

APPENDIX F

SUPPORTING INFORMATION FOR RELATED ACTIONS

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APPENDIX F
SUPPORTING INFORMATION FOR RELATED ACTIONS

This appendix includes supporting information for the projects and regulatory proceedings referred to as related actions in Section 5.2.1 of the Preliminary Draft Environmental Assessment (PDEA). Along with the more general related actions included in Section 5.2.1, the related actions described in the remainder of this appendix were included in the PDEA's cumulative effects analysis.

Brief descriptions of the projects or regulatory proceedings are provided beginning on the next page, along with other information concerning the project proponent or lead agency, the status of National Environmental Policy Act (NEPA) and/or California Environmental Quality Act (CEQA) compliance and permitting, funding status, project schedule, and sources for additional information.

F.1 PROJECT/ACTION TITLE

The California Bay-Delta Authority (formerly and commonly referred to as the CALFED Bay-Delta Program [CALFED]).

F.1.1 Lead Agency/Project Sponsor

The California Bay-Delta Authority, working in collaboration with other State and federal agencies listed below:

State Agencies:

THE RESOURCES AGENCY

- California Department of Parks and Recreation (DPR)
- California Department of Water Resources (DWR)
- California Department of Fish and Game (DFG)
- The Reclamation Board
- Delta Protection Commission
- California Department of Conservation (DOC)
- San Francisco Bay Conservation and Development Commission

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

- State Water Resources Control Board (SWRCB)

CALIFORNIA DEPARTMENT OF HEALTH SERVICES (DHS)

CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE

Federal Agencies:

U.S. DEPARTMENT OF THE INTERIOR

- U.S. Bureau of Reclamation (USBR)
- U.S. Fish and Wildlife Service (USFWS)
- U.S. Geological Survey (USGS)
- U.S. Bureau of Land Management (BLM)

U.S. ENVIRONMENTAL PROTECTION AGENCY (USEPA)

U.S. ARMY CORPS OF ENGINEERS (USACE)

U.S. DEPARTMENT OF AGRICULTURE

- Natural Resources Conservation Service
- U.S. Forest Service (USFS)

NATIONAL MARINE FISHERIES SERVICE (National Oceanic and Atmospheric Administration [NOAA] Fisheries)

WESTERN AREA POWER ADMINISTRATION

F.1.2 Location

San Francisco Bay and the Sacramento–San Joaquin Delta (Delta), including tributaries and associated river basins.

F.1.3 Project Description

CALFED involves collaboration between State and federal agencies and stakeholders from key interest sectors created to address and resolve resource management issues in the Bay-Delta system. The mission of CALFED is to develop and implement a comprehensive plan that addresses resource problems in the Bay-Delta estuary related to fish and wildlife, water supply reliability, natural disasters, and water quality. The CALFED Record of Decision (ROD) was signed in late 2000. The ROD directs that a number of specific studies and projects be implemented to address identified resource management issues. Some of the major studies and projects are summarized below.

F.1.3.1 Ecosystem Restoration Program

The Ecosystem Restoration Program (ERP) involves extensive habitat restoration throughout the Sacramento and San Joaquin Valleys. The CALFED Programmatic Environmental Impact Statement/Environmental Impact Report (Programmatic EIS/EIR) identified 6 strategic goals for the ERP to meet over the 30-year course of the Bay-Delta Program. These strategic goals broadly define the scope and purpose of the ERP and provide the basis for a vision of a restored Bay-Delta system. The strategic goals guided the development of strategic objectives and targets and are used to evaluate proposed restoration actions.

Targets are qualitative or quantitative statements of a strategic objective; as such, they are designed to be more flexible than the strategic objectives, and they will change as new information and progress indicate the need for change. Targets reflect the adaptive management principle; that is, as new information is developed, targets may change—adapt—to achieve the objective or goal. Actions are those measures designed to meet the specific target; actions are also subject to adaptive management and can change to meet the target. Currently, there are more than 300 targets and 600 programmatic actions described for the ERP.

F.1.3.2 Upper Yuba River Studies Program

In 1998, the CALFED ERP recommended a studies program to determine whether modifying Englebright Dam would make it feasible for steelhead trout and spring-run Chinook salmon to return to the Yuba River. Through active public involvement and collaborative efforts, the Upper Yuba River Studies Program (UYRSP) was developed to evaluate restoration feasibility; to disclose potential effects of such activities on other resources and areas of concern; and to investigate various potential options to achieve fish passage and restoration of habitat above Englebright Dam. Stakeholders—owners of lakefront property and local businesses; recreationists; local, State, and national environmental organization representatives; and agency staff—developed a collaborative process and agreed on key issues and concerns to be addressed in the

studies. These issues and concerns included existing and potential habitat conditions both upstream and downstream, public health and safety, economics, sediment control and water quality, hydropower resources, and regional water supply and demand.

The UYRSP is a collaborative and stakeholder-driven process. The UYRSP has initially identified a set of six feasibility studies designed to determine whether introducing wild Chinook salmon and steelhead trout to the upper Yuba River watershed is feasible over the long term from biological, environmental, and socioeconomic standpoints. Information derived from the studies will be used to develop recommendations to CALFED for their consideration.

F.1.3.3 Environmental Water Account

The Environmental Water Account (EWA) has been established to provide water for the protection and recovery of at-risk fish species beyond the water available through existing regulatory actions related to State Water Project (SWP) and Central Valley Project (CVP) operations. The purpose of the EWA is protect the at-risk fish species of the Bay-Delta estuary by making environmentally beneficial changes in SWP/CVP operations while avoiding uncompensated water losses to the projects' water users. This approach to fish protection requires the acquisition of alternative sources of project water supply, called "EWA assets." EWA assets are to be used to augment streamflows and Delta outflows, modify exports, provide fishery benefits, and replace the regular project water supply interrupted by the changes to project operations for EWA purposes.

F.1.3.4 Other Studies and Projects

CALFED includes numerous other studies and projects in the early planning and feasibility stages. They have not been adopted in any planning document or official plan beyond a highly programmatic environmental document. No firm description of these projects and programs is available, and many do not have a schedule for environmental compliance or project implementation. It is highly unlikely that all of these projects will move forward into the implementation stage, and those that are ultimately implemented likely will be staged over a period of several years.

F.1.4 Project Schedule (Anticipated Completion Date) and Status

- Final CALFED Programmatic EIS/EIR completed in 2000;
- Final ROD signed in 2002; and
- Program to last 30 years, with many elements being implemented over time on separate schedules.

F.1.5 NEPA and/or CEQA Compliance and Permitting Status

Project-level environmental documents are ongoing as new actions/projects are approved. Any necessary NEPA or CEQA documents for subsequent projects must tier

from the CALFED Programmatic EIS/EIR. Permits for CALFED are obtained for each individual action/project and a variety of permitting activities are ongoing.

F.1.6 References

California Bay-Delta Authority. California Bay-Delta Authority Website. Accessed June 11, 2004. URL= <http://calwater.ca.gov/>.

F.2 PROJECT/ACTION TITLE

Central Valley Project Improvement Act (CVPIA).

F.2.1 Lead Agency/Project Sponsor

USBR and USFWS.

F.2.2 Location

USBR operates facilities throughout California's Central Valley from Shasta and Trinity Lakes in the north to the Tehachapi Mountains near Bakersfield in the south. The CVPIA affects operations of these and other CVP facilities and associated water supply deliveries and priorities.

F.2.3 Project Description

In 1992, the U.S. Congress passed the CVPIA, which amended previous authorizations of the CVP to include fish and wildlife protection, restoration, enhancement, and mitigation as project purposes having equal priority with power generation, and irrigation and domestic water uses. Congress directed the Secretary of the Interior, through USBR and USFWS, to operate the CVP consistent with the purposes of the CVPIA, to meet the federal trust responsibilities to protect the fishery resources of affected federally recognized Indian tribes, and to achieve a reasonable balance among competing demands for use of CVP water. The general purposes of the CVPIA, and the action proposed by the Department of the Interior, were identified by Congress in Section 3404 of the CVPIA, as follows:

- To protect, restore, and enhance fish, wildlife, and associated habitats in the Central Valley and Trinity River Basins of California;
- To address impacts of the CVP on fish, wildlife, and associated habitats;
- To improve the operational flexibility of the CVP;
- To increase water-related benefits provided by the CVP to the State of California through expanded use of voluntary water transfers and improved water conservation;
- To contribute to the State of California's interim and long-term efforts to protect the San Francisco Bay/Sacramento–San Joaquin Delta Estuary; and
- To achieve a reasonable balance among competing demands for CVP water, including the requirements of fish and wildlife, agriculture, municipal, and industrial and power contractors.

The CVP is composed of 20 dams and reservoirs, 11 power plants, and 500 miles of major canals as well as conduits, tunnels, and related facilities. The CVP regulates

approximately 9 million acre-feet (maf) of water and delivers about 7 maf for agriculture, urban, and wildlife use. The CVP provides about 5 maf for farms—enough to irrigate about 3 million acres or approximately one-third of the agricultural land in California—and furnishes about 600 thousand acre-feet (taf) for municipal and industrial use, enough to supply close to 1 million households with their water needs each year. The CVP generates 5.6 billion kilowatt hours of electricity annually to meet the needs of about 2 million people. A total of 800 taf of water per year is dedicated to fish and wildlife and their habitat and 410 taf is dedicated to State and federal wildlife refuges and wetlands pursuant to the CVPIA.

F.2.4 Project Schedule (Anticipated Completion Date) and Status

- CVPIA Final Programmatic EIS completed in October 1999; and
- CVPIA Final ROD signed in 2001.

F.2.5 NEPA and/or CEQA Compliance and Permitting Status

Project-level environmental documents and permitting activities are ongoing as new actions/projects are approved. Any necessary NEPA or CEQA documents for subsequent projects must tier from the CVPIA Programmatic EIS.

F.2.6 References

USBR (U.S. Bureau of Reclamation). U.S. Bureau of Reclamation, Central Valley Project Improvement Act Website. Accessed June 15, 2004. URL = <http://www.usbr.gov/mp/cvpia/>.

F.3 PROJECT/ACTION TITLE

Feather River Watershed Projects (including other hydroelectric relicensing projects).

F.3.1 Lead Agency/Project Sponsor

Pacific Gas and Electric Company (PG&E), DWR, Federal Energy Regulatory Commission (FERC), South Feather Water and Power Agency (formerly Oroville-Wyandotte Irrigation District), and others.

F.3.2 Location

The Feather River Basin.

F.3.3 Project Descriptions

DWR, PG&E, and South Feather Water and Power Agency operate several water projects upstream of the Oroville Facilities in the Feather River Basin. Three of these projects—the Poe Project, the Upper North Fork Feather River Project, and the South Fork Feather River Project—are currently going through the FERC relicensing process. Brief descriptions of these projects and other upstream projects are provided below. Figure 5.7-7 in Section 5.7.4 shows the location of most of the upstream projects.

F.3.3.1 DWR Projects

DWR projects in the Feather River Basin include:

- **Frenchman Lake:** Construction began in September 1959 and was completed in 1961. The lake was intended for recreation and irrigation purposes and does not provide a domestic water source. It does provide some flood protection for Sierra Valley.
- **Antelope Lake:** This lake was constructed between 1962 and 1964 for streamflow maintenance and recreation. There is minimal use of this lake for irrigation.
- **Lake Davis:** This lake was constructed between October 1964 and 1967 as a domestic water supply for Portola. It also provides the area with irrigation water and recreation opportunities.

F.3.3.2 PG&E Projects

Poe Project and its Relicensing

The Poe Project (FERC Project No. 2107) consists of Poe Diversion Dam, the 53-acre Poe Reservoir, Big Bend Dam, and appurtenant structures and facilities related to hydroelectric generation.

Upper North Fork Feather River Project and its Relicensing

The Upper North Fork Feather River Project (FERC Project No. 2105) consists of three dams and reservoirs, five powerhouses, tunnels and penstocks connecting the reservoirs to the powerhouses, transmission facilities, and various roads, recreation facilities, and administrative facilities. Project reservoirs include Lake Almanor, Butt Valley Reservoir, and Belden Forebay.

Rock Creek Cresta Project

The Rock Creek Cresta Hydroelectric Project consists of the Rock Creek and Cresta developments, each of which has a dam, reservoir, tunnel, powerhouse, and associated transmission facilities. The operation of the Rock Creek and Cresta developments is completely integrated with that of PG&E's other projects on the North Fork Feather River.

Miocene Hydroelectric Project

The Miocene Hydroelectric Project is owned and operated by PG&E and is located on the West Branch Feather River several miles upstream of Lake Oroville. A small amount of power is produced by PG&E via the Miocene Ditch. Also, the City of Oroville uses some water from the Miocene Ditch for consumptive purposes. The West Branch Feather River flows into Lake Oroville under certain conditions.

Bucks Creek Project

The Bucks Creek Project is located on Milk Ranch, Bucks, and Grizzly Creeks, which are tributaries to the North Fork Feather River. The Grizzly Powerhouse was added to this project in the early 1990s and is owned by the City of Santa Clara, which is now a joint licensee with PG&E on the project.

F.3.3.3 South Fork Feather River Project and Relicensing

South Feather Water and Power Agency developed and operates the multi-purpose South Fork Project (FERC Project No. 2088). The primary purpose of the project is to develop irrigation and domestic water supplies for South Feather Water and Power Agency and Yuba County Water Agency (YCWA). South Feather Water and Power Agency has constructed seven reservoirs on the South Fork Feather River and tributary streams and has built a diversion facility on Slate Creek, a tributary to the North Yuba River.

F.3.4 Project Schedule (Anticipated Completion Date) and Status

All of the upstream projects are currently in place and operating; the relicensing status of some of these projects is summarized below.

- **Poe Project Relicensing:** PG&E submitted its Draft License Application in April 2001. Currently, a collaborative process is under way with the expectation of

settlement agreement submittal by early 2005. FERC has not completed an environmental document on this project.

- **Upper North Fork Feather River Project Relicensing:** The settlement agreement for this project was signed in April 2004 and filed with FERC. The Draft EIS was issued in September 2004 and completed the public review process; the Final EIS is in preparation. The USFWS Biological Opinion (BO) is due to FERC in February 2005.
- **Rock Creek Cresta Project Relicensing:** The license for the Rock Creek Project (FERC No. 1962) expired in 1982. The project received an order approving their settlement agreement and issuing a new license on October 24, 2001. The license for this project will expire in October 2034.
- **Bucks Creek Project:** The current license does not expire until 2018.
- **South Fork Feather River Project Relicensing:** The Notice of Intent for this project was filed in October 2003, and the first-stage consultation document was filed with FERC in April 2004. This project will be using a hybrid traditional relicensing process. The existing license for this project expires in March 2009.

F.3.5 NEPA and/or CEQA Compliance and Permitting Status

Preparation of environmental documents and permitting applications is at various stages of completion as indicated by the status updates provided above.

F.3.6 References

California Hydropower Reform Coalition. Poe Relicensing Project Website. Accessed June 16, 2004. URL = <http://www.calhrc.org/relicensing/detail.asp?id=2107>.

FERC (Federal Energy Regulatory Commission). Poe Project Relicensing Scoping Meeting. Accessed June 15, 2004. URL = <http://www.calhrc.org/relicensing/detail.asp?id=2107>.

PG&E (Pacific Gas and Electric Company). Upper North Fork Feather River Project Website. Accessed June 11, 2004. URL = http://www.pge.com/education_training/about_energy/hydroelectric_system/feather_river/about_2105.html.

SWRCB (State Water Resources Control Board). Agenda for State Water Resources Control Board, Board Meeting, Division of Water Rights, October 17, 2002. Accessed June 11, 2004. URL = <http://www.swrcb.ca.gov/agendas/2002/october/1017-14.doc>.

F.4 PROJECT/ACTION TITLE

Regional Fish Hatchery Activities.

F.4.1 Lead Agency/Project Sponsor

DFG and USFWS (Operations and Management), and DWR and USBR (Project Funding).

F.4.2 Location

Various locations throughout Northern California.

F.4.3 Project Description

DFG operates 12 trout hatcheries, 8 salmon and steelhead hatcheries, and 2 fish planting bases throughout California. Four State salmon and steelhead hatcheries (the Feather River Fish Hatchery, Nimbus Salmon and Steelhead Hatchery, Mokelumne River Hatchery, and Merced River Hatchery) are located in areas affected by Oroville Facilities operations. An additional hatchery operated by USFWS, the Coleman National Fish Hatchery, is located north of the Oroville Facilities along Battle Creek.

F.4.4 Project Schedule (Anticipated Completion Date) and Status

Maintenance and upgrades at various facilities are ongoing. Continued operations are expected.

F.4.5 NEPA and/or CEQA Compliance and Permitting Status

Environmental documents and permitting of the projects are obtained as necessary.

F.4.6 References

California Department of Fish and Game and National Marine Fisheries Service Joint Hatchery Review Committee. 2001. Final Report on Anadromous Salmonid Fish Hatcheries in California. California Department of Fish and Game, Sacramento, California, and National Marine Fisheries Service Southwest Region, Long Beach, California.

DFG (California Department of Fish and Game). DFG Hatchery Information. Accessed June 16, 2004. URL = <http://www.dfg.ca.gov/lands/fish1.html>.

DWR (California Department of Water Resources). Merced River—Hatchery Project. Accessed June 16, 2004. URL = <http://www.sjd.water.ca.gov/rivermanagement/Completed/projects/merchatch/index.cfm>.

USBR (U.S. Bureau of Reclamation). Coleman National Fish Hatchery, History/Background Text from Coleman National Fish Hatchery. Accessed June 16, 2004. URL = <http://www.usbr.gov/mp/regional/battlecreek/CNFH.HTM>.

F.5 PROJECT/ACTION TITLE

Watershed Management Improvement Activities.

F.5.1 Lead Agency/Project Sponsor

DWR, USFS, nongovernmental organization watershed groups, and resource conservation districts.

F.5.2 Location

Individual watersheds located within the Feather River Basin.

F.5.3 Project Description

A range of watershed management activities are undertaken by a number of groups, organizations, and agencies in areas affected by the Oroville Facilities. DWR's Northern District office conducts studies and investigations in support of DWR programs and various watershed improvement activities of local stewardship and watershed groups, resource conservation districts, and other agencies. These programs reflect the objectives of stakeholders and DWR for improving the Feather River and surrounding watersheds. DWR assists with watershed restoration efforts that may benefit downstream water users, including those who depend on SWP water deliveries.

A number of projects have been implemented in the upper Feather River watershed, upstream of the Oroville Facilities, by the Feather River Coordinated Resource Management (FRCRM) group. FRCRM is a partnership of 22 public and private sector groups that formed in 1985 to collectively improve watershed health in the upper Feather River watershed. More than 50 watershed projects have been completed to date, and more than 15 miles of stream and 4,000 riparian acres have been treated over the last decade. Major activities include erosion control, streambank and channel stabilization and reconstruction, fish passage, and habitat restoration.

F.5.4 Project Schedule (Anticipated Completion Date) and Status

Project schedule status varies from individual action to action. More information on projects undertaken by FRCRM can be found at: <http://www.feather-river-crm.org/projects.htm>.

F.5.5 NEPA and/or CEQA Compliance and Permitting Status

Environmental and permitting status varies from project to project. Environmental documents and permitting of the projects are obtained as necessary.

F.5.6 References

DWR (California Department of Water Resources). Upper Feather River Watershed Management Program Website. Accessed June 16, 2004. URL = <http://www.nd.water.ca.gov/PPAs/WatershedMgmt/UpperFeather/>.

DWR (California Department of Water Resources). Water Resources Planning and Local Assistance, Watershed Management Website. Accessed June 21, 2004. URL = <http://www.nd.water.ca.gov/PPAs/WatershedMgmt/>.

Feather River Consolidated Resource Management. 2004. FRCRM Website. Accessed October 20, 2004. URL = <http://www.feather-river-crm.org>.

F.6 PROJECT/ACTION TITLE

Resource Management and Land Use Plans of Local, State, and Federal Agencies.

F.6.1 Lead Agency/Project Sponsor

Various local, State, and federal agencies.

F.6.2 Location

Lake Oroville and lands and waters within the FERC project boundary and 0.25 mile outside the boundary.

F.6.3 Project Description

Resource management and land use plans of local, State, and federal agencies are evaluated in Oroville Facilities SP-L3, *Comprehensive Plan Consistency Evaluation*. Project descriptions for each plan can be found in SP-L3. Related management plans are described in Chapter 9.0 of the PDEA.

F.6.4 Project Schedule (Anticipated Completion Date) and Status

The status of project schedules varies from plan to plan. See SP-L3 for additional details on specific plans.

F.6.5 NEPA and/or CEQA Compliance and Permitting Status

Environmental and permitting status varies from plan to plan. Environmental documents and permitting of the projects are obtained as necessary.

F.6.6 References

DWR (California Department of Water Resources). 2004. SP-L3: Comprehensive Plan Consistency Evaluation Report. Draft Final Report. Oroville Facilities, FERC Project No. 2100. May 2004.

F.7 PROJECT/ACTION TITLE

Management of Special-Status/Listed Species

F.7.1 Lead Agency/Project Sponsor

USFWS, NOAA Fisheries (formerly known as National Marine Fisheries Service), and DFG.

F.7.2 Location

Lake Oroville vicinity and downstream waterways influenced by SWP operations.

F.7.3 Project Description

Management of special-status/listed species is directed through the development of recovery plans and the issuance of BOs for a particular species. Special-status/listed species potentially influenced by SWP operations include: Central Valley fall-run/late fall-run Chinook salmon Evolutionarily Significant Unit (ESU), Central Valley spring-run Chinook salmon ESU, Sacramento River winter-run Chinook salmon ESU, Central Valley steelhead ESU, and delta smelt. In particular, spring-run Chinook salmon and steelhead are focus species in regard to Oroville Facilities operations. A 1983 agreement between DWR and DFG set criteria for flow and temperature to support fish in the Low Flow Channel of the Feather River, the Feather River Fish Hatchery, and the reach of the Feather River below the Thermalito Afterbay Outlet to the confluence with the Sacramento River.

Related BOs and recovery plans issued and developed to restore natural populations of these species are summarized below.

F.7.3.1 Biological Opinions

- Coordinated Operations of the Central Valley Project and State Water Project and the Operational Criteria and Plan Biological Opinion for Delta Smelt (USFWS 2004). USFWS has issued a non-jeopardy BO with regard to impacts on the threatened delta smelt from the revised operations of the CVP/SWP. The BO concludes that any adverse effects from the two jointly operated projects will be avoided or minimized by new conservation and adaptive management measures. New incidental take limits for delta smelt have also been set.
- *Biological Opinion on the Long-Term Central Valley Project and State Water Project Operations Criteria and Plan* (NOAA Fisheries 2004). NOAA Fisheries has issued a non-jeopardy BO with regard to impacts on the federally listed endangered Sacramento River winter-run Chinook salmon, threatened Central Valley spring-run Chinook salmon, threatened Central Valley steelhead, threatened Southern Oregon/Northern California Coast coho salmon, and threatened Central California Coast steelhead from the revised operations of the

CVP/SWP. The BO states that reasonable and prudent measures are necessary and appropriate to minimize take of Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, or Central Valley steelhead. NOAA Fisheries has also stated that it will defer the specification of any additional reasonable and prudent measures to the FERC process and consultation on reissuance of the license.

F.7.3.2 Recovery Plans

- *Recovery Plan for the Sacramento–San Joaquin Delta Native Fishes* (USFWS 1996). The recovery plan was developed to provide protection to all native fishes in the Delta estuary. A range of “indicator species” are addressed, including delta smelt, Sacramento splittail, longfin smelt, green sturgeon, various runs of Chinook salmon, and Sacramento perch. If these indicator species are protected, protection would be provided to the entire Delta estuary. Needed actions that were identified in the plan include habitat enhancement and restoration, reduction of effects from commercial and recreational harvest, reduction of effects from non-native aquatic species, enforcement of regulatory mechanisms, monitoring and research, assessment and prioritization of recovery actions, and increased public awareness.
- *Steelhead Restoration and Management Plan for California* (DFG 1996). The two main goals of this plan are: (1) Increase natural production so that steelhead populations are self-sustaining and maintained in good condition; and (2) Enhance angling opportunities and non-consumptive uses. Strategies proposed to accomplish these goals include: restore degraded habitat; restore access to historic habitat; review angling regulations to prevent over-harvest; maintain and improve hatchery runs; and develop and facilitate research activities.
- *Restoring Central Valley Streams, A Plan for Action* (DFG 1993). This plan encompasses all Central Valley waters accessible to anadromous fish, excluding the Delta. A unique set of fishery habitat recommendations is made for each major tributary. The activities proposed in each stream action plan fall into three general categories: habitat restoration, administrative, and evaluation. All recommended actions have been ranked and prioritized.
- *Final Restoration Plan for the Anadromous Fish Restoration Program, A Plan to Increase Natural Production of Anadromous Fish in the Central Valley of California* (USFWS 2001). A number of actions have been identified across a wide range of rivers and streams to promote anadromous fish restoration in the Central Valley. Specific actions are outlined for the Feather River, including supplementing water flows; improving flows for American shad migration; and developing and using a temperature model as a tool for river management. In addition, a range of evaluation factors are established that will be used to monitor conditions and evaluate the success of the plan.

- *Proposed Recovery Plan for the Sacramento River Winter-run Chinook Salmon* (NOAA Fisheries 1997). The purpose of this plan in the long term is to identify and set priorities for actions necessary to ultimately restore the Sacramento River winter-run Chinook salmon as a naturally sustaining population throughout its present range. In the short term, the plan is needed to prevent further erosion of the population's viability and its genetic integrity. Implementation of the recovery plan will involve several existing programs, namely the CVPIA, DFG Four Pumps Agreement, Tracy Pumping Plant Agreement, and the Category III resulting from the "Principles for Agreement on Bay-Delta Standards Between the State of California and Federal Government."

F.7.4 Project Schedule (Anticipated Completion Date) and Status

Some schedule-related information is provided above.

F.7.5 NEPA and/or CEQA Compliance and Permitting Status

Environmental documents and permitting of the projects are obtained as necessary.

F.7.6 References

- DFG (California Department of Fish and Game). 1993. Restoring Central Valley Streams: A Plan for Action. Sacramento, California.
- DFG (California Department of Fish and Game). 1996. Steelhead Restoration and Management Plan for California. Prepared by D. McEwan and T. A. Jackson, Inland Fisheries Division, Sacramento, California. February 1996.
- NOAA Fisheries (National Oceanic and Atmospheric Administration Fisheries). 1997. Proposed Recovery Plan for the Sacramento River Winter-run Chinook Salmon. National Marine Fisheries Service, Southwest Region, Long Beach, California.
- NOAA Fisheries (National Oceanic and Atmospheric Administration Fisheries). 2002. Biological Opinion on Interim Operations of the Central Valley Project and State Water Project Between April 1, 2002 and March 31, 2004. National Marine Fisheries Service, Southwest Region, Long Beach, California.
- NOAA Fisheries (National Oceanic and Atmospheric Administration Fisheries). 2004. Biological Opinion on Central Valley Project and State Water Project Operations Criteria and Plan. National Marine Fisheries Service, Southwest Region, Long Beach, California.
- USBR (U.S. Bureau of Reclamation). 2004. Long-term Central Valley Project State Water Project Operations Criteria and Plan, Biological Assessment. Sacramento, California. March 2004.
- USFWS (U.S. Fish and Wildlife Service). 1996. Recovery Plan for the Sacramento-San Joaquin Delta Native Fishes. Portland, Oregon.

USFWS (U.S. Fish and Wildlife Service). 2001. Final Restoration Plan for the Anadromous Fish Restoration Program, A Plan to Increase Natural Production of Anadromous Fish in the Central Valley of California.

USFWS (U.S. Fish and Wildlife Service). 2004. Coordinated Operations of the Central Valley Project and State Water Project and the Operational Criteria and Plan Biological Opinion for Delta Smelt.

F.8 PROJECT/ACTION TITLE

Yuba-Feather Supplemental Flood Protection Project (Y-FSFCP) (including New Colgate Powerhouse tailwater depression, New Bullards Bar Reservoir outlet capacity increase, additional coordination with Lake Oroville operations, a Feather River levee setback, and the Feather-Bear Rivers Levee Setback Project (F-BRLSP).

F.8.1 Lead Agency/Project Sponsor

YCWA and DWR (Y-FSFCP); Three Rivers Levee Improvement Authority and DWR (F-BRLSP).

F.8.2 Location

Yuba County and Butte County, California.

F.8.3 Project Description

The Y-FSFCP would provide supplemental flood control on the Yuba and Feather Rivers and consists of five flood control elements: New Colgate Powerhouse Tailwater Depression, Forecast-Coordinated Operations (F-CO) of Lake Oroville and New Bullards Bar Reservoir for Major Storms, New Bullards Bar Reservoir Outlet Capacity Increase, Feather River Levee Setback, and the F-BRLSP.

F.8.3.1 New Colgate Powerhouse Tailwater Depression

This project would involve installing within the existing powerhouse facility fabricated equipment that would provide for tailwater depression during higher flows in the Yuba River, and operation of the new equipment to maintain powerhouse operations under high-flow conditions that historically required the shutdown of the powerhouse. The objective of these improvements is to enhance YCWA's ability to regulate flood inflow to New Bullards Bar Reservoir by providing for additional reservoir release capacity through the powerhouse facilities in advance of and during flood flows.

F.8.3.2 Forecast-Coordinated Operations of Lake Oroville and New Bullards Bar Reservoir

F-CO is intended to strengthen flood protection for the Yuba-Feather River system by enhancing the coordinated flood control operations of New Bullards Bar Reservoir on the North Fork Yuba River and Lake Oroville on the Feather River. F-CO would involve improving flood forecasts, closely coordinating the flood operations of New Bullards Bar Reservoir and Lake Oroville, identifying changes in operational procedures that would improve efficiency, and providing operators and downstream emergency managers with real-time forecast information, including uncertainty bounds associated with the flows at key locations in the flood system.

F.8.3.3 New Bullards Bar Reservoir Outlet Capacity Increase

The New Bullards Bar Reservoir Outlet Capacity Increase element entails adding new upper-level outlet works at New Bullards Bar Reservoir to increase flood-release capability during major storms when the reservoir inflow would encroach into the flood pool. The use of this increased release capability would provide the ability to reduce peak floodflows downstream during major storms by providing for the early release of more water than can be released with the existing outlet.

F.8.3.4 Feather River Levee Setback

The Feather River Levee Setback element would entail setting back the east Feather River levee for 8.6 miles in two segments between Shanghai Bend and the Bear River (above Star Bend and below Star Bend) and removing most of the existing levee in those segments. This levee setback would increase flood protection by lowering the flood stages near Marysville, Linda, Olivehurst, and Yuba City and would provide greater security because the levees would be well designed and constructed using modern analyses and construction methods. For portions of the setback areas, particularly areas where continued farming would not be practical, riparian habitat restoration/enhancement would take place.

F.8.3.5 Feather-Bear Rivers Levee Setback Project

The F-BRLSP would entail setting back the right (north) levee of the Bear River between SR 70 and the Feather/Bear River confluence, removing an orchard from the Bear River floodway, and restoring habitat in the expanded floodway area between the existing and setback levee alignments. The project would enhance flood protection for Yuba and Sutter Counties by addressing identified deficiencies of the lower Bear River levee and lowering upstream water surface elevations. It would also enhance fish and wildlife habitat in the project area. The western end of the proposed setback levee overlaps the project area considered for the segment of the Feather River Levee Setback element below Star Bend (see description above). If the F-BRLSP is implemented, the Feather River Levee Setback segment below Star Bend is unlikely to be pursued in the future.

F.8.4 Project Schedule (Anticipated Completion Date) and Status

The New Colgate Powerhouse Tailwater Water Depression Project was planned for completion during fiscal years 2003-04 and 2004-05. The F-CO is anticipated to be implemented in 4 phases over 6 years. The New Bullards Bar Reservoir Outlet Capacity Increase element was proposed for construction in 2005–2006. Plans for implementing the Feather River Levee Setback element have been superseded by planning for the F-BRLSP. Because of the overlap of project areas between the lower segment of the Feather River Levee Setback element and the F-BRLSP, plans for implementation of the F-BRLSP make a future levee setback on the Feather River below Star Bend unlikely. There are currently no plans to proceed with a levee setback above Star Bend, but such a levee setback may be pursued in the future. The

F-BRLSP is proposed for construction beginning early in 2006, with completion anticipated in November 2006.

F.8.5 NEPA and/or CEQA Compliance and Permitting Status

A Mitigated Negative Declaration on the New Colgate Powerhouse Tailwater Depression Project was adopted by YCWA in November 2002. No NEPA compliance is required for implementation of this Y-FSFCP element. An EIR analyzing the F-CO, New Bullards Bar Reservoir Outlet Capacity Increase, and Feather River Levee Setback elements was prepared in 2003-2004. The Y-FSFCP Final EIR was certified in March 2004 by YCWA. This EIR serves as both a program-level and project-specific EIR. It is the program EIR for the overall proposed project and also serves as a project-specific EIR for the New Bullards Bar Reservoir Outlet Capacity Increase element. Project components that are presented in detail, including most features of the levee setback and F-CO that could result in changes to the physical environment, are evaluated in the EIR at a “project level”—that is, at a sufficient level of detail to enable YCWA to implement the project based on the analysis in this EIR alone—while others are addressed at a broader, or “program,” level and would likely need to be evaluated in additional CEQA documentation before they could be implemented.

F-CO implementation would initiate a process of planning and development of flood forecasting tools (i.e., flow monitoring and modeling) to support improved flood management. These could include some features, such as stream gauges, that cannot be identified at a site-specific level at this time. If the YCWA pursues F-CO implementation and features are proposed in subsequent F-CO planning that could affect the physical environment, these features may need to be evaluated in a separate project-level CEQA document.

Further pursuit of the Feather River Levee Setback element of the project would require additional project-level CEQA compliance and NEPA compliance.

In September 2004 a project-level draft EIR was issued by the Three Rivers Levee Improvement Authority, a joint powers authority (comprising the County of Yuba and Reclamation District 784) with the mission of advancing the flood safety of Yuba County. The final EIR for the F-BRLSP was certified in November 2004. An EA is anticipated to be prepared by USACE in early 2005.

F.8.6 References

Three Rivers Levee Improvement Authority. 2004. Final Environmental Impact Report for the Feather-Bear Rivers Levee Setback Project, an Element of the Yuba-Feather Supplemental Flood Control Project. (State Clearinghouse No. 2004072113.) Prepared by EDAW and Flood Control Study Team. November 2004.

Yuba County Water Agency. 2002. Report on Feasibility of Tailwater Depression at New Colgate Powerhouse, an Element of the Yuba-Feather Supplemental Flood Control Project. Prepared by Flood Control Study Team. October 2002.

Yuba County Water Agency, 2004. Yuba-Feather River Flood Protection Program.
Accessed June 16, 2004. URL = <http://www.ycwa.com/yfrvr.htm>.

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