

051 - 4 2006

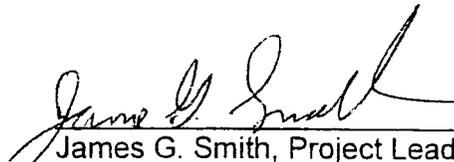
FINDING OF NO SIGNIFICANT IMPACT

ORWICK DIVERSION FISH SCREEN IMPROVEMENT PROJECT

Battle Creek, Tehama County, California

U.S. Fish and Wildlife Service
California-Nevada Operations
Red Bluff Fish and Wildlife Office
Red Bluff, California

Recommended:


James G. Smith, Project Leader
Red Bluff Fish and Wildlife Office
Red Bluff, California

Date:

9/28/06

Approved:


Steve Thompson, Operations Manager
U.S. Fish and Wildlife Service
California-Nevada Operations Office
Sacramento, California

Date:

10-3-06

FINDING OF NO SIGNIFICANT IMPACT

ORWICK DIVERSION FISH SCREEN IMPROVEMENT PROJECT

Introduction

The U.S. Fish and Wildlife Service (Service) prepared a draft Environmental Assessment (EA), dated August 2006, describing the environmental effects of a proposal to construct the Orwick Diversion Fish Screen Improvement Project (Proposed Action). After a 28-day public review ending on September 4, 2006, several minor updates, based on the comments received, have been made to the project description and resource information that were presented in the draft EA. A revised EA, dated September 27, 2006, is provided with this decision document. The EA was prepared to satisfy the procedural requirements of the National Environmental Policy Act (Public Law 91-190, as amended).

Finding

The Service has determined, based upon the effects described in the EA, that the Proposed Action does not constitute a major Federal action significantly affecting the quality of the human environment. An environmental impact statement will not be prepared.

Subsequent to issuance of the draft EA, the Service received additional concurrence from responsible reviewing agencies on findings related to environmental compliance for the Proposed Action. In accordance with Section 106 of the National Historic Preservation Act, concurrence with the findings and recommendations of the draft EA pertaining to cultural resources was received from the Service's Cultural Resources Team. Concurrence related to the provisions of Fish and Game Code 1600 *et seq.* was received from the California Department of Fish and Game that the Proposed Action will not need a streambed alteration agreement pursuant to Division 2, Chapter 6, Section 1602 of the California Fish and Game Code. A third letter of concurrence was received from the National Marine Fisheries Service, which concurred that the Proposed Action is not likely to adversely affect listed anadromous fish or their respective critical/essential habitats. These letters of concurrence have been attached to this FONSI as Attachment 1, Attachment 2, and Attachment 3, respectively.

Alternatives Considered

The following alternatives were considered in the EA:

No Action – Selection of the No Action alternative would result in the continuation of existing conditions. Juvenile salmon and steelhead would continue to be entrained past the fish screen during periods when stream flows and the headgate setting are mismatched and flows overtop the screen or would, otherwise, encounter a “dead end” at the screen, because there is no effective downstream access from the Orwick Diversion canal back to Battle Creek.

Retrofit and extend the existing bypass pipeline – This alternative was determined to require considerable re-engineering and re-construction of the existing pipeline. It was rejected from further consideration, since this alternative would involve considerable excavation within the active stream channel to extend the pipeline from its existing outfall location to a suitable outfall site on the creek in order to comply with National Marine Fisheries Service (NMFS) criteria.

Construct a new bypass pipeline and outfall, and headgate control structure (Proposed Action) – Minor modifications have been made to the project design for the Proposed Action subsequent to issuance of the draft EA in August 2006. These project design modifications are minor in nature and do not result in any substantial changes in configuration or operation of the Proposed Action. The changes in project description affected by these minor modifications are indicated by *italicized text* in the following description of the Proposed Action.

A new 12-inch diameter double-walled high-density polyethylene (or similar material) bypass pipe would be routed along the shortest distance from the existing fish screen in the Orwick Diversion canal to the main channel of Battle Creek downstream of the diversion. Pipe would be laid in a trench having a minimum depth of 6 inches and a uniform slope of 1.07 percent. The trench would be backfilled with stockpiled native material removed during excavation and disturbed areas would be graded to match surrounding topographic contours. The bypass outfall would be located where its receiving water is no less than 3-feet deep and the outfall height would not exceed 1.5 feet above the water surface, even at low creek flows.

The pipeline elevation, where it passes through a high-flow side-channel swale, may require some adjustment during installation to meet NMFS' fish bypass criteria for pipe gradient and outfall elevation. A design modification made subsequent to issuance of the draft EA allows for a ± 1 foot variance during installation to accommodate these requirements. Rip-rap protection to be installed surrounding the pipeline, where it passes through the high-flow side-channel swale, would end landward of the low flow channel bank in a manner that permits the least disturbance to riparian vegetation at the pipeline terminus.

Pipeline cleanout ports would be located along the length of the pipeline. *The concrete pipe ballast collars originally proposed for installation near the pipeline terminus have been eliminated in the modified project design as it has been determined that they are no longer needed.* Bypass pipeline installation would require the removal of vegetation within 20 feet on either side of the pipeline alignment centerline.

The bypass outfall would terminate at the edge of the active low-flow creek channel discharging into fast moving water. The final 20 foot section of pipe would be schedule 40 PVC; all other lengths of straight pipe may be SDR35 PVC. One additional 20-foot section of schedule 40 PVC, or similar pipe, would be provided for use as a temporary seasonal extension. The extension would be installed, as needed, to accommodate changes in the shape of the active creek channel and/or low stream flows that cause the water edge to move away from the bypass pipeline outfall. The pipeline extension would be press fitted by hand and supported with existing instream rock materials, as needed. No heavy equipment or

power tools would be required for installing the pipe extension. A tether would be provided to secure the pipe extension and prevent loss due to a sudden increase in stream flow.

Erosion control, mulching, and replanting of the backfilled trench route, with a native grass seed mix, will be implemented to prevent sediment runoff and restore ecological functions compatible with surrounding vegetation and wildlife communities, while allowing future access to the pipeline cleanouts for required maintenance.

New, automated, flow control gates would be installed on the existing head wall structure, which would be modified, as necessary, to accommodate new flow regulating equipment. The new headgate system would allow unattended regulation of diversion canal flows at set levels up to 50 cfs at a wide range of stream flows.

Basis of Finding and Summary of Effects

In making the finding of no significant impact, the Service has considered the environmental effects of the Proposed Action on the following resources: biological resources (including threatened and endangered species); cultural resources; water quality; air quality; noise; socio-economic conditions; land use; and aesthetics. Modifications to the design of the Proposed Action, as previously described, do not substantively change the determination that project-related effects to resources, as described in the EA, would not be significant. The resource protection measures incorporated as part of the project design, and described on pages 8 through 11 of the EA, will be implemented to avoid or minimize any potential adverse effects of the Proposed Action on the environment. The impacts of construction activities associated with the Proposed Action on the affected resources described in the EA would be temporary, localized, and short-term. Any potential adverse impacts of the Proposed Action activities on special-status species or known cultural resources would be avoided by implementation of the resource protection measures.

Public Review

The Orwick Diversion Fish Screen Improvement Project EA and this FONSI are available for public review at the Service's Red Bluff Fish and Wildlife Office and at its website: www.fws.gov/redbluff/. An announcement of the draft EA's availability for public review and comment was sent to groups included on the *Battle Creek Interested Parties Mailing List* on August 3, 2006. Additional copies were also made available at the Service's Red Bluff office.

Comments were received from two individuals. One commenter, a Service Fishery Biologist, recommended several species-specific description changes (none of which affected the impacts analysis); the other commenter, on behalf of a local fly fishing organization, expressed support for project implementation without delay. Table 1 provides a compilation of comments and responses.

Decision

The Service has decided to implement the Proposed Action (construction of a new bypass pipeline and outfall, and automated head gate control structure [including the project design changes as described above]). Implementation of the Proposed Action may take place immediately. The Service believes that this alternative best meets the purpose and need for the proposal.

Table 1.
Orwick Diversion Fish Screen Improvement Project
Comments Received on Draft Environmental Assessment, dated August 2006

Name of Commenter	Designation
Matt Brown (Fishery Biologist, US Fish and Wildlife Service)	1, 2, 3, and 4
William Lenheim (Conservation Director, Shasta Trinity Fly Fishers)	5

Designation	Comment	Response
1	Recommends adding western brook lamprey (<i>Lampetra richardsoni</i>) to the special-status species list for Battle Creek	The western brook lamprey has not been added to the USFWS' official regional list of species of concern as of 09/08/2006. The species is ranked by CDFG as "apparently" to "demonstrably" secure throughout its known range in California. Table 1 in the draft EA updated for consistency.
2	States that river lamprey are not common in Battle Creek or the Sacramento River.	Statement on relative abundance and term "common" paraphrased from authoritative information source (Moyle 2002).
3	USFWS estimates of winter-run Chinook at the Coleman National Fish Hatchery barrier dam average about one per year.	This comment is consistent with statement in EA. Draft EA updated to include this specific comment.
4	Disputes Draft EA assertion that spring-run Chinook salmon exhibits an ocean-type life history by providing a literature citation (Moyle 2002) that contends that spring-run Chinook exhibit a "classic stream-type life history pattern."	Sacramento River spring Chinook exhibit a variable life history; however, most of the population shows ocean-type growth patterns. Supporting reference added to draft EA for clarity.
5	Supports project as a means of protecting Battle Creek's steelhead and salmon runs.	Project support noted.

ATTACHMENT 1



United States Department of the Interior

FISH AND WILDLIFE SERVICE, REGION 1
Cultural Resources Team
20555 SW Gerda Lane
Sherwood, Oregon 97140
503-625-4377 (fax 503-625-4887)

IN REPLY REFER TO:

8 August 2006

To: Tricia Parker

From: Virginia Parks
Cultural Resources Team

Subject: **Section 106 compliance: Orwick Diversion Fish Screen Improvement Project (Battle Creek)**

Thank you for submitting a cultural resource compliance request form (RCRC) for the project listed above, received in our office on **24 July 2006**. We have reviewed the form in relation to the terms of our Programmatic Agreement with the state of **California**.

Due to the nature of the activities and/or the high potential for the presence of cultural resources in the project area, "Appendix B" applies to:

Orwick Diversion Fish Screen Improvement Project (Battle Creek)

Consequently, a record search and field survey for cultural resources was warranted. According to documents submitted with the RCRC, Bureau of Land Management (BLM) archaeologist Eric Ritter conducted a field reconnaissance of the Area of Potential Effects (APE) in February 2006. The results of his archaeological inventory and evaluation effort are included in a report entitled "An Archaeological Inventory and Site Evaluation for the Proposed Orwick Diversion Fish Passage Improvement Project, Tehama County, California" (USDI-Bureau of Land Management, March 2006).

This survey resulted in the identification of one prehistoric archaeological site ("Coleman Bend Site" CA-030-1700) and two historic sites (Coleman Tramway Tower and Orwick Dam (CA-030-1701)). Because they will be avoided by the project, neither the Tramway Tower nor the Coleman Bend Site was evaluated for its potential eligibility to the National Register of Historic Places (NRHP). If project plans change and these sites will be impacted, they will require evaluation. The Orwick Dam is considered an historic property. However, Dr. Ritter evaluated the structure and determined that it does not appear to be eligible for listing. He also observes that the current project requires only a minor modification to the dam that would not significantly alter the feature's integrity.

The report recommends that "an individual knowledgeable in identifying cultural resources be present during the trenching activities. In the event subsurface cultural remains over 45 years of age are encountered, the project should cease work at the general area of discovery and the contractor consult with a professional archaeologist on staff with BLM or USFWS."

We concur with Dr. Ritter's findings and recommendations, and appreciate his thorough efforts

to comply with Section 106 of the National Historic Preservation Act (NHPA). Although we do not have a memo on file documenting that BLM is the Lead Agency for Section 106 compliance for this project, we are assuming that Dr. Ritter has submitted -- or will in due course submit -- his findings to the State Office of Historic Preservation (OHP) and appropriate California Historical Resources System (CHRIS) center. It is our opinion that BLM has successfully achieved Section 106 compliance for this project.

Thank you for considering cultural resources.

ATTACHMENT 2



DEPARTMENT OF FISH AND GAME

<http://www.dfg.ca.gov>

Northern California-North Coast Region
Department of Fish and Game
601 Locust Street
Redding, CA 96001



February 17, 2006

FEB 22

Ms. Tricia Parker
Fisheries Biologist
U.S. Fish and Wildlife Service
10950 Tyler Road
Red Bluff, CA 96080

Dear Ms. Parker:

The Department of Fish and Game (Department) has been working with the U.S. Fish and Wildlife Service (USFWS), Bureau of Land Management, Natural Resource Conservation Service and National Marine Fisheries Service (NMFS) to construct a new fish bypass pipe associated with the Department's fish screen on Mr. Chuck Orwick's water diversion ditch located off of Battle Creek in Tehama County. This new bypass pipe will provide safe fish passage from Orwick's ditch back to Battle Creek. The bypass pipe will be smooth walled and approximately 500 feet to 600 feet long with diameter and curvature dimensions which meet approved NMFS criteria.

The USFWS has asked the Department to determine whether this project is subject to the provisions of Fish and Game Code Section 1600 *et seq.* Department staff has determined the project is located entirely on Federal land, is being funded solely with Federal funds and is being proposed and implemented by USFWS. Since the implementing Federal agency would not be defined as an entity under Section 1601(d) of the Fish and Game Code, construction of the bypass pipe will not require a streambed alteration agreement pursuant to Division 2, Chapter 6, Section 1602 of the California Fish and Game Code.

The Department appreciates the opportunity to comment on this worthwhile project and will continue to participate in the planning and implementation phases of the project so the bypass pipe can be integrated with our existing screen structure. If you have any questions regarding our comments, please contact Senior Fishery Biologist Specialist Mike Berry at (530) 225-2131 or E-mail at mberry@dfg.ca.gov.

Sincerely,

Neil Manji
Supervising Fish Biologist



Ms. Tricia Parker
Page Two
February 17, 2006

cc: Mr. Steven Thomas
National Marine Fisheries Service
777 Sonoma Avenue Room 325
Santa Rosa, CA 95404-6515

Mr. Michael Tucker
National Marine Fisheries Service
650 Capital Mall, Suite 6070
Sacramento, CA 95814-4706

Mr. Kelly Williams
Redding Field Office
Bureau of Land Management
355 Hemsted Drive
Redding, CA 96002

Mr. Tom Benson
USDA, NRCS Area Engineer
2 Sutter Street, Suite D
Red Bluff, CA 96080

Mr. Mike Berry
Senior Fishery Biologist
Department of Fish and Game
601 Locust Street
Redding, CA 96001

ATTACHMENT 3



**UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration**

NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

August 24, 2006

In Reply Refer To:
2006/03101

Mr. James Smith
Project Leader
U.S. Fish and Wildlife Service
Red Bluff FWO
10950 Tyler Road
Red Bluff, California 96080

AUG 24 2006

Dear Mr. Smith:

This is in response to your letter of June 21, 2006, requesting NOAA's National Marine Fisheries Service's (NMFS) concurrence that the proposed construction of a new bypass pipe on the fish screen at the Orwick agricultural diversion on Battle Creek in Tehama County, California, is not likely to adversely affect Federally listed endangered Sacramento River winter-run Chinook salmon (*Oncorhynchus tshawytscha*), threatened Central Valley spring-run Chinook salmon (*O. tshawytscha*), threatened Central Valley steelhead (*O. mykiss*), threatened southern distinct population segment of North American green sturgeon (*Acipenser medirostris*), or their respective designated critical/essential habitats.

The U.S. Fish and Wildlife Service (FWS) proposes to provide funding under the authority of the Anadromous Fish Restoration Program, to construct a fish bypass pipe on the existing fish screen located in the Orwick Diversion Canal on Battle Creek. The purpose of the bypass pipe would be to safely return fish that have been entrained into the canal back to the main channel of Battle Creek. The new bypass pipe has been designed by NMFS to meet all NMFS criteria to insure the proper function of the bypass and the safety of the fish transported through the pipe.

The new bypass pipe will be approximately 734 feet long and 12 inches in diameter. The pipe will be buried for most of its length with a maximum excavation depth of approximately 12 feet. The outfall end of the bypass pipe (where it meets the main channel of Battle Creek) will consist of steel pipe with concrete anchors. The anchor system will consist of two concrete collars spaced 8 feet apart each weighing a minimum of 490 pounds. The concrete collars will be located outside of the active stream channel.

Rock riprap will be placed along a small section of the bank of an existing side channel adjacent to the new bypass pipe and around the outlet of the pipe where it exits from the bank of Battle Creek, in order to stabilize these areas and insure the long-term integrity of the pipe. Pieces of large wood will be either cabled to the outside of the riprap or anchored into the riprapped bank to provide increased structural diversity and improved habitat features during high water periods when these banks will be inundated. The riprapped areas will also be interspersed with native



soil and planted with willows to insure the long term quality of riparian vegetation and shaded riverine aquatic habitat.

The pipeline rout has been selected to minimize impacts to vegetation, wildlife habitat, and cultural resources. Although some vegetation removal will be necessary, including felling some trees up to 24 inches in diameter, no woody debris or soil will be removed from the site and the felled treed will likely be incorporated into the riprapped banks as described above.

The following conservation measures have been incorporated into the project plan to minimize the potential for any adverse impacts to listed salmonids or their critical habitat:

- (1) All construction activities within the creek channel will occur during the low water period from June 15 through October 15, and no heavy equipment will be operated within the flowing channel.
- (2) Disturbance or removal of vegetation shall not exceed the minimum necessary to complete the operations, and restoration shall include the revegetation of all exposed areas.
- (3) No staging of equipment or materials, fueling, servicing, or maintaining equipment will occur within 105 feet of the stream channel or other waters.
- (4) Best management practices for the control of erosion and sedimentation of the creek will be employed throughout the construction and post construction period.

Upon review of the proposed project description (including the above conservation measures) and the best available scientific and commercial information regarding listed salmonids within the project area, NMFS concurs with the FWS' determination that the proposed construction of a new bypass pipe on the fish screen at the Orwick agricultural diversion on Battle Creek is not likely to adversely affect listed species or their critical habitat. We are providing this concurrence because in-channel activities are proposed to occur during the low flow period and no construction equipment will enter the flowing channel of Battle Creek. In addition, the riprapped bank areas will be integrated with large wood and replanted with native riparian vegetation (willows). Finally, the project is expected to provide a large, long-term benefit for listed salmonids by returning fish that have been entrained into the irrigation canal back to the main channel of Battle Creek. This concludes section 7 consultation for the proposed project; however, should new information indicate that the project may affect listed species in an unforeseen manner, or if the contractor cannot complete work in the manner proposed or within the specified time frames, further consultation may be necessary.

Essential Fish Habitat

With regards to Essential Fish Habitat (EFH) consultation, the proposed project area has been identified as EFH for all races of Central Valley Chinook salmon (*Oncorhynchus tshawytscha*), including the fall/late fall-run in Amendment 14 of the Pacific Salmon Fishery Management Plan pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (MSA). Federal

action agencies are mandated by the MSA (section 305[b][2]) to consult with NMFS on all actions that may adversely affect EFH, and NMFS must provide EFH conservation recommendations to those agencies (section 305[b][4][A]). Because the proposed action is not likely to adversely affect critical habitat for Central Valley spring-run Chinook salmon, and the habitat requirements of Central Valley fall/late fall-run Chinook salmon in the project area are similar to those of the listed species, EFH Conservation Recommendations are not required at this time; however, if there is substantial revision to the action, the lead Federal agency will need to initiate EFH consultation.

Please contact Mr. Michael Tucker at (916) 930-3604, or via e-mail at michael.tucker@noaa.gov, if you have any questions regarding this project or require additional information.

Sincerely,



lr Rodney R. McInnis
Regional Administrator

cc: Copy to file – ARN 151422SWR2005SA00774
NMFS-PRD, Long Beach, CA

