to continue generating electricity for the term of that license, making electric power from a renewable source available to its customers the State Water Project.

In this environmental impact statement (EIS), we assess the effects associated with the operation of the project as well as alternatives to the proposed project; make recommendations to the Commission about whether to issue a new license; and if so, recommend terms and conditions to become part of any license issued. In deciding whether to issue any license, the Commission must determine that the project would be best adapted to a comprehensive plan for improving or developing a waterway. In addition to the power and developmental purposes for which licenses are issued (e.g., flood control, irrigation, and water supply), the Commission must give equal consideration to the purposes of energy conservation; protection of, mitigation of damage to, and enhancement of fish and wildlife (including related spawning grounds and habitat); protection of recreational opportunities; and the preservation of other aspects of environmental quality. In this EIS, we analyze and evaluate the environmental and economic effects of continuing to operate the project as it now operates and operating it (1) as presented in the Settlement Agreement (DWR, 2006a) and (2) with staff-recommended measures (Staff Alternative).

Four major issues for this project include flow releases into the Feather River, recreational trails, socioeconomic effects, and cultural resource protection. Project flow releases are important because they directly affect the quality of habitat for aquatic species, including anadromous fish by influencing water temperature and creating spawning habitat for fish. Project flow releases are also important because water released into the Feather River at each of the diversions affects the generation capacity and operational flexibility of the project.

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<sup>8</sup> We note there are inconsistencies within the license application regarding the acreage of public land within the project boundary. The preliminary draft environmental assessment states that BLM and Forest Service manage 3,900 and 2,000 acres of land, respectively. Exhibit G states that BLM and Forest Service manage 4,602.93 and 1,571.99 acres of land, respectively. Final Land Management Report (L-2) states that BLM and Forest Service manage 3,852 and 2,039 acres of land, respectively. DWR in its comments on the draft EIS states that BLM manages 4,620 acres and Forest Service manages 1,620 acres of federal lands.

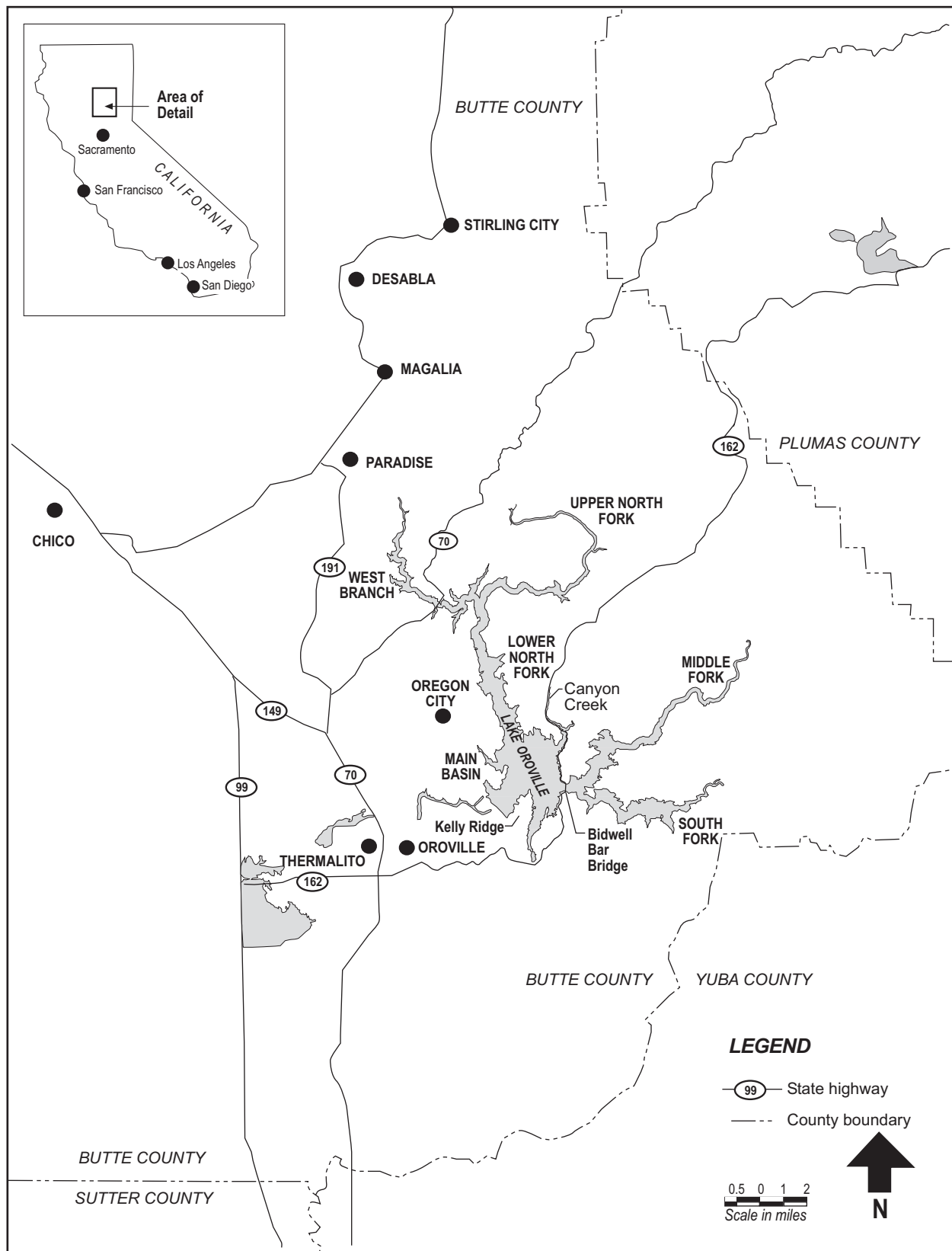


Figure 1. Oroville Facilities location. (Source: DWR, 2005a)

The project provides approximately 90 miles of trails that provide access to project lands and waters. Each trail is designated for specific uses whereby some trails are open to all forms of non-motorized uses and some forms of trail use, such as bicycling, are not allowed. At issue is the proper mix of designated uses that should be provided on the project recreational trails. Specifically, changing trails designated as equestrian/hiker-only to multiple-use trails would diminish the opportunity for equestrians to ride on trails where they would not encounter bicycles. In determining trail use designations, there is a trade-off between preserving the quality and safety of recreational experiences and providing abundant trail access for the public.

The project is located in the greater Oroville area where agriculture (primarily orchard and rice production), local and state government, and recreation and tourism-serving businesses dominate the local economy. The project attracts considerable recreational visitation that provides economic benefits and creates needs for public services such as search and rescue, road maintenance, and law enforcement. Because the project is located on public land, the lands are not subject to local taxes. Butte County, the main provider for these services, funds these services without direct funding support from the project. Additionally, Butte County asserts that its Emergency Operations Center could be inundated by a flood event.

The project recreation site at Foreman Creek contains cultural resources. Local tribes identify the importance of this area and believe DWR's proposed recreation development and any continued recreation use at the site would compromise cultural resources.

## **1.2 NEED FOR POWER**

### **1.2.1 Regional Power Considerations**

The Oroville Facilities has an installed capacity of 762 MW and an average annual generation of 2.4 million MWh<sup>9</sup> per year of energy from its three power plants. It plays an important part in meeting the capacity requirements of DWR and is a significant power resource to the state of California and within the Western Electricity Coordinating Council that includes the states west of the Rockies; portions of Texas, Nebraska, and Kansas; Alberta and British Columbia, Canada; and a portion of North Baja California.

Because the project is located in the California-Mexico Power area of the Western Electricity Coordinating Council, we looked at the regional need for power as reported by the Western Electricity Coordinating Council (WECC, 2005) to anticipate how the demand for electricity is expected to change in the region.

The California-Mexico Power area, which encompasses most of California and a part of Baja California in Mexico, has a significant summer peak demand. For the period from 2005 through 2014, the Western Electricity Coordinating Council forecasts peak demand and annual energy requirements in the area to grow at annual compound rates of 2.4 and 2.6 percent, respectively. Severe weather conditions in 1998 and 2000 affected the area, resulting in numerous curtailments of service to interruptible customers. Even with assumptions about future generation and transmission extension projects, short-term statewide and local reliability problems exist. Resource capacity margins for the California-Mexico Power area range between 13.2 and 14.8 percent of firm peak summer demand for the next 10 years, including allowances for projected new capacity. Winter reserves are expected to fall from 31.3 percent in 2005 to 2006 to 15.1 percent in 2014 to 2015. Available reserves in the California-Mexico Power area are projected to decrease below generally accepted values of 15 to 18 percent. Therefore, maintaining the capacity from the Oroville Facilities could have a significant positive effect on the ability of the area to meet regional requirements for generation in both summer and winter. The

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<sup>9</sup> This value is the average generation from 1982 to 2001 (DWR, 2005b, exhibit B).

Western Electricity Coordinating Council anticipates that 6,783 MW of new capacity would come on line within the next 10 years in the California-Mexico Power region of the Western Electricity Coordinating Council region.

### **1.2.2 DWR Power Considerations**

The project's power capacity and generation are vital to the state of California. The project provides a large portion of the electricity needed to pump water through the California State Water Project at a lower cost than potential replacement power sources.

Oroville Facilities operations are planned and scheduled in concert with other State Water Project and U.S. Bureau of Reclamation Central Valley Project's water storage, pumping, and conveyance facilities. The primary operating function of the Oroville Facilities power plants is to provide electricity to State Water Project pumps that move water through the State Water Project system. Overall, the State Water Project uses more energy than it produces. Thus, any decrease in power generation at the Oroville Facilities would need to be offset by increased purchases of energy from other resources and/or by construction of new power generating facilities. In 2000, the State Water Project required 9,190,000 MWh of generation to meet pumping requirements and station service usage. In the same year, the Oroville Facilities generated roughly 2,760,000 MWh of that total, which amounts to about 30 percent of the system's total requirements. The year 2000 was somewhat above average in terms of the annual generation at the Oroville Facilities as compared to the long-term average of 2,400,000 MWh. The year 2001 was a drier year in which Oroville Facilities only generated about 1,235,000 MWh (only half of the long-term average). During that same year, the State Water Project required about 6,656,000 MWh. Under those conditions, Oroville Facilities provided about 18.5 percent of the State Water Project needs. We present further analysis of the relationship between State Water Project energy usage and Oroville energy production in section 4.0, *Developmental Analysis*.

If the project's license is issued, the Oroville Facilities would continue to contribute to a diversified generation mix and help meet power needs within and beyond the region. Regional power benefits from the Oroville Facilities<sup>10</sup> include those often referred to as ancillary system benefits, including spinning reserves, non-spinning reserves, peaking capacity, and grid stability. The project would also reduce the need for fossil-fueled electric power generation thereby conserving non-renewable fossil fuels and reducing the emission of noxious byproducts that would be caused by fossil fuel combustion. We conclude that the project power contributes to a diversified generation mix and helps meet a need for power in the region.

## **1.3 SCOPING PROCESS**

On January 11, 2001, the Commission issued a letter approving DWR's request to use the alternative licensing process for relicensing the Oroville Facilities. In accordance with the Commission's regulations, this includes a scoping process and preparing a preliminary draft environmental assessment as a substitute for exhibit E of the license application, which describes DWR's scoping process; includes information about potential resource effects and protection, mitigation, and enhancement proposals; and includes copies of comments received by DWR and the Commission on the proposed project.

The National Environmental Policy Act (NEPA) scoping process was completed as part of the alternative licensing process, and the Commission and DWR formally initiated public scoping on September 27, 2001, with the release of Scoping Document 1. Public scoping meetings were held in the cities of Oroville and Sacramento, California, on October 29 and 30, 2001, respectively, to receive oral comments on the project. At those meetings, a court reporter recorded all comments and the transcripts

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<sup>10</sup> Two of the three hydroelectric developments, Hyatt pumping-generating plant and Thermalito pumping-generating plant have a pumped storage capability, thereby enhancing ancillary benefits.

are a part of the public record for the project. Any person who was unable to attend a public scoping meeting or desired to provide further comment was encouraged to submit written comments and information to DWR and the Commission by November 26, 2001.

Based on the comments received, a final Scoping Document 1 was issued on September 20, 2002. Subsequently, Scoping Document 2 was issued on February 21, 2003, for the purpose of supporting the development of an environmental document that would fulfill the requirements of NEPA. The notice solicited additional comments to be submitted by April 28, 2003. The following entities provided written comments throughout the scoping process. During the scoping meetings, three entities also provided oral comments, which are included in the meeting transcripts.

<b>Commenting Entity</b>	<b>Date of Comment</b>
National Marine Fisheries Services (NMFS)	October 11, 2001, May 28, 2003
Butte County	October 29, 2001, April 27, 2003
Catherine H. Hodges	October 29, 2001, April 28, 2003
Feather River Diverters (Joint Water Districts and Western Canal Water Districts)	October 29, 2001, April 28, 2003
Oroville Foundation of Flight	October 29, 2001
Ron Davis	October 29, 2001, April 27, 2003
Alameda County Flood Control & Water Conservation District	October 30, 2001
Association of California Water Agencies	October 30, 2001
California Business Properties Association	October 30, 2001,
California Chamber of Commerce	October 30, 2001
California Independent System Operator	October 30, 2001
Castaic Lake Water Agency	October 30, 2001
Kern County Water Agency	October 30, 2001
Southern California Water Committee	October 30, 2001
State of California Electricity Oversight Board	October 30, 2001
State Water Contractors Inc.	October 30, 2001, April 28, 2003
Plumas National Forest	November 14, 2001
Civil Engineering Services, F.D. Pursell	November 16, 2001
National Park Service	November 16, 2001
California State Department of Fish & Game	November 21, 2001, April 28, 2003
State Water Resources Control Board	November 21, 2001
Metropolitan Water District of Southern California	November 26, 2001
Paleo Resource Consultants, F&F Geo Resources Associates Inc.	November 26, 2001
Santa Clara County Water District	November 26, 2001

<b>Commenting Entity</b>	<b>Date of Comment</b>
United States Fish and Wildlife Service	Undated <sup>11</sup>
California State Department of Forestry and Fire Protection	April 11, 2003
The Baiocchi Family	April 15, 2003
Pacific Cherokee Tribal Council	April 21, 2003
County of Sutter, Board of Supervisors	April 22, 2003
Northern California Water Association	April 28, 2003

## **1.4 AGENCY CONSULTATION AND PUBLIC INVOLVEMENT**

### **1.4.1 Alternative Licensing Process**

An integral part of the alternative licensing process, significant opportunities for public involvement were integrated into the relicensing process. Opportunities began late in 1999 when DWR distributed a notice to government agencies, federally recognized Indian tribes, and other interested parties and organizations to develop a list of potential stakeholders. The alternative licensing process consisted of opportunities for agencies and individuals to participate in one of five resource-specific work groups to identify resource issues, develop study plans, consider existing and new information and recommend measures to the plenary group. Meetings of the Environmental; Recreation and Socioeconomic; Cultural Resources; Land Use, Land Management and Aesthetics; and Engineering and Operations Work Groups and the Plenary Group occurred from 2000 to 2004. All meetings were documented in meeting summaries, including decisions and action items, and placed on the applicant's web site.<sup>12</sup> These meetings gave interested members of the public the opportunity to provide input on the type and scope of resource study plans and the ability to comment on the results of the studies.

Over the course of this relicensing proceeding, the Commission received numerous filings for this project. Most of the filings were in response to (1) DWR's application filing, (2) the Commission's notice accepting the license application that solicits interventions and terms, conditions, and recommendations from agencies, and (3) DWR's filing of the Settlement Agreement. These filings are on the project record and can be found on the Commission's web site by using the eLibrary feature.

### **1.4.2 Interventions and Comments**

On September 12, 2005, the Commission issued a notice accepting DWR's application and set a deadline of March 31, 2006, for filing protests, motions to intervene, and agency terms and conditions. The following table lists entities that filed motions to intervene and agency letters providing comments, recommendations, terms, and conditions for this relicensing proceeding.

<b>Intervenor</b>	<b>Date of Filing</b>
County of Butte, California	April 21, 2005, and March 30, 2006
Enterprise Rancheria	June 8, 2005

<sup>11</sup> This letter was not dated, but it appears as a scoping comment letter titled Fish and Wildlife Service's Comments on NEPA Scoping Document 2 and Amended CEQA Notice of Preparation—Oroville FERC Relicensing, dated February 25, 2003. It is available on DWR's web site at [http://orovillere relicensing.water.ca.gov/pdf\\_docs/sd2\\_comments\\_fws.pdf](http://orovillere relicensing.water.ca.gov/pdf_docs/sd2_comments_fws.pdf).

<sup>12</sup> The applicant's web site is available on the Internet at <http://orovillere relicensing.water.ca.gov>.

<b>Intervenor</b>	<b>Date of Filing</b>
Friends of the River, Sierra Club and South Yuba River Citizens League	October 17, 2005
Michael Kelley	November 10, 2005
Pacific Gas and Electric Company	November 16, 2005
Kern County Water Agency	November 16, 2005
The Anglers Committee, The Baiocchi Family, Butte Sailing Club, Butte County Taxpayers for Fair Government, Butte County Taxpayers Association and Lake Oroville Fish Enhancement Committee	December 16, 2005, and April 20, 2006
Tyme Maidu Tribe of the Berry Creek Rancheria	January 30, 2006
Mojave Water Agency	January 30, 2006
Cathy Hodges	February 7, 2006
Western Canal Water District, Richvale Irrigation District, Butte Water District, Biggs-West Gridley Water District, Sutter Extension Water District	February 13, 2006
State Water Contractors <sup>13</sup>	February 3, 2006, and March 30, 2006
Lake Oroville Bicycle Organization	February 22, 2006, and March 31, 2006
Plumas County	March 16, 2006
California State Water Resources Control Board	March 16, 2006
Sutter County, Yuba City, Levee District No. 1 of Sutter County	March 27, 2006
Metropolitan Water District of Southern California	March 28, 2006
U.S. Department of Agriculture, Forest Service	March 29, 2006
National Marine Fisheries Service	March 29, 2006
California Department of Fish and Game	March 29, 2006
Mooretown Rancheria of Maidu Indians of California	March 30, 2006
Ronald Davis	March 31, 2006
California State Horsemen's Association	March 31, 2006
American Rivers, American Whitewater, Chico Paddleheads	March 31, 2006
Action Coalition for Equestrians et al. <sup>14</sup>	March 31, 2006

<sup>13</sup> Filed on behalf of Alameda County Flood Control and Water Conservation District, Zone 7; Alameda County Water District; Antelope Valley-East Kern Water Agency; Castaic Lake Water Agency; Central Coast Water Authority; Coachella Valley Water District; County of Kings; Crestline-Lake Arrowhead Water Agency; Desert Water Agency; Dudley Ridge Water District; Empire West Side Irrigation District; Littlerock Creek Irrigation District; Oak Flat Water District; Palmdale Water District; San Bernardino Valley Municipal Water District; San Gabriel Valley Metropolitan Water District; San Geronio Pass Water Agency; Santa Clara Valley Water District; Solano County Water Agency; and Tulare Lake Basin Water Supply District.



<b>Intervenor</b>	<b>Date of Filing</b>
George Weir, Vicki Hittson-Weir and Pathfinder Quarter Horses	March 31, 2006
California State Horsemen's Association, Region II	March 31, 2006
Mechoopda Indian Tribe of Chico Rancheria	March 31, 2006
KonKow Valley Band of Maidu	March 31, 2006
International Mountain Bicycling Association	March 31, 2006
United Water Conservation District and City of San Buenaventura	March 31, 2006
U.S. Department of the Interior	March 31, 2006
City of Oroville	April 20, 2006
Feather River Recreation and Park District	May 11, 2006

### **1.4.3 Settlement Agreement**

Early in 2004, DWR initiated settlement negotiations with agencies, tribes, non-governmental organizations, and other interested parties (Settlement Negotiations Group) to develop an alternative that would be supported by these participants. Settlement negotiations continued into March 2006, and DWR filed a Settlement Agreement with an explanatory statement on March 24, 2006. The Settlement Agreement was signed by representatives of 51 federal, state, and local agencies; the KonKow Valley Band of Maidu; non-governmental organizations; and two individuals. In the cover letter transmitting the Settlement Agreement to the Commission, DWR requested that the proposed articles included in the Settlement Agreement replace the preferred alternative identified in the project application, which was filed on January 26, 2005.<sup>15</sup> Accordingly, we consider the Settlement Agreement to represent the Proposed Action for this project.

Signatories to the Settlement Agreement include the following entities:

#### **Agencies**

- National Marine Fisheries Service
- United States Department of the Interior
- California Department of Boating and Waterways
- California Department of Fish and Game
- California Department of Parks and Recreation
- California Department of Water Resources

<sup>14</sup> Filed on behalf of Action Coalition of Equestrians, Back Country Horsemen of California, California Equestrian Trails & Lands Coalition, Chico Equestrian Association, Equestrian Trail Riders, Equestrian Trails, Inc., Golden Feather Riders, Inc., Oroville Pageant Riders, Paradise Horsemen's Association and concerned individuals.

<sup>15</sup> Appendix A of the Settlement Agreement includes proposed articles to be included in the license and Appendix B of the Settlement Agreement includes measures the Settlement parties agreed to, but DWR proposes to be outside of the terms and conditions associated with a new license for the project.

**Indian Tribes**

- KonKow Valley Band of Maidu

**Other Governmental Entities**

- Alameda County Flood Control & Water Conservation District, Zone 7
- Alameda County Water District
- Antelope Valley – East Kern Water Agency City of Oroville
- Castaic Lake Water Agency
- Central Coast Water Authority
- City of Oroville
- Coachella Valley Water District
- County of Kings
- Crestline – Lake Arrowhead Water Agency
- Desert Water Agency
- Empire West Side Irrigation District
- Feather River Recreation and Parks District
- Kern County Water Agency
- Littlerock Creek Irrigation District
- Metropolitan Water District of Southern California
- Mojave Water Agency
- Napa County Flood Control and Water Conservation District
- Oak Flat Water District
- Oroville Parks Commission
- Oroville Redevelopment Agency
- 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
- Town of Paradise
- Tulare Lake Basin Water Storage District

### **Non-governmental Entities**

- Berry Creek Citizens Association
- California State Horsemen's Association
- California State Horsemen's Association Region II
- Chico Paddleheads
- Feather River Low Flow Alliance
- International Mountain Bicycling Association
- Lake Oroville Bicyclist Organization
- Oroville Area Chamber of Commerce
- Oroville Downtown Business Association
- Oroville Economic Development Corporation
- Oroville Recreation Advisory Committee
- Oroville Rotary Club
- State Water Contractors, Inc.

### **Conservation Groups**

- American Rivers
- American Whitewater
- Citizens for Fair and Equitable Recreation

Several entities filed comment letters in response to the Settlement Agreement filing. Signatories to the agreement and some of their constituents filed letters and petitions in support of the agreement. Most of these filings supported the proposed changes to the trail designations stating that the planned changes represent a collaborative-based compromise between equestrians and bicyclists that would provide the best use of limited natural resources that ensures maximum trail-use opportunities for hikers, bicyclists, and equestrians.

However, there were also several comments filed in opposition to the agreement. Most of these filings were from equestrians, Native Americans, and Butte County. The following sections describe some of the comments filed in response to the Settlement Agreement.

#### **1.4.3.1 Comments by Equestrians in Opposition to the Settlement Agreement**

The comment letters from equestrians stated several concerns with the proposed trail-use designations focusing on safety, resource damage and user conflicts. They cite concerns with bicyclists spooking horses, potentially causing accidents, and potential trail damage (e.g., erosion and vegetation damage) associated with bicycle use. Equestrians believe the terms of the Settlement Agreement do not properly address trail safety concerns and that trail maintenance funding could be insufficient to maintain the trails. They would also like to preserve the existing equestrian/hiker-only designated trails because regionally there are only a few trails where equestrians can ride without encountering bicycles.

Equestrians who oppose the Settlement Agreement also state concerns with the process and information DWR used to develop the proposed trail designations. Although DWR convened a trails

focus group that consisted of various user group representatives, some individuals claim DWR discouraged them from participating in the process because of their opposition to changing the trail designations. They also assert that DWR used flawed or insufficient data to develop their proposed changes. They point out that trails were not being managed under their approved uses in 2002 when the user surveys were conducted, invalidating the survey results, and that DWR did not properly investigate potential user conflicts. They also point out that DWR developed the proposed changes without knowing the existing trail conditions since DWR has not completed a trail condition inventory. Consequently, the equestrians opposed to the Settlement Agreement do not believe that DWR has provided a scientific or environmental reason for changing the trail designations.

#### **1.4.3.2 Comments by Native Americans in Opposition to the Settlement Agreement**

Comment letters filed by Berry Creek Rancheria of Maidu Indians of California (Berry Creek Rancheria) and Mooretown Rancheria of Maidu Indians of California (Mooretown Rancheria) state concerns with proposed development and continued recreation use at Foreman Creek. They believe the Settlement Agreement terms fail to address their concerns at this site and would allow further desecration of cultural resources. They would like to see public access prohibited at the site except for local, federally recognized Tribes.

#### **1.4.3.3 Comments by Butte County in Opposition to the Settlement Agreement**

Butte County opposes the Settlement Agreement because, in their opinion, it (1) fails to include essential stakeholders in the license implementation and monitoring process, thereby limiting public participation; (2) fails to resolve important relicensing issues and project effects (e.g., socioeconomic, recreational, natural resources and emergency project operations); (3) imposes fundamental impediments to the Commission's ability to monitor the license implementation and compliance; and (4) fails to protect public safety and the public interest. Butte County believes that Settlement Agreement terms are based on inadequate studies and analysis and that it has not had the opportunity to challenge the key facts and assumptions relied on by DWR to develop the agreement. Further they believe the procedures outlined in the agreement shelter DWR from community monitoring making it difficult for stakeholders to bring compliance problems before the Commission.

#### **1.4.4 Comments on the Draft Environmental Impact Statement**

On September 29, 2006, the Commission staff issued the draft EIS for the relicensing of the Oroville Facilities. Comments on the draft EIS were due on November 28, 2006.<sup>16</sup>

On November 8, 2006, Commission staff held a public meeting in Oroville, California, for the purpose of summarizing staff's recommendation in the draft EIS and discussing and receiving comments on the draft EIS. The meeting was transcribed and is part of the public record. In addition, 57 people commented at the public meeting.

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<sup>16</sup> The U.S. Environmental Protection Agency issued a notice of availability for the draft EIS in the Federal Register on October 6, 2006 (71 FR 59106)

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