

Agenda Item: 6
Meeting Date: July 8, 2004

CALIFORNIA BAY-DELTA PUBLIC ADVISORY COMMITTEE

ECOSYSTEM RESTORATION PROGRAM: UPDATE ON BATTLE CREEK RESTORATION

Summary: This report provides information on the Battle Creek Salmon and Steelhead Restoration Project including the latest schedule for completion of environmental documents and technical review of the project.

Recommended Action: This is an informational item only. No action will be taken.

Background

Declines in anadromous fish populations in the upper Sacramento River watershed have led to listing of winter-run and spring-run Chinook salmon and steelhead under both the Federal and State endangered species acts. Battle Creek, located at the southern end of the Cascades in northern California near Red Bluff (Attachment 1), offers an extraordinary opportunity to restore habitat for these fish because of its geology and hydrology. Restoring habitat for these species will contribute to their recovery. Recovering these species can help ease diversion restrictions and preclude more stringent export restrictions in the future, thereby improving the reliability of Bay-Delta water supplies.

The geology of the Battle Creek watershed is primarily volcanic in nature. Seasonal precipitation does not rapidly run off the watershed as with streams to the south in the Sierra Nevada. Rain and snowmelt percolate through the underlying volcanic strata and emerge throughout the watercourse as cold springs. These springs ensure a high and stable base flow throughout the year resulting in the creeks unique hydrology.

Because of its geology and hydrology, Battle Creek offers habitat conditions similar to those found on the Sacramento River upstream of Shasta Dam, habitat that historically supported these listed species. The stable base flow and cold water temperature offer drought resistance rarely found in the present range of salmon and steelhead, suggesting that Battle Creek could be valuable refuge habitat in extreme drought years. Battle Creek provides the only remaining accessible habitat, other than the Sacramento River itself, which may be suitable for winter-run salmon. Because water temperatures in the Sacramento River below Shasta Dam are expected to be unsuitable for winter-run during extreme drought years, Battle Creek may provide their only refuge at those critical times.

The Battle Creek Restoration Project would result in re-opening more than 40 miles of historic salmon and steelhead habitat. The exceptional drought resistant nature of Battle Creek will make its fish populations extremely valuable in the years following a catastrophic drought when the entire basin's populations must rebuild.

The constant high flow of Battle Creek also makes it a prime stream for hydroelectric development. As pictured on the attached graphic (Attachment 2), Pacific Gas and Electric Company owns and maintains the Battle Creek Hydroelectric Project (total capacity 36,056 kW). The configuration and historic operation of the hydroelectric project limits the potential of Battle Creek to support salmon and steelhead.

In recognition of the importance of restoring Battle Creek, the National Marine Fisheries Service, U.S. Bureau of Reclamation (USBR), U.S. Fish and Wildlife Service, California Department of Fish and Game, and PG&E signed a detailed Memorandum of Understanding (MOU) in 1999 that defined their roles and made commitments regarding costs for and implementation of the Battle Creek Salmon and Steelhead Restoration Project.

Components of the Restoration Project (Attachment 3) as described in the MOU include:

- Removal of 5 diversion dams
- Laddering 3 diversion dams and screening their associated diversions
- Increasing flow releases from all remaining diversion dams affecting anadromous fish on Battle Creek
- Constructing powerhouse tailrace connectors to eliminate redundant screening requirements and mixing North and South Fork waters

The primary goal of the Restoration Project is to restore and enhance about 42 miles of salmon and steelhead habitat in Battle Creek and an additional 6 miles of habitat in its tributaries while minimizing the loss of renewable energy produced by the Battle Creek Hydroelectric Project. The Battle Creek Salmon and Steelhead Restoration Project was funded by the CALFED Program in 1999 for \$28 million.

Subsequent planning and design work has resulted in revised cost estimates and timelines with costs at about three times original estimates. The purpose of this staff report is to update BDPAC on the status of the project.

Public Review

A Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Battle Creek Restoration Project has been developed and parts of that document are currently being evaluated for recirculation. A revised Draft EIS/EIR is expected to be distributed this September for a 60-day public review period. The lead agencies will then respond to comments and are expected to recommend a project and complete a Final EIS/EIR in January 2005.

This process has included analysis of alternatives for the project in coordination with the stakeholders. Some of these analyses were developed in a collaborative effort between the California Hydropower Reform Coalition and the project management team for the Battle Creek Salmon and Steelhead Restoration Project. Recent efforts have focused on an 8-dam removal scenario, especially regarding the differences between the MOU alternative and the 8-dam scenario. The California Hydropower Reform Coalition and the project agencies each developed separate documents that analyzed the biological benefits of the MOU alternative versus the 8-dam scenario. To assist the agencies with their consideration of these new analyses, Authority staff facilitated an independent scientific review comparing the analyses. That review is available at <http://www.calwater.ca.gov/Programs/EcosystemRestoration/EcosystemBattleCreek.shtml>.

Additionally, USBR, along with the cooperating project agencies, applied for additional funds from the Ecosystem Restoration Program (ERP). The project proposal has undergone extensive technical review coordinated by the Authority staff. This review included the convening of two separate technical panels to discuss issues within the watershed. One panel of experts reviewed the MOU project and associated Adaptive Management Plan. Another panel reviewed possible effects of the Coleman National Fish Hatchery on the planned restoration of salmon and steelhead populations in Battle Creek. The ERP Selection Panel recommended that the applicants continue to revise their proposal in response to technical comments.

The Battle Creek project team has responded to the technical input in their request for additional funds including a revision of the Adaptive Management Plan. That information is being reviewed by a joint technical panel of experts from the prior reviews that will provide input on how well the project team has responded to the technical input. The result of that review will be provided to the ERP Selection Panel for their review. The Selection Panel is expected to make an initial recommendation for funding in early 2005. That recommendation will undergo a 30-day public comment period and the Selection Panel will consider the public input and provide a final recommendation. That recommendation is tentatively scheduled to be presented to the Authority in April of 2005.

BDPAC Role

This is an informational item only.

List of Attachments

Attachment 1 - Location of Battle Creek (Figure ES – 1*)

Attachment 2 - Graphic of Existing Conditions on Battle Creek (No Action Alternative)

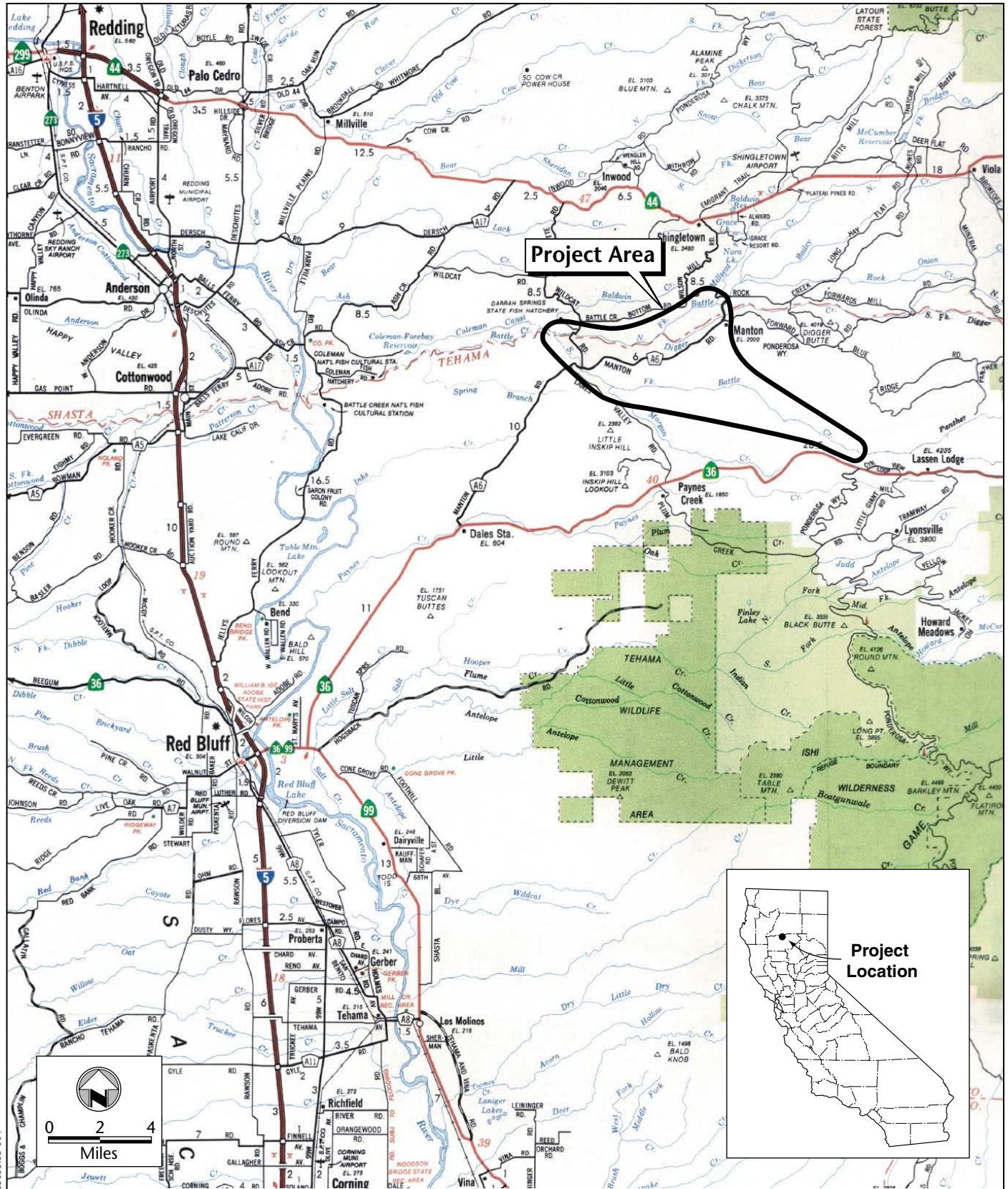
Attachment 3 - Graphic of MOU Restoration Project Facilities and Limit (Figure ES – 2*)

Contact

Dan Castleberry
Deputy Director for Ecosystem Restoration

Phone: (916) 445-0769

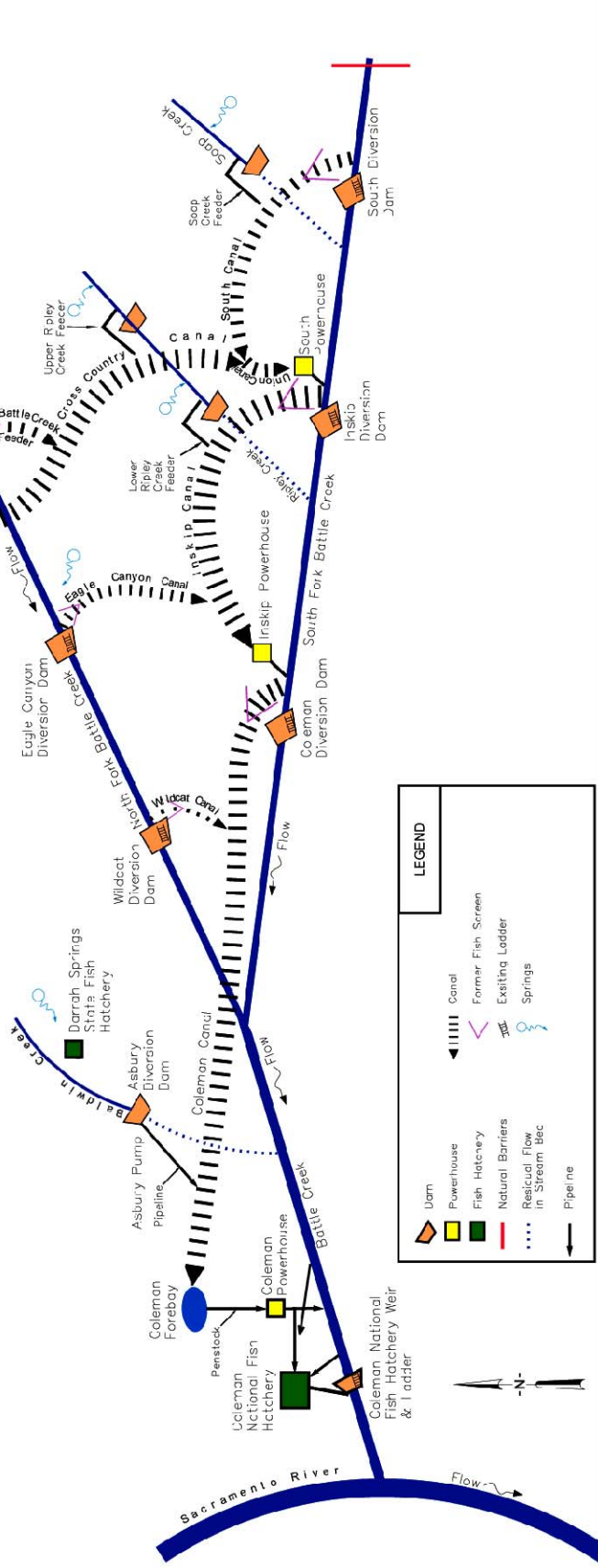
*Figures are from the Battle Creek Salmon and Steelhead Restoration Project Draft EIS/EIR July 2003



03035.03-004

Figure ES-1
Location of the Battle Creek Salmon and Steelhead Restoration Project

DAM	MONTHLY MINIMUM FLOW RELEASE (cfs)											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NBCF	3	3	3	3	3	3	3	3	3	3	3	3
Eagle Canyon	3	3	3	3	3	3	3	3	3	3	3	3
Wildcat	3	3	3	3	3	3	3	3	3	3	3	3
South	5	5	5	5	5	5	5	5	5	5	5	5
Inskip	5	5	5	5	5	5	5	5	5	5	5	5
Coleman	5	5	5	5	5	5	5	5	5	5	5	5
Upper Ripley	No Instream Flow Requirements											
Lower Ripley	No Instream Flow Requirements											
Soap	No Instream Flow Requirements											
Asbury	No Instream Flow Requirements											



BATTLE CREEK SALMON AND STEELHEAD RESTORATION PROJECT
Battle Creek near Mantion, California

Battle Creek Schematic

DRAWING :
BATTLE CREEK
DEPARTMENT OF WATER RESOURCES
MANTION DAM
Revision Date: June 26, 2001
Sheet of

Figure 3-1
No Action Alternative

