



Findings of Fact

of the

California Department of Fish and Game

as a

**Responsible Agency under the
California Environmental Quality Act
(Pub. Resources Code § 21000 et seq.)**

for a

Funding Approval

for the

Battle Creek Salmon and Steelhead Restoration Project

as analyzed in the

**Final EIR/EIS
Certified by the Lead Agency
California State Water Resources Control Board**

(March 14, 2007)

TABLE OF CONTENTS

INTRODUCTION	3
SCOPE OF FINDINGS	13
FINDINGS REQUIRED UNDER CEQA.....	14
LEGAL EFFECT OF FINDINGS.....	16
ADMINISTRATIVE RECORD OF PROCEEDINGS.....	16
MITIGATION MONITORING AND REPORTING PROGRAM.....	18
POTENTIALLY SIGNIFICANT EFFECTS AND MITIGATION MEASURES.....	19
FISH	19
BOTANICAL, WETLAND, AND WILDLIFE RESOURCES.....	40
WATER QUALITY	72
GROUNDWATER	79
GEOLOGY AND SOILS.....	80
AESTHETICS AND VISUAL RESOURCES	81
NOISE	91
AIR QUALITY	98
PUBLIC HEALTH AND SAFETY	100
PUBLIC SERVICES AND UTILITIES.....	107
RECREATION.....	109
CULTURAL RESOURCES.....	115
STATEMENT OF OVERRIDING CONSIDERATIONS	121
ACRONYMS.....	127

INTRODUCTION

The Battle Creek Salmon and Steelhead Restoration Project (Battle Creek Project or Project) is an exceptional conservation opportunity to reestablish 42 miles of prime and uniquely reliable salmon and steelhead habitat on Battle Creek and its tributaries. Successful implementation of this project will help restore populations of winter-run Chinook salmon, spring run Chinook salmon and steelhead, all of which are endangered or threatened with extinction as defined by the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA). Battle Creek offers this unique restoration opportunity because of its geology, hydrology, habitat suitability for several anadromous species, historical water allocation, and land use compatible with a restored stream environment. Of these qualities, the area's unique hydrology is perhaps the most important Battle Creek feature supporting its restoration potential. Unusual in California, Battle Creek has a relatively high and stable base flow of cool water throughout the year. This is because seasonal precipitation does not rapidly run off the watershed as with streams situated farther south in the Sierra Nevada. Instead, a large portion of the annual water charge percolates through the underlying volcanic strata and emerges through the watercourse as cold springs. This relatively stable base flow and cold water temperature offer drought resistance not found elsewhere in the present range of anadromous fish and ensures that species will have refuge in the Project area even during times when they become distressed in other watersheds more vulnerable to fluctuations of water flow and temperature.

The recognition of a need for stream protection and restoration projects, which would aid in the protection and recovery of anadromous fish, has been broad-based and far ranging. In 1988, the California Legislature passed the Salmon, Steelhead Trout, and Anadromous Fisheries Program Act. (Fish & Game Code §§ 6900 et seq.) The act found that "naturally spawning salmon and steelhead trout resources of the state have declined dramatically with the past four decades, primarily as a result of lost stream habitat on many streams in the state" and that the "protection of, and increase in, the naturally spawning salmon and steelhead trout of the state must be accomplished primarily through the improvement of stream habitat." (Fish & Game Code § 6901 (b), (g).) The act included a goal to "double the current natural production of salmon and steelhead resources." (Fish & Game Code § 6902.) The decline has been attributed to multiple causes, most notably the development of federal, state, municipal, and private water projects to meet growing societal demands.

In June of 1999, The U.S. Bureau of Reclamation (Reclamation), the U.S. Fish and Wildlife Service (USFWS), the National Atmospheric and Oceanic Administration National Marine Fisheries Service (NMFS), the California Department of Fish and Game (DFG), and Pacific Gas and Electric Company (PG&E), signed the Battle Creek Memorandum of Understanding (MOU).

Both the MOU and the Battle Creek Project Adaptive Management Plan (AMP) acknowledge the following authorities as calling for habitat improvements to benefit fish in the Battle Creek watershed:

Central Valley Project Improvement Act (CVPIA)

The Central Valley Project Improvement Act (CVPIA) of 1992 (H.R. 429 “Reclamation Projects Authorization and Adjustments Act of 1992: Title XXXIV – Central Valley Project Improvement Act”), was enacted to provide funds for fisheries restoration. The CVPIA mandated changes in Central Valley Project (CVP) management in order to protect, restore, and enhance fish and wildlife habitat. In particular, the act stated “The mitigation for fish and wildlife losses incurred as a result of construction, operation, or maintenance of the Central Valley Project shall be based on the replacement of ecologically equivalent habitat” and that first priority shall be given to “measures, which protect and restore natural channel and riparian habitat values.” The Restoration Project meets CVPIA goals. In particular, it provides some “ecologically equivalent” habitat to that blocked by Shasta Dam.

Anadromous Fish Restoration Program (AFRP)

To meet provisions of CVPIA Section 3406(b)(1), the USFWS developed the AFRP, which identified 12 actions that would help restore anadromous fish to Battle Creek. These actions include increasing instream flows past PG&E’s hydropower diversions, installing effective fish screens and ladders, and making improvements at Coleman National Fish Hatchery. Of the twelve proposed actions listed in the AFRP, five have been implemented and all the actions specified for the PG&E hydroelectric project are included in the Restoration Project.

Recovery Plans for Threatened or Endangered Salmonids

NMFS prepared a draft recovery plan for winter-run Chinook salmon in 1997 identifying actions necessary to restore the Sacramento River winter-run Chinook salmon. The draft Winter-Run Recovery Plan specified Battle Creek as a site for the potential restoration of self-sustaining populations. NMFS is currently in the process of developing a single final recovery plan for all three listed species (Sacramento winter-run Chinook salmon, Central Valley steelhead and Central Valley spring-run Chinook salmon). Much of this plan will likely be based on CALFED’s Multi-Species Conservation Plan, and the Ecosystem Restoration Plan.

Central Valley Salmon and Steelhead Restoration and Enhancement Plan

In the early 1990s, the Central Valley Salmon and Steelhead Restoration and Enhancement Plan was developed by DFG to restore and enhance salmon and steelhead in the Central Valley. This plan called for increased instream flows and effective fish screens and ladders on Battle Creek. The implementation of the Restoration Project will meet all the Battle Creek recommendations in this legislatively mandated plan.

Upper Sacramento River Fisheries and Riparian Habitat Management Plan

Under California Senate Bill 1086, the Upper Sacramento River Fisheries and Riparian Habitat Advisory Council's 1989 Plan developed recommended actions for fisheries restoration in the upper Sacramento River. The Plan singled out Battle Creek as an important watershed for restoration and recommended an agreement with PG&E to revise the Federal Energy Commission License for the project to provide increased flows and reliable passage of adult and juvenile fish. Goals of this legislatively mandated plan will be achieved with the implementation of the Restoration Project.

Restoring Central Valley Streams - A Plan for Action

DFG's (1993) "Restoring Central Valley Streams- A Plan for Action" focused on the potential for restoring winter-run Chinook, spring-run Chinook, and steelhead to Battle Creek by the preparation and implementation of a comprehensive restoration plan for anadromous fish in Battle Creek, increasing instream flows and providing fish passage.

Steelhead Restoration and Management Plan for California

The Steelhead Restoration and Management Plan was prepared by DFG in 1996 upon the recommendations of the California Advisory Committee on Salmon and Steelhead Trout. Several of the actions identified in this document that pertained to the Battle Creek watershed will be achieved through the Restoration Project.

In addition, the State Water Resources Control Board (State Water Board) adopted the CVPIA narrative goal to double the natural production of anadromous fish in Central Valley rivers and streams and to ensure those populations will be sustainable on a long-term basis in its 1995 Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary. (CVPIA § 3406(b)(1); *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary*, 95-1WR (May 1995) at p. 28, as implemented by State Water Board *Revised Water Right Decision 1641* (March 15, 2000).)

In furtherance of the broadly recognized and supported goal to protect and recover anadromous fish in the Battle Creek watershed, the Battle Creek Project is a joint proposal by PG&E, Reclamation, USFWS, NMFS and DFG to reestablish salmon and steelhead habitat on Battle Creek and its tributaries. This will be accomplished primarily through physical and operational modifications of the Battle Creek Hydroelectric Project (Project No. 1121) facilities owned and operated by PG&E. Because these are proposed changes to hydroelectric facilities and operations, including instream flow releases, PG&E is required to obtain a license amendment or amendments from the Federal Energy Regulatory Commission (FERC) for the Project. In addition, the Project will require a section 404 permit from the Army Corps of Engineers (Corps). Both the FERC license amendment and Corps permit require water quality certification from the State Water Board under section 401 of the Clean Water Act. (33 U.S.C. § 1313; Cal. Code Regs., tit. 23, § 3855, subd. (b)(1)(B)(2) [an application for water quality certification shall be filed with the state board executive officer whenever a potential discharge from a proposed activity is involved or associated with a FERC licensed hydroelectric facility].) Because the State Water Board Executive Director is authorized to take all actions connected with an application for water quality certification, the State Water Board, as the state agency with the greatest responsibility for approving the project as a whole, is the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.) lead agency. (See generally Pub. Resources Code, § 21067; CEQA Guidelines, Cal. Code Regs., tit. 14, §§15051, 15367; tit. 23, § 3838, subd. (a).)

The State Water Board analyzed the environmental impacts associated with implementation of the Battle Creek Project in the *Battle Creek Salmon and Restoration Project Final Environmental Impact Statement/Environmental Impact Report* (July 2005) (State Clearinghouse No. 2000042043) (Final EIS/R). The State Water Board released the Battle Creek Project Draft EIS/R for public review on July 21, 2003. After the close of the comment period and during subsequent reviews, it became evident that significant new information would be added to a portion of the Draft EIS/R. When only a portion of an EIS and/or EIR is revised, that portion alone may be recirculated. (40 CFR 1502.9(c)(1); CEQA Guidelines § 15088.5(f).) On March 1, 2005, Reclamation and the State Water Board released the Draft Supplemental EIS/Revised EIR. The State Water Board certified the adequacy of the Final EIS/R on September 19, 2006. (*State Water Resources Control Board Certification, Pursuant to the California Environmental Quality Act, of the Final Environmental Impact Report for the Battle Creek Salmon and Steelhead Restoration Project.*)

Implementation of the Battle Creek Project is also the subject of federal environmental review under the National Environmental Policy Act (NEPA)(42 U.S.C. § 4321 et seq.) Since the preparation of joint environmental documents that meet the requirements of both CEQA and NEPA is encouraged, the Battle

Creek Project environmental review document, as referenced above, is an EIS as well as an EIR. (CEQA Guidelines § 15226; 40 CFR 1506.2.) Reclamation, as the federal lead agency for the Battle Creek Project under NEPA, and FERC, as a cooperating Federal agency, released the Draft EIS/R for public review on July 18, 2003, released the Draft Supplemental EIS/Revised EIR for public review on March 1, 2005, and provided notice of availability for the Final EIS/R on July 29, 2005 [Federal Register Document 03-18291 (68FR42758-42759), Federal Register Document 05-3930 (70FR9967-9968), and Federal Register Document 05-15013 (70FR43682-43683), respectively]. Reclamation will make a decision under NEPA with respect to the Final EIS/R, and provide a notice of availability for the Record of Decision, after the State Water Resources Control Board issues its CEQA Notice of Determination (NOD).

DFG has prepared these findings to comply with the CEQA. DFG is a “responsible agency” under CEQA with respect to the Battle Creek Project because of its discretionary funding authority. (See generally Pub. Resources Code, §§ 21102.1, subd. (d), 21069; CEQA Guidelines, § 15381; see also Cal. Code Regs., tit. 14, §§ 750 et seq.)¹ DFG has both general authority to fund fish and wildlife preservation, restoration, and enhancement projects and, as the state implementing agency for the CALFED Bay Delta Program Ecosystem Restoration Program element, specific authority to approve funding for projects under Proposition 50, the Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002. (Fish and Game Code §§ 1501, 1501.5; Water Code §§ 79441(c), 79550(e).)

Any funding approval by DFG as a responsible agency will also necessarily be conditional. That is because, prior to construction of any phase of the Battle Creek Project, all of the following must first occur: PG&E must submit a voluntary license amendment to FERC. That voluntary license amendment will be the project description for the State Water Board’s water quality certification process, described above. The State Water Board will issue its water quality certification, a discretionary approval subject to CEQA, and file its CEQA NOD. DFG will ensure that the obligations in the final approved voluntary license amendment, as reflected in the State Water Board’s CEQA Findings, are consistent with those imposed by the project description, mitigation and avoidance measures made binding by these CEQA findings. And lastly, PG&E will need to have secured all necessary access rights from the appropriate landowner(s).

¹ The “CEQA Guidelines” are found in Title 14 of the California Code of Regulations, commencing with section 15000.

The Battle Creek Restoration Project Five Dam Alternative (proposed action) includes modifications to the facilities at nine PG&E dam sites located on the North Fork Battle Creek, South Fork Battle Creek, Baldwin Creek, Lower Ripley Creek and Soap Creek. Due to the physical separation of the nine facility sites and appurtenant structures along the North and South Forks of Battle Creek and the potential for delays pending PG&E's resolution of access issues at its Inskip Diversion Dam facility on the middle South Fork of Battle Creek, these modifications will be contracted in two phases. Although Phase 1 may begin before, or simultaneously with, Phase 2, each of the anticipated contracting phases has independent ecological and environmental benefits. Moreover, DFG has determined that the whole of the action was analyzed in the Final EIS/R and contracting in phases does not create any new potentially significant impacts or alter the levels of significance of impacts previously analyzed in the Final EIS/R. A general overview of the actions included in each phase is set out in Figure 1 on the following page.

Battle Creek

Salmon and Steelhead Restoration Project

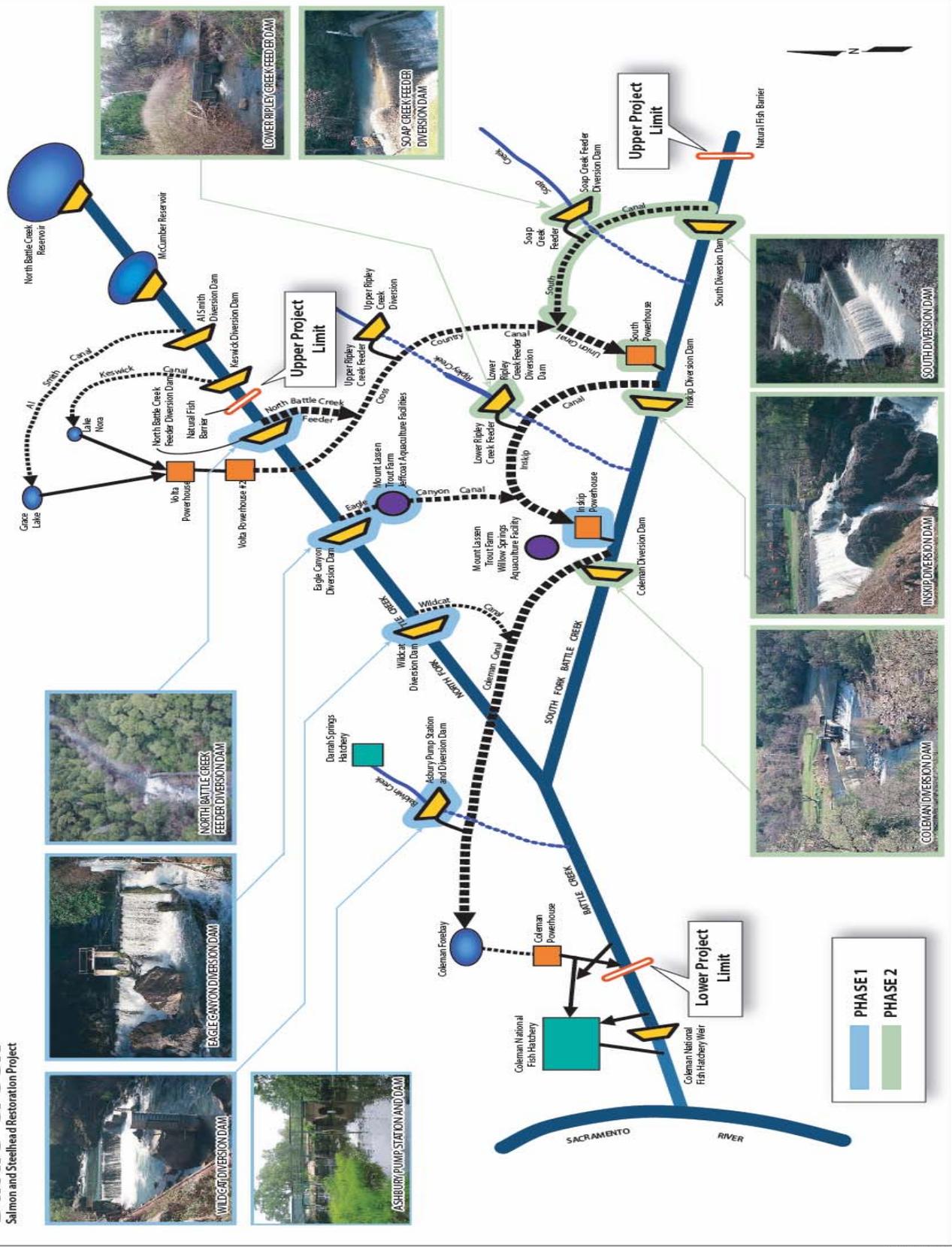


Figure 1
Restoration Project Facilities and Project Phases

(5/04/07) (10/05)

During Phase 1, Reclamation will improve fish passage on the North Fork of Battle Creek by removing the Wildcat Diversion Dam and appurtenant conveyance systems, installing fish screens and ladders at the Eagle Canyon and North Battle Creek Feeder Diversion Dams, modifying the Asbury Dam, and installing the Jeffcoat pipeline. Phase 1 improvements on the lower South Fork of Battle Creek include installing a tailrace connector from Inskip Powerhouse to Coleman Canal and a new Inskip Powerhouse bypass. During Phase 2 Reclamation will improve fish passage at and above the middle South Fork of Battle Creek by removing the Coleman, South, Lower Ripley Creek, and Soap Creek Feeder Diversion Dams, installing screens and ladders on the Inskip Diversion Dam, installing a tailrace connector from South Powerhouse to Inskip Canal, and decommissioning the South Canal.

The new tailrace connector and bypass at Inskip Powerhouse are included in Phase 1 to meet several fishery restoration goals including providing, independent of Phase 2, the potential for opening an additional 5.3 miles of quality anadromous fish habitat in the lower South Fork Inskip Reach by eliminating the risk of salmonid entrainment in the Coleman Canal. The Coleman Diversion Dam, Inskip Powerhouse and Coleman Canal facilities were originally constructed around 1912. The Inskip Powerhouse is located on the north bank of South Fork Battle Creek approximately 900 feet upstream of the Coleman Diversion Dam and 5.3 miles downstream of the Inskip Diversion Dam. The habitat currently between Inskip and Coleman Diversion Dams will become suitable for salmonids when either: Phase 2 construction is complete; or, flows are increased and Coleman Diversion Dam is removed or made passable.

The new tailrace connector will isolate the South Fork of Battle Creek from high volume power plant discharges containing waters from another drainage basin; thereby constantly stabilizing the flow regime, temperature regime and chemical characteristics of the water in the South Fork. Stabilizing the habitat on a real time basis improves the ability of spawning fish to return to the streams where they were successfully hatched and protects the early life stages from short term rapid fluctuations in flow and temperature that are occasionally produced by certain types of powerhouse operations. The current bypass facilities at both the South and Inskip Powerhouses do not prevent the mixing of North Fork and South Fork Battle Creek waters. Such mixing can produce abnormal olfactory cues and cooler temperatures of mixed water when the powerhouse is running. In addition, certain types of shut downs in the canal or the new screen system can cause rapid flow fluctuation. Specifically, the South Powerhouse bypass will be integrated with the new tailrace connector and the Inskip Powerhouse bypass will be replaced with a new pipeline and chute system to prevent the mixing of these waters and ensure full-flow delivery of water to the Inskip and Coleman Canals. As project construction proceeds, PG&E will allow spring water collected by hydro project facilities at Eagle Canyon, Soap Creek/Bluff Springs, Lower

Ripley, and Baldwin Creek to release to adjacent stream sections. Figure 2 depicts the projected post-project flow and fish passage conditions.

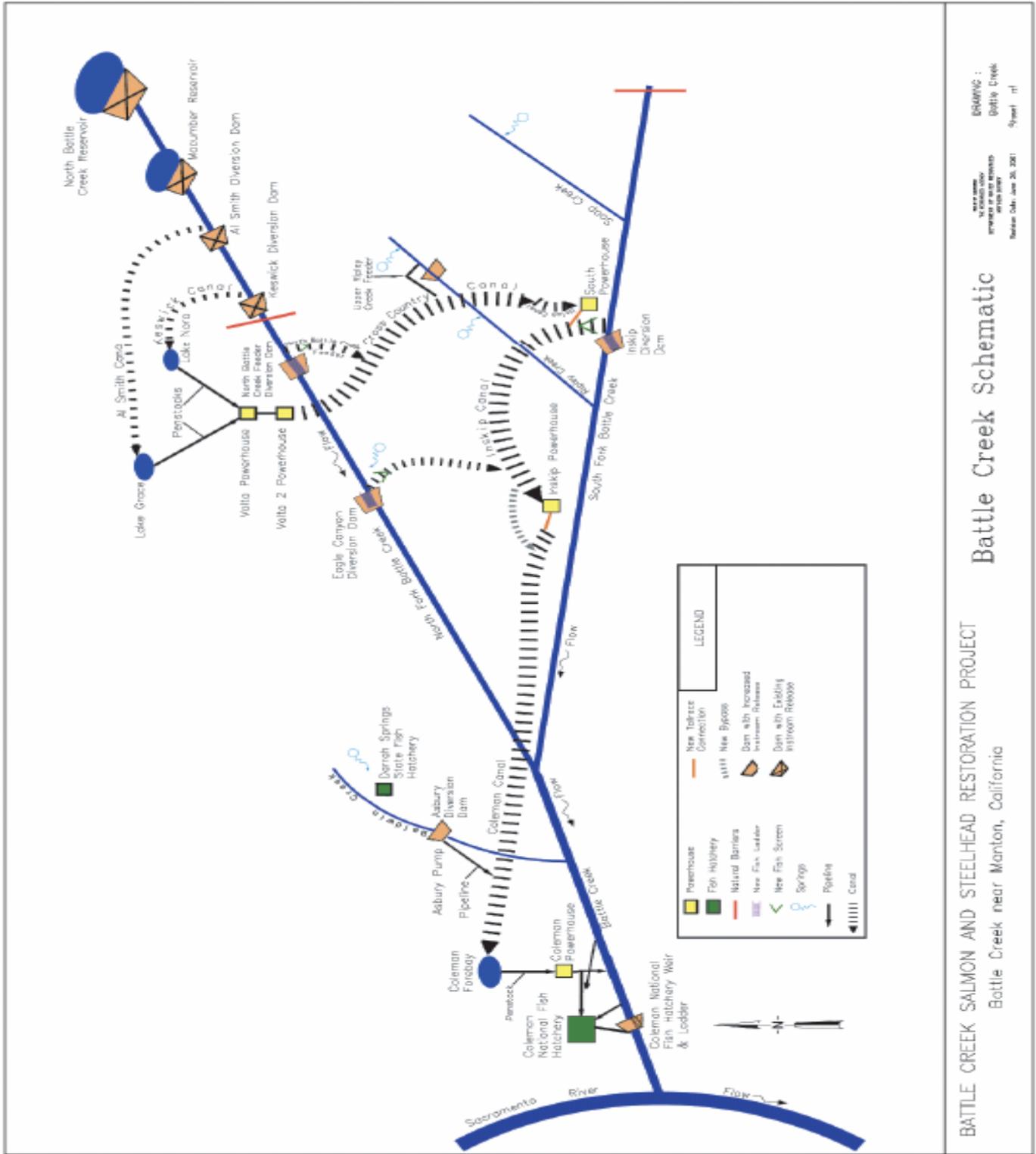


Figure 2
Restoration Project Proposed Action Features

In addition, the minimum instream flows specified in Table 1 shall be implemented after completion of construction of the Phase 1 facilities necessary to release and measure the flows. The minimum instream flows specified in Table 2 shall be implemented after completion of construction of the Phase 2 facilities necessary to release and measure the flows.

Table 1. Phase 1 Restoration Project Minimum Instream Flow Requirements

Dam	Monthly Minimum Flow Release (cfs)											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
North Fork Battle Creek												
North Battle Creek Feeder	88	88	88	67	47	47	47	47	47	47	47	88
Eagle Canyon	46	46	46	46	35	35	35	35	35	35	35	46
Wildcat	Facility removed; no instream flow requirement											
South Fork Battle Creek												
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	30	30	30	30	30	30	30	30	30	30	30	30
Ripley Creek												
Lower Ripley	No instream flow requirement											
Soap Creek												
Soap	No instream flow requirement											
Baldwin Creek												
Asbury	5	5	5	5	5	5	5	5	5	5	5	5

Table 2. Phase 2 Restoration Project Minimum Instream Flow Requirements

Dam	Monthly Minimum Flow Release (cfs)											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
North Fork Battle Creek												
North Battle Creek Feeder	88	88	88	67	47	47	47	47	47	47	47	88
Eagle Canyon	46	46	46	46	35	35	35	35	35	35	35	46
Wildcat	Facility removed; no instream flow requirement											
South Fork Battle Creek												
South	Facility removed; no instream flow requirement											
Inskip	86	86	86	61	40	40	40	40	40	40	40	86
Coleman	Facility removed; no instream flow requirement											
Ripley Creek												
Lower Ripley	Facility removed; no instream flow requirement											
Soap Creek												
Soap	Facility removed; no instream flow requirement											
Baldwin Creek												
Asbury	5	5	5	5	5	5	5	5	5	5	5	5

SCOPE OF FINDINGS

The Battle Creek Project is proposed as a series of modifications to PG&E's hydropower facilities and operations through voluntary license amendments submitted to the FERC. The State Water Board is the lead agency because it has mandatory authority to approve the project as a whole during the water quality certification process on each of the FERC license amendment proceedings. This means that once PG&E submits voluntary license amendments for this project to FERC, the State Water Board will review those amendments and these findings. Thereafter, the State Water Board will make its own independent findings and CEQA approvals.

DFG is a responsible agency under CEQA because of its funding authority. As a responsible agency, DFG's CEQA obligations are "more limited" than those of the lead agency. (CEQA Guidelines, § 15096, subd. (g)(1).) The DFG, in particular, is "responsible for considering only the effects of those activities involved in [the] project which it is required by law to carry out or approve." (Pub. Resources Code, § 21002.1, subd. (d).) Thus, while DFG must "consider the environmental effects" of the Battle Creek Project as disclosed in the Final

EIR/EIS, DFG “has responsibility for mitigating or avoiding only the direct or indirect environmental effects of those parts of the project which it decides to carry out, finance, or approve.” (CEQA Guidelines, § 15096, subds. (f), (g)(1).) Moreover, DFG is bound by the legal presumption that the Final EIR/EIS certified by the lead agency fully complies with CEQA and the CEQA Guidelines. (Pub. Resources Code, § 21167.3; *City of Redding v. Shasta County Local Agency Formation Comm.* (1989) 209 Cal.App.3d 1169, 1178-1181; see also CEQA Guidelines, § 15096, subd. (e); Pub. Resources Code, § 21167.2; *Laurel Heights Improvement Association v. Regents of the University of California* (1993) 6 Cal.4th 1112, 1130.)

The DFG’s more limited obligations as a responsible agency affect the scope of, but not the obligation to adopt, findings required by CEQA. Findings are required, in fact, by each “public agency” that approves a “project for which an environmental impact report has been certified which identifies one or more significant effects on the environment.” (Pub. Resources Code, § 21081, subd. (a); CEQA Guidelines, § 15091, subd. (a); see also Pub. Resources Code, § 21068 (“significant effect on the environment defined”); CEQA Guidelines, § 15382 (same).) Because the lead agency certified the Final EIS/R in approving the Battle Creek Project, DFG believes its must necessarily adopt findings under CEQA as a responsible agency. (CEQA Guidelines, § 15096, subd. (h); *Resource Defense Fund v. Local Agency Formation Comm. of Santa Cruz County* (1987) 191 Cal.App.3d 886, 896-898.)

The specific provision of the CEQA Guidelines addressing the responsible agency’s findings obligations is section 15096, subdivision (h). That section provides, in pertinent part, that a “responsible agency shall make the findings required by Section 15091 for each significant effect of the project and shall make the findings in Section 15093 if necessary.” (CEQA Guidelines, § 15096, subd. (h).) The scope of this charge in the Guidelines is governed by statutory language concerning the extent of responsible agency decision-making authority under CEQA. As noted above, the controlling statute provides that a “responsible agency shall be responsible for considering only the effects of those activities involved in a project which it is required by law to carry out or approve.” (Pub. Resources Code, § 21002.1, subd. (d).) The same section underscores that the more limited scope of review for responsible agencies necessarily “applies only to decisions by a public agency to carry out or approve a project.” (*Ibid.*)

FINDINGS REQUIRED UNDER CEQA

As noted above, CEQA requires all public agencies to adopt findings before approving a project for which an EIS/R was prepared where the prospect of significant effects on the environment exists. These findings, as a result, are intended to comply with CEQA’s mandate that no public agency shall approve or

carry out a project for which an EIS/R has been certified which identifies one or more significant effects thereof unless the agency makes one or more of the following findings:

- (1) Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment;
- (2) Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency;
- (3) Economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the EIR/EIS.

(Pub. Resources Code, § 21081, subd. (a); CEQA Guidelines, § 15091, subd. (a); see also CEQA Guidelines, § 15082, subd. (b)(2).)

When significant effects are subject to a finding under paragraph (3) of subdivision (a), the public agency finds that specific overriding economic, legal, social, technological, or other benefits of the project outweigh the significant effects on the environment. (Pub. Resources Code, § 21081, subd. (b).)

A public agency shall provide that measures to mitigate or avoid significant effects on the environment are fully enforceable through permit conditions, agreements, or other measures. Conditions of project approval may be set forth in referenced documents which address required mitigation measures or, in the case of the adoption of a plan, policy, regulation, or other public project, by incorporating the mitigation measures into the plan, policy, regulation, or project design. (Pub. Resources Code, § 21081.6, subd. (b).)

The EIS/R for the proposed Battle Creek Restoration Project identified potential significant environmental effects of the Project absent project modifications or mitigation measures to reduce or eliminate those effects. Most potentially significant impacts identified are reduced to a level of less than significant with implementation of the mitigation measure(s) identified below including implementation of the environmental commitments incorporated into the project. (See Final EIS/R pages 3-69 to 3-78.) These findings are made under Public Resources Code section 21081, subdivision (a)(1). Each mitigation measure shall be made enforceable as a condition of the funding approval and by : 1) incorporation into the State Water Board water quality certification issued to PG&E, Reclamation, or both; and 2) incorporation as part of the Project. Some

potentially significant impacts can be mitigated, however, the mitigation can and should be adopted by another public agency. These findings are made under Public Resources Code section 21081, subdivision (a)(2). Finally, some potentially significant impacts relating to Section 4.8, Aesthetic and Visual Resources; Section 4.10, Noise; Section 4.14, Recreation; and, 4.15 Cultural Resources cannot be feasibly mitigated to less than significant levels with certainty. These findings are made under Public Resources Code section 21081, subdivision (a)(3). A statement of overriding considerations supported by substantial evidence is contained at the end of this document. (Cal. Code Regs., tit. 14, § 15093.)

LEGAL EFFECT OF FINDINGS

To the extent these findings conclude that various mitigation measures outlined below are feasible and have not been modified, superseded or withdrawn, DFG hereby binds itself to implement or cause to be implemented these measures. This means that the entire action is analyzed for purposes of DFG's funding decision and all appropriate mitigation measures are made binding upon the project as a whole. In particular, DFG acknowledges that while there are multiple construction locations comprising the Battle Creek Project and therefore the Project will be contracted in two phases (for example the North Fork construction could begin prior to the South Fork), the conditions of funding approval are a requirement for each contract and any and all phases. These findings, in other words, are not merely informational, but rather constitute a binding set of obligations that will come into effect when DFG formally approves funding for the Battle Creek Project. Likewise, the mitigation measures set forth below are referenced in the mitigation monitoring program adopted concurrently with these findings, and they will be implemented as required by the Battle Creek Project funding approval. (See Pub. Resources Code, § 21081.6, subd. (a)(1); CEQA Guidelines, § 15097.)

In addition, Reclamation is acting as the project manager for the Project and will implement the proposed Project including its associated mitigation actions as described in these CEQA Findings. As stated above, it is anticipated that the state will fund the project implementation. Any involvement by Reclamation in the proposed Project is subject to federal authorities for any funding provided under federal law and compliance with the National Environmental Policy Act including execution of a record of decision related to the Project.

ADMINISTRATIVE RECORD OF PROCEEDINGS

For purposes of these findings, the administrative record of proceedings for DFG's discretionary funding approval for this Project consists, at a minimum, of the following project documents:

- All written testimony or documents submitted by any person to DFG relevant to these findings and DFG's discretionary actions with respect to the Project including all staff reports and related non-privileged documents prepared by or on behalf of Reclamation, PG&E, the State Water Board, the USFWS, the NMFS, and the California-Bay Delta Authority (CBDA) with respect to the Battle Creek Project;
- All staff reports and related non-privileged documents prepared by DFG with respect to its CEQA compliance and with respect to its approval of this funding decision;
- All notices issued to comply with CEQA or the CEQA Guidelines or with any other law relevant to and governing this funding approval;
- All written comments received by DFG in response to, or in connection with, environmental documents prepared for the project;
- All written evidence or correspondence submitted to, or transferred from, DFG with respect to compliance with CEQA or with respect to the Battle Creek Project;
- Any proposed decisions or findings submitted to DFG by its staff, the State Water Board, Reclamation, or other persons;
- The documentation of the final decision by DFG, including all documents cited or relied on in these findings adopted pursuant to CEQA and the CEQA Guidelines;
- Any other written materials relevant to DFG's compliance with CEQA and the CEQA Guidelines, or DFG's decision on the merits with respect to funding the Battle Creek Restoration Project, including any draft environmental documents which were released for public review, and copies of studies or other documents relied upon in any environmental document prepared for the Project and either made available to the public during a public review period or included in the Department's files on the Battle Creek Project, and all non-privileged internal agency communications, including staff notes and memoranda related to the Battle Creek Project or to compliance with CEQA or the CEQA Guidelines;
- Matters of common knowledge to DFG, including but not limited to Federal, State, and local laws and regulations; and
- Any other materials required to be in the DFG's administrative record of proceedings by Public Resources Code section 21167.6, subdivision (e).

Location of the Record:

The record for the Restoration Project is kept at: the U.S. Department of the Interior, Bureau of Reclamation, 2800 Cottage Way, Sacramento, California; the State Water Resources Control Board, Division of Water Rights located at 1001 I Street, Sacramento, California; and, the California Department of Fish and Game, 1416 9th Street, 12th Floor, Sacramento, California.

The DFG has relied on all of the documents listed above in exercising its independent judgment and reaching its decision with respect to the Battle Creek Project, even if not every document was formally presented to DFG or its staff as part of the DFG's files generated in connection with the Project. Without exception, any documents set forth above not found in the DFG's files for the Battle Creek Restoration Project fall into one of two categories. Certain documents reflect prior planning or legislative decisions of which the DFG was aware in approving the Battle Creek Restoration Project. (See *City of Santa Cruz v. Local Agency Formation Comm.* (1978) 76 Cal.App.3d 381, 391-392; *Dominey v. Department of Personnel Administration* (1988) 205 Cal.App.3d 729, 738, fn. 6.) Other documents influenced the expert advice of DFG staff, whom then provided advice to the decision makers at the DFG with respect to the Battle Creek Restoration Project. For that reason, all such documents form part of the underlying factual basis for the DFG's decision related to the Battle Creek Restoration Project. (See Pub. Resources Code, 21167.6, subd. (e)(10); *Browning-Ferris Industries v. City Council of City of San Jose* (1986) 181 Cal.App.3d 852, 866; *Stanislaus Audubon Society, Inc. v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 153, 155.)

MITIGATION MONITORING AND REPORTING PROGRAM

As noted above, and as consistent with CEQA and the CEQA Guidelines, a mitigation monitoring and reporting program ("MMRP") has been prepared for the Battle Creek Restoration Project. (See Pub. Resources Code, § 21081.6, subd. (a)(1); CEQA Guidelines, § 15097.) DFG will adopt the MMRP as a condition of its funding approval and use the MMRP to track compliance with mitigation measures. Reclamation shall also develop an Environmental Monitoring Program Implementation Plan that provides detailed information on how each mitigation measure will be implemented and monitored. Reclamation shall submit the Environmental Monitoring Program Implementation Plan to the DFG Regional Manager, North Coast Region and the State Water Board, Chief of the Division of Water Rights for advanced approval prior to beginning construction, so that these agencies can determine that this plan is in compliance with CEQA and all applicable Clean Water Act requirements. The Environmental Monitoring Program Implementation Plan shall include a provision for periodic reporting to

the DFG Regional Manager of the North Coast Region and the State Water Board, Chief of the Division of Water Rights. The MMRP will remain available for public review during the compliance period.

In addition, Project monitoring should be coordinated, to the extent practicable, through the Science Program consistent with the Mitigation and Monitoring Program for the CALFED Preferred Program Alternative. (CALFED Bay-Delta Program, CEQA Findings of Fact at p. 18.) In the second-tier environmental review process, lead agencies are directed to provide a written report periodically to the CALFED chief scientist updating the progress and efficacy of implementing the mitigation measures. DFG will coordinate with the State Water Board to meet this reporting requirement.

POTENTIALLY SIGNIFICANT EFFECTS AND MITIGATION MEASURES

The Final EIS/R identified in detail impacts associated with, among other things, fish; botanical, wetland, and wildlife resources; hydrology; water quality; groundwater; land use; geology and soils; aesthetics and visual resources; transportation; noise; air quality; public health and safety; public services and utilities; recreation; and cultural resources. (See generally Final EIS/R, §§ 4.1-4.15.) Because the EIS/R is a joint NEPA/CEQA document it also included a discussion of several topics that are required for analysis under NEPA but not required for analysis under CEQA and, therefore, do not require any findings of significance or duty to mitigate. These include power generation and economics; socioeconomics; environmental justice and Indian trust assets. (See generally "Other NEPA Analyses," § 4.16.)

These findings are also intended to comply with the requirement that each finding by DFG be supported by substantial evidence in the administrative record of proceedings, as well as accompanied by a brief explanation of the rationale for each finding. (Id., § 15091, subds. (a), (b); see also Discussion following CEQA Guidelines, § 15091.) To that end, these findings provide the written, specific reasons supporting DFG's decision under CEQA to fund the Battle Creek Restoration Project.

FISH

Impact 4.1-1:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts on fish and other aquatic species due to mortality and lowered growth rates and reproductive success from accidental spill of petroleum products and other construction-related materials (contaminants) during Project

implementation. Accidental spill of petroleum products is likely to adversely affect steelhead, spring-run Chinook salmon, winter-run Chinook salmon, fall/late fall-run Chinook salmon and Essential Fish Habitat (EFH) for Chinook salmon. (See Final EIS/R, page 4.1-40.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts to fish and other aquatic species to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measures 1-9, below, as a condition of its approval.

Explanation:

Construction activities associated with removing five dams would include dismantling and removing Wildcat, South, Coleman, Soap Creek Feeder, and Lower Ripley Creek Feeder Diversion Dams and their appurtenant facilities. Heavy equipment would be used in the channel to remove the concrete structure, gravel, rock, and other materials from the dam footprint. Construction of fish screens and ladders would involve blasting and dismantling the existing structures and constructing new facilities. Heavy equipment would also be used during the construction of the Inskip Powerhouse bypass facility and the tailrace connectors at South and Inskip Powerhouses. The use of heavy equipment in and near the stream channel would increase the potential for an accidental spill of petroleum products, concrete wash, and other construction-related materials into the channel.

DFG requires the following mitigation measures to be implemented as a condition of funding approval for the Project:

Mitigation Measure 1: Develop and Implement a Worker Environmental Education Program

Reclamation is responsible to ensure that contractors and sub-contractors implement all mitigation measures as required. Reclamation shall develop and implement a Worker Environmental Education Program. Reclamation shall require construction contractor and subcontractor personnel to participate in and comply with this program. The program shall include, but is not limited to awareness regarding:

- 1) federal, state, and local environmental laws and regulations and permits, as well as the penalties for noncompliance with environmental requirements and conditions;
- 2) threatened and endangered species and special-status species, as well as their habitats;
- 3) environmentally sensitive locations;
- 4) cultural resource sites;
- 5) weed abatement; and,
- 6) environmental mitigation, compensation, and restoration measures.

Reclamation shall require a member of the contractor's management staff to participate in the training sessions to discuss the contractor's environmental commitment plans. Upon completion of each training session, Reclamation shall require each employee to sign a statement indicating that he/she has received the training.

The program must cover the relevant requirements detailed in the following Mitigation Measures: 2 (Exclusion and Work Zones); 7, 9, 29, 35-36 (Spill Pollution Prevention Plan); 15 (Comprehensive Habitat Mitigation and Monitoring Plan or "Comprehensive HMMP"); 18 (noxious weed control); 22 (valley elderberry longhorn beetle habitat protections); 38 (mosquito protection); and 39 (Fire Prevention and Control Plan).²

Mitigation Measure 2: Designate Exclusion and Work Zones

To safeguard environmentally sensitive areas during construction activities, exclusion zones and work zones shall be designated in the field.

Exclusion zones shall include all areas identified for exclusion in these Findings, including: Spill Pollution Prevention Plan (Mitigation Measure 7); Erosion and Sediment Control Plan (Mitigation Measure 10); non-jurisdictional riparian habitat (Mitigation Measure 14); comprehensive Habitat Mitigation and Monitoring Plan (Mitigation Measure 16); Migratory Bird Treaty Act Compliance Program (Mitigation Measure 17); noxious weeds (Mitigation Measure 18); jurisdictional wetlands and other waters of the United States (Mitigation Measure 20); non-jurisdictional oak woodland habitat (Mitigation Measure 21); special status species protection (Mitigation Measures 22—28); and cultural resources (Mitigation Measure 44). Reclamation shall prepare a Vegetation Protection Plan to clearly describe exclusions zones that will protect all sensitive habitat types. The Vegetation Protection Plan will include buffer assumptions according

² Each mitigation measure which DFG makes a condition of its funding approval is cumulative to all other mitigation measures required as conditions of the funding approval.

to the habitat type that is being protected. As an example, for oak woodland habitat the Vegetation Protection Plan will identify the exclusion boundary for individual oak tree root zones as extending 5 feet from the dripline of the tree (Mitigation Measure 21). The Memorandum of Agreement between the State Historic Preservation Officer and Reclamation (SHPO MOA) describes exclusion zones that will protect cultural resources (Mitigation Measure 44).

Reclamation shall ensure that exclusion zones are designated in the field. Exclusion zones shall be identified by a qualified biologist or cultural resources specialist using the Vegetation Protection Plan and SHPO MOA, respectively, and global positioning system (GPS) units to determine appropriate distances from sensitive resources. Although the Vegetation Protection Plan will be prepared using the most current data on location of special resources, it will be important to have the biologist confirm in the field that locations of special-status species have not changed since the Vegetation Protection Plan was prepared. If special-status species locations have changed, the biologist can adjust the exclusion zones shown on the Vegetation Protection Plan using GPS and later update the Vegetation Protection Plan to reflect the changes. Flagging or staking shall be installed at the GPS locations to guide the installation of orange construction fencing around the exclusion zones. All orange construction fencing around exclusion zones shall have signs attached that identify each area as an Environmentally Sensitive Area. The orange construction fencing shall be installed around the exclusion zones before construction activities begin and shall be maintained throughout the construction period.

Reclamation shall also ensure that work zones are designated in the field. Work zones shall be identified by Reclamation's construction contractor using the contractor use area limits identified in the construction documents. Before construction activities begin, orange construction fencing shall be installed around the work zones and maintained throughout the construction period. Construction equipment use and storage and associated activities, staging areas, borrow material sites, parking locations, stockpile areas, and storage areas shall be confined to the work zone (including access roads) at each project site. To the extent feasible, these activities should be located in annual grassland habitat within the work zones. Cattle shall be excluded from the work zone and kept from entering the site during construction.

As part of the Worker Environmental Education Program (Mitigation Measure 1), Reclamation shall inform construction personnel about the importance of avoiding ground-disturbing activities outside the work zone. During construction, the construction monitors and resource monitors shall ensure that construction equipment use and storage and associated activities avoid any disturbance of sensitive resources outside the work zones, especially in the exclusion zones (e.g., oak woodland habitat, riparian habitat, and wetland habitats).

Reclamation shall ensure that construction personnel avoid all marked environmentally sensitive areas and cultural resources locations (i.e., exclusion zones) within and outside the work zones. To further protect sensitive resources, Reclamation shall ensure that construction personnel use existing roads and access points to the extent possible to minimize disturbance to wildlife and their habitats, as well as conduct excavating, filling, and other earth moving activities gradually within the work zones to allow wildlife to escape in advance of machinery and grading.

Mitigation Measure 3: Identify Anadromous Fish Spawning Exclusion Areas

A qualified fish biologist, designated by Reclamation in consultation with NMFS and DFG, shall identify spawning gravels in the stream channel area that has the potential to be directly disturbed by construction and dam removal activities during Phase 1 at Wildcat and Eagle Canyon Diversion Dams, and during Phase 2 at Coleman Diversion Dam (i.e., downstream of existing blocked fish ladders). The qualified fish biologist shall determine the need for temporary armoring to exclude spawning at construction locations prior to any construction activity. The spawning gravel shall be armored with temporary mats or other armoring devices that will prevent spawning by Chinook salmon and steelhead. The gravels shall be armored at least 2 months before construction and demolition activities that could kill or injure eggs and larvae of steelhead and Chinook salmon in the gravel. The armoring materials shall be installed in areas where heavy equipment may be operated within the stream channel or in the vicinity of potential blasting. The temporary mats or other armoring devices shall be removed after instream construction and blasting have been completed.

Mitigation Measure 4: Remove Debris in the Stream Channel

Construction activities would occur during Phase 1 at North Battle Creek Feeder, Eagle Canyon, Wildcat and Asbury Diversion Dams, and during Phase 2 at Coleman, Lower Ripley Creek Feeder, Inskip, Soap Creek Feeder, and South Diversion Dams. Wildcat, Coleman, South, Lower Ripley Creek Feeder, and Soap Creek Feeder Diversion Dams will be removed under the Restoration Project. Reclamation shall remove debris in the stream channel resulting from construction and dam removal activities and deposit it off site. To the extent practicable, Reclamation shall remove debris in a way that will not affect conditions supporting upstream migration of adult steelhead and Chinook salmon at minimum flow releases from upstream dams and will not adversely modify spawning (e.g., armoring) or rearing habitat. Reclamation shall ensure that any material left in the stream will not impair flows or fish passage. A qualified fish biologist shall inspect the stream channel and confirm the restoration of habitat conditions.

Reclamation shall include its plans for debris removal in the Erosion and Sediment Control Plan required by Mitigation Measures 10 and 19.

Mitigation Measure 5: Implement Environmental Timeframes

Reclamation shall complete all activities in a timely manner to minimize the duration and impacts resulting from construction. In addition, all activities shall occur during the times of the year that are least detrimental to the environment. Instream work shall be conducted during periods of low streamflow (May–October). In addition, construction activities that could adversely affect nesting birds and their habitat shall be limited to the nonbreeding period (Mitigation Measures 17, 25, 26, 27), and construction activities that could adversely affect bat colonies and their habitat will be limited to the nonhibernation, nonmaternity colony period (August–October) (Mitigation Measure 28). Reclamation shall implement the timeframes as required under the Corps' Jurisdictional HMMP (Mitigation Measure 20).

Mitigation Measure 6: Develop and Implement a Stormwater Pollution Prevention Plan

Reclamation shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) as part of the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activities (General Permit). The SWPPP shall include, as a component, the Erosion and Sediment Control Plan developed in coordination with the Central Valley Regional Water Quality Control Board (Mitigation Measures 10 and 19). The SWPPP shall contain measures to minimize erosion and sediment transport to Battle Creek, including: best management practices (BMPs) (e.g., sediment containment devices, protection of construction spoils, proper installation of cofferdams); site restoration; post construction monitoring of the effectiveness of BMPs; contingency measures; details about contractor responsibilities; a list of responsible parties; and a list of agency contacts. The SWPPP should also contain the requirements developed under Mitigation Measures 4 (debris removal) and 18 (noxious weeds).

The plan shall include, at a minimum, the following measures:

- avoiding work or equipment operation in flowing water during in-channel activities by constructing cofferdams and diverting all flows around construction sites;
- conducting all construction work according to site-specific construction plans that minimize the potential for sediment input to the aquatic system, including constructing silt barriers immediately downstream of

the construction site and minimizing disruption of the streambed at and adjacent to the construction site;

- using sedimentation fences, hay bales certified as weed-free, sandbags, water bars, and baffles as additional sources of protection for waters, ditches, and wetlands;
- identifying all areas requiring clearing, grading, revegetation, and recontouring and minimizing the areas to be cleared, graded, and recontoured;
- storing construction spoils out of the stream (above the ordinary high-water mark) and protecting receiving waters from these erosion source areas with sedimentation fences or other effective sediment control devices;
- grading spoil sites to minimize surface erosion; and
- covering bare areas with mulch and revegetating all cleared areas with appropriate native, noninvasive species.

Reclamation shall file an application for a waste discharge permit with the Central Valley Regional Water Quality Control Board (CVRWQCB), and comply with the monitoring and reporting requirements for project construction. The CVRWQCB will monitor compliance with the NPDES General Permit.

Mitigation Measure 7: Develop and Implement a Spill Pollution Prevention Plan

Before construction begins, Reclamation shall prepare a Spill Pollution Prevention Plan.³ The plan shall be prepared in consultation with the CVRWQCB and approved by the State Water Board, Chief of the Division of Water Rights, before beginning construction. The Spill Pollution Prevention Plan shall include strict on-site handling rules to keep construction and maintenance materials out of drainages and the waterway. The Spill Pollution Prevention Plan shall also include the additional requirements identified in Mitigation Measures 29 and 35. Goals of this plan shall be to:

- a) prevent contamination of streamside soil and the watercourse from cement; concrete or concrete washing; asphalt, paint, or other coating materials; oil or other petroleum products; and hazardous materials;
- b) clean up spills immediately and notify DFG immediately of any spill and cleanup procedures;

³ The Spill Pollution Prevention Plan is referenced as a "Spill Pollution and Countermeasure Plan" in the Final EIS/R. (See Final EIS/R, page 3-75.) This simplification of the Plan name is a non-substantive change.

- c) restrict the volume of petroleum products allowed on site to the volume that can be addressed by the spill control and response measures included in the Spill Pollution Prevention Plan;
- d) provide staging and storage areas outside the stream zone for equipment, construction materials, fuels, lubricants, solvents, and other possible contaminants;
- e) store hazardous substances in staging areas at least 100 feet from stream and other water surfaces;
- f) perform refueling and vehicle maintenance at least 100 feet from receiving waters;
- g) minimize equipment operations in flowing water and remove vehicles from the normal high-water area before refueling and lubricating; and
- h) inspect equipment to ensure that seals prevent any fuel, engine oil, or other fluids from leaking.

The measures listed above shall be implemented to prevent contamination, clean up spills, provide staging and storing areas, and minimize equipment operations in flowing water. The State Water Board shall monitor compliance with the Spill Pollution Prevention Plan.

Mitigation Measure 8: Develop and Implement an Environmental Compliance Monitoring Program.

Reclamation shall develop an environmental compliance construction-monitoring program to ensure that the mitigation measures are implemented in an appropriate and timely manner. As part of this construction monitoring program, Reclamation shall retain qualified biologists, environmental resource specialists, and archeologists to monitor construction activities near environmentally sensitive areas, including areas that support threatened, endangered, and special-status species; migratory bird nesting; woody riparian vegetation; wetlands and perennial drainage crossings; and cultural sites.

Construction monitors shall be hired and trained by Reclamation prior to construction and will conduct daily preconstruction surveys, stake resources, on-site monitoring, clear equipment and vehicle staging areas, document violations and compliance, coordinate with construction inspectors, and post-construction documentation. Resource monitors shall patrol work zones and work with construction inspectors to ensure that barrier fencing, stakes, and required setback buffers are maintained.

Reclamation shall develop a mitigation, compensation, restoration, and reporting plan called the Environmental Monitoring Program Implementation Plan. Reclamation shall clearly outline the roles of the resource monitors and other individuals on the Project, compliance documentation, and other elements of the

environmental compliance monitoring program in the Environmental Monitoring Program Implementation Plan. The Environmental Monitoring Program Implementation Plan shall include a provision for periodic reporting to the DFG Regional Manager, Northern California, North Coast Region (NCNCR) and the State Water Board, Chief of the Division of Water Rights. Reclamation shall submit the Implementation Plan to the DFG Regional Manager, NCNCR and the State Water Board, Chief of the Division of Water Rights for advanced approval prior to beginning construction, so that these agencies can determine that the plan is in compliance with CEQA and all applicable Clean Water Act requirements.

Mitigation Measure 9: Develop and Implement a Construction-Area Fish Management Program.

Reclamation shall develop and implement a Construction-Area Fish Management Program to emphasize the importance of protecting Chinook salmon and steelhead trout and their habitat. This Construction-Area Fish Management Program should include, at a minimum, information regarding: the Worker Environmental Education Program (Mitigation Measure 1) specific to anadromous fish; anadromous fish spawning exclusion areas (Mitigation Measure 3); fish rescue operations (Mitigation Measure 12); debris removal from stream channels (Mitigation Measure 4); and, timeframes for instream construction (Mitigation Measure 5).

Although implementation of the Battle Creek Project could result in potential adverse impacts to salmon and steelhead, the purpose of the Project is to benefit salmon and steelhead populations by removing barriers to migration and improving in-stream conditions. The DFG finds, in short, that funding the Battle Creek Project could result in significant impacts on fish and aquatic species if there is an accidental spill of petroleum products or other construction-related materials but that the impacts will be mitigated to below a level of significance with implementation of the Battle Creek Project and the above minimization and avoidance measures.

Impact 4.1-2:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts due to mortality of fish eggs and larvae and reduced reproductive success of fish and other aquatic species because of increased sedimentation to North Fork and South Fork Battle Creek as a result of construction activities (contaminants) during Project implementation. Erosion and input of fine sediment is likely to adversely affect steelhead, spring-run Chinook salmon, winter-run Chinook salmon, fall/late fall-run Chinook salmon and Essential Fish Habitat (EFH) for Chinook salmon. (See Final EIS/R page 4.1-40 to 4.1-41.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts to fish and other aquatic species from increased sedimentation to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measures 1-8 above, and 10 below, as a condition of its approval.

Explanation:

Construction activities would mobilize fine sediments through direct disturbance and increased erosion. Input of fine sediment to the stream could infiltrate gravel substrates and adversely affect the quality of spawning habitat for steelhead and Chinook salmon. The occurrence of fine sediment in spawning gravel in excess of 30% substantially increases the mortality of eggs and larvae of Chinook salmon by inhibiting the flow of oxygen-rich water to the embryos and impeding the ability of larval fish to exit the redd after hatching. Infiltration of the fine sediment into gravel would also adversely affect habitat for other aquatic species, such as aquatic insects that live in gravel and provide food for fish.

In addition to Mitigation Measures 1-8 above, DFG requires implementation of mitigation measure 10 below, as a condition of funding approval for the Project:

Mitigation Measure 10: Develop and Implement an Erosion and Sediment Control Plan in Coordination with the Central Valley Regional Water Quality Control Board Which Will Include Measures to Avoid Impacts to the Aquatic System

To avoid or minimize potential impacts related to erosion and subsequent discharge of settleable material and runoff, Reclamation shall develop an Erosion and Sediment Control Plan in compliance with the State Water Board's Section 401 water quality certification. The Erosion and Sediment Control Plan will be part of the SWPPP (Mitigation Measure 6) and shall minimize the potential for sediment input to the aquatic system. The Erosion and Sediment Control Plan will also incorporate the provisions required under Mitigation Measure 2 (Exclusion and Work Zones) to avoid sensitive biological resources and Mitigation Measure 19 (Erosion and Sediment Control Plan Measures to Avoid Soil Impacts) to control sediment discharge during construction of roads and excavation and other activities in the stream channel during installation of fish screens and fish ladders and during dam removal. The Erosion and Sediment Control Plan shall be prepared in coordination with the CVRWQCB and will be included as a component of the SWPPP. The SWPPP must be approved by the

State Water Board, Chief of the Division of Water Rights prior to ground disturbing activities.

The Erosion and Sediment Control Plan shall include, but may not be limited to, the following BMPs for all areas disturbed by the Restoration Project:

- Monitoring of water turbidity shall be conducted immediately above and 500 feet downstream of the construction site a minimum of two times each workday. If daily average downstream turbidity levels are found to exceed a turbidity increase no greater than 20% over background turbidity, construction activities shall cease until turbidity decreases to acceptable levels. The State Water Board may provide exemptions to the above turbidity standards for dredging and other operations that would include removing material from the streambed using heavy equipment. In these cases, as stated in Chapter 3 of the Water Quality Control Plan (Basin Plan) for the CVRWQCB (1998), an allowable zone of dilution within which turbidity in excess of these limits that may be tolerated shall be defined for the operation and prescribed in a discharge permit (e.g., Clean Water Act Section 401 Water Quality Certification).
- During work in a flowing stream, the entire streamflow shall be diverted around or under the work area by a barrier, culvert, channel, or berm constructed of clean gravel 1 to 6 inches in diameter (clean is defined as meeting Caltrans's cleanliness specification 85). The barrier and/or new channel shall be constructed in a manner that will minimize sediment discharges and fish escape from the work area and facilitate any necessary fish rescue operations.
- Temporary sediment control measures shall be located downslope of disturbed areas to act as sediment traps. These measures will detain sediment-laden runoff until disturbed areas are stabilized. Small sediment catchment basins or traps shall be installed to prevent sediment from being transported away from development sites. These basins shall be sized and sited to minimize any impacts on riparian areas and wet areas. Types of sediment traps to be considered shall include filter berms, straw bales, filter inlets, vegetative filter strips, and culvert risers.
- Disturbed soils shall be revegetated and stabilized. Reseeding and mulching work shall be completed by October 1 of the year following the completion of activities at each dam site. If erosion control practices are not implemented by that date, exposed soils could require additional treatment following seasonal rains and subsequent erosion.

- Disturbed areas shall be seeded with native plant species approved by a revegetation specialist or erosion control specialist. Special emphasis shall be given to native plant assemblages that were characteristic of the site prior to construction.

These erosion control measures identified in the Erosion and Sediment Control Plan shall be completed as directed in the SWPPP approved by the CVRWQCB in coordination with the revegetation activities needed to mitigate impacts on native vegetation.

Although implementation of the Battle Creek Project could result in potential adverse impacts to salmon and steelhead, the purpose of the Project is to benefit salmon and steelhead populations by removing barriers to migration and improving in-stream conditions. The Department finds, in short, that funding the Battle Creek Project could result in significant impacts on fish and aquatic species from increased sedimentation but that the impacts will be mitigated to below a level of significance with implementation of the Battle Creek Project and the above minimization and avoidance measures.

Impact 4.1-3:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts due to mortality of fish eggs and larvae and reduced reproductive success of fish and other aquatic species as a result of currently stored fine sediment being released to the stream channel (contaminants) in Phase 1 during the removal of Wildcat Diversion Dam and in Phase 2 during the removal of South and Coleman Diversion Dams and Lower Ripley and Soap Creek Feeder Dams. Erosion and input of fine sediment is likely to adversely affect steelhead, spring-run Chinook salmon, winter-run Chinook salmon, fall/late fall-run Chinook salmon and Essential Fish Habitat (EFH) for Chinook salmon. (See Final EIS/R, page 4.1-41 to 4.1-43.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts to fish and other aquatic species to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measures 1-8, and 10 above, and 11 below, as a condition of its approval.

Explanation:

The removal of the dams would release sediment currently stored behind them. The volume and type of sediment stored behind the dams varies, with 30,000

cubic yards (yd³) at South Diversion Dam and 28,000 yd³ at Coleman Diversion Dam. Wildcat, Ripley and Soap Creek Diversion Dams are relatively small and would not release substantial sediment. Removal of the dams potentially increases the input of fine sediment to the stream channel which can, in turn, increase turbidity and sedimentation of gravel substrates. Increased turbidity could adversely affect feeding efficiency of juvenile steelhead and Chinook salmon. The impact of increased turbidity would be temporary. Sedimentation of gravel, however, would be a significant impact.

In addition to Mitigation Measures 1-8, and 10 above, DFG requires implementation of Mitigation Measure 11 below, as a condition of funding approval for the Project:

Mitigation Measure 11: Remove Diversion Dams During Low-Flow Season and Construct Pilot Channels

Reclamation shall remove diversion dams during low-flow conditions to minimize the downstream transport of fine sediment consistent with the Timeframes for Instream Work identified in the NMFS biological opinion. Fine sediment would subsequently be mobilized and transported by higher flows during winter storms, minimizing deposition in gravel substrates and potential adverse effects on egg and larvae of Chinook salmon and steelhead and other aquatic organisms dependent on clean gravel. Reclamation shall also mitigate some of the potential sediment impacts by constructing pilot channels to facilitate the downstream distribution of sediment behind the dams. This requirement shall be incorporated into a Dam Decommissioning Plan, developed by Reclamation in coordination with NMFS, USFWS, DFG, PG&E and FERC. The adequacy of this requirement shall be subject to approval by the State Water Board, Chief of the Division of Water Rights prior to construction.

Although implementation of the Battle Creek Project could result in potential adverse impacts to salmon and steelhead, the purpose of the Project is to benefit salmon and steelhead populations by removing barriers to migration and improving in-stream conditions. The DFG finds, in short, that funding the Battle Creek Project could result in significant impacts on fish and aquatic species from increased sedimentation during dam removals but that the impacts will be mitigated to below a level of significance with implementation of the Battle Creek Project and the above minimization and avoidance measures.

Impact 4.1-7:

Funding the Battle Creek Project could result in direct or indirect adverse impacts due to vulnerability of all life stages of fish to injury or mortality from percussion-related energy shock waves, operation of equipment, and becoming trapped in

isolated pockets of water during construction activities (direct injury) to implement the Project. Notwithstanding the temporary nature of the impact, percussion-related effects, equipment operation, and stranding are likely to adversely affect steelhead, spring-run Chinook salmon, winter-run Chinook salmon, fall/late fall-run Chinook salmon and Essential Fish Habitat (EFH) for Chinook salmon. These impacts were considered less-than-significant in the final EIS/R because the affected spawning and rearing habitat area and affected fish populations were small relative to the total spawning and rearing habitat in Battle Creek and the overall fish populations. Nevertheless, a fish rescue operation is being included as condition of this approval. (See Final EIS/R, page 4.1-44 to 4.1-45.)

Finding:

Potential impacts to fish and other aquatic species due to percussion and becoming trapped in isolated pockets of water are considered less-than-significant. Nevertheless, DFG requires implementation of Mitigation Measures 1-3, 5, and 8 above and 12 below, as a condition of its funding approval.

Explanation:

Removal of the five diversion dams; construction of the Inskip Powerhouse bypass facility; construction of the tailrace connectors between South Powerhouse and Inskip Canal, and between Inskip Powerhouse and Coleman Canal; and the construction of the fish screens and fish ladders at Eagle Canyon and Inskip Diversion Dams could physically injure and kill eggs, larvae, and juvenile fish. During incubation salmonid embryos are immobile and sensitive to percussion-related energy shock waves. During construction of fish facilities and demolition of dams, equipment may be operated in the streambed, potentially crushing incubating eggs, larvae, and juvenile fish that may be present. The construction of access roads, trenches, and foundations for fish facilities and demolition of water management facilities may all require blasting of the bedrock common throughout the project area. Percussion-related shock waves created during these construction and deconstruction activities could cause mortality to Chinook salmon and steelhead trout eggs incubating in the gravel. Juvenile fish may also be affected. In addition, the activities would adversely affect EFH for Chinook salmon.

However, this impact is considered less-than-significant because the affected spawning and rearing habitat is small relative to the total spawning and rearing habitat in Battle Creek, construction will occur over a relatively short period of time, and measures will be implemented to exclude spawning within construction footprint including temporary confinement below Coleman and Eagle Canyon diversion dams.

Because the use of cofferdams in the stream channel to divert flow and isolate the in-channel construction area from the main streamflow could trap salmonids and other fish species and fish that become trapped in isolated pockets of water could be killed during desiccation of the construction area and construction activities, DFG requires implementation of the following measure as a condition of its funding approval even though the overall impact is less-than-significant:

Mitigation Measure 12: Implement a Fish Rescue Operation

Stream channel segments may be isolated from the streamflow during construction. Reclamation, in consultation with NMFS and DFG, will ensure that a fish biologist is on site to implement a fish rescue operation in isolated pools that may harbor stranded fish. Fish will be removed from isolated pools by seining or electroshocking. Reclamation, in consultation with NMFS and DFG, will also ensure that the electroshocking or seining team includes at least one person with a 4-year college degree in fisheries or biology, or a related degree. The person must also have at least 2 years of professional experience in fisheries field surveys and the use of electroshocking equipment. Fish collection assumes a 2- to 4-person team per electroshocker or seine to facilitate safe and efficient collection and transport. Up to two electroshocking or seining teams may be used to facilitate efficient fish removal, particularly in reaches where the average width of the channel is more than 20 feet or where an abundance of instream cover makes fish capture difficult. The electroshocking team will complete a minimum of three passes through each isolated pool. The number of electroshocking passes may exceed three if necessary to remove most fish. Captured fish will be placed in 5-gallon buckets. At the end of each pass, captured fish shall be transferred into buckets with aerated water or into in-river holding tanks (e.g., buckets with small holes or other similar containers). Water temperature in holding buckets will be monitored and river water will be added or replaced as needed to maintain fish in good condition.

Fish shall be counted and recorded by species. All fish will be released in the live channel upstream of the construction area unless it is determined these fish are downstream migrants that should be released downstream of the affected areas. The number of Chinook salmon and steelhead captured and the number of Chinook salmon and steelhead accidentally killed before release will be reported by email to NMFS within 5 working days. All dead Chinook salmon and steelhead will be frozen and retained until NMFS provides direction for disposition or until 6 months following fish capture.

Although implementation of the Battle Creek Project could result in potential adverse impacts to salmon and steelhead, the purpose of the Project is to benefit salmon and steelhead populations by removing barriers to migration and improving in-stream conditions. The DFG finds, in short, that funding the Battle Creek Project could result in some impacts on fish and aquatic species from

temporary effects associated with percussion-related energy shock waves, operation of equipment, and becoming trapped in isolated pockets of water during construction activities these impacts are less-than-significant and further mitigated with implementation of the Battle Creek Project and the above minimization and avoidance measures.

Impact 4.1-8:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts to fish after the project is implemented by increasing the exposure of rainbow trout (specifically trout raised by fish farms) to pathogens as the populations of Chinook salmon and steelhead in Battle Creek increase. Because farm raised trout are planted in the waters of the State there is a risk of a serious or catastrophic fish disease spreading from Battle Creek to fish communities throughout California. This impact is considered significant. (See Final EIS/R, page 4.1-49 to 4.1-57.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts to fish to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measure 13, below, as a condition of the funding approval.

Explanation:

As part of the Hydroelectric Project, PG&E canals divert water from Battle Creek to various project powerhouses. Currently, Battle Creek water seeps into the shallow groundwater as it passes through two unlined PG&E canals—Eagle Canyon Canal and Inskip Canal. According to historic records, the infectious haematopoietic necrosis (IHN) virus has existed in the Battle Creek watershed since at least the early 1940s. And research suggests that IHN virus can be transmitted through the water column, including by seepage. The Restoration Project is being implemented to increase numbers of anadromous fish to the upper reaches of Battle Creek. Because naturally spawning Chinook salmon and steelhead are known to carry the IHN virus, a greater incidence of the naturally occurring disease could occur in Battle Creek waters and be transmitted into the water supplies of the privately owned Mount Lassen Trout Farms (MLTF) Jeffcoat and Willow Springs aquaculture facilities via sub surface leakage of canal waters. In addition, there is a risk of this disease entering the state-owned Darrah Springs State Fish Hatchery by a different mechanism where adult salmon and steelhead may, under certain high flow events, get over an existing

natural water fall and fish barrier dam then find their way into the hatchery's water facilities where they could transmit the disease should they be infected.

MLTF raises trout for planting throughout the state of California. MLTF is the only private fish hatchery in the state of California that currently has wild anadromous fish migrating above its water intake, and the only rainbow trout hatchery in the state that could transmit waterborne diseases from its water source to other waters in the state of California. DFG would not register a facility that had any known hydrologic connection to waters carrying anadromous fish, but when MLTF registered its facilities with DFG in the 1970s to farm rainbow trout, neither MLTF nor DFG was aware of the hydrologic connection between Battle Creek and MLTF's source springs. Given the information presented above, the incidence of pathogens in PG&E's canals diverting Battle Creek water could increase following implementing of the Restoration Project because the Project purpose is to increase the abundance and upstream distribution of Chinook salmon and steelhead in Battle Creek. As a result, the possibility of pathogens entering the MLTF aquaculture facilities by means of canal water that has seeped into the groundwater and to MLTF's water source would also increase the risk of MLTF-planted fish spreading a serious disease which could affect fish communities in other watersheds. The potential spread of a catastrophic disease to other fish communities would be a significant impact.

DFG requires implementation of Mitigation Measure 13, below, as a condition of funding approval for the Project:

Mitigation Measure 13: Implement mitigation at Mount Lassen Trout Farm's (MLTF's) Jeffcoat and Willow Springs aquaculture facilities and at the Darrah Springs State Fish Hatchery to Reduce The Potential Impact of Increased Risk of a Serious or Catastrophic Fish Disease Spreading from Battle Creek to Fish Communities Throughout the State of California

Mitigation options for each facility are described below and shall be implemented when appropriate to reduce the potential increased risk of serious or catastrophic fish disease spreading from Battle Creek to fish communities throughout the state of California. The potential increased risk of fish disease is contingent on three assumptions: completion of the Project, subsequent increases in the populations of naturally spawning anadromous fish, and communicability of fish disease via hydrologic connectivity.

MLTF's Jeffcoat Aquaculture Facilities

Reclamation shall divert canal water from Eagle Canyon Canal into a new watertight pipeline (e.g., high-density polyethylene with heat-welded joints) at a point along the canal that is sufficiently far enough upstream of the spring area to prevent canal water from mixing with the spring water. The pipe shall be sealed

and buried. The new pipeline shall be constructed and operational before the risk of transmitting disease has significantly increased as a result of completing the proposed fish passage facilities at Eagle Canyon Diversion Dam.

The preferred pipeline alignment shall follow a new “cross-country” alignment downslope of the present canal as defined in Figure F-11 in Appendix F in Volume II of the Final EIS/EIR.

During construction, Reclamation shall take every action to avoid or minimize the potential impacts on wildlife habitat, cultural resources, and waters of the United States, consistent with the construction mitigations measures identified in this document. Reclamation shall submit a final copy of the design specifications and receive approval from the State Water Board, Chief of the Division of Water Rights, prior to any ground-disturbing activities, so that the State Water Board can determine that the specifications adequately avoid or minimize impacts to Waters of the United States.

MLTF’s Willow Springs Aquaculture Facility

A structural solution is not feasible to prevent the increased risk of spreading serious or catastrophic fish diseases from MLTF’s Willow Springs facility because a structural solution may block the hydrologic connectivity between the canals and springs to the point that the facility may not receive its necessary supply of water. Although IHN virus occurs in the existing population of naturally spawning anadromous fish, it is projected that within five years after the Project is implemented populations of naturally spawning anadromous fish could increase to levels that increase the risk of viral outbreaks at this facility. Therefore, in order to reduce the potentially significant impact from spread of fish disease to a less-than-significant level, DFG must, within five years of project completion, either recommend modification of the MLTF private aquaculture license to restrict MLTF from stocking or transporting any live fish farmed at its Willow Springs facility off-site or reconsider renewal of MLTF’s annual private aquaculture license to farm fish at its Willow Springs facility. The decision to renew the aquaculture license will be made on an annual basis, and the facility will likely be able to operate until such time that a disease is detected or the populations of naturally spawning anadromous fish have risen to a level that the risk of spreading an undetected disease to the waters of the state is determined to be significant. Fish and Game Code and the DFG Aquaculture Disease Regulations govern aquaculture licenses, fish inspections, disease examinations and restrictive actions. (Fish and Game Code §§ 15000 et seq.; Cal. Code Regs., tit. 14, §245). IHN virus is listed as a “serious disease” under these regulations and therefore, upon identification of the disease by a fish pathologist, the Director of DFG is empowered to immediately consult with the Aquaculture Disease Committee and can impose an immediate holding action and negotiate, if necessary, a compliance agreement. (Cal. Code Regs., tit. 14, §245(c)(2).)

DFG pathologists will monitor the hatchery and possibly fish from South fork Battle Creek to determine when the disease risk threshold is reached.

While “aquaculture” is a form of “agriculture,” that designation concerns “the business of aquaculture processing, distribution, and marketing.” (Fish and Game Code § 15000(b).) And business impacts are socioeconomic considerations. In accordance with the CEQA Guidelines, economic or social effects of a project shall not be treated as significant effects on the environment. Economic or social effects can be relevant if they help to inform the level of significance of physical changes caused by the project or if they create a chain of cause and effect which result in other physical changes which are potentially significant adverse environmental effects. (CEQA Guidelines §§ 15064(e), 15131, 15358, 15382.) The potential acquisition of the Willow Springs facility in order to modify the existing operations was analyzed in the EIS/R as a mitigation option to prevent the spread of IHN virus. However, under the terms of the existing lease the appurtenant structures would remain on site even if the lease were to terminate and could be used to raise fish for personal use, fish not susceptible to the virus, or fish for limited distribution. This means that even if the business use were to change, the “existing infrastructure at Willow Springs would remain at the Willow Springs site.” (EIS/R at p. 4.1-53.) Thus there would not be a potentially significant cause-and-effect of physical changes related to the potential acquisition of the Willow Springs site.

However, while CEQA requires an analysis of potential adverse impacts on the physical environment, NEPA concerns “major federal actions significantly affecting the quality of the human environment.” (42 U.S.C. § 4332(2)(C).) Further, NEPA is essentially procedural, includes a requirement to analyze both physical and socioeconomic impacts, but does not require mitigation. (*Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989) [“NEPA merely prohibits uninformed – rather than unwise – agency action.”].) Because the EIS/R is a joint NEPA and CEQA document, it contains a NEPA-required section on Socioeconomics. (Final EIS/R, § 4.16, “Other NEPA Analyses.”) That section concluded there could be potential socioeconomic risks to the Mount Lassen Trout Farm fish-marketing program from an increase in naturally spawning anadromous fish. (EIS/R Effect 4.16-5, at p. 4.16-29-4.16-30.) Having addressed the potentially significant adverse physical impacts from spread of fish disease, above, the inclusion of section 4.16 in a joint NEPA and CEQA document does not give rise to a CEQA requirement in these Findings to provide mitigation or avoidance measures for social or economic effects.

Asbury Diversion Dam

Reclamation will make structural changes necessary at the existing fish barrier provided by Asbury Diversion Dam to prevent anadromous fish from passing above the dam and conveying diseases to Darrah Springs State Fish Hatchery

during the times when fish are present and at flows that facilitate their passage over Asbury Diversion Dam (including high flows and normal flood flows).

The most cost-effective and reliable disease-prevention remedy shall be used to prevent the spread of virulent fish diseases above Asbury Diversion Dam and protect Darrah Springs State Fish Hatchery and fish communities in the waters of the state where hatchery fish may be stocked. Reclamation shall construct an appropriate fish barrier at Asbury Diversion Dam by structural and operational modifications.

To minimize the risk of fish passing over Asbury Diversion Dam, the crest of Asbury Diversion Dam shall be fitted with an overhanging "cap," which shall extend approximately 8 feet downstream of the dam. Engineering and costs analyses shall identify the optimum dimensions and composition of the overhanging cap (e.g., steel or concrete) Installation of the cap may require the construction of a temporary upstream cofferdam and excavation of reservoir sediments at the upstream face of the dam.

The existing walkway across the dam shall be replaced with a footbridge set at a higher elevation and with a longer free span to allow safe passage of moderately severe flood flows and to avoid debris accumulations. The footbridge will allow access to the flow-measurement weirs and outlet works slide gate for operation, maintenance, and adjustments.

At least three existing bays would be fitted with flow-measurement weirs, which would replace the flashboard weirs mounted on the crest of the dam. The use of multiple weirs would disperse the flow over a wide area, which is expected to reduce the potential for attracting fish to areas of higher passage potential. The flow-measurement weirs shall be incorporated into the cap structure. The vertical steel support columns for the existing walkway shall be cut off, but the lower portions may remain and possibly be incorporated into the cap structure.

To eliminate potential jump pools below the dam crest, two existing scour holes near the downstream toe of the dam shall be covered by a concrete or shotcrete apron that shall extend approximately 12 feet downstream. The purpose is to establish a surface free of low spots to prevent formation of launching areas for migrating fish, but which is durable enough to handle expected debris loads with a minimum of maintenance. The apron area downstream of the dam shall be modified by placement of reinforced concrete, grouted riprap or other durable materials. The top surface of the apron shall be horizontal from the dam to the end of the walkway footings and shall be sloped downstream at a 5% grade for the remaining 8 to 10 feet. The apron shall extend across the face of the dam, including the area adjacent to the sediment-pass-through-gate control structure and the approximate 6-foot pass-through gate. If hydraulic analyses indicate a possibility of high tailwater levels during high flow periods, the surface of the

apron may be raised up to 2 or 3 feet and be extended farther downstream (up to 20 feet). The purpose is to prevent formation of launching areas for migrating fish.

Collectively, the cap, the flow dispersion, and the apron should prevent fish from jumping over the dam, with the cap serving as a jump barrier and the apron eliminating jump pools below the dam.

Sluicing of sediments through the existing flashboard spill gate shall be discontinued except in rare situations, and only in coordination with DFG. The periodic sluicing of sediments shall be accomplished by releasing water through the existing 36-inch-diameter outlet works pipe. Any sluicing of sediments during construction shall be addressed in the Erosion and Sediment Control Plan required by Mitigation Measures 10 and 19. Long-term sediment passage and sluicing operations will be addressed through the license amendment process. In order to minimize the risk of fish passing through the 36-inch culvert pipe during sediment-pass-through operations, the existing outlet pipe shall be extended between 75 and 100 feet downstream. The reason for extending the pipe is to afford some level of prevention of fish attempting to migrate up the pipe during sluicing operations. The pipe shall be constructed of a suitable material (e.g., reinforced concrete, steel, or high density polyethylene), shall be properly supported with concrete saddle supports, and shall not have any internal corrugations. The pipe shall be placed at the steepest angle that the channel geometry allows. In general, the pipe shall follow the relatively flat grade of the creek bed, but shall be anchored to rock to prevent movement. Because higher-velocity flow is expected in the extended pipe, the pipe should serve as a velocity barrier to upstream passage. The type of pipe (concrete, steel, etc.), alignment, method of anchoring, and other features for protecting the pipe from debris during flood flows shall be determined based on engineering and cost analyses. The 6-foot gate shall be discontinued in favor of the 36-inch culvert pipe and periodic dredging of material from behind the dam. Only the minimum amount of excavation shall be performed in the creek bed.

Pursuant to a separate Memorandum of Understanding to be entered into between PG&E and DFG, PG&E will provide timely notifications to the Darrah Springs Hatchery facility in the event of significant increases in creek flows in the watershed as indicated by elevated Asbury Diversion Pool. Upon notification of significant increases in flow at the fish barrier, DFG shall assume responsibility for inspecting the spring water supply system to insure it is maintained free of fish from outside sources.

During construction, Reclamation shall take every action to avoid or minimize the potential impacts on wildlife habitat, cultural resources, and waters of the United States, consistent with the construction mitigations measures identified in this document. Reclamation shall submit a final copy of the design specifications to

the State Water Board, Chief of the Division of Water Rights for approval prior to any ground-disturbing activities, so that the State Water Board can determine that the specifications adequately avoid or minimize impacts to Waters of the United States.

Although the Project will provide for a net benefit to salmon and steelhead by removing barriers to migration and improving in-stream conditions, the DFG finds, in short, that funding the Battle Creek Project could result in significant impacts on fish by increasing the exposure of rainbow trout (specifically trout raised by fish farms) to pathogens as the populations of Chinook salmon and steelhead in Battle Creek increase. Because farm raised trout are planted in the waters of the State there is a risk of a serious or catastrophic fish disease spreading from Battle Creek via planted fish to fish communities throughout the state of California. However, this increased risk of disease will be mitigated to below a level of significance with implementation of the Battle Creek Project and the above minimization and avoidance measures.

BOTANICAL, WETLAND, AND WILDLIFE RESOURCES

Impact 4.2-1:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts due to disturbance or loss of 7.2 acres of woody riparian vegetation and associated wildlife habitat when the project is implemented. This impact is considered significant. (See Final EIS/R, page 4.2-71 to 4.2-73)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts to woody riparian vegetation and associated wildlife habitat to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measures 1-3, 4, and 8 above, and 14-17 below, as a condition of its funding approval.

Explanation:

The Restoration Project could result in the temporary disturbance or permanent removal of woody riparian vegetation and associated wildlife habitat during construction of access roads and restoration activities along Battle Creek (See Final EIS/R, Table 4.2-6, page 4.2-36). The most substantial removal of woody

riparian habitat would occur during Phase 1 at the North Battle Creek Feeder Diversion Dam, where a new 30-foot by 22-foot landing area for the new access road would be constructed along the creek's edge. This new landing area and foot access bridge would require the removal of approximately 4.18 acres of woody riparian vegetation.

Riparian forest provides important shelter, foraging, and roosting habitat for a variety of wildlife species, including bats, and nesting habitat for raptors and migratory birds. Substantial statewide declines of riparian communities in recent years have increased concerns about dependent plant and wildlife species, leading state and federal agencies to adopt policies to arrest further loss. Riparian vegetation serves a variety of functions, such as providing bank stabilization, erosion control, and wildlife habitat. For these reasons, DFG has adopted a no-net-loss policy for riparian habitat value. USFWS mitigation policy identifies California's riparian habitats as Resource Category 2, for which no net loss of existing habitat value is recommended (46 FR 7644, January 23, 1981).

In addition to Mitigation Measures 1-3, 4, and 8 above, DFG requires the implementation of the Mitigation Measures 14 -17 below as a condition of the funding approval for the Project:

Mitigation Measure 14: Implement A Habitat Compensation Approach

The Restoration Project will result in both temporary and permanent impacts to habitat. To mitigate for these impacts on sensitive resources, Reclamation, in consultation with USFWS and DFG, shall implement a habitat compensation approach that includes the following provisions:

For temporary impacts on habitat, including Corps-jurisdictional wetlands and other waters of the United States, both passive and active restoration techniques shall be used, depending on the location of disturbed areas. For those disturbed areas where it can reasonably be expected that habitat will quickly revegetate, passive restoration shall be used. In disturbed areas where habitat is not expected to quickly revegetate, active restoration techniques will be used. Mitigation for temporary impacts shall generally occur onsite at the location of the area of disturbance.

For permanent impacts on habitat, both active restoration techniques and preservation through conservation easements and mitigation bank credits shall be used. For Corps-jurisdictional habitat, the CALFED Ecosystem Restoration Program-funded Burton Ranch and McCampbell Ranch conservation easements along the mainstem of Battle Creek shall be used to create new wetlands, other waters of the United States, and riparian habitat. For Corps-jurisdictional and non-jurisdictional habitat (e.g., riparian, oak woodland, annual grassland, and mixed chaparral habitats), the Burton Ranch and McCampbell Ranch easements

shall also be used to preserve existing wetland, riparian, and upland habitats. To mitigate for the permanent loss of elderberry plants that serve as the host plant for the special-status valley elderberry longhorn beetle (VELB), mitigation credits shall be purchased at Stillwater Mitigation Bank. The use of the conservation easements and approved mitigation bank credits ensures that new and existing habitat under threat of future impacts attributable to human land use/development can be protected in perpetuity. The conservation easements and mitigation bank credits would provide the in-kind benefits needed to offset habitat values lost during implementation of the Project.

The habitat compensation approach for Corps-jurisdictional wetlands and other waters of the United States will be presented in detail in the Corps' Jurisdictional HMMP (Mitigation Measure 20). The habitat compensation approach for non-jurisdictional riparian habitat will be presented in detail in the Riparian Restoration Plan (Mitigation Measure 16). The habitat compensation approach for non-jurisdictional oak woodland habitat will be presented in detail in the Oak Planting Plan (Mitigation Measure 21). Each plan is included as components of the Restoration Project's Comprehensive HMMP (Mitigation Measure 15).

Mitigation Measure 15: Develop and Implement a Comprehensive Habitat Mitigation and Monitoring Plan

Reclamation, in coordination with NMFS, USFWS, DFG, PG&E, the State Water Board, FERC, and the U.S. Army Corps of Engineers (Corps), shall prepare and implement a Comprehensive HMMP.⁴ The Comprehensive HMMP shall be an all-inclusive document that describes mitigation and monitoring requirements in the following components:

- Riparian Restoration Plan (Mitigation Measure 16). This component will address impacts to riparian habitat which do not fall under the Corps' jurisdiction.
- Corps' Jurisdictional HMMP (Mitigation Measure 20). This component will address impacts to wetlands and other waters of the United States that fall under the Corps' jurisdiction.
- Oak Planting Plan (Mitigation Measure 21). This component will address impacts to oak woodland habitat that do not fall under the Corps' jurisdiction.

⁴The Comprehensive HMMP includes, in addition, components addressing the "Wetland and Riparian Mitigation and Monitoring Plan," the "Wetland Restoration Plan," and "Oak Woodland Plan" referenced in Final EIS/R Section 4.2. This is a non-substantive change.

- Inskip Revegetation Plan (Mitigation Measure 30). This component will address mitigation and monitoring to reduce aesthetic impacts associated with the access road to Inskip Diversion Dam.

A description of each plan is provided in the mitigation measure referenced above for each component.

Mitigation Measure 16: Avoid and Minimize the Removal and Disturbance of Riparian Habitat, Avoid Long-Term Impacts on Woody Riparian Vegetation and Associated Habitat, and Compensate for the Loss of any Such Habitat

Reclamation, in coordination with NMFS, USFWS, DFG, PG&E, the State Board and FERC, shall develop a Riparian Restoration Plan as a component of the Comprehensive HMMP required by Mitigation Measure 15. Reclamation shall incorporate into the Riparian Restoration Plan and implement the following measures to avoid, minimize, and compensate for the potential loss of woody riparian vegetation and associated wildlife habitat:

Avoid and Minimize Removal and Disturbance of Riparian Habitat.

Reclamation shall ensure that the unnecessary removal or disturbance of riparian habitat adjacent to the construction area shall be avoided by installing orange construction barrier fencing (and sedimentation fencing in some cases) between the construction area and the riparian/creek area. The removal of woody riparian vegetation shall be avoided by creating an exclusion zone (buffer) around woody riparian vegetation near the construction area, educating construction crews about the importance of avoiding the sensitive habitat, and monitoring construction activities to ensure avoidance. The exclusion zone shall be demarcated by orange construction fencing placed 20 feet beyond the drip line of the woody riparian vegetation. Fencing shall be installed before construction activities begin and shall be maintained throughout the construction period. Reclamation shall implement this measure in coordination and consistent with exclusion and work zones (Mitigation Measure 2) and the environmental compliance monitoring program (Mitigation Measure 8). Reclamation shall also address the requirements of this measure in the Worker Environmental Education Program required by Mitigation Measure 1.

Avoid Long-Term Impacts on Woody Riparian Vegetation and Associated Habitat. Reclamation shall avoid long-term impacts on woody riparian vegetation by trimming trees and shrubs rather than removing entire woody plants. Where possible, shrubs and trees of the appropriate species shall be pruned to leave at least 1 foot above ground level to leave the root systems intact and allow for more rapid regeneration following construction. To avoid the take of eggs or nestlings of migratory birds, riparian vegetation shall be removed during the nonbreeding season (October–February) before construction begins.

If such timing is not feasible, riparian vegetation shall not be removed until it can be demonstrated that it is not supporting nesting birds. Reclamation shall implement this measure in coordination and consistent with environmental timeframes (Mitigation Measure 5), components of the Comprehensive HMMP (Mitigation Measure 15) and the Migratory Bird Treaty Act compliance program (Mitigation Measure 17). Reclamation shall also address the requirements of this measure in the Worker Environmental Education Program required by Mitigation Measure 1.

Compensate for the Loss of Woody Riparian Habitat. Reclamation shall compensate for the temporary and permanent loss of woody riparian habitat. The Riparian Restoration Plan shall contain criteria to aid agency determinations as to which habitat loss is considered temporary and which is considered permanent. In addition, the Riparian Restoration Plan shall designate success criteria to measure the effectiveness of restoration efforts.

The compensation for temporary loss of woody riparian habitat shall include full on-site restoration of the affected habitat. In addition to restoring the affected habitat, on-site or off-site compensation or enhancement shall be provided at a ratio of 2:1 (2 acres enhanced for every 1 acre affected). This portion of the total compensation would be credited from CALFED Ecosystem Restoration Program-funded conservation easements located within the Battle Creek watershed, i.e. the Burton Ranch and McCampbell Ranch properties. The compensation for permanent loss of woody riparian habitat shall be provided at a ratio of 3:1 (3 acres of compensation for every 1 acre affected) through the use of habitat credits from the Burton Ranch and McCampbell Ranch conservation easements.

As part of the Riparian Restoration Plan, Reclamation shall retain a qualified ecologist to prepare a compensation proposal that would compensate for the removal of riparian vegetation along Battle Creek. This includes trees and shrubs that are removed entirely (including root systems). Enhancement of riparian habitat could be accomplished along Battle Creek through the removal of invasive species and replacement with native riparian species. The compensation proposal will evaluate the feasibility of removing nonnative species and replanting native species. The proposal shall include design specifications, an implementation plan, maintenance requirements, and a monitoring program for on-site restoration.

Reclamation shall monitor on-site riparian restoration efforts for a 10-year period, or until the performance standards have been met without human intervention for 3 years, to document the degree to which success criteria are achieved and to identify remedial actions that may be needed (U.S. Fish and Wildlife Service Final Fish and Wildlife Coordination Act Report, Battle Creek Salmon and Steelhead Restoration Project (June 2005)(USFWS Coordination Act Report)).

Annual monitoring reports shall be submitted to the State Water Board, Chief of the Division of Water Rights and DFG Regional Manager, NCNCR. The reports shall summarize the data collected during monitoring, describe how the habitats are progressing in terms of the success criteria (determined as part of the Riparian Restoration Plan), and recommend adaptive management responsive to the monitoring results.

Off-site enhancement of riparian habitat shall be implemented by using habitat credits at the Burton and McCampbell Ranch properties, CALFED Ecosystem Restoration Program–funded conservation easements managed by The Nature Conservancy and located on the mainstem of Battle Creek. The Nature Conservancy will conduct monitoring and reporting as part of its commitment to stewardship of this easement.

Mitigation Measure 17: Implement a Migratory Bird Treaty Act Compliance Program

Reclamation shall implement the following mitigation measures, as applicable, for all project construction. Specific measures addressing impacts to breeding riparian birds, raptors, and California black rail are described under Mitigation Measures 25, 26, and 27, respectively:

- Reclamation shall protect all known or potential nesting and roosting sites, such as live trees with cavities and all snags and stumps year-round.
- Reclamation shall not remove nests of raptors or any other bird from their locations.
- To the extent possible, construction activities that could adversely affect nesting birds and rearing of young through take of nests, impacts on nesting habitat, or disturbance from noise or human activity, will be limited to the period between September 1 and February 1 to avoid the bird breeding season.
- Reclamation shall only remove any habitat necessary for construction purposes that provides nesting cover for birds, such as grassland, mixed chaparral, live oak woodland, blue oak woodland, gray pine/oak woodland, and westside ponderosa pine between September 1 and February 1 prior to construction.
- Reclamation shall monitor construction sites for bird nesting activity during the breeding season.
- If raptors or any other birds appear at or near a construction site and attempt to nest, typical levels of construction noise and activity that will occur at the site during the breeding season will be sustained, such that the birds can accept or reject the site based on their assessment of the disturbance. Unless it is known that the nest site will be physically disturbed, the birds will be allowed to nest if they choose under the

assumption that they will be able to tolerate construction noise and activity.

- If disturbance of a nest with eggs or young appears unavoidable, or nesting activity such as incubation or feeding of young may be affected, a project contact at USFWS and DFG will be consulted before disturbance occurs.
- If potential nesting habitat must be affected during the breeding season, Reclamation will consult with USFWS and DFG before disturbance occurs.
- If a project site meets buffer zone criteria for an active nest during the breeding season, disturbance can probably be assumed to be less-than-significant. Nevertheless, USFWS and DFG still shall be contacted for known occurrences of these species in the project area.
- Reclamation shall discuss these measures in the Worker Environmental Education Program (Mitigation Measure 1), and designate exclusion and work zones (Mitigation Measure 2) where necessary. Reclamation shall incorporate these provisions into its commitments under Mitigation Measure 5 (environmental timeframes) and 8 (Environmental Compliance Monitoring Program).

DFG finds that the potentially significant impacts to woody riparian vegetation and associated wildlife habitat from temporary disturbance or permanent removal during construction of access roads and restoration activities along Battle Creek will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

Impact 4.2-2:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts from Project implementation due to introduction of noxious weeds or spread of existing noxious weeds into potentially uninfested areas. (See Final EIS/R, page 4.2-71 to 4.2-72.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate the spread of noxious weeds to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measures 1, and 6-7 above, and 18-19 below, as a condition of its funding approval.

Explanation:

The Final EIS/R indicates that implementation of the Battle Creek Restoration Project could introduce or spread noxious weeds into currently uninfested areas, possibly resulting in displacement of special-status plants, alteration of habitat for special-status wildlife, or substantial reduction of species diversity or abundance. Plants or seeds of noxious weeds may be dispersed on construction equipment if appropriate measures are not implemented. (Final EIS/R, § 4.2, pages 4.2-71 to 4.2-72) This impact could result in a substantial reduction or elimination of species diversity or abundance and is therefore considered significant.

Mitigation Measure 18: Avoid or Minimize the Spread of Noxious Weeds into Previously Uninfested Areas

To avoid the introduction or spread of noxious weeds into previously uninfested areas, Reclamation shall implement the following measures as part of the Restoration Project:

- a) Coordinated and consistent with the Worker Environmental Education Program required under Mitigation Measure 1, Reclamation shall educate construction workers, supervisors and managers on weed identification and the importance of controlling and preventing the spread of noxious weeds as well as the measures required to control and prevent the spread of noxious weeds.
- b) Reclamation shall treat small, isolated infestations with approved eradication methods at an appropriate time to prevent and/or destroy viable plant parts or seed.
- c) Reclamation shall ensure that all earth-disturbing equipment and construction vehicles are washed before entering and leaving Project sites to avoid the spread of noxious weeds. Because of the remoteness of the project area, equipment washing shall be done off site at a paved facility (located away from sensitive biological resource areas). The contract inspectors and resource monitors shall routinely inspect construction activities to verify that construction equipment is being washed.
- d) Reclamation shall implement measures set forth in the SWPPP (Mitigation Measure 6) to revegetate and restore disturbed areas immediately after construction is complete. The revegetation portion of the SWPPP shall contain specifications for using certified weed-free native and nonnative mixes. The SWPPP shall also specify that all disturbed areas shall be weeded (if necessary) and reseeded in the following years if the postconstruction inventory (see following discussion) indicates that noxious weed species are colonizing the area.

- e) Reclamation shall conduct a postconstruction inventory at years 1 and 2 after construction at each site is complete. The inventory shall focus on areas disturbed during Project activities and shall verify that ongoing activities have not resulted in the introduction of new noxious weed infestations. The inventory shall be conducted by a qualified plant ecologist designated by Reclamation.
- f) The plant ecologist shall also prepare and submit a Noxious Weed Inventory letter to the resource agencies after each visit. Items addressed in the letter shall include any new infestations of noxious weeds and the actions that have been taken to control noxious weed infestations.

Mitigation Measure 19: Implement an Erosion and Sediment Control Plan in Coordination with the Central Valley Regional Water Quality Control Board Which Will Include Measures to Avoid Impacts to Soils

To avoid or minimize potential impacts related to erosion and subsequent discharge of settleable material and runoff, Reclamation shall develop an Erosion and Sediment Control Plan (Mitigation Measures 10) in compliance with the State Water Board's Section 401 water quality certification. The Erosion and Sediment Control Plan shall be prepared in coordination with the CVRWQCB and will be included as a component of the SWPPP (Mitigation Measure 6). The Erosion and Sediment Control Plan must be approved by the State Water Board, Chief of the Division of Water Rights, prior to ground disturbing activities.

Reclamation shall implement the Erosion and Sediment Control Plan at each site where soils will be disturbed and/or exposed by construction activities. The plan shall include, but is not limited to, feasible Best Management Practices (BMP) to control accelerated erosion, slope instability, and sedimentation that could result from clearing, grading, and other ground-disturbing activities during construction. BMPs include the following:

- minimize the amount of vegetation removal and soil disturbance;
- spray water on exposed soils to minimize wind erosion and dust during construction;
- avoid the disturbance of steep slopes;
- construct fill slopes of a 2:1 (i.e., horizontal:vertical) ratio or flatter;
- construct V-ditches above cut and fill slopes to divert water from newly exposed slope faces;
- outslope new roads and construct rolling dips, water bars, and other drainage control measures;
- use temporary and permanent stabilization practices, such as temporary and permanent seeding, mulching, erosion control blankets, or aggregate surfacing;

- install fiber rolls or silt fences downslope of disturbed areas to control sediment;
- construct temporary or permanent sedimentation basins as needed;
- select removing, stockpiling, and replacing topsoil as a medium for revegetation (this measure should be implemented where more than 6 inches of topsoil is removed);
- stabilize drainage channels using rock lining or similar natural materials; and
- stabilize borrow areas with temporary and ultimately permanent vegetation.

Reclamation shall monitor the BMPs and make adjustments repairs as required so that disturbed areas are adequately stabilized, as defined by the Erosion and Sediment Control Plan.

DFG finds that the above potentially significant impacts on botanical, wetland and wildlife resources associated with funding the Battle Creek Project will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

Impact 4.2-3:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts to botanical, wetland and wildlife resources due to loss or disturbance of 18.86 acres of waters of the United States (including wetlands) during Project implementation. (See Final EIS/R, page 4.2-73 to 4.2-74.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts to botanical, wetland and wildlife resources to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measures 1-2, 4-6, 8, 14-15, and 19 above, and 20 below, as a condition of its funding approval.

Explanation:

Construction activities associated with the Restoration Project could result in the temporary placement of fill material into approximately 18.86 acres of waters of the United States (including wetlands). Of this amount, 11.79 acres of wetland communities and other waters of the United States (including riparian

communities that occur below the ordinary high-water mark) would be affected in the short term (temporarily) and 1.88 acres would be affected in the long term (permanently). (Final EIS/R § 4.2, Table 4.2-6, page 4.2-37; pages 4.2-72 to 4.2-74). Some additional acreage of waters of the United States may be incidentally filled or disturbed during construction of access roads and establishment of staging areas. Because the proposed project could result in the placement of fill material into waters of the United States, this impact would be considered significant.

Mitigation Measure 20: Avoid and Minimize Construction Activities Adjacent to Jurisdictional Waters, Compensate for Loss of Wetlands and Other Waters of the United States, and Revegetate Lost Habitat

Reclamation shall develop and implement a component of the Comprehensive HMMP (Mitigation Measure 15) containing those measures which specifically address requirements falling under the Corps' jurisdiction to avoid, minimize, and compensate for impacts on waters of the United States, including wetlands. The Corps' Jurisdictional HMMP⁵ shall be prepared in coordination with NMFS, USFWS, DFG, PG&E, the State Water Board, FERC, and the Corps. Reclamation shall receive approval of the Corps' Jurisdictional HMMP from the Corps and the State Water Board, Chief of the Division of Water Rights, prior to any ground-disturbing activities.

Reclamation shall avoid and minimize adverse effects on wetlands and other waters of the United States, as well as replace the acreage and functional value of wetlands and other waters of the United States permanently affected by the Project. To support this goal, the Corps' Jurisdictional HMMP shall meet the following objectives:

- provide compensatory mitigation for permanent impacts in the form of habitat creation, restoration, preservation, or enhancement of wetland habitats in the Project area (i.e., Battle Creek watershed);
 - design the habitats so that they will have equal or better functional value and quality than the wetlands that will be affected by the project;
 - immediately restore habitats that have been temporarily affected by Project construction to predisturbance conditions;
 - integrate concerns for special-status species into the mitigation design;
- and

⁵ The "Corps jurisdictional Habitat Mitigation and Monitoring Plan" (Corps jurisdictional HMMP) is referred to in the Final EIS/R as a "Wetland and Riparian Mitigation and Monitoring Plan" (pages 3-76 and 3-77) and a "Wetland Restoration Plan" (page 4.2-74). This is a non-substantive change which retains all of the mitigation measures but brings them together under a new name.

- design the mitigation wetlands so that once established, they will require limited maintenance.

Avoid and Minimize Disturbance of Waters of the United States, Including Wetlands. For Reclamation to avoid and minimize impacts on wetlands and other waters of the United States, the Corps' Jurisdictional HMMP shall include, and Reclamation shall implement, the following measures:

- Redesign or modify the project to avoid direct and indirect impacts on wetlands and streams, if feasible.
- Discuss these measures in the Worker Education Program (Mitigation Measure 1).
- Stake and flag avoided wetland areas to include in the exclusion zones (Mitigation Measure 2).
- Avoid construction activities in saturated or ponded wetlands and streams during the wet season (spring and winter) to the maximum extent possible (Mitigation Measure 5). Where such activities are unavoidable, employ protective practices, such as use of padding or vehicles with balloon tires.
- Where resource specialists deem necessary, use geotextile cushions and other materials (e.g., timber pads, prefabricated equipment pads, geotextile fabric) in saturated conditions to minimize damage to the substrate and vegetation.
- Stabilize exposed slopes and streambanks immediately upon completion of construction activities. Restore other waters of the United States in a manner that encourages native vegetation to reestablish to its preproject condition and reduces the effects of erosion on the drainage system.
- In highly erodible stream systems, stabilize banks using a nonvegetative material that will bind the soil initially and break down within a few years. If Reclamation determines that more aggressive erosion control treatments are needed, the contractor shall be directed to use geotextile mats, excelsior blankets, or other soil stabilization products that are compatible with Project objectives.
- During construction, remove trees, shrubs, debris, or soils that are inadvertently deposited below the ordinary high-water mark of streams in a manner that minimizes disturbance of the drainage bed and bank.
- Restrict instream construction within the ordinary high-water mark to the low-flow period (see Timeframes for Instream Work identified in the NMFS biological opinion).
- Complete all activities promptly to minimize their duration and resultant impacts.
- Obtain approval from Reclamation for all staging areas for the Project.
- Prohibit to the extent possible, equipment access or staging in and near wetlands and other waters of the United States located along existing access roads. To the extent possible, confine access to existing roads.

- Ensure that resource monitors and contract compliance inspectors routinely inspect protected areas to confirm that protective measures are in place and effective.
- Keep all protective measures in place until all construction activities have been completed near the resource and remove them immediately following construction activities.

Compensate for the Loss of Waters of the United States. The Corps' Jurisdictional HMMP shall contain a provision for identifying permanent impacts. Once identified, to compensate for permanent impacts on waters of the United States (including wetlands), and to ensure no net loss of habitat functional values, Reclamation shall provide compensation at a minimum ratio of 2:1 (2 acres restored or created for every 1 acre filled). The Project could be partially or fully self-mitigating for project-related effects on waters of the United States; however, if vegetation does not develop naturally, the Corps' Jurisdictional HMMP shall provide for additional mitigation.

Potential measures may include a combination of on-site restoration/creation, off-site restoration, creation, enhancement, and preservation; mitigation credits, and habitat credits from a CALFED Ecosystem Restoration Program-funded conservation easement. Compensation options, which shall be described in detail in the Corps' Jurisdictional HMMP, are summarized below.

- Purchase mitigation bank credits at an agency-approved bank in the project region; or,
- Contribute funds, equal to the amount needed to purchase mitigation bank credits, to restore wetlands and other waters in the Battle Creek watershed or other nearby lands that are publicly managed and shall be protected in perpetuity. Reclamation shall coordinate with appropriate individuals to determine whether there is potential to create, restore, or enhance waters of the United States in the Battle Creek watershed; or,
- Create or enhance wetland habitat on site or in the Battle Creek watershed. Potential creation and enhancement sites shall be evaluated by Reclamation to determine whether this is a feasible option. If Reclamation determines that on-site or off-site restoration is possible, the Corps' Jurisdictional HMMP shall describe where and when restoration shall occur and who shall be responsible for developing, implementing, and monitoring the restoration. When this option is selected, restoration shall be conducted in the Battle Creek watershed.

In sum, DFG finds that the potentially significant impacts to botanical, wetland and wildlife resources due to loss or disturbance of 18.86 acres of waters of the United States (including wetlands) during Project implementation will be avoided

or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

Impact 4.2-4:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts on common upland woodland and forest communities and associated wildlife habitat during Project implementation. (See Final EIS/R, pages 4.2-74 to 4.2-76.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts to common upland woodland and forest communities and associated wildlife habitat to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measures 1-2, 5, 8, 14-15, and 19 above, and 21 below, as a condition of its funding approval.

Explanation:

The Restoration Project could result in the loss or disturbance of common woodland and forest communities, including gray pine/oak, blue oak, and/or live oak woodland, and westside ponderosa forest (See Final EIS/R Table 4.2-6, page 4.2-36). The most substantial impacts on a common plant community would occur along the South Battle Creek Canal and the Coleman Diversion Dam/Inskip Powerhouse sites. Along the South Battle Creek Canal, approximately 81.01 acres of woodland would be removed or disturbed during construction activities. Approximately, 20.88 acres of woodland would be removed or disturbed during construction activities at the Coleman Diversion Dam/Inskip Powerhouse site.

Most of the common woodland communities contain native oaks that could be removed during construction of access roads, staging areas, and other project features. These activities could result in short-term or long-term impacts on the oak woodlands and other common plant communities in the Restoration Project area. Oak woodland provides important foraging habitat for several species of wildlife, including mammals, birds, and reptiles. A variety of raptors use oak woodland habitat for nesting. The removal of these woodland habitats could result in the substantial loss or degradation of a plant community and associated wildlife habitat and the disruption of natural wildlife movement corridors.

In addition to Mitigation Measures 1-2, 5, 8,14-15, and 19 above, DFG requires implementation of mitigation measure 21 below, as a condition of the funding approval to reduce this impact to a less-than-significant level:

Mitigation Measure 21: Avoid and Minimize the Removal and Disturbance of Oak Woodland Habitat and Compensate for the Loss of Oak and Woodland Habitat

Reclamation shall implement measures to avoid, minimize, and compensate for the potential disturbance or loss of oak woodland habitat associated with Project activities.

To avoid and minimize impacts on oak woodland habitat, Reclamation shall implement the following measures:

- Retain a licensed arborist to identify the species and numbers of native trees that will be removed or indirectly affected within the construction zone.
- Protect oaks that will not be removed (more than 6 inches diameter at breast height) but that are within 61 meters (200 feet) of the grading activity by fencing them with orange construction fencing 1.5 meters (5 feet) beyond the dripline and root zone (as determined by a licensed arborist). This fence will demarcate an exclusion zone that is intended to prevent activities that result in soil compaction beneath the canopy or over the root zone. The fencing of exclusion zones shall be maintained until all construction activities are complete. No grading, trenching, or movement of construction equipment shall be allowed within fenced areas (i.e. exclusion zones). Protection for oak trees on slopes shall also include installation of silt fences. A silt fence shall be installed at the upslope base of the orange construction fencing to prevent any soil drifting down into the exclusion zone and on top of the root zone. Reclamation shall implement this measure in coordination with and consistent with Mitigation Measure 2 (work and exclusion zones).

Reclamation shall compensate for temporary and permanent impacts on oak woodland habitat to ensure no net loss of functional value. Where impacts on oak woodland habitat are temporary, compensation shall include full restoration of the affected habitat as well as on-site or off-site restoration at a range in ratios from 2:1 (2 acres restored for every 1 acre affected) to 4:1 (4 acres restored for every 1 acre affected), depending on the severity of the impact. Determination of the appropriate ratio would take place during construction monitoring and postconstruction assessment. The compensation for permanent loss of oak woodland habitat shall be provided at a minimum ratio of 5:1 (5 acres restored or enhanced for every 1 acre affected).

As a component of the Comprehensive HMMP (Mitigation Measure 15), Reclamation shall develop and implement an Oak Planting Plan for on-site and off-site compensation for the temporary loss of oak woodland habitat. The Oak Planting Plan will be developed in coordination with NMFS, USFWS, DFG, PG&E, the State Water Board, FERC and the Nature Conservancy. The Oak Planting Plan, developed for on-site restoration of oak woodland habitat, shall include the following measures:

- Specify collecting acorns from the local region and planting the acorns on site based on the diameter at breast height of the removed trees.
- Develop success criteria and monitor the restored habitat for 10 to 15 years or until the success criteria are met.
- The plan shall contain adaptive management measures to ensure that the desired goals are achieved.
- Plantings shall be monitored annually by a qualified biologist for 10 to 15 years after construction is complete and until the success criteria are met. The monitoring methods shall be described in the Oak Planting Plan. Results of the monitoring shall be submitted to the appropriate agencies. Success will be achieved if there is a minimum survival and growth rate, specified by USFWS, by the end of the fifth year and a stable viable population for the duration of the monitoring period. If the performance standards are not met, remedial measures, such as replanting, shall be implemented. During monitoring, the following information shall be evaluated: survival, health, vigor, average tree height, percent of tree cover, tree density, percent of woody shrub cover, seedling recruitment, and invasion by nonnative species. During the revegetation process, tree survival shall be maximized by using deer screens or other maintenance measures as recommended by a licensed arborist.
- Areas that have vegetative pruning and tree removal shall be inspected immediately before construction begins, immediately following construction, and 1 year following construction to determine the amount of existing vegetative cover, cover that is removed, and cover that resprouts. If these areas have not resprouted sufficiently to return to the level of cover existing prior to project construction, these areas shall be replanted with the same species to reestablish cover to the preproject condition.

Off-site restoration of oak woodland habitat shall be implemented by using habitat credits at the Burton and McCampbell Ranch properties, CALFED Ecosystem Restoration Program–funded conservation easements managed by The Nature Conservancy and located on the mainstem of Battle Creek. The Nature Conservancy will conduct monitoring and reporting as part of its commitment to stewardship of this easement.

A final Oak Monitoring Report shall be submitted to the State Water Board, Chief of the Division of Water Rights and DFG Regional Manager, NCNCR. The final Oak Monitoring Report shall outline those actions taken by Reclamation to fulfill any compensation requirements as a result of Restoration Project construction. The report shall include evidence of consultation with USFWS and The Nature Conservancy and their concurrence that restoration/compensation goals have been or will be met.

In sum, DFG finds that the potentially significant impacts to common upland woodland and forest communities and associated wildlife habitat during project implementation will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

Impact 4.2-5:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts to VELB due to disturbance of elderberry shrubs during Project implementation. (See Final EIS/R, pages 4.2-76 to 4.2-84.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts to VELB habitat to a less-than-significant level. (Public Resources Code § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measures 1-2, 5-6, 8, and 14-15 above, and 22 below, as a condition of its funding approval.

Explanation:

Restoration Project construction activities may disturb elderberry shrubs, essential habitat for VELB in the project area. Thirty-four elderberry shrubs that are capable of providing habitat for VELB are located within 100 feet of Restoration Project sites or access roads to the project sites and could potentially be affected by project activities. (See Final EIS/R Table 4.2-10 and 4.2-12, pages 4.2-51 to 4.2-53 and pages 4.2-78 to 4.2-79, respectively, and Appendix L; Battle Creek Draft Action Specific Implementation Plan (April 2004) (ASIP), the Draft ASIP Addendum (ASIP Addendum), and results of the 2006 preconstruction surveys.) Table 3 lists additional elderberry shrubs identified at Phase 1 Restoration Project sites during the 2006 preconstruction surveys that were not included in the final EIS/R, ASIP, and ASIP Addendum. Table 4 describes the potential project-related effects on these elderberry shrubs.

Table 3. 2006 Preconstruction Survey Results for Additional Elderberry Shrubs Identified at Restoration Project Sites

Shrub #	Site Location	Riparian or Upland	Stems 1-3 inches	Stems 3-5 inches	Stems >5 inches	Exit Holes Present
59	Eagle Canyon Diversion Dam	Riparian	4	0	0	No
60	North Access Road to Eagle Canyon Diversion Dam	Upland	10	0	0	No
61	East Access Road to Coleman Diversion Dam/Inskip Powerhouse	Upland	0	1	3	No
62	East Access Road to Coleman Diversion Dam/Inskip Powerhouse	Upland	1	1	0	No

Table 4. Potential Project-Related Effects on Elderberry Shrubs

Shrub #	Site Location	Type of Impact	Description of Potential Effect
59	Eagle Canyon Diversion Dam	Direct	Located in the immediate vicinity of project features and would be directly affected by proposed project activities; shrub would be removed as a result of project construction.
60	North Access Road to Eagle Canyon Diversion Dam	None with mitigation	Located approximately 30 feet from existing access road; BMPs, such as watering access roads, have been incorporated into the project description to minimize effects associated with dust; shrub would not be directly affected by project activities.
61	East Access Road to Coleman Diversion Dam/Inskip Powerhouse	None with mitigation	Located approximately 30 feet from existing access road; BMPs, such as watering access roads, have been incorporated into the project description to minimize effects associated with dust; shrub would not be directly affected by project activities.
62	East Access Road to Coleman Diversion Dam/Inskip Powerhouse	None with mitigation	Located approximately 30 feet from existing access road; BMPs, such as watering access roads, have been incorporated into the project description to minimize effects associated with dust; shrub would not be directly affected by project activities.

During Phase 1 construction, two elderberry shrubs would be removed as a result of Restoration Project activities at the Eagle Canyon Diversion Dam site, and seven elderberry shrubs would be removed as a result of construction activities at the Jeffcoat mitigation site. Additionally, there may be an indirect loss of eight elderberry shrubs as a result of dewatering the South Canal during Phase 2. South Canal may provide a critical water source for the shrubs, and dewatering the canal may cause them to die. There may also be indirect effects

to 17 shrubs within 100 feet of access roads and work sites from dust. Excess dust caused by construction activities could adversely affect elderberry shrubs and cause them to die. Because the loss of these shrubs could result in the injury or death of VELB that may be living in the stems of these shrubs, resulting in the take of this species, this impact is considered significant.

In addition to Mitigation Measures 1-2, 5-6, 8, and 14-15 above, DFG requires implementation of mitigation measure 22, below, as a condition of the funding approval to reduce this impact to a less-than-significant level:

Mitigation Measure 22: Avoid and Minimize the Disturbance and Removal of Elderberry Shrubs and Compensate for the Loss of Habitat for VELB

Reclamation may remove up to 26 elderberry shrubs, or no more than 108 stems. (USFWS *Biological Opinion (1-1-04-F-0190), Battle Creek Salmon and Steelhead Restoration Project* (June 2005) (USFWS Biological Opinion).) Stems must be greater than 1 inch to provide VELB habitat. Reclamation shall mitigate effects on VELB by implementing the conservation measures identified in the ASIP, ASIP addendum, and USFWS biological opinion. These mitigation measures are as follows:

A qualified biologist designated by Reclamation and in consultation with USFWS, shall conduct preconstruction surveys at each Restoration Project construction site if previous surveys were completed more than 2 years from the date of actual construction activities. The surveys shall begin before, or during, the November–February transplant season, before construction begins at the site, so that any necessary elderberry shrub transplanting can be done before the end of the transplant season. The biological opinion prepared by USFWS allows for the removal of up to 26 elderberry shrubs, or no more than 108 stems. If preconstruction surveys determine that additional shrubs may be affected by the project, Reclamation must contact USFWS and reinitiate formal consultation under this biological opinion prior to any groundbreaking activities.

For elderberry shrubs that will be avoided, a qualified biologist shall identify and mark all shrubs with stems 1.0 inch or more in diameter within 100 feet of the impact area. A 100-foot buffer shall be established around all elderberry shrubs, and no construction activities shall be permitted within the buffer zone unless approved by USFWS. In areas where encroachment on the 100-foot buffer has been approved by USFWS, no ground disturbing activities shall be permitted within 20 feet of the dripline of each elderberry shrub. No riparian vegetation within 100 feet of elderberry shrubs that are to be avoided shall be removed by construction activities. Orange fencing shall be placed around all elderberry shrubs using the appropriate buffer to avoid inadvertent effects.

Throughout project construction, a qualified biologist shall routinely monitor construction near the 100-foot no-disturbance buffer between potential VELB habitat and construction activities to prevent removal and disturbance of elderberry shrubs not approved by USFWS.

Signs shall be erected every 50 feet along the edge of the avoidance area with the following information: "This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. The Endangered Species Act of 1973, as amended, protects this species. Violators are subject to prosecution, fines, and imprisonment." The signs shall be clearly readable from a distance of 20 feet and must be maintained for the duration of the construction. Reclamation shall present an Environmental Worker Education Program to all construction personnel to brief them on the status of the VELB, the need to avoid adverse effects on the beetle and its habitat, and the penalty for not complying with these requirements.

Reclamation shall implement the following dust control measures along all dirt access roads and construction sites to minimize the effects of dust on nearby elderberry shrubs:

- All disturbed areas, including storage piles that are not actively used for construction purposes shall be effectively stabilized of dust emissions using water, nontoxic biodegradable chemical stabilizer/suppressant, tarp or other suitable cover, or vegetative ground cover.
- All on-site unpaved roads and off-site unpaved access roads near environmentally sensitive areas shall be effectively stabilized of dust emissions using water or nontoxic biodegradable chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions by applying water or by presoaking.
- When materials are transported off site, all material shall be covered or effectively wetted to limit visible dust emissions, and at least 6 inches of freeboard space from the top of the container shall be maintained
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, piles shall be effectively stabilized of fugitive dust emissions using sufficient water or nontoxic biodegradable chemical stabilizer/suppressant.
- Within urban areas, trackout shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday.

Reclamation intends to use the Stillwater Plains Mitigation Bank near Redding, California, to compensate for project-related effects on VELB habitat that cannot

be avoided. Prior to groundbreaking activities at sites where effects on VELB habitat are assumed, Reclamation shall:

- Complete mitigation bank arrangements with Stillwater Plains Mitigation Bank, and
- Transplant all elderberry shrubs with one or more stems measuring 1.0 inch or more in diameter that will be directly affected by construction activities (i.e., that would otherwise be destroyed) to Stillwater Plains Mitigation Bank in accordance with USFWS's Conservation Guidelines for the VELB (USFWS 1999).

Reclamation shall provide USFWS with an annual VELB Habitat Report, prepared by a qualified biologist, to document project progress, compensation activities, and results of preconstruction surveys required. Each report shall also address project sites scheduled for the following construction season and state whether effects at the sites would be within the limits set forth in the biological opinion. Reclamation shall reinstate formal consultation if effects on the VELB are determined to be greater than the levels set forth in the USFWS's biological opinion.

In sum, DFG finds that the potentially significant impacts to VELB from temporary disturbance or permanent removal during construction of access roads and restoration activities along Battle Creek will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

Impact 4.2-6:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts to foothill yellow-legged frogs from habitat disturbance during Project implementation. (See Final EIS/R, pages 4.2-84 to 4.2-85.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts to yellow-legged frogs to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measures 1-2, 5-6, 8, and 14-15 above, and 23 below, as a condition of its funding approval.

Explanation:

Foothill yellow-legged frogs were found in the Restoration Project area during site assessments/surveys for California red-legged frog. Construction activities could temporarily degrade foothill yellow-legged frog habitat at the Lower Ripley Creek Feeder Diversion Dam, Inskip Diversion Dam/South Powerhouse, Soap Creek Feeder Diversion Dam, South Diversion Dam, North Battle Creek Feeder Diversion Dam, upstream of Eagle Canyon Diversion Dam, upstream of Wildcat Diversion Dam, Coleman Diversion Dam, Inskip Powerhouse, Asbury Diversion Dam, and the Jeffcoat mitigation site. Restoration activities in these areas could disturb the shallow, rocky substrate required by foothill yellow-legged frogs and increase flows in areas that have been constrained by dam operations for many years. In addition, individual frogs could be killed during construction. The overall effects of the project, however, are considered beneficial to this species because restoring the affected drainages will ultimately return them to an approximation of their former natural conditions. Nonetheless, because this species has declined throughout its range, and in particular throughout the Sierra Nevada, the short-term effects of the project are considered significant. Accordingly, mitigation will focus on avoiding killing or injuring frogs in construction areas.

In addition to Mitigation Measures 1-2, 5-6, 8, and 14-15 above, DFG requires implementation of mitigation measure 23 below, as a condition of the funding approval to reduce this impact to a less-than-significant level:

Mitigation Measure 23: Avoid and Minimize the Disturbance of Foothill Yellow-legged Frogs

Within 2 weeks prior to construction activities at Lower Ripley Creek Feeder Diversion Dam, Inskip Diversion Dam/South Powerhouse, Soap Creek Feeder Diversion Dam, South Diversion Dam, North Battle Creek Feeder Diversion Dam, upstream of Eagle Canyon Diversion Dam, upstream of Wildcat Diversion Dam, Coleman Diversion Dam, Inskip Powerhouse, Asbury Diversion Dam, and the Jeffcoat mitigation site, a qualified biologist designated by Reclamation in consultation with USFWS shall conduct focused surveys for foothill yellow-legged frogs. If frogs, tadpoles, or egg masses are detected, barrier fencing shall be constructed in the work area 4 days prior to construction activities in a manner that will exclude frogs from entering the work area. For 3 days prior to construction activities (one survey each day), qualified biologists shall survey each work site for foothill yellow-legged frogs and relocate any frogs, tadpoles, or egg masses found within the work site to the nearest suitable habitat outside the work area and away from the barrier fencing. If frogs, tadpoles, or egg masses are found in previously unoccupied sites, frog exclusion areas shall be established at those sites. After construction has been completed, Reclamation shall remove the barrier fencing and restore the habitat.

In sum, DFG finds that the potentially significant impacts to yellow-legged frogs will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

Impact 4.2-7:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts on northwestern pond turtle during Project implementation. (See Final EIS/R, pages 4.2-85 to 4.2-86.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts to northwestern pond turtle from habitat disturbance to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measures 1-2, 5-6, 8, and 14-15 above, and 24 below, as a condition of its funding approval.

Explanation:

Northwestern pond turtles were found in the Restoration Project area during site assessments/surveys for California red-legged frog. Construction activities could temporarily degrade habitat for the turtle at Lower Ripley Creek Feeder Diversion Dam, Inskip Diversion Dam/South Powerhouse, Soap Creek Feeder Diversion Dam, South Diversion Dam, Coleman Diversion Dam, upstream of Eagle Canyon Diversion Dam, upstream of Wildcat Diversion Dam, Inskip Powerhouse, Asbury Diversion Dam, Jeffcoat mitigation site and the Willow Springs mitigation site. Restoration/mitigation activities in these areas could disturb aquatic habitat and basking sites required by northwestern pond turtle, as well as increasing flows in areas that have been constrained by dam operations for many years. In addition, individual turtles could be killed during construction. The overall effects of the project, however, are considered beneficial to northwestern pond turtle because restoring the affected drainages will ultimately return them to an approximation of their former natural conditions. Nonetheless, because this subspecies has declined throughout its range, the short-term potential for mortality is considered significant. Accordingly, mitigation will focus on avoiding killing or injuring turtles in construction areas.

In addition to Mitigation Measures 1-2, 5-6, 8, and 14-15 above, DFG requires implementation of mitigation measure 24 below, as a condition of the funding approval to reduce this impact to a less-than-significant level:

Mitigation Measure 24: Avoid and Minimize the Disturbance of Northwestern Pond Turtles

Within 2 weeks prior to construction activities at Lower Ripley Creek Feeder Diversion Dam, Inskip Diversion Dam/South Powerhouse, Soap Creek Feeder Diversion Dam, South Diversion Dam, Coleman Diversion Dam, upstream of Eagle Canyon Diversion Dam, upstream of Wildcat Diversion Dam, Inskip Powerhouse, Asbury Diversion Dam, Jeffcoat mitigation site, and the Willow Springs site, a qualified biologist designated by Reclamation in consultation with USFWS shall conduct focused surveys for northwestern pond turtle. If turtles are detected, barrier fencing shall be constructed in the work area 4 days prior to construction activities in a manner that will exclude turtles from entering the work area. For 3 days prior to construction activities (one survey each day), qualified biologists shall survey each of these work sites for northwestern pond turtles and, if the creek does not have flowing water, for residual ponds. The biologists shall relocate any turtle found within the work site to the nearest suitable habitat outside the work area and away from the barrier fencing. If turtles are found in previously unoccupied sites, turtle exclusion areas shall be established at those sites. After construction has been completed, Reclamation shall remove the barrier fencing and restore the habitat.

DFG finds that the potentially significant impacts to northwestern pond turtles will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

Impact 4.2-8:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts to yellow-breasted chat and little willow flycatcher during Project implementation. (See Final EIS/R, pages 4.2-86 to 4.2-88.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts to yellow-breasted chat and little willow flycatcher to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measures 1-2, 5-6, 8, and 14-17 above, and 25 below, as a condition of its funding approval.

Explanation:

During surveys for the Restoration Project, yellow-breasted chats and little willow flycatchers were detected in the project area. Willow flycatchers were detected

at the Lower Ripley Creek Feeder Diversion Dam project site but were not considered to be breeding at the site. However, Phase 2 construction at the Lower Ripley Creek Feeder Diversion Dam may remove riparian vegetation required by little willow flycatchers for potential breeding habitat and as migratory stopover habitat.

Yellow-breasted chats are considered to be breeding at three sites in the project area: Darrah Springs Feeder, Eagle Canyon Canal near MLTF's Jeffcoat East and West facilities, and Coleman Diversion Dam/Inskip Powerhouse. No construction is proposed at Darrah Springs for the Project; however, Phase 1 construction at the Eagle Canyon Canal near MLTF's Jeffcoat East and West facilities and the Coleman Diversion Dam/Inskip Powerhouse could remove riparian scrub habitat required by yellow-breasted chats for breeding and cover.

Impacts on riparian habitat at these project sites during chat and flycatcher breeding seasons could also result in destruction of active nests and mortality of individuals or their eggs. Yellow-breasted chat is an uncommon species in California, and little willow flycatcher is a rare breeding species in California; they are restricted to habitat types (riparian scrub for chats and riparian and willow scrub in wet meadow complexes for flycatchers) that have declined substantially over past decades, and local breeding populations are considered to be declining. For these reasons, impacts resulting from removal of or disturbance to occupied or suitable breeding habitats and the potential for mortality of individuals or nests are considered significant.

In addition to Mitigation Measures 1-2, 5-6, 8, and 14-17 above, DFG requires implementation of mitigation measure 25 below, as a condition of the funding approval to reduce this impact to a less-than-significant level:

Mitigation Measure 25: Avoid and Minimize the Disturbance of Breeding Yellow-breasted Chats and Little Willow Flycatchers

If construction begins during yellow-breasted chat breeding season (mid-April to August) of the construction year, a qualified biologist designated by Reclamation in consultation with USFWS shall survey all affected project sites to determine chat occupancy. Surveys shall be conducted between April 25 and May 25. If no breeding chats are detected, no further mitigation is required.

If construction- and restoration-related activities are to occur during the little willow flycatcher breeding season (mid-May to August), a qualified biologist shall survey all affected project sites to determine flycatcher occupancy. At least three surveys shall be conducted between May 15 and July 25, or at least one or two surveys shall be conducted prior to construction if construction begins during that time period. At least one survey must be conducted between June 20 and July 1

to determine presence of non-migratory willow flycatchers. If no breeding flycatchers are detected, no further mitigation is required.

If breeding chats or flycatchers are detected, a qualified biologist shall flag or stake around the riparian vegetation at the project site. Once the riparian vegetation has been delineated, Reclamation's construction contractor shall install orange barrier fencing to protect it from incidental damage. To minimize the potential for mortality or nest abandonment, a qualified biologist shall establish a 500-foot no-disturbance buffer around all active nesting sites during the birds' breeding season. This buffer, identified as a work exclusion zone, shall be delineated and marked as explained above and under the requirements of Mitigation Measure 2 (exclusion and work zones).

The buffer shall remain in place until the young have successfully fledged or the nest has failed as determined by a qualified biologist. A qualified biologist shall monitor the effectiveness of the buffer, and the buffer shall be readjusted if the nesting birds appear agitated from construction and other operations. If monitoring shows no impacts, the buffer distance may be reduced if approved by DFG and USFWS.

If construction at a site must occur during the breeding season (between April 15 and August 31), it should begin by April 15, and typical levels of activity and noise disturbance that would occur at the site should be sustained on a routine basis through the end of August or until the construction is completed.

A qualified biologist shall monitor construction sites for bird nesting activity during the breeding season. Unless it is known that the nest site will be physically disturbed, the birds should be allowed to nest if they choose under the assumption that they will be able to tolerate the construction noise and activity.

In sum, DFG finds that the potentially significant impacts to yellow-breasted chat and little willow flycatcher will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

Impact 4.2-9:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts to nesting raptors during Project implementation. (See Final EIS/R, pages 4.2-88 to 4.2-90.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts to nesting raptors to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measures 1-2, 5-6, 8, and 14-17 above, and 26 below, as a condition of its funding approval.

Explanation:

Three nonlisted special-status raptors, Cooper's hawk, osprey, and golden eagle, and two listed raptors, bald eagle and peregrine falcon, are known or have potential to nest in the Restoration Project area. One active osprey nest was found during surveys; moreover, although no active Cooper's hawk, peregrine falcon, golden eagle, or bald eagle nests were found, suitable Cooper's hawk, peregrine falcon, golden eagle, and bald eagle nesting habitat exists throughout the project area. Construction activities occurring in the immediate vicinity of active nests could cause abandonment of nests and potentially result in death of young or eggs. Cooper's hawk, osprey, peregrine falcon, golden eagle, and bald eagle are locally and regionally uncommon species, and the abandonment of active nests could affect local and regional breeding populations. Therefore, this impact is considered significant.

In addition to Mitigation Measures 1-2, 5-6, 8, and 14-17 above, DFG requires implementation of mitigation measure 26 below, as a condition of the funding approval to reduce this impact to a less-than-significant level:

Mitigation Measure 26: Avoid and Minimize Disturbance of Active Osprey, Cooper's Hawk, Golden Eagle, Bald Eagle and Peregrine Falcon Nests

Reclamation shall implement the following measures to avoid and minimize project effects on nesting raptors:

Bald Eagle and Peregrine Falcon—Perform preconstruction surveys, limit construction activities near occupied nests to the nonbreeding season, and establish buffers for active nests consistent with conservation measures identified in the ASIP, ASIP Addendum, and USFWS's biological opinion.

A qualified biologist designated by Reclamation in consultation with USFWS shall conduct a series of three surveys at the project sites during the breeding season before construction activities begin each construction year to locate active bald

eagle or peregrine falcon nests.⁶ The three surveys shall take place during late February–early March, late April–May, and early June–July. Because construction of the Restoration Project is proposed to begin in October 2007, these three surveys should be conducted in 2007 to address the 2007 construction year. The surveys conducted in 2007 would also address the 2008 construction year, as long as construction activities commence before the bald eagle breeding season begins in 2008 (February). In addition, a series of three surveys should be conducted in 2008 for those sites where construction will begin in 2009.

In general, a minimum of three consecutive survey periods shall be conducted prior to construction, regardless of when construction activities begin. The last of the three consecutive surveys should be conducted during the survey period prior to and nearest the construction start date. Performing additional surveys in the year before construction begins applies if construction is scheduled to begin at a time of year before the series of three surveys can be completed in the construction year. For example, if construction begins sometime mid-year (e.g., May 2008, two surveys need to take place in the previous year (i.e., late April–May, and early June–July 2007, along with a survey in late February–early March 2008). These surveys are intended to determine whether nesting sites are present within 0.5 mile of a construction site or access road for the year when construction activities start.

If active bald eagle or peregrine falcon nests are discovered in the project area, a qualified biologist shall establish a 0.5-mile radius, direct-line-of-sight buffer for active the nests. The buffers, identified as work exclusion zones, shall be delineated and marked as explained under Mitigation Measure 2. These buffers shall remain in place until the young have successfully fledged or the nest has failed as determined by a qualified biologist.

If an active bald eagle or peregrine falcon nest within that area should be discovered in the June–July survey after construction has begun, it would be necessary to stop construction. If a nest is occupied, Reclamation shall limit construction activities near the nest to the nonbreeding season (August 1 to February 1). In addition, Reclamation shall maintain a 0.5-mile, direct-line-of-sight helicopter-exclusion zone around any active nests. A qualified biologist shall monitor the effectiveness of the buffer, and the buffer shall be adjusted if the nesting birds appear agitated from construction and other operations. If monitoring shows no impacts, the buffer distance may be reduced if approved by DFG and USFWS.

⁶ No active peregrine falcon nests have been found in the Project area. However, because peregrine falcon are a state-listed species, measures to avoid potential impacts to peregrine falcon have been moved from under the heading for non-listed raptors. This is a technical correction and a non-substantive change.

If disturbance of a nest with eggs or young appears unavoidable, or nesting activity such as incubation of young may be affected, project contacts at DFG and USFWS shall be contacted before disturbance begins. If potential nesting habitat (i.e. traditional nest site and structure) must be affected, project contacts at DFG and USFWS must be contacted before disturbance begins. If a project site is farther than the 0.5-mile buffer zone, disturbance probably can be assumed insignificant, but project contacts at USFWS and DFG shall be consulted for known occurrences of bald eagle or peregrine falcon in the study area.

Non-Listed Special Status Raptors—Perform preconstruction surveys, limit construction activities near occupied nests to the nonbreeding season, and establish buffers for active Cooper’s hawk, osprey, and golden eagle nests.

A qualified biologist designated by Reclamation in consultation with USFWS shall survey the project sites during the breeding seasons for each nonlisted special-status raptor species before construction activities begin each construction year to locate active nests. The breeding seasons for each of these species is:

- March through August for Cooper’s hawk,
- March through August for osprey, and
- February through July for golden eagle.

If active raptor nests are discovered in the project area, a qualified biologist shall establish a 500-foot radius, direct-line-of-sight buffer for active raptor nests. The buffers, identified as work exclusion zones, shall be delineated and marked as explained under Mitigation Measure 2. These buffers shall remain in place until the young have successfully fledged or the nest has failed as determined by a qualified biologist.

If a nest is occupied, Reclamation shall limit construction activities near the nest to the nonbreeding season. The nonbreeding seasons for each nonlisted special-status raptor species are:

- September 1 to March 1 for Cooper’s hawk,
- September 1 to March 1 for osprey, and
- Mid-July to February for golden eagle.

In addition, Reclamation shall maintain a 0.5-mile, direct-line-of-sight helicopter-exclusion zone around any active nests.

A qualified biologist shall monitor the effectiveness of the buffer, and the buffer shall be adjusted if the nesting birds appear agitated from construction and other

operations. If monitoring shows no impacts, the buffer distance may be reduced if approved by DFG and USFWS.

If construction at or near an old nonlisted special status raptor nest must occur between March 1 and August 31, it should be assumed that the site contains suitable breeding habitat, and construction should begin by the approximate start of the breeding season. If a nonlisted special status raptor pair appears at or near a construction site and attempts to nest, a work-exclusion zone buffer shall be established around the nest and typical levels of activity and noise disturbance that would occur at the site during the breeding season shall be sustained such that the pair will accept or reject that site based upon its assessment of disturbance. Unless it is known that the nest site will be physically disturbed, the birds should be allowed to nest if they choose under the assumption that they will be able to tolerate the construction noise and activity. If a breeding pair commences to nest, construction noise and activity should continue on a routine basis through the end of the breeding season or until construction is completed.

If disturbance of a nest with eggs or young appears unavoidable, or nesting activity such as incubation or feeding of young may be affected, project contacts at USFWS and DFG shall be consulted before disturbance begins. If potential nesting habitat (i.e., traditional nest site and structure) must be affected during the breeding season, project contacts at USFWS and DFG shall be consulted before disturbance begins. If a project site is farther than the 0.5-mile buffer zone, disturbance probably can be assumed insignificant, but project contacts at USFWS and DFG shall be consulted for known occurrences of nonlisted special-status raptors in the study area.

In sum, DFG finds that the potentially significant impacts to nesting raptors will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

Impact 4.2-10:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse noise and dust impacts to California black rail nesting habitat in emergent marsh during Project implementation. (See Final EIS/R, pages 4,2-90 to 4.2-91.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate

potential impacts to nesting California black rails in emergent marsh to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measures 1-2, 5-6, 8, and 14-15 above, and 27 below, as a condition of its funding approval.

Explanation:

California black rails are a State listed threatened species. Construction of the Eagle Canyon pipeline could potentially disturb nesting habitat for California black rails near the MLTF Jeffcoat East facility. Construction disturbances could affect reproductive success and the survival of young, and/or result in the abandonment of nests in the emergent wetland habitat.

Construction of the Eagle Canyon pipeline would not directly affect the emergent wetland, because the wetland is on the opposite side of the Eagle Canyon Canal from where construction activities would take place (see Final EIS/R; Figure L-11 in Appendix L). However, noise from construction activities may disrupt the rails' nesting activities, foraging patterns, and communication with and protection of their young.

The California black rail is a rare breeding species in a few scattered locations in the western foothills of the northern Sierra Nevada. Its population throughout much of California has declined because of degradation and loss of habitat. For these reasons, potential impacts resulting from disturbance of individuals or nests are considered significant. If surveys confirm the presence of black rails, measures should be implemented to avoid direct disturbance from noise or dust before September 15 when young are dependent upon parents.

In addition to Mitigation Measures 1-2, 5-6, 8, and 14-15 above, DFG requires implementation of mitigation measure 27 below, as a condition of the funding approval to reduce this impact to a less-than-significant level:

Mitigation Measure 27: Avoid and Minimize Disturbance of Nesting California Black Rails

Before beginning construction, a qualified biologist designated by Reclamation in consultation with DFG shall conduct a tape-playback survey according to DFG-recommended protocol to determine presence of California black rails in the emergent wetland habitat near MLTF's Jeffcoat and the Willow Springs trout farm facilities. If California black rails are discovered in the project area, construction activities shall be restricted seasonally to avoid disturbance during the rails' breeding and nesting season from March 1 to September 15. If approved by DFG, it may be possible to establish construction exclusion zones to protect the

black rail from noise, dust, and other construction related disturbance to accommodate construction during the black rail breeding season.

If three protocol-level preconstruction surveys conducted once per month from June through August do not detect black rails during this survey season, the seasonal restrictions shall be lifted for the remainder of the breeding season during the year when the surveys took place.

In sum, DFG finds that the potentially significant impacts to nesting California black rails will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

Impact 4.2-11:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts to special-status bats during Project implementation. (See Final EIS/R, pages 4.2-91 to 4.2-92.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts to special-status bats to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measures 1-2, 5, and 8 above, and 28 below, as a condition of its funding approval.

Explanation:

Construction activities may disturb special-status bats using tunnels near the South and Inskip Diversion Dams for roosting, breeding, migration, and hibernation habitat. In addition, construction activities may disturb bats that use the rocky cliffs and outcrops along canyon walls at Eagle Canyon and Wildcat Diversion Dams and other areas with potential bat habitat. Although bats were not identified to the species level during surveys, several species of bats that could be using the tunnels for roosting, breeding, migration, and hibernation habitat are state species of special concern, federal species of concern, and Western Bat Working Group species of high priority. Construction disturbances could affect reproductive success, result in the abandonment of maternity sites, or disturb hibernating colonies. Disturbance at sites that support colonies or large concentrations of roosting bats could result in local population declines. This impact, therefore, is considered significant.

In addition to Mitigation Measures 1-2, 5, and 8 above, DFG requires implementation of mitigation measure 28 below, as a condition of the funding approval to reduce this impact to a less-than-significant level:

Mitigation Measure 28: Avoid and Minimize Disturbance of Bat Maternity Colonies and Roosting Bats

Reclamation shall conduct bat surveys to determine the presence of bats in tunnels during the spring (March through mid-May) for maternity colonies, summer (June through August) for roosting sites, fall (mid-August through October) for migrant stopover sites, and winter (November through February) for hibernating sites. At sites that support maternity colonies or large concentrations of roosting bats, Reclamation shall restrict construction activities where practical to non-use periods or outside the breeding and hibernation periods. If impacts are unavoidable during any season, Reclamation shall implement selected minimizing actions, including temporary closure and soundproofing of tunnel entrances during the day, to reduce disturbance of roosting bats. Survey and construction scheduling, buffer zones, and other mitigation measures shall be developed in consultation with bat specialists, USFWS, and DFG.

In sum, DFG finds that the potentially significant impacts to special-status bats will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

WATER QUALITY

Impact 4.4-1:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts from increased erosion and subsequent discharge of settleable material into Battle Creek from construction activities during Project implementation. (See Final EIS/R, pages 4.4-13 to 4.4-14.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts from increased erosion and subsequent discharge of settleable material into Battle Creek from construction activities to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, implementation of Mitigation Measures 1, 4-6, 8, 10, and 19, above, are already required as a condition of the funding approval.

Explanation:

Construction of access roads, staging areas, stream crossings, and cofferdams associated with the removal of Wildcat Diversion Dam and construction of fish screens and ladders at North Battle Creek Feeder and Eagle Canyon Diversion Dam during Phase 1 and the removal of South, Soap Creek Feeder, Lower Ripley Creek Feeder, and Coleman Diversion Dams and construction of fish screens and ladders at Inskip Diversion Dam during Phase 2, could potentially cause water turbidity and suspended material concentrations to exceed water quality limits for short-term periods. Increases in turbidity and suspended materials would likely occur during work in Battle Creek's channel. The newly disturbed soils upslope from Battle Creek also have the potential to erode and increase water turbidity and settleable material concentrations, if this material enters Battle Creek.

An increase of sediments in the water column could also potentially affect the downstream riparian vegetation or the fishery resources if the released sediments contained harmful concentrations of heavy metals or other contaminants. Heavy metal concentrations in Battle Creek sediments are provided in Final EIS/R Table 4.4-3 (pages 4.4-9 to 4.4-10) and are less than 1% of the total threshold limit concentration criteria. Although an increase in the mass loading of these constituents could occur as more sediment is released, the concentration of the constituents would remain the same or decrease. Biological resources are affected only by high concentration of heavy metals and therefore would not be affected by the low concentrations. In addition, none of the sediments sampled on October 6, 1999 were found to be toxic for aquatic life. Plants are generally more tolerant of heavy metals than fish, and therefore it is unlikely the riparian vegetation would be affected by these low concentrations. Although it is unlikely the metal concentrations in the sediments would affect fish, fish could be affected by the potential increases in water turbidity and suspended materials.

In sum, DFG finds that the potentially significant impacts from increased erosion and subsequent discharge of settleable material into Battle Creek from construction activities will be avoided or reduced to below a level of significance through implementation and adherence of erosion control measures completed in coordination with the revegetation activities needed to mitigate impacts on native vegetation, as discussed in the above Findings under Fish and Botanical, Wetland, and Wildlife Resources.

Impact 4.4-2:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts from spills of hazardous materials during Project implementation. (See Final EIS/R, pages 4.4-15 to 4.4-16.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts from spills of hazardous materials to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measures 1-2, and 5-7 above, and 29 and 35 below, as a condition of its funding approval.

Explanation:

Project construction could result in inadvertent spills of hazardous materials used in standard construction practices or unearth previously contaminated soils. Construction would require the transport and use of potentially hazardous materials, such as gasoline, diesel, concrete, cement, industrial chemicals, and other hazardous chemicals. Although no soils within the construction areas have been identified as contaminated, construction activities could reveal the presence of previously contaminated soils. If these soils were not properly treated and/or contained they could impact the water quality of Battle Creek.

In addition to Mitigation Measures 1-2, and 5-7 above, DFG requires implementation of mitigation measures 29 and 35 below, as a condition of the funding approval to reduce this impact to a less-than-significant level:

Mitigation Measure 29: Implement Measures Designed to Avoid or Minimize Hazardous Spills

To avoid or minimize potential impacts related to potentially hazardous spills or the finding of previously contaminated soils, Reclamation shall implement the following measures:

- Develop a Spill Pollution Prevention Plan (as required by Mitigation Measures 7) in consultation with the CVRWQCB and approved by the State Water Board, Chief of the Division of Water Rights, before beginning construction.
- Train all construction workers to identify indicators of contaminated soils such as soil discoloration, odors, differences in soil properties, and buried debris. This information shall be included in the Work Environmental Education Program (as required by Mitigation Measure 1).

The Spill Pollution Prevention Plan shall include, but may not be limited to, the following conditions:

- Soils contaminated with fuels or chemicals shall be disposed of in a suitable location to prevent discharge to surface waters and in accordance with the rules and regulations of the U.S. Department of Transportation, the U.S. Environmental Protection Agency, and the California Environmental Protection Agency.
- Suspected contaminated soils shall be tested at an approved certified laboratory.
- Temporary cofferdams shall be used to separate construction areas from flowing waters.
- On-site fuels and toxic materials shall be placed or contained in an area protected from direct runoff.
- Immediately notify the State Water Board, Chief of the Division of Water Rights, the CVRWQCB, and the Coleman National Fish Hatchery if hazardous materials are released.
- Cement and concrete delivery and transfer equipment shall be washed in contained areas protected from direct runoff until the material sets.
- Provisions to protect worker and public safety as outlined in Mitigation Measures 35 and 36.

In sum, DFG finds that the potentially significant impacts from spills of hazardous materials will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

Impact 4.4-3:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts from reduction in beneficial uses of California waters used at MLTF and Darrah Springs State Fish Hatchery fish after Project implementation. (See Final EIS/R, pages 4.4-16 to 4.4-17.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts from reduction in beneficial uses of California waters used at MLTF and Darrah Springs State Fish Hatchery to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, implementation of Mitigation Measure 13, above, is already required as a condition of the funding approval.

Explanation:

As discussed above, and additionally in the Findings under Fish, the Restoration Project would restore habitat in Battle Creek for Chinook salmon and steelhead, which in turn would result in increased numbers of anadromous fish in the Battle Creek system. (See Final EIS/R Impact 4.1-8.) Wild anadromous fish, such as Chinook salmon and steelhead, are known to be carriers of the IHN virus, as well as several other serious but common viruses. Historic records reveal that disease outbreaks, particularly of the IHN virus, occurred almost annually prior to the installation of the ozonation plant at the Coleman National Fish Hatchery. One can infer from these records that the IHN virus has subsisted in the Battle Creek watershed since at least the early 1940s. As a result of increasing populations of anadromous fish, the Restoration Project would greatly increase the probability that the viruses could be transferred to Battle Creek water.

As part of the Hydroelectric Project, PG&E canals divert water from Battle Creek to various powerhouses. Currently, Battle Creek water seeps into the shallow groundwater as it passes through two unlined PG&E canals—Eagle Canyon Canal and Inskip Canal. Groundwater that may become contaminated with these viruses resurfaces as natural springs that two MLTF facilities—Jeffcoat (which includes Jeffcoat East, Jeffcoat West, and the Jeffcoat nursery) and Willow Springs—use as their main water supply. The risk of MLTF fish (farmed rainbow trout) being exposed to these viruses, including the IHN virus, would increase as wild anadromous fish populations in Battle Creek increase. The potential transfer of these viruses from Battle Creek waters into the waters used by MLTF could affect the main beneficial use of the MLTF waters, aquaculture.

DFG has indicated that implementation of the Restoration Project, in addition to potentially affecting MLTF's water source, would increase potential for naturally spawning steelhead that may carry the virus to migrate up Baldwin Creek which is adjacent to Darrah Springs State Fish Hatchery, located immediately upstream of the Asbury Diversion Dam and a natural water fall. Following implementation of the Restoration Project, Baldwin Creek would provide habitat for a steelhead population, as would Battle Creek, from where fish may stray. While no formal study has been performed, DFG fish-passage engineers have visited Asbury Diversion Dam and concluded that passage above the dam is possible during high-flow events and sediment-pass-through activities, and furthermore it is possible that these fish could potentially access the spring fed water supply for the hatchery via a spillway in the collection system that discharges to Baldwin Creek. DFG stream restoration biologists have inspected the falls at the mouth of Baldwin Creek and determined passage of steelhead is possible at high flows. Similar to the situation at MLTF, the potential transfer of serious fish diseases from Battle Creek waters into the waters used by the Darrah Springs State Fish Hatchery could affect the main beneficial use of their waters, aquaculture.

Aquaculture is recognized in the CVRWQCB's Basin Plan as a beneficial use of water, although not identified as a specific beneficial use of the Battle Creek water used at MLTF facilities (Central Valley Regional Water Quality Control Board 1998). Aquaculture is a designated beneficial use of waters:

...for aquaculture or mariculture operations, including, but not limited to, propagation, cultivation, maintenance, or harvesting of aquatic plants and animals for human consumption or bait purposes (Central Valley Regional Water Quality Control Board 1998).

As explained above, water currently seeps from PG&E's canals and enters the groundwater that makes up a portion of the water issuing at the springs used by MLTF in its aquaculture activities. Additionally, under high flow conditions infected steelhead from Battle Creek could migrate up Baldwin Creek, pass over the natural falls then over Asbury Diversion Dam, then over the spillway into the Darrah Spring water collection facility and infect the water supply. Therefore, the Restoration Project reasonably could affect the quality of water used by MLTF and Darrah Springs State Fish Hatchery by increasing the probability of introducing viruses (e.g., IHN) carried by wild anadromous fish in Battle Creek. This unique circumstance would be considered a significant water quality impact.

Implementation of the mitigation measures described for the Jeffcoat, Willow Springs, and Asbury Diversion Dam sites under the Findings above for Fish would reduce this impact to a less-than-significant level. (See Final EIS/R Impact 4.1-8.) These mitigation measures would ensure that water used by MLTF and Darrah Springs State Fish Hatchery would not come from a source that could be infected with viruses carried by anadromous fish, including the IHN virus, as a result of increasing populations of wild anadromous fish in Battle Creek. This would ensure that MLTF and Darrah Springs State Fish Hatchery fish are not infected with these viruses and that their beneficial use of the water (aquaculture) is not impaired.

In sum, DFG finds that the potentially significant impacts from reduction in beneficial uses of California waters used at MLTF and Darrah Springs State Fish Hatchery fish will be avoided or reduced to below a level of significance through implementation and adherence to the mitigation measure referenced above.

Impact 4.4-4:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts from reduction in beneficial uses of California waters from the distribution of infected MLTF and Darrah Springs State Fish Hatchery fish during Project implementation. (See Final EIS/R, pages 4.4-17 to 4.4-18.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts from reduction in beneficial uses of California waters from the distribution of infected MLTF and Darrah Springs State Fish Hatchery fish to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, implementation of Mitigation Measure 13, above, is already required as a condition of the funding approval.

Explanation:

A protected beneficial use of California surface waters is cold freshwater habitat, which includes “uses of water that support cold water ecosystems including but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife including invertebrates.” (Central Valley Regional Water Quality Control Board 1998.) Waters that support high quality aquatic habitats suitable for reproduction and early development of fish are also a protected beneficial use of surface waters (Central Valley Regional Water Quality Control Board 1998). As explained above and in the Findings regarding Fish, the Restoration Project could adversely affect these beneficial uses by increasing the probability of introducing viruses and diseases transferred by anadromous fish, including the IHN virus, through the distribution of infected MLTF fish and Darrah Springs State Fish Hatchery fish to waters that are currently IHN-free. The introduction of viruses would adversely affect the beneficial uses of those waters and therefore this potential impact would be considered significant for water quality. Implementation of the mitigation measures described under the Findings for Fish at the Jeffcoat, Willow Springs, and Asbury Diversion Dam sites would ensure that water used by MLTF and Darrah Springs State Fish Hatchery would not come from a source that could be infected with viruses carried by anadromous fish. This would also ensure that MLTF fish and Darrah Springs State Fish Hatchery fish are not infected with these viruses and that the distribution of their propagated fish would not be a cause of the spread of these diseases to other waters in the state of California.

In sum, DFG finds that the potentially significant impacts from reduction in beneficial uses of California waters from the distribution of infected MLTF and Darrah Springs State Fish Hatchery fish will be avoided or reduced to below a level of significance through implementation and adherence to the mitigation measure referenced above and made a condition of the funding approval.

GROUNDWATER

Impact 4.5-1:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts from spills of hazardous materials, which could contaminate the shallow groundwater system during Project construction. (See Final EIS/R, pages 4.5-7 to 4.5-8.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts from spills of hazardous materials, which could contaminate the shallow groundwater system, to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, implementation of Mitigation Measures 1-2, 5, 7, and 29, above, are already required as a condition of the funding approval.

Explanation:

Any dewatering necessary for construction activities for the Five Dam Removal Alternative may result in inadvertent spills of hazardous materials that, if not attended to, could contaminate the shallow groundwater system. Project construction could result in inadvertent spills of hazardous materials used in standard construction practices. Construction would require the transport and use of potentially hazardous materials, such as gasoline, diesel fuel, concrete, cement, industrial chemicals, and other hazardous chemicals.

In sum, DFG finds that the potentially significant impacts from spills of hazardous materials, which could contaminate the shallow groundwater system will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

GEOLOGY AND SOILS

Impact 4.7-1:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts from accelerated water and wind erosion during Project construction. (See Final EIS/R, pages 4.7-12 to 4.7-13.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts from accelerated water and wind erosion to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, implementation of Mitigation Measures 1-2, 4, 6, 8, 10, 15, and 19, above, are already required as a condition of the funding approval.

Explanation:

Up to approximately 125 acres of vegetation removal and ground disturbance would result from implementation of the Project. This disturbance would involve clearing, grading, blading, graveling, and related activities needed to facilitate construction of fish screens, fish ladders, and the Eagle Canyon Pipeline, as well as the removal of Wildcat, South, Soap Creek Feeder, Lower Ripley Creek Feeder, and Coleman Diversion Dams. Specifically, construction activities would expose soils to erosion at the following types of construction sites and facilities:

- Access roads, which would include intersection and turnout improvements from main roads, the construction of new roads at the North Battle Creek Feeder and Inskip Diversion Dam/South Powerhouse Dam sites, blading and graveling existing unimproved access roads, and other needed improvements at 13 separate sites.
- Staging areas, which include the clearing and grading of 14 to 17 separate sites ranging from 0.5 to 7.5 acres in size. These areas would typically be situated at the rims of canyons overlooking dam sites, near dam sites, or at the terminal points of access roads.
- Conveyances, which would include canals requiring excavation, backfilling, or realignment, overflow wasteways, bypass pipelines, chutes, canals, stilling basins, tailrace connectors, channels, tunnels, sluiceway chutes, and other water conveyances at 10 to 12 sites needed for completing Restoration Project hydraulic improvements.
- Appurtenant facilities, which include screen boxes, channel and gate structures, sediment trap basins, tailrace dikes and wasteways, tailrace

- access ramps, borrow areas, and other facilities at 12 to 14 other sites needed to complete Restoration Project hydraulics.
- Dam site facilities, which would include dams to be removed or improved with fish screens and ladders, cofferdams, and other immediate construction activities within or adjacent to the eight dam sites, usually in-water.

These activities are individually and collectively significant because they could result in substantial soil erosion or the loss of topsoil.

DFG finds that the potentially significant impacts from accelerated water and wind erosion will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

AESTHETICS AND VISUAL RESOURCES

Impact 4.8-1:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts from construction of tailrace connectors, new fish screens and fish ladders, and associated facilities reducing the scenic quality at the Oasis Springs Lodge. (See Final EIS/R, pages 4.8-11 to 4.8-14.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts from construction of tailrace connectors, new fish screens and fish ladders, and associated facilities reducing the scenic quality at the Oasis Springs Lodge. Specifically, DFG requires implementation of both the general mitigation strategies, and Mitigation Measure 30, below, as a condition of the funding approval. Nevertheless, this impact is still considered significant and unavoidable after adoption of the following mitigation and avoidance measures because economic, legal, technological, and other considerations make additional mitigation measures or alternatives infeasible. However, DFG finds that specific overriding economic, legal, social, technological, and other benefits of the project outweigh the significant effects on the environment. Thus, in accordance with CEQA and the CEQA Guidelines, a Statement of Overriding Considerations is found at the end of, and made in addition to, these Findings. Public Resources Code § 21081, subd.(a)(1), (a)(3) and subd. (b); CEQA Guidelines, §§ 15091, subd. (a)(1), 15093.)

Explanation:

The Oasis Springs Lodge, a resort offering fly-fishing, trap shooting, wing-shooting and hiking, is located adjacent to Inskip Diversion Dam on South Fork Battle Creek.

Existing views from the main building of the Oasis Springs Lodge include:

- the South Fork Battle Creek;
- the wooded, undeveloped hillside to the north of the creek (See Final EIS/R Figure 4.8-5, page 4.8-12);
- the orange buoy markers that extend across the creek; and
- the Inskip Diversion Dam and appurtenant facilities (headworks, power lines and poles, access path railings, and access stairs on the north side of the creek).

The temporary modifications proposed during Phase 2 of the Project at the Inskip Diversion Dam/South Powerhouse site include:

- the presence of construction equipment and views of general construction activities (significant and unavoidable);
- construction of a cofferdam upstream of the Inskip Diversion Dam (significant and unavoidable), and
- construction of the access road immediately in front of the Oasis Springs Lodge on the south bank of the creek (significant and unavoidable).

The permanent modifications proposed during Phase 2 of the Project at the Inskip Diversion Dam/South Powerhouse site include:

- construction of the South Powerhouse tailrace connector and channel dike (less than significant);
- relocation of the guy wires on one power pole (less than significant);
- construction of the new access road on the north hillside (significant and unavoidable);
- construction of the new fish screen and ladder facility, including the headworks modifications (significant and unavoidable);
- construction of the approximately ¼-acre parking area adjacent to the fish screen (significant and unavoidable); and
- decommissioning of the existing fish ladder (less than significant).

During construction of the permanent features described above, views of the area would be temporarily altered by the presence of construction crews and the storage and use of construction equipment and construction materials. Views would also be temporarily altered by the construction of a cofferdam and

dewatering of a portion of the creek for the headworks modification and construction of the fish screen and fish ladder. In addition, the existing roadway on the south side of the creek would be improved to provide temporary access to the diversion dam from the south side of the creek. The roadway would follow the current alignment, which crosses the creek at the low-water crossing near the South Powerhouse and continues along the south bank to the dam. Even though these temporary modifications would be restored after the Restoration Project was complete, they would represent a significant aesthetic change to patrons of the Oasis Springs Lodge and recreationalists who go to this area specifically to enjoy the aesthetic value of the creek. Therefore, this impact is considered to be significant.

The modifications in the vicinity of the South Powerhouse, such as constructing the tailrace and channel dike and relocating the power lines, would not be visible from the lodge's main building. In addition, the proposed changes would not be significantly different from the existing appurtenant facilities. The scenic quality in the vicinity of the proposed facilities has already been reduced by these existing facilities. Therefore, these modifications would result in a less-than-significant impact on aesthetic resources.

In contrast, views of a portion of the mixed woodland/chaparral, undeveloped hillside on the north bank of the creek would be substantially altered by construction of a new access road that would extend from the South Powerhouse to the Inskip Diversion Dam and Inskip Canal site. Final EIS/R Figure 4.8-5 (page 4.8-12) presents existing views of the north bank of South Fork Battle Creek from the lodge's creek bank vicinity (northwest of the lodge between the tennis court and pool). Views of the road's cutslope from most of the lodge's main building would be screened in part by existing mature trees located north of the pool and along the southern creek bank. However, the cutslope would be visible from the lodge's westernmost rooms, lawn area, and tennis court because of the lack of tree screens in this vicinity. EIS Figure 4.8-6 (page 4.8-13) is a photosimulation depicting views of the proposed access road from the creek bank in front of Oasis Springs Lodge. Much of the excavation for the new road would involve deep cuts into the rock. Although the cutslope would be hydromulched and revegetated with grasses within three years of construction, more than three years would be required before wooded hillside views could be restored. Therefore, visual impacts on the Oasis Springs Lodge resulting from construction of the proposed access road would be considered significant.

The proposed modifications at the Inskip Diversion Dam during Phase 2, which include the headworks modifications, construction of the fish ladder and fish screen, and construction of the new parking lot, would be visible to patrons fishing along the lodge's creek frontage. These facilities would also be visible to kayakers using this section of the creek. Although the appurtenant facilities at this location have already reduced the scenic quality, the proposed modifications

would include the construction of additional facilities, namely the access road, parking lot, and fish ladder. Several trees would be removed in the vicinity of the parking lot, and vehicles would be visible during routine maintenance activities. These facilities would be visible from the western portion of the main lodge, the creek bank, and the creek. Therefore, this impact is considered to be significant.

Decommissioning of the existing fish ladder would involve plugging the existing opening. The ladder would be left in place. Because the modifications are minimal and the ladder is already present under existing conditions, this element of the project is considered to be less than significant.

Because the proposed facilities are located on private land with restricted public access, the changes in the views described above would be limited to patrons of Oasis Springs Lodge using the southern creek bank in this vicinity and a small number of kayakers who could use this section of South Fork Battle Creek. However, the temporary construction activities and some of the proposed permanent modifications would constitute a significant change in the visual environment. Therefore, this impact is considered to be significant. No feasible mitigation has been identified to address the visual impacts that would occur as a result of construction activities or the permanent construction of the fish ladder and parking lot. The idea of planting trees near the parking lot was considered; however, because the rocky strata would not support trees, this measure was dismissed as infeasible.

During initial development of the Battle Creek Project, the Oasis Springs Lodge was owned by Mr. Warren Quan. In a formal comment letter dated October 13, 2003, and submitted during circulation of the Draft EIS/R, Mr. Quan raised specific concerns regarding business disruption during the Battle Creek project, visual impacts, potential trespass, noise, dust, pollution and construction hazards, and impacts after construction. With regard to aesthetics, Mr. Quan was concerned that the proposed Inskip access road would be a “significant adverse and permanent visual impact to the Lodge property” and requested that the width of the road be reduced. (Final EIS/R, Volume III, Responses to Comment, Letter NGO9 at p. 2.)

On October 15, 2003, Ms. Kerry Burke sent a formal comment letter on behalf Outfitters Properties, whom she described as “the new owners of Rocky Springs Ranch, formerly known as the Lazy R Bahr Ranch.” In that letter, Ms. Burke acknowledges that she has reviewed the Draft EIS/R on behalf of Outfitters Properties and noted that “the construction and operation of the Proposed Actions associated with South Powerhouse and Inskip Diversion Dam improvements would result in a significant and unavoidable aesthetic impact on the Oasis Springs Lodge.” (Final EIS/R, Volume III, Responses to Comment, Letter NGO15 at p. 8.) Thereafter, in November 2003, Outfitters Properties purchased the Oasis Springs Lodge from Mr. Quan.

On March 1, 2005, Reclamation and the State Water Board released a Draft Supplemental EIS/Revised EIR seeking additional public comment to help fully inform decision makers as to the potential environmental effects of the Project. On April 28, 2005, Ms. Burke submitted an additional 13 pages of comments on behalf of Outfitters Properties with over forty pages of attachments, including a copy of her previous letter and Mr. Quan's letter. She stated her opinion that the "construction and operation of the fish ladder will be a permanent scar on the landscape." (Final EIS/R, Volume III, Responses to Comment, Letter NGO21 at p. 2.) On August 6, 2004, Paul R. Minasian of the law firm of Minasian, Spruance, Meith, Soares & Sexton, LLP also submitted a comment letter on behalf of Outfitters Properties. In his letter, Mr. Minasian claims the "current condition of this world-renowned fishery and Oasis Springs Lodge operation is to be disturbed and rendered useless forever by the construction of a roadway on the slope facing the river and Lodge..." Mr. Minasian also states that the "fish ladder location and design consist of a monstrous concrete structure which obliterates all natural features of the Creek." He concludes that "[o]ur client stands ready to work with you to revise the document to include the requisite detail once examination is done of alternatives to allow for informed decision making." (Final EIS/R, Volume III, Responses to Comment, comments NGO21-184, NGO21-191, and NGO21-195.)

Subsequently, on October 15, 2005 Mr. Erich Vaden and other representatives of Outfitters Properties, LLC made a public presentation to the California Bay-Delta Authority reintroducing an Inskip Diversion Dam design alternative which, during the development of the Draft EIS/R, had been previously screened from further Project consideration for biological and technical reasons. Although no complete description was provided by the representatives of Outfitters Properties, the main elements consisted of locating the replacement fish ladder for the dam on the south bank of the creek instead of the proposed north bank location, eliminating the access road to the Inskip Canal fish screen and eliminating the proposed tunnel conveying water from the South Powerhouse Tailrace to the Inskip Canal, downstream of the fish screen. By moving the configuration to the south side, the presenters maintained that impacts to Oasis Springs Lodge, including aesthetic impacts associated with the need for an access road to the north bank fish ladder, could be reduced.

Fish passage facilities for the Battle Creek Salmon and Steelhead Restoration Project were designed using a collaborative multi-agency Fish Screen and Ladder Team including NMFS, DFG, DWR, PG&E and Reclamation. This group was tasked to develop facilities meeting performance standards established in the 1999 MOU for the Restoration Project as well as cost effectiveness. The preliminary designs were made available to the public in a 2000 summary document. (*Battle Creek Salmon and Steelhead Restoration Project Fish Ladder and Screen Features: Inskip Diversion, North Battle Creek Feeder Diversion,*

Eagle Canyon Diversion. Preliminary Engineering Concepts Technical Report, California Department of Water Resources (May 2000).) Designs were subjected to extensive peer review for biological effectiveness and cost by scientists and engineers from California and the Pacific Northwest (*Technical Review Panel Report: Battle Creek salmon and steelhead restoration project (CALFED 2003).*)

Alternative fish ladder designs and sites were considered in 2000 for Inskip Dam, including a ladder on the south bank of South Fork Battle Creek; however this site was not selected. In response to the landowner presentation, the original conclusions regarding a fish ladder on the south bank were reevaluated by engineers in the Fish Screen and Ladder Team during an October 2005 meeting. Thereafter, the team reiterated that such an alternative was infeasible for the same biological, technical and cost-benefit factors that had eliminated it from preliminary consideration.

In particular, because the Inskip Canal and its headworks are on the north bank, the fish screen and intake head works also need to be on the north bank. The ladder is placed adjacent to the screen to allow the facilities to function in conjunction with each other for increased reliability and performance at decreased cost. When the screen and ladder are adjacent they can share important parts like head works, access roads, and pathways for water releases to the stream and fish moving both up and down the stream. Moreover, a south screen ladder would have reduced biological effectiveness while increasing the need for blasting, excavation, and road access, including an elevated causeway and a large new bridge built to a 100 year flood event standard. In addition a large industrial crane would be required to reach to the stream side sections of the ladder, adding to industrial facilities in the view shed. And an access road would still be needed for the fish screen on the north bank.

Beginning shortly after Outfitters Properties purchased the Oasis Springs Lodge and continuing through to the present, representatives of Reclamation, the State Water Board, DFG, and PG&E fully and carefully reviewed all comments submitted on this project and participated in extensive meetings, telephone calls and exchanges of electronic mail and correspondence with representatives of Outfitters Properties including Mr. Erich Vaden, Ms. Burke, Mr. Paul Minasian, and Mr. Anthony Soares of the law firm of Minasian, Spruance, Meith, Soares, and Sexton, LLP to try and address Outfitters' concerns over aesthetics, recreational, and other physical impacts. In response, Outfitters requested a south side fish screen alignment, disputed the scope of easements held by PG&E with regard to the hydroelectric facilities, and specified that DFG provide which entity or agency could make a substantial budget allowance in the Project financing to compensate Outfitters Properties for potential future business losses and alleged temporary and permanent occupation of the property for Project construction and Inskip Diversion Dam hydroelectric facility modifications. (Letter

from Mr. Minasian to Ms. Tina Cannon, DFG Staff Counsel, at 2 (September 22, 2005).)

Whereas potential physical impacts, both direct and indirect are addressed in the Final EIS/R and these Findings, the CEQA Guidelines state that economic or social effects of a project shall not be treated as significant effects on the environment. Economic or social effects can be relevant if they help to inform the level of significance of physical changes caused by the project or if they create a chain of cause and effect which result in other physical changes which are potentially significant adverse environmental effects. Lastly, the CEQA Guidelines provide that public agencies should use economic or social factors, together with technological and environmental factors, in determining whether changes in a project to reduce or avoid significant effects on the environment are feasible. Information on feasibility factors need not be contained in an EIR but must be added to the project record in some other manner to allow an agency to consider it in reaching a decision on the project. (CEQA Guidelines §§ 15064(e), 15131, 15358, 15382.)

While CEQA requires an analysis of potential adverse impacts on the physical environment, NEPA concerns “major federal actions significantly affecting the quality of the human environment.” (42 U.S.C. § 4332(2)(C).) Further, NEPA is essentially procedural, includes a requirement to analyze both physical and socioeconomic impacts, but does not require mitigation. (*Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989) [“NEPA merely prohibits uninformed – rather than unwise – agency action.”].) Because the EIS/R is a joint NEPA and CEQA document, it contains a NEPA-required section on Socioeconomics. (Final EIS/R, § 4.16, “Other NEPA Analyses.”) That section concluded that there could be both construction-related and long-term revenue losses to Oasis Springs Lodge from the Project. (Final EIS/R, §§ 4.16-6, 4.16-7 at pages 4.16-30 to 4.16-31.) However, the inclusion of section 4.16 in a joint NEPA and CEQA document does not give rise to a CEQA requirement in these Findings to provide mitigation or avoidance measures for social or economic effects.

Because Outfitters’ concerns regarding compensation for potential business losses and other economic interests do not inform or otherwise relate directly or indirectly to any potentially significant adverse physical impacts at the Inskip site other than those already addressed in the Final EIS/R and these Findings, DFG made a specific request to Mr. Minasian for “a list of what your client, Mr. Vaden, believes are potentially significant environmental impacts and the mitigation or avoidance measures that he would like us to consider as we strive to fulfill the letter and spirit of CEQA.” (Letter from Ms. Cannon to Mr. Minasian, at p. 1 (August 30, 2005).) In response, Mr. Minasian submitted a copy of Ms. Burke’s letter, marked Letter NGO21, from the Final EIS/R Response to Comments section stating, “Apparently you do not have available to you the extensive

comments filed on behalf of the Vaden family, as comments on the Draft Supplemental Environmental Impact Statement found in the EIR/EIS as Letter NG-201 [sic].” (Letter from Mr. Minasian to Ms. Cannon at p. 1 (October 4, 2005).)

On March 9, 2006, DFG, Reclamation, USFWS, and NMFS sent Mr. Val Vaden, Outfitters Properties, LLC, an additional letter advising that a south side fish screen and ladder were not practicable and would result in greater biological and physical impacts. The agencies however reiterated their commitment to work with Mr. Vaden at the present time, and throughout construction, on “further refinements of proposed mitigation and avoidance measures to address noise, aesthetics and recreation near the Inskip site.” (Letter from Reclamation, DFG, USFWS, and NMFS to Mr. Vaden at p. 1 (March 9, 2006).) The letter asked for specificity regarding Mr. Vaden’s preference on the work windows proposed by the previous owner of Oasis Springs Lodge, Mr. Quan, as well as Mr. Vaden’s preference concerning construction equipment and the location of excavation piles in the viewshed. Because further refinements to mitigation for aesthetic impacts in the Oasis Springs Lodge viewshed are speculative unless evaluated by qualified personnel from the perspective of the Oasis Springs Lodge property, Mr. Vaden was also asked to provide Oasis Springs Lodge access to a landscape architect. The letter requested that Mr. Vaden respond by March 24, 2006 with his preferences regarding “the days and hours of construction, the location of the staging area and the spoil pile and whether you will permit access for a landscape architect.” No response was received answering these specific requests.

Having fully and independently considered all information submitted with regard to aesthetic impacts, including those potential impacts at the Oasis Springs Lodge, DFG requires implementation of the following general mitigation and avoidance measures modeled on the CALFED Bay-Delta Program programmatic mitigation strategies 3-12 and 14, as a condition of the funding approval (see CALFED Bay-Delta Program Record of Decision, Appendix A, § 7.13 at pages A-19 to A-20):

For long-term visual impacts of new facilities or modified existing facilities Reclamation shall:

- Avoid unnecessary ground disturbance outside the necessary construction area.
- Locate and direct exterior lighting for construction activities so that they are concealed, to the extent practicable, when viewed from local roads, nearby communities, and any recreation areas.
- Construct facilities with earth-tone building materials or other visually aesthetic design materials.
- Revegetate disturbed areas as soon as possible after construction.

- Locate visually obtrusive features, such as borrow pits and dredged material disposal sites, outside visually sensitive areas and observation sites.
- Select vegetation type, placement, and density to be compatible with patterns of existing vegetation where revegetation occurs in natural areas.
- Install landscape screening, such as grouped plantings of trees and tall shrubs to screen proposed facilities along new and expanded canals and conveyance channels, in a manner that does not compromise facility safety or access.
- Use native trees, bushes, shrubs, and ground-cover for landscaping, when appropriate, at facilities such as dams and pump-generating plants, and along new and expanded canals and conveyance channels, in a manner that does not compromise facility safety and access.
- Recontour and add vegetation to areas rated as “poor” in variety class.

Having fully and independently considered all information submitted with regard to aesthetic impacts, including those potential impacts at the Oasis Springs Lodge, DFG also requires implementation of the following specific mitigation and avoidance measure as a condition of the funding approval:

Mitigation Measure 30: Develop and Implement a Revegetation Plan to Improve the Aesthetic Quality of the New Access Road Proposed at Inskip Diversion Dam

Upon completing installation for the proposed access road, Reclamation shall use materials designed to help blend with the existing vegetation and revegetate the area along the road to improve its aesthetic quality to the patrons of Oasis Springs Lodge. Reclamation shall prepare, develop and implement an Inskip Revegetation Plan. The Inskip Revegetation Plan is a component of the Comprehensive HMMP (Mitigation Measure 15). The Inskip Revegetation Plan will be prepared in coordination with NMFS, USFWS, DFG, PG&E, the State Water Board and FERC.

Before beginning construction, Reclamation shall prepare photorealistic simulations from the most sensitive vantage points at Oasis Springs Lodge, showing both the wet spring season and the dry summer season, to provide a better understanding from those vantages of the magnitude of visual impact that would result from constructing the roadway so as to target visual intrusion reduction measures. Actions to improve the aesthetic quality of the access road include, but are not limited to, the following construction specifications:

- Use guardrail materials that blend into the natural environment either naturally or through the use of aesthetic treatments (e.g., rock masonry or concrete barrier painted to match existing rock features). The use of

metal guardrails should be avoided or, if metal guardrails must be used, they should be screened from view. However, if metal guardrails are used, select weathering steel as the preferred material, screen them from north-facing views with native plantings, if feasible, or by using strategically positioned rock obtained during blasting.

- Apply rock-aging compound to the rock cut-slope of the hill. Because soil conditions are poor and little vegetation may grow on the cut-slope, the rock-aging compound will improve the appearance of the cut-slope by giving the newly exposed rock face a more weathered appearance.
- Construct shotcrete wall features that are textured and painted to reflect natural site conditions and minimize the visual appearance of the road and rock exposed through construction of the roadway.
- Strategically locate and safely anchor natural debris (e.g., rock or downed trees) to help create a natural appearance along the hillside and to aid in the screening of visually intrusive roadway elements.

In addition, a Revegetation Plan will be developed and implemented which includes, but is not limited to, the following:⁷

- If feasible, apply native broadcast seeding with native straw mulch, at sufficient concentration to ensure even coverage and germination, to revegetate the area above and below the road's cut-slope and to create a natural appearance along the hillside. The native seed mix shall consist of a mixture of grasses, forbs, and wild flowers native to the region and appropriate for site conditions.
- If feasible, strategically locate planting basins for native vegetation in various places along the hillside to help visually screen the roadway. Irrigate plants during the first 3 years of plant establishment.
- If feasible, transplant mature native vegetation obtained on site from other construction activities to help provide mature vegetative screening. This would provide a more immediate vegetative screen and blend better with the existing landscape than younger vegetation. Irrigate plants during the first 3 years following transplant.
- If applicable, a qualified biologist will visit all planting sites biannually for the first 5 years after road installation to determine seedling survival rates. Planting sites will be recorded as being dead if there is no viable aboveground growth visible. For example, if all the leaves on a tree are brown, but an examination of the stems and branches showed viable stem vigor, the plant will be considered to be alive with a poor vigor rating. Where a tree is determined not to be alive, it shall be replaced.

⁷ A determination of the final feasibility of these measures requires on-site evaluation. To date, the owner of Oasis Springs Lodge, Outfitters Properties, LLC, has refused access. Therefore, measures must be presented as subject to feasibility.

DFG finds that the potentially significant impacts from construction of tailrace connectors, new fish screens and fish ladders, and associated facilities reducing the scenic quality at the Oasis Springs Lodge will be avoided or reduced through implementation and adherence to the above mitigation measures. However, even with the mitigation and avoidance measures required as a condition of the funding approval, there will remain significant impacts to the viewshed of the Oasis Springs Lodge. Thus, in accordance with CEQA and the CEQA Guidelines, a Statement of Overriding Considerations is found at the end of, and made in addition to, these Findings.

NOISE

Impact 4.10-1:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts from exposure of noise-sensitive uses to temporary noise and vibrations from blasting during Project construction. (See Final EIS/R, pages 4.10-10 to 4.10-12)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate, to a less-than-significant level, the potential impacts from the temporary exposure of noise-sensitive uses to noise and vibrations from blasting during construction. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measure 31, below, as a condition of its funding approval.

Explanation:

It is anticipated that blasting would be required at some of the Restoration Project sites. These sites include:

- North Battle Creek Feeder Diversion Dam,
- Eagle Canyon Diversion Dam,
- Inskip Diversion Dam/South Powerhouse, and
- Coleman Diversion Dam/Inskip Powerhouse.

The Oasis Springs Lodge is the only noise-sensitive land use that would be exposed to temporary noise from vibration and blasting activity.

The Oasis Springs Lodge is located within 200 feet of the Inskip Diversion Dam/South Powerhouse site. Details on the blasting methods to be used are not known at this time; however, it is known that some blasting would be conducted completely underground with no disturbance of the ground surface. Noise will not be an issue for this type of blasting. Some surface blasting may be required, which means there is potential for airblast and vibration from blasting to affect nearby uses.

Noise and vibration generated by blasting are action-specific and depend upon a complex relationship between charge size, charge depth, hole size, degree of confinement, initiation methods, spatial distribution of charges, and other factors. To provide a general indication of the potential for airblast and vibration impacts from blasting, data developed from the blasting assessment for a mining project in northern California are presented in the Final EIS/R Table 4.10-4 (page 4.10-11.) Specifically, Table 4.10-4 presents estimated airblast and ground-vibration values as a function of distance, based on a 293-pound charge under average normal confinement.

The Oasis Springs Lodge is located in a remote area near the Inskip Diversion Dam with some on-site staff and unknown levels of additional occupancy by guests. As set out more fully under impact 4.8-1, during initial development of the Battle Creek Project, the Oasis Springs Lodge was owned by Mr. Warren Quan. In November 2003, following review and comment on the Draft EIS/R for the Project, Outfitters Properties purchased the Oasis Springs Lodge. Since that time, and continuing through to the present, representatives of Reclamation, the State Water Board, DFG, and PG&E participated in extensive meetings, telephone calls and exchanges of electronic mail and correspondence with representatives of Outfitters Properties including Mr. Erich Vaden, Ms. Burke, Mr. Paul Minasian, and Mr. Anthony Soares of the law firm of Minasian, Spruance, Meith, Soares, and Sexton, LLP to try and address Outfitters' concerns over aesthetics, recreational, and other physical impacts.

On March 9, 2006, DFG, Reclamation, USFWS, and NMFS sent Mr. Val Vaden, Outfitters Properties, LLC, an additional letter reiterating their commitment to work with Mr. Vaden at the present time, and throughout construction, on "further refinements of proposed mitigation and avoidance measures to address noise, aesthetics and recreation near the Inskip site" including work days and work windows. (Letter from Reclamation, DFG, USFWS, and NMFS to Mr. Vaden at p. 1 (March 9, 2006).) Specifically, Outfitters was asked to provide information on historic rates of occupancy or peak occupancy periods so that construction could be scheduled to potentially avoid those periods. However, unless and until Outfitters chooses to respond to these requests with specificity, further refinements cannot be made because the underlying determination is a subjective one. Longer work days and periods compress the overall period of temporary construction impacts while shorter work days and work windows limit

the daily or weekly period of temporary construction impacts but potentially lengthen the overall period.

DFG requires implementation of the following mitigation measures as a condition of the funding approval to reduce this impact:

Mitigation Measure 31: Implement a Blast Noise Mitigation and Notification Plan to Minimize Exposure of Noise-Sensitive Land Uses to Noise and Vibration Impacts from Blasting

To minimize noise sensitive resources to the exposure of noise and vibration from blasting, Reclamation shall implement a Blast Noise Mitigation and Notification Plan that shall include, but is not limited to, the following measures:

- Blasting notification identifying the date and time of blasting shall be provided to nearby residents, local law enforcement, newspapers, and sensitive receptors located within 1,000 feet of blasting.
- Pre-blast alarms shall be sounded. Immediately before blasting, the construction contractor shall be required to sound a signal announcing the blast. Construction contractors shall follow the Construction Safety Plan that shall provide for these measures.
- Best available practices shall be employed to limit airblast from blasting to 135 dB and vibration to U.S. Department of the Interior, Bureau of Mines (USBM) limits at the nearest noise-sensitive land uses.
- Noise and vibration monitoring shall be performed at nearby residences and sensitive receptors to ensure that airblast from blasting is limited to 135 dB and that vibration is limited to USBM criteria.

DFG finds that the potentially significant impacts from the temporary exposure of noise-sensitive uses to noise and vibrations from blasting during construction will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures which are made a condition of this funding approval.

Impact 4.10-2:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts from the temporary exposure of noise-sensitive land uses to noise from on-site construction activities. (See Final EIS/R, pages 4.10-12 to 4.10-14.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate, to a less-than-significant level, the potential impacts from the temporary exposure of noise-sensitive land uses to noise from on-site construction activities. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of the general noise-reducing construction practices set out below and Mitigation Measure 32, also below, as a condition of the funding approval.

Explanation:

Numerous pieces of large equipment, including those listed on EIS/R Table 4.10-5 (page 4.10-12) would be used during the demolition of existing facilities and construction of project components, such as fish screens, fish ladders, access road improvements, and installation of the Eagle Canyon pipeline at the Jeffcoat mitigation site.

The Oasis Springs Lodge and the residence located near the Jeffcoat mitigation site are the only noise-sensitive land uses that would be exposed to noise from on-site construction activity. The Oasis Springs Lodge is located within approximately 200 feet of the nearest construction boundary at the Inskip Diversion Dam/South Powerhouse site, and the residence adjacent to the proposed pipeline alignment for Eagle Canyon Canal is located within about 40 feet of the nearest construction boundary at the Jeffcoat mitigation site.

Noise from a construction site typically drops off at a rate of 6 dB per doubling of distance. Under a worst-case scenario, using the loudest piece of equipment in Table 4.10-4 (bulldozer 96 dBA at 50 feet), assuming a distance of 200 feet, and a drop off rate of 6 dB, construction noise could reach the Oasis Springs Lodge as high as 80 dBA. Similarly, based on this worst-case scenario, construction noise could be as high as 98 dBA at the residence adjacent to the Eagle Canyon pipeline alignment. This scenario indicates that these residences could be exposed to construction noise that exceeds Reclamation's noise thresholds. Noise levels could also exceed the ambient noise level by more than 5 dB. Therefore, the impact on noise-sensitive uses from general construction activity is considered to be significant.

In addition to general construction activity and the use of the equipment presented in Table 4.10-5, helicopters may also be used, both to remove construction debris from the project sites and to deliver material and equipment, because of the remote nature of and limited access to many of the Restoration Project sites. It is anticipated that helicopters would potentially be used at:

- Eagle Canyon Diversion Dam,
- Wildcat Diversion Dam and Canal, and
- South Canal.

Reclamation anticipates that the following helicopters may be used for this project:

- Erickson S-64 E Aircrane (3-passenger, 16,000-pound lift capacity) or Erickson S-64 F Aircrane (3-passenger, 21,000-pound lift capacity),
- Bell 206 L III (6-passenger, 1,000-pound lift capacity),
- Hughes 500 D (3-passenger, 900-pound lift capacity),
- Bell 206 B III (3-passenger, 750-pound lift capacity), and
- Bell UH1B 204 (5-passenger, 4,000-pound lift capacity).

Small single-rotor helicopters such as these typically produce a maximum sound level of 79 dBA at 500 feet under level flight conditions. Noise from helicopters could also exceed the significance thresholds. However, as mentioned above, the only construction sites that are near noise-sensitive land uses are the Inskip Diversion Dam/South Powerhouse and the Jeffcoat mitigation site. Because no helicopter events are anticipated at Inskip Diversion Dam/South Powerhouse or the Jeffcoat mitigation site, the noise impact from helicopter operations is not considered significant. None of the other helicopter trips to any of the construction sites are expected to occur close enough to a noise-sensitive land use to result in a significant impact.

To reduce this impact, DFG requires implementation of the following general mitigation measures modeled on the CALFED Bay-Delta Program programmatic mitigation strategies for Noise (CALFED Bay-Delta Program Record of Decision, Appendix A, § 5.6 at page A-6):

Reclamation shall implement the following general noise-reducing construction practices :

- Use electrically powered equipment instead of internal combustion equipment where feasible.
- Locate staging and stockpile areas, and supply and construction vehicle routes as far away from sensitive receptors as practicable.
- Establish and enforce construction site and haul road speed limits.
- Restrict the use of bells, whistles, alarms, and horns to safety warning purposes.
- Locate equipment as far from sensitive receptors as practicable.
- Equip all construction vehicles and equipment with appropriate mufflers and air inlet silencers.
- Restrict hours of construction to periods permitted by local ordinances.
- Locate noisy equipment within suitable sound-absorbing enclosures.

- Schedule construction activities to avoid breeding seasons of sensitive species and peak recreating use.

In addition, DFG requires implementation of the following specific mitigation measure as a condition of the funding approval to reduce this impact:

Mitigation Measure 32: Implement Noise-Reducing Construction Practices to Minimize Exposures of Noise-Sensitive Land Uses to Noise Impacts From On-Site Construction Activities

Reclamation shall implement noise-reducing construction practices such that temporary construction noise experienced by Oasis Springs Lodge and the residence adjacent to the proposed pipeline alignment for Eagle Canyon Canal does not exceed significance thresholds. These thresholds require that noise not exceed 70 dBA (L₁₀) at the nearest noise-sensitive land use during daytime hours and 50 dBA (L₁₀) during nighttime hours, or the ambient noise level by more than 5 dB. These practices include, but are not limited to, the following:

- Residents and other sensitive receptors in the areas affected by noise generated during construction activities shall be notified of the approximate dates of construction and the potential resulting increases in noise at least 2 weeks before construction begins.
- Whenever practicable, noise-generating construction equipment shall be turned off or left running at the lowest setting possible when not in use.
- Construction equipment shall be properly outfitted and maintained to reduce noise output.
- Whenever practicable, noise-generating construction equipment shall be shielded from nearby sensitive receptors by acoustical enclosures, berms, or temporary construction noise barriers.
- The frequency and duration of construction activities shall be altered to reduce the level of exposure experienced by sensitive noise receptors in the vicinity of project construction.⁸

DFG finds that the potentially significant impacts from the temporary exposure of noise-sensitive land uses to noise from on-site construction activities will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

⁸ Please see the discussion under Impact 4.10-1. Choices regarding the preferred frequency and duration of construction activities to avoid impacts at the Oasis Springs Lodge are subjective and additional refinements cannot be made without specific factual input from Outfitter Properties.

Impact 4.10-3:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts from the temporary exposure of noise-sensitive land uses along site access roads to construction-related truck noise. (See Final EIS/R, pages 4.10-14 to 4.10-15.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate, to a less-than-significant level, potential impacts from the temporary exposure of noise-sensitive land uses along site access roads to construction-related truck noise. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of the general mitigation measures regarding noise, above, and Mitigation Measure 33, below, as a condition of its funding approval.

Explanation:

Implementation of the Project would require extensive hauling of materials to and from the Inskip Diversion Dam/South Powerhouse site. Reclamation estimates that up to 40 truck trips per day averaging five trips per hour could occur. Final EIS/R Table 4.10-6 (page 4.10-14) summarizes the estimated number of truck trips as a function of the construction activity.

Reclamation is proposing to use Manton School Road as the primary haul route into the site. Residences are located along this road. Assuming five heavy-truck round trips per hour, or a total of 10 truck pass-bys per hour, the estimated 1-hour average sound level at 50 feet for trucks traveling at 25 miles per hour would be 58 dBA (based on the Federal Highway Administration traffic noise prediction model FHWA-RD-77-108). The maximum sound level during a pass-by would be 78 dBA at 50 feet). Because the truck noise level would exceed both the daytime and nighttime construction noise standards of 70 and 50 dBA, respectively, used by Reclamation, and because truck noise would exceed the ambient noise level by more than 5 dBA, this impact is considered to be significant.

DFG requires implementation of the following mitigation measure as a condition of the funding approval to reduce this impact:

Mitigation Measure 33: Construct an Alternative Haul Route and Limit the Hours of Trucking Operations to Minimize Exposure of Noise-Sensitive Land Uses to Construction-Related Truck Noise

Reclamation shall construct an alternative private haul route that is at least 750 feet from the nearest occupied residences and shall require the construction contractor to limit trucking operations to the hours of 7:00 a.m. to 9:00 p.m.⁹

DFG finds that the potentially significant impacts from the temporary exposure of noise-sensitive land uses along site access roads to construction-related truck noise will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

AIR QUALITY

Impact 4.11-1:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts from construction-related emissions in excess of allowable thresholds. (See Final EIS/R, pages 4.11-10 to 4.11-11.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts from construction-related emissions in excess of allowable thresholds to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measure 34, below, as a condition of its funding approval.

Explanation:

Construction emission estimates have not been included in this report because the Shasta County Air Quality Management District (SCAQMD) and Tehama County Air Pollution Control District (TCAPCD) do not have specific significance thresholds for construction activities. Instead, these districts require the use of BMPs and other management methods to try to reduce construction-related project emissions. Implementation of the Five Dam Removal could result in a temporary increase in an undetermined amount of construction-related emissions. Because of the number of construction activities that may occur

⁹ Please see the discussion under Impact 4.10-1. Choices regarding the preferred frequency and duration of construction activities to avoid impacts at the Oasis Springs Lodge are subjective and additional refinements cannot be made without specific factual input from Outfitter Properties.

simultaneously and the large number of truck trips anticipated daily, this impact is considered significant.

DFG requires implementation of the following mitigation measures as a condition of the funding approval to reduce this impact to a less-than-significant level:

Mitigation Measure 34: Implement BMPs to Minimize Construction-Related Emissions and Obtain All Applicable Permits Required by Local Air Quality Districts

To control the generation of construction-related PM10 emissions, Reclamation shall comply with BMPs summarized below:

- All disturbed areas, including storage piles that are not being actively used for construction purposes, shall be effectively stabilized of dust emissions using water, nontoxic biodegradable chemical stabilizer/suppressant, tarp or other suitable cover, or vegetative ground cover.
- All on-site unpaved roads and off-site unpaved access roads near environmentally sensitive areas shall be effectively stabilized of dust emissions using water or nontoxic biodegradable chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions by applying water or by presoaking.
- When materials are transported off site, all material shall be covered or effectively wetted to limit visible dust emissions, and at least 6 inches of freeboard space from the top of the container shall be maintained.
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions using sufficient water or nontoxic biodegradable chemical stabilizer/suppressant.
- All trackout shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday.

The BMPs listed above shall be made a component of the project description and incorporated into the working project.

Reclamation shall obtain all applicable permits required by the SCAQMD and the TCAPCD. To ensure that the operation of all motors associated with construction of the Project do not result in significant air quality impacts, Reclamation's construction contractor shall obtain all applicable permits required by SCAQMD and TCAPCD.

Guidance from the U.S. Environmental Protection Agency indicates that the conformity rule applies only to nonattainment and maintenance areas (U.S. Environmental Protection Agency 1994). Because the proposed project area is in attainment for the criteria pollutants, the proposed project is not subject to a federal conformity analysis. Consequently, a federal conformity analysis was not completed. Further, permits may require additional measures to further reduce emissions.

DFG finds that the potentially significant impacts from construction-related emissions in excess of allowable thresholds will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

PUBLIC HEALTH AND SAFETY

Impact 4.12-1:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts on construction workers exposed to hazardous or toxic materials disturbed during construction, modification, or removal activities at the Project sites. (See Final EIS/R, pages 4.12-7 to 4.12-8)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts on construction workers exposed to hazardous or toxic materials to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measures 1, 7, 9, and 29 above, and 35 below, as a condition of its funding approval.

Explanation:

Asbestos, PCBs, lead-based paint, pentachlorophenol, and other hazardous materials may be encountered during Project activities. Heavy metals have been found in tests of metal work paint at the Wildcat, Inskip, and Soap Creek Feeder Diversion Dams and may exist at other affected dam sites as well. While asbestos sheet packing is known to be present at Wildcat Diversion Dam, similar materials could be found at other diversion dam sites. Construction workers could come into contact with these hazardous materials. Workers could also be

exposed to hazardous materials brought on site for use during the construction, modification, or removal of Restoration Project facilities. These materials could include petroleum-based materials, solvents, and lubricants.

As a means to reduce the significance of exposure, Reclamation will require as a contract specification that contractors prepare a safety program for review and approval by Reclamation. The program will be required to cover all work phases. Part of the safety program will be specific operating procedures (SOP) and hazards analysis addressing hazardous operations and activities. The SOP will break down the operation into specific basic steps. The hazard analysis will define the hazards associated with each step and propose methods for eliminating or neutralizing the hazard. This will apply to all activities involving the use of hazardous and/or toxic materials.

In addition to the preceding contract requirements, and Mitigation Measures 1, 7, 9, and 29 above, DFG requires implementation of mitigation measure 35 below, as a condition of the funding approval to reduce this impact to a less-than-significant level:

Mitigation Measure 35: Implement Measures to Minimize Exposure of Construction Workers to Hazardous or Toxic Materials Disturbed During Construction Activities

Reclamation shall implement the following measures to reduce construction workers' exposure to hazardous or toxic materials.

- Incorporate worker protections specified below into the Spill Pollution Prevention Plan required under Mitigation Measures 7, and 29.
- Comply with all applicable regulations, including the use of appropriate transportation, storage, use, and disposal procedures.
- The Spill Pollution Prevention Plan shall ensure that all personnel are aware of the proper handling techniques and appropriate responses and actions to be taken if hazardous materials are accidentally released. It shall include specific handling techniques for those hazardous materials with the greatest potential to occur in the area (including PCBs, asbestos, lead-based paint, and pentachlorophenol).
- Implement measures to reduce the amounts of hazardous materials in use at the Project sites.
- Evaluate the potential hazards at each dam site as part of the preconstruction design work. This evaluation shall be followed by a more detailed evaluation to confirm the presence and extent of any existing hazardous materials and to develop a plan (e.g., a Dam Decommissioning Plan) that recommends appropriate procedures to remove the materials and thus minimize the risk to public health.

DFG finds that the potentially significant impacts to construction workers exposed to hazardous or toxic materials disturbed during construction, modification, or removal activities at the Project sites will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

Impact 4.12-2:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts from public exposure to hazardous or toxic materials associated with or disturbed during construction, modification, or removal activities at the Restoration Project sites. (See Final EIS/R, pages 4.12-8 to 4.12-9.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts from public exposure to hazardous or toxic materials associated with or disturbed during construction, modification, or removal activities at the Restoration Project sites to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measures 7, 9, and 29 above and 36, below, as a condition of its funding approval.

Explanation:

Project implementation could result in an increased risk to the public associated with equipment use, exposure to potentially hazardous materials used during construction, and other hazards including open trenches and increased access to hydroelectric facilities. This risk is a possibility despite many of the diversion dam sites being located in remote areas away from public access areas. The site closest to a sensitive receptor is Inskip Diversion Dam, which is located downstream of the Oasis Springs Lodge. Because the lodge typically operates from May through mid-November, any construction activities at Inskip Diversion Dam during this period would potentially result in an increased public presence at and around the construction sites.

Although many of the proposed activities are located in remote locations away from populated areas, it is possible that the increased traffic and activity at the Restoration Project sites and along access roads could also increase public curiosity and draw them to construction sites. Because access to these sites would increase the potential threat to public health and safety, unrestricted public access would be considered a potentially significant health and safety impact.

Reclamation, as a contract specification, requires contractors to limit the use of hazardous materials during construction to those described in the List of Hazardous Materials and Material Safety Data Sheets submitted to Reclamation. Further, no hazardous materials that are not on either of these lists may be delivered to the job site. This contract provision restricts hazardous materials on the job to those that are known and for which safety information is readily available. Contract requirements for preparation of SOPs and hazard analysis as part of a contractor safety program will also reduce this impact.

In addition Mitigation Measures 7, 9, and 29 above, DFG requires implementation of mitigation measure 36 below, as a condition of the funding approval to reduce this impact to a less-than-significant level:

Mitigation Measure 36: Implement Measures to Minimize Exposure of the Public to Hazardous or Toxic Materials Associated with Construction Activities

Reclamation shall implement the following measures to reduce exposure of the public to hazardous or toxic materials.

- Incorporate worker protections specified below into the Spill Pollution Prevention Plan required under Mitigation Measures 7, 29 and 35.
- Clearly mark all construction areas around each dam site as hazardous and off-limits to the public.
- Backfill or cover any excavated areas and other particular areas of hazard at the end of each workday.
- Fence off areas around the Project sites and gate and lock all access roads to deter public access.
- Notify nearby sensitive receptors and residents (including the management of the Oasis Springs Lodge) of the schedule of activities expected to occur at the Project site.

DFG finds that the potentially significant impacts to the public from exposure to hazardous or toxic materials associated with or disturbed during construction, modification, or removal activities at the Restoration Project sites will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

Impact 4.12-3:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts from increased vehicle traffic along private access roads during construction activities which could endanger residents and domestic animals. (See Final EIS/R, pages 4.12-9 to 4.12-10.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts from increased vehicle traffic along private access roads during construction activities which could endanger residents and domestic animals to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measure 37, below, as a condition of its funding approval.

Explanation:

Increased traffic associated with construction would increase hazards to people and domestic animals that live along Restoration Project access roads. Hazards to people and domestic animals would increase especially during peak morning and evening commuting hours when work crews typically arrive and leave from the project sites. Truck traffic, consisting of trucks delivering materials to the job sites and hauling away waste materials from the job sites, would greatly increase over current levels and contribute to public hazards. In addition, equipment such as road graders used to improve roads for construction access would contribute to these hazards. (See description of access road construction under each individual dam site, Final EIS/R Chapter 3, pages 3-12 to 3-83.)

Traffic is expected to increase substantially over current levels during long-term operations and maintenance activities; therefore, the Project could have a significant impact on public health and safety. The contract specifications for work on this project include traffic control measures intended to reduce the impact of construction traffic. These specifications include:

- submitting a traffic control plan for Reclamation's approval;
- limiting speeds to a maximum of 15 miles per hour, except near residences where a lower speed may be required;
- informing affected residents along the routes about changes in traffic levels and providing reasonable accommodations to ensure traffic safety, such as fencing or lower speed limits;
- providing a hot line for public input regarding traffic concerns through the community of Manton;
- providing necessary traffic control devices and flag persons to prevent accidents and damage or injury;
- delaying work along public and private roads until proper traffic control devices are in place;
- providing unobstructed, smooth, and dustless passageway for one lane of traffic through construction operations; and

- maintaining traffic flow to minimize obstruction and inconvenience to public traffic.

In addition, DFG requires implementation of mitigation measure 37 below, as a condition of the funding approval to reduce this impact to a less-than-significant level:

Mitigation Measure 37: Implement Measures to Reduce Traffic Hazards to People and Domestic Animals that Live Along Restoration Project Access Roads

Reclamation shall implement the following measures to reduce traffic hazards to people and domestic animals that live along Project access roads.

- During construction, traffic on private roads within 500 feet of residences and near the Oasis Springs Lodge shall be limited to a speed of 5 miles per hour. Notice of the upcoming speed zone shall be visibly posted in advance of the zone. The speed limit shall be posted visibly at the beginning of the restricted speed zone. Reclamation shall specify this limit in contract specifications with construction contractors.
- During construction, truck traffic on private roads shall be limited to daylight hours only. No trucks shall operate on private roads within 1 hour of sunset. Reclamation shall specify construction time constraints in contract specifications with construction contractors.
- Reclamation shall establish a complaint line where residents may report allegations of excessive speed. When a complaint is made, Reclamation shall inform the contractor and advise them of the contract provisions limiting speeds along private roads.

DFG finds that the potentially significant impacts from increased vehicle traffic along private access roads during construction activities, which could endanger residents and domestic animals, will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

Impact 4.12-4:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts from dewatering activities which could provide breeding grounds for mosquitoes. (See Final EIS/R, pages 4.12-10 to 4.12-11.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts from dewatering activities which could provide breeding grounds for mosquitoes to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measure 38, below, as a condition of its funding approval.

Explanation:

Removal of surface water and/or groundwater is expected to be required at some Restoration Project sites. Whether these activities are accomplished by using temporary cofferdams to stop the water flow, diverting the flow, or pumping the water to a temporary detention pond, the activities could produce standing water in shallow areas that can serve as breeding ground for mosquitoes.

At many of the Restoration Project sites, rock, rubble, and cement materials would be broken up into small pieces and distributed downstream. Existing sediment behind some of the dams would also be left in place for larger flow events to distribute downstream. An excavator would be used to channel in some streambeds and facilitate the distribution of the sediments. It is expected that, until they are distributed downstream by natural flows, these materials could initially result in some ponded or standing water that could serve as breeding ground for mosquitoes. Proposed activities conducted during the winter, when mosquitoes are dormant, would not result in increased populations. However, activities conducted in the summer have the potential to result in increased quantities of breeding ground. This impact is considered significant.

DFG requires implementation of mitigation measure 38 below, as a condition of the funding approval to reduce this impact to a less-than-significant level:

Mitigation Measure 38: Implement Measures to Reduce Mosquito Breeding Grounds at Restoration Project Sites

Reclamation shall implement the following measures to reduce mosquito breeding grounds during construction at the Project sites:

- Maximize the protection of public health near Project sites during the mosquito breeding months by consulting with applicable mosquito abatement districts and control agencies and undertaking their recommended actions for mosquito population control at Project sites.

- Inform workers during the Worker Education Program (Mitigation Measure 1) of the potential for increases in mosquito breeding populations and of the appropriate precautions to take to protect their health.

DFG finds that the potentially significant impacts from dewatering activities which could provide breeding grounds for mosquitoes will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

PUBLIC SERVICES AND UTILITIES

Impact 4.13-1:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts from increased demands on fire, police, and emergency medical services. (See Final EIS/R, pages 4.13-7 to 4.13-8.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts from increased demands on fire, police, and emergency medical services to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measure 39, below, as a condition of its funding approval.

Explanation:

Project activities have the potential to result in temporary increased demands on fire protection, police protection, and emergency medical services that may be needed in the area. The proposed activities would result in additional temporary traffic and workers in the general area of the Restoration Project. The maximum number of construction workers required to implement this alternative is 360. It is assumed that a maximum of 360 workers distributed over several Battle Creek sites could be engaged in construction activities at any given time. While activity, traffic, and personnel in the area of the Restoration Project would temporarily increase, this increase is not expected to exceed, under normal circumstances, the capacity of existing protective and emergency response demands in the area. However, because the proposed project is in a “very high” fire hazard severity zone, which means that the chance of a fire igniting and spreading is relatively high in this area, the Restoration Project could potentially increase the demand on fire services. This impact is considered significant.

DFG requires implementation of mitigation measure 39 below, as a condition of the funding approval to reduce this impact to a less-than-significant level:

Mitigation Measure 39: Implement Measures to Minimize The Need for Protective and Emergency Response Services

Reclamation shall follow the following measures to minimize the need for protective and emergency response services (e.g., fire, police, and emergency medical services):

- Practicable and conventional precautions shall be taken by the contractor to ensure the safety of workers and the general public by adequately securing work sites and fencing hazardous areas and trenches during construction activities. This action shall be the responsibility of the contractor and shall be made a part of the standards and specifications included in their contract.
- Physical barriers and sign postings (including “No Trespassing”) consistent with standard construction safety management practices shall be used by the contractor to discourage and limit access to construction areas. This action shall be the responsibility of the contractor and shall be made a part of the standards and specifications included in their contract.
- The contractor shall provide notice to county law enforcement and fire protection agencies during proposed construction activities. This requirement shall be included in the standards and specifications included in their contract.
- During construction activities, the contractor shall adhere to standard precautions and approaches required by the California Department of Forestry and Fire Protection (CDFFP) and Shasta and Tehama County Fire Departments when dealing with very high fire hazard severity zones.
- Reclamation shall prepare a Fire Prevention and Control Plan in consultation with and for approval by the CDFFP and Shasta and Tehama County Fire Departments, as outlined in the *Industrial Operations Fire Prevention Field Guide* published by the CDFFP and State Fire Marshal, and file the approved plan with the appropriate fire protection agency before beginning construction. Precautions shall include, but are not limited to, the use of Forest Service–approved spark arresters on all internal combustion engines, preplacement of fire suppression equipment, restriction of smoking and equipment refueling to cleared areas, and restriction of activities during “Red Flag” conditions. The Fire Prevention and Control Plan shall be included in the standards and specifications made part of the contract for construction work.

- Reclamation shall inform workers in the Worker Education Program (Mitigation Measure 1) about the requirements of the Fire Prevention and Control Plan.

DFG finds that the potentially significant impacts from increased demands on fire, police, and emergency medical services will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

RECREATION

Impact 4.14-1:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts on recreational opportunities at Oasis Springs Lodge from construction activities at Inskip Diversion Dam. (See Final EIS/R, pages 4.14-10.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts to recreational opportunities at Oasis Springs Lodge from construction activities at Inskip Diversion Dam. Specifically, DFG requires implementation of both the general mitigation strategies, and Mitigation Measure 40, below, as a condition of the funding approval. Nevertheless, this impact is still considered significant and unavoidable after adoption of the following mitigation and avoidance measures because economic, legal, technological, and other considerations make additional mitigation measures or alternatives infeasible. However, DFG finds that specific overriding economic, legal, social, technological, and other benefits of the project outweigh the significant effects on the environment. Thus, in accordance with CEQA and the CEQA Guidelines, a Statement of Overriding Considerations is found at the end of, and made in addition to, these Findings. Public Resources Code § 21081, subd.(a)(1), (a)(3) and subd. (b); CEQA Guidelines, §§ 15091, subd. (a)(1), 15093.)

Explanation:

The Oasis Springs Lodge, a resort offering fly-fishing, trap shooting, wing-shooting and hiking, is located adjacent to Inskip Diversion Dam on South Fork Battle Creek. The lodge, which typically operates from May through mid-November, is noted for its remote location, quiet surroundings, unspoiled

landscapes, and retreat-like atmosphere. Because various construction activities could occur at Inskip Diversion Dam within a three-year window, the lodge could be affected during various periods and in varying degrees over three operating seasons. Recreational activities at the lodge could be disturbed or disrupted by the neighboring construction-related activities. Temporarily increased vehicular traffic, increased noise levels, and increased dust levels could directly affect recreational use of the lodge. (See Final EIS/R Sections 4.9, Transportation; 4.10, Noise; and 4.11, Air Quality.) Fishing would be disturbed in some areas if water flow is stopped by using temporary cofferdams, if flow is diverted or pumped to temporary holding ponds, or if fishing is excluded around or below construction sites for safety reasons. Construction activities could result in reduced recreational opportunities offered by the Oasis Springs Lodge. This impact is considered significant and unavoidable.

DFG has fully and independently considered all information submitted with regard to potential impacts to recreational opportunities at Oasis Springs Lodge. Unfortunately, without specific information from Oasis Springs Lodge owners Outfitters Properties, LLC, regarding current occupancy and use, further mitigation refinements for potential recreational impacts are not feasible. In a letter to Outfitters Properties legal representatives, DFG asked, "For example, is the peak of [Oasis Springs Lodge] occupancy Friday through Sunday? If so, perhaps at particular points in the season there are some flexible work windows which might lessen the perceived conflict." (Letter from Ms. Cannon to Mr. Minasian, at p. 1 (September 19, 2005).) No information regarding occupancy was provided. In a subsequent letter, information based on "historic occupancy records and your reasonable expectations regarding anticipated occupancy" was requested specifically to establish construction windows. (Reclamation, USFWS, DFG, and NMFS letter to Mr. Vaden at p. 2 (March 9, 2006).) No response containing information regarding the historic level of recreational use of the lodge or preferred construction windows was provided in response to this letter either. Instead, Outfitters Properties responses to these inquiries have focused on economic compensation over perceived access issues and potential business loss claims. However, after careful and independent consideration of the Final EIS/R and the record on this project, DFG has determined that these alleged economic impacts do not give rise to additional or more significant impacts than those analyzed in the Final EIS/R. Please see discussion under Impact 4.8-1.

DFG requires implementation of the following general mitigation and avoidance measures modeled on the CALFED Bay-Delta Program programmatic mitigation strategies 1, 2, 9, and 10, as a condition of the funding approval (see CALFED Bay-Delta Program Record of Decision, Appendix A, § 7.7 at pages A-15 to A-16):

During project construction Reclamation shall, where practicable:

- Incorporate recreational improvements and enhancements.
- Work with recreational interests to protect and enhance recreational resources.
- Provide public information regarding alternate access.
- Avoid construction during peak-use seasons and times.

In addition, DFG makes specific mitigation measure 40, below, a condition of the funding approval:

Mitigation Measure 40: Implement Measures to Reduce Construction-Related Impacts on Recreational Activities at Oasis Springs Lodge

Reclamation shall notify Oasis Springs Lodge as soon as possible and before construction activities begin, of the anticipated start date, duration, and type of construction.

- At the end of each construction day, all equipment shall be stored at a designated staging area that is located outside the viewshed of Oasis Springs Lodge.
- Reclamation shall consult with lodge operators to identify any additional impacts on recreational opportunities and determine whether any further mitigation measures are feasible and appropriate.

DFG finds that the potentially significant impacts to recreational opportunities at Oasis Springs Lodge from construction activities at Inskip Diversion Dam will be reduced through implementation and adherence to the above mitigation measures. However, even with the mitigation and avoidance measures required as a condition of the funding approval, potentially significant impacts to recreational opportunities at Oasis Springs Lodge from construction activities at Inskip Diversion Dam will remain significant and unavoidable. Thus, in accordance with CEQA and the CEQA Guidelines, a Statement of Overriding Considerations is found at the end of, and made in addition to, these Findings.

Impact 4.14-2:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts from construction activities, which temporarily reduce recreational resources and activities. (See Final EIS/R, page 4.14-11.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts from construction activities which temporarily reduce recreational resources and activities to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of the general mitigation measures, above, and Mitigation Measure 41, below, as a condition of its funding approval.

Explanation:

The precise timing of proposed activities at the Battle Creek sites could potentially determine whether recreational activities are temporarily affected. Preliminary information on the proposed construction sequence shows a range of months in which particular activities could occur at a certain site. The construction sequence and schedule would be refined during final design. To the extent construction activities occur when participation in recreation is highest (i.e., during open fishing season), the proposed activities could temporarily reduce recreational opportunities. For example, if construction activities at a specific site occur during open fishing season, public access to some areas could be limited and the recreational activities could be adversely affected.

Correspondingly, during construction at some Battle Creek sites, either water flow would be stopped using temporary cofferdams or flow would be diverted or pumped to temporary holding ponds. As a result, downstream flows could be reduced and temporarily affect downstream fishing. A reduction in recreational resources and activities as a result of proposed construction at the Battle Creek project sites is considered significant.

DFG requires implementation of mitigation measure 41 below, as a condition of the funding approval to reduce this impact:

Mitigation Measure 41: Implement Measures to Reduce Construction-Related Impacts on Recreational Activities Near the Restoration Project Area

To reduce construction-related impacts on recreational activities near the Project area in Shasta and Tehama Counties, Reclamation shall implement the following measures:

- Provide nearby land and property owners notification of the anticipated start date and duration of activities and opportunity for collaboration before construction activities begin.

- To the extent feasible, minimize the duration of construction activities during those periods when recreational activities would be most affected.

DFG finds that the potentially significant impacts from construction activities which temporarily reduce recreational resources and activities will be reduced to below a level of significance through implementation and adherence to the above mitigation measures.

Impact 4.14-3:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts to recreational opportunities from construction activities, including the use of equipment and storage areas, which may temporarily impede public access to Battle Creek for kayaking and to private property where landowners may grant public access by selling hunting and fishing rights. (See Final EIS/R, pages 4.14-11 to 4.14-12.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate, to a less-than-significant level, potential impacts to recreational opportunities from construction activities, including the use of equipment and storage areas, which may temporarily impede public access to Battle Creek for kayaking and to private property where landowners may grant public access by selling hunting and fishing rights. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of the general mitigation measures, above, and Mitigation Measure 42, below, as a condition of its funding approval.

Explanation:

Construction activities at many of the Restoration Project sites would involve the use of heavy equipment to remove existing facilities and to construct new facilities. Equipment use could temporarily disrupt or obstruct access in some locations, temporarily limiting the public's ability to fully participate in and enjoy recreational activities, or result in the need to find alternative routes to recreational resources along Battle Creek.

Some temporary obstructions would not result in significant impacts because the use of equipment would be localized to the immediate areas disturbed by construction, many of which are in remote areas, often on private land accessed by gated roads and away from public access areas. Impacts would potentially be

greater at some sites like Inskip Diversion Dam, which is adjacent to Oasis Springs Lodge, where equipment use would be closer to recreational activities, public access, or other sensitive receptors. This impact is considered to be significant.

DFG requires implementation of the following mitigation measures as a condition of the funding approval to reduce this impact to a less-than-significant level:

Mitigation Measure 42: Reduce Construction-Related Impacts on Access to Public and Private Recreational Areas

Reclamation shall implement the following measures:

- Notify nearby land and property owners prior to construction activities of the anticipated start date and duration of these activities.
- Notify nearby land and property owners prior to construction activities of any exclusion zones needed for safety reasons related to heavy equipment and rock fall.
- Post signs along access roads alerting recreationists to the presence of construction machinery and activities and advising them of the anticipated start date and duration of these activities prior to and during construction periods.
- Where practicable, store heavy equipment alongside access roads and roadways to allow public passage.
- Minimize the duration of construction activities when recreational activities would be most affected.

DFG finds that the potentially significant impacts to recreational opportunities from construction activities, including the use of equipment and storage areas, which may temporarily impede public access to Battle Creek for kayaking and to private property where landowners may grant public access by selling hunting and fishing rights, will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

CULTURAL RESOURCES

Impact 4.15-1:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts when historic properties (Coleman Diversion Dam and Wildcat Diversion Dam) would be removed. (See Final EIS/R, pages 4.15-21 to 4.15-22.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts from the removal of historic properties. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measure 43, below, as a condition of its funding approval. Nevertheless, this impact is still considered significant and unavoidable after adoption of the mitigation and avoidance measures because economic, legal, technological, and other considerations make additional mitigation measures or alternatives infeasible. However, DFG finds that specific overriding economic, legal, social, technological, and other benefits of the project outweigh the significant effects on the environment. Thus, in accordance with CEQA and the CEQA Guidelines, a Statement of Overriding Considerations is found at the end of, and made in addition to, these Findings. Public Resources Code § 21081, subd.(a)(1), (a)(3) and subd. (b); CEQA Guidelines, §§ 15091, subd. (a)(1), 15093.)

Explanation:

The Project would remove Coleman Diversion Dam and Wildcat Diversion Dam, which are eligible for the National Register of Historic Places and the California Register of Historic Resources. These impacts are considered significant and unavoidable because the dam removals would be irrevocable and would permanently alter the characteristics of the dams that convey their significance.

DFG requires implementation of mitigation measure 43 below, as a condition of the funding approval to reduce this impact. Although this impact is considered significant and unavoidable under CEQA, implementing the following mitigation measure would meet Reclamation's Section 106 responsibilities:

Mitigation Measure 43: Implement Measures Identified in the Memorandum of Agreement Between the State Historic Preservation Officer and Reclamation for Historic Properties that Would Be Removed as a Result of Implementing the Restoration Project

To comply with Section 106 of the National Historic Preservation Act, Reclamation has consulted with the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation regarding the potential effects of the Restoration Project on significant cultural resources. A Memorandum of Agreement between Reclamation and SHPO (SHPO MOA) was prepared that outlines measures to mitigate the adverse effects to historic properties (see Appendix T in Volume II of the Final EIS/EIR).

Mitigation measures identified in the SHPO MOA include preparing Historic American Engineering Record (HAER) documentation for all National Register eligible structures and seeking out and reproducing historic photographs and current and historic drawings for each structure. A CD-ROM containing the interviews and summary report of the Battle Creek Watershed Conservancy's (Paquin-Gilmore 2001) study shall be prepared and distributed to historical societies and other interested parties.

DFG finds that the potentially significant impacts when historic properties (Coleman Diversion Dam and Wildcat Diversion Dam) would be removed will be reduced through implementation and adherence to the above mitigation measures. However, even with the mitigation and avoidance measures required as a condition of the funding approval, potentially significant impacts from the removal of historic properties to create fish passage will remain significant and unavoidable. Thus, in accordance with CEQA and the CEQA Guidelines, a Statement of Overriding Considerations is found at the end of, and made in addition to, these Findings.

Impact 4.15-2:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts to historic properties (Eagle Canyon and Inskip Diversion Dams) from construction of fish screens. (See Final EIS/R, page 4.15.22.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts to historic properties from construction of fish screens to a less-

than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG has already required implementation of Mitigation Measure 43, above, as a condition of its funding approval.

Explanation:

The Project would adversely affect Eagle Canyon Diversion Dam during Phase 1 and Inskip Diversion Dam During Phase 2, which are considered to be eligible for the National Register of Historic Places and the California Register of Historic Resources, by constructing fish screens and ladders to provide fish passage in those locations. These additions are considered significant impacts because adding new features to Eagle Canyon and Inskip Diversion Dams would alter the original configuration of the dams. However, altering the original configuration of the dams is necessary to meet the Project's purpose as the current dam configurations block fish passage in the North Fork of Battle Creek and the South Fork of Battle Creek, respectively.

DFG finds that the potentially significant impacts to historic properties (Eagle Canyon and Inskip Diversion Dams) from construction of fish screens will be reduced to below a level of significance through implementation and adherence to mitigation measure 43, described above, which requires implementation of the SHPO MOA actions.

Impact 4.15-3:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts to archaeological deposits associated with a prehistoric/historic campsite if vehicular traffic strays from the road and causes damage. (See Final EIS/R, pages 4.15-22 to 4.15-23.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts to archaeological deposits associated with a prehistoric/historic campsite to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measure 44, below, as a condition of its funding approval.

Explanation:

The Project has the potential to affect the prehistoric/historic campsite, which is a historic property under Section 106 and a historical resource under CEQA.

Vehicular traffic along the South Diversion Dam access road would affect archeological deposits associated with the prehistoric/historic campsite if vehicular traffic strayed from the road. Disturbance to archaeological deposits threatens the stratigraphic integrity of the site, which in turn degrades the information potential of the site. Such an effect would be considered a significant impact.

DFG requires implementation of mitigation measure 44 above, as a condition of the funding approval to reduce this impact to a less-than-significant level:

Mitigation Measure 44: Avoid and Minimize Potential Damage to Archaeological Deposits as a Result of Vehicular Traffic

Impacts on the prehistoric/historic campsite would be reduced by avoiding the site, as specified in Reclamation's determination of effect (West 2001). The access road shall be flagged during construction and the contractor and construction crew shall be instructed to prevent any traffic or activities beyond the flagging.

DFG finds that the potentially significant impacts to archaeological deposits associated with a prehistoric/historic campsite if vehicular traffic strays from the road and causes damage will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measures.

Impact 4.15-4:

Funding the Battle Creek Project could result in direct or indirect, potentially significant adverse impacts on cultural resources at the Jeffcoat aquaculture facility. (See Final EIS/R, pages 4.15-23.)

Finding:

Changes or alterations have been required in, or incorporated into, the Battle Creek Restoration Project and this funding approval that avoid or mitigate potential impacts to cultural resources at the Jeffcoat aquaculture facility to a less-than-significant level. (Public Resources Code § 21081, subd.(a)(1); CEQA Guidelines, § 15091, subd. (a)(1).) Specifically, DFG requires implementation of Mitigation Measure 45, below, as a condition of its funding approval.

Explanation:

In October 2005 and February 2006, the necessary archaeological fieldwork (survey and test excavation), laboratory analyses, and research were conducted to locate and evaluate cultural resources at the Jeffcoat aquaculture facility to determine their significance according to the National Register of Historic Places (NRHP) and CEQA criteria for significance. (36 C.F.R. 60.4; 14 California Code of Regulations 15064.5[a]; Public Resources Code 5020.1[k], 5024.1, 5024.1[g], 21083.2).

Reclamation's cultural resource specialists are currently reviewing a draft report, titled "Inventory, Archaeological Testing, and Evaluation Report for the Mount Lassen Trout Farm Jeffcoat Aquaculture Facility," which recommends that none of the cultural resources identified at the Jeffcoat aquaculture facility meets the significance criteria of the NRHP or CEQA.

Although the draft inventory, archaeological testing, and evaluation report findings support a CEQA finding of a less-than-significant impact on cultural resources at the Jeffcoat aquaculture facility, Reclamation has not provided formal concurrence with the report findings. In addition, to comply with Section 106 of the National Historic Preservation Act (36 Code of Federal Regulations 800), Reclamation must consult with the California State Historic Preservation Officer (SHPO) regarding the report findings. Once the SHPO has reviewed the report findings, Reclamation will make a final significance determination for the cultural resources and the Restoration Project's effects on cultural resources.

Although DFG anticipates that Reclamation will find that the Restoration Project will not affect significant cultural resources at the Jeffcoat aquaculture facility (considered a "no historic properties affected" finding under 36 Code of Federal Regulations 800), Reclamation or the SHPO could determine that one or more of the cultural resources at the Jeffcoat aquaculture facility are significant cultural resources, with the Restoration Project resulting in a significant impact on cultural resources. Therefore, despite the CEQA evidence supporting a finding of less-than-significant impacts on cultural resources, Reclamation or the SHPO may produce evidence to the contrary.

Because Reclamation and/or the SHPO could determine that the Restoration Project would result in a significant impact on one or more significant cultural resources at the Jeffcoat aquaculture facility, DFG requires implementation of the following mitigation measure as a condition of the funding approval to reduce this impact to a less-than-significant level:

DFG requires implementation of mitigation measure 45 below, as a condition of the funding approval to reduce this impact to a less-than-significant level:

Mitigation Measure 45: Avoid and Minimize Potential Damage to Archaeological Deposits at the Jeffcoat Aquaculture Facility

To comply with Section 106 of the National Historic Preservation Act, Reclamation shall consult with the SHPO and any other consulting parties in the Section 106 review process regarding eligibility of the significant resources. As appropriate, an MOA may be developed among Reclamation, the SHPO, and any identified consulting parties if eligible cultural resources would be adversely affected by the proposed undertaking. The MOA would describe methods for Reclamation to mitigate the adverse effects. Mitigation measures may include data recovery excavations and/or avoidance through project design. The Section 106 review process described here shall be completed before beginning construction at the Jeffcoat site.

DFG finds that the potentially significant impacts to cultural resources at the Jeffcoat aquaculture facility will be avoided or reduced to below a level of significance through implementation and adherence to the above mitigation measure.

STATEMENT OF OVERRIDING CONSIDERATIONS

A. General Findings

In approving funding for the Project analyzed in the Final EIS/R, DFG has adopted all feasible mitigation measures to avoid or reduce adverse environmental impacts from construction and implementation of the Project. Although DFG believes that all of the unavoidable impacts will be substantially lessened by the mitigation measures made a condition of the funding approval, and based on existing information, it is not certain that all of these impacts can be avoided or reduced to a less than significant level. Therefore, for purposes of this approval, these impacts are considered unavoidable.

The Final EIS/R and the Findings of Fact identified the following unavoidable impacts:

Section 4.8, Aesthetics and Visual Resources

- Impact 4.8-1: Impacts from construction of tailrace connectors, new fish screens and fish ladders, and associated facilities reducing the scenic quality at the Oasis Springs Lodge.

Section 4.14, Recreation

- Impact 4.14-1: Impacts to recreational opportunities at Oasis Springs Lodge from construction activities at Inskip Diversion Dam

Section 4.15, Cultural Resources

- Impact 4.15-1: Impacts when historic properties (Coleman Diversion Dam and Wildcat Diversion Dam) would be removed.

Based on substantial evidence in the Record, DFG has carefully and independently balanced the benefits of the Project as a whole and, acting pursuant to the CEQA Guidelines Section 15093, finds that the remaining unavoidable and irreversible impacts of the Project are acceptable in light of the environmental, economic, legal, social, planning, technological, and other considerations set forth herein because the benefits of the Project outweigh any significant and unavoidable or irreversible environmental impacts. DFG accordingly makes this Statement of Overriding Considerations in support of these findings on the EIS/R. Moreover, DFG finds that where more than one reason exists for any finding, each reason independently supports these findings. The specific considerations which support a funding approval of the Project are as follows:

B. Overriding Considerations

The final EIS/EIR identifies several potential significant adverse impacts that would result from adopting the Project, and identifies avoidance and mitigation measures to reduce most of these impacts to a less than significant level. Even with the implementation of these measures, however, there will remain unavoidable significant adverse impacts associated with aesthetics and visual resources, recreation, and cultural resources. With respect to aesthetics and visual resources, and recreation, the Oasis Springs Lodge is located 200 feet from the Inskip Diversion Dam/South Powerhouse Project site. Under the previous owner, the Oasis Springs Lodge provided fishing and hunting opportunities on a 4,000 acre ranch, which included a 12,000 square-foot structure housing up to 22 visitors.

Construction of tailrace connectors, new fish screens and fish ladders, and associated facilities would reduce scenic quality at the Oasis Springs Lodge. Short-term visual impacts occur from the use and storage of construction equipment. The access road will permanently alter the viewscape. Mitigation Measure 30 provides for immediate revegetation and other measures around the new access road to the Inskip Dam that will reduce visual impacts. Mitigation Measure 32 limits the time when construction activities may occur. Additional Mitigation Strategies which are modeled on those found in Appendix A of the CALFED Bay-Delta Program Record of Decision (CALFED Programmatic Mitigation) require concealment of exterior light and other visually obtrusive construction features. Even with implementation of these measures, there will remain unavoidable significant visual impacts near the Oasis Springs Lodge.

Construction activities at Inskip Diversion Dam could reduce recreational opportunities at Oasis Springs Lodge. Mitigation Measure 40 provides advance notice to the property owner before construction begins. It also provides for continued collaboration between the parties to develop additional feasible mitigation. Additional mitigation strategies modeled on the CALFED Programmatic Mitigation provide additional actions to reduce impacts to recreation. Though the mitigation will reduce impacts to recreation at the Oasis Springs Lodge, there will remain some unavoidable, short-term impacts on recreation.

Coleman Diversion Dam and Wildcat Diversion Dam, which are considered historic properties under Section 106 and historical resources for the purposes of CEQA, will be removed. Implementation of the SHPO MOA actions as provided in Mitigation Measure 43 will reduce the impact of these dam removals on historical resources. However, removal is irrevocable.

Environmental and Technical Considerations

Within the past century, anadromous salmonid fish species in the Sacramento River system have declined due to the loss and degradation of spawning habitat as a result of changes in hydrologic regimes caused by water management for flood control, irrigation, and hydropower production. There have been several legislative mandates, both Federal and state, which establish objectives for protecting, restoring and enhancing naturally produced populations of salmon and steelhead in the upper Sacramento River basin through a variety of comprehensive actions. Both the Federal and state plans include restoring habitat in Battle Creek via modifying flow and facilities at PG&E's Battle Creek Project. The opportunity to restore uniquely valuable habitat in Battle Creek provides the ecological equivalent of the historic habitat now blocked by Shasta Dam where the geology and hydrology is similar to Battle Creek. The Sacramento River below Shasta Dam is not drought resistant. By restoring the most drought resistant spawning and rearing habitats in Battle Creek the Restoration Project provides one of the best options to facilitate growth and recovery of naturally produced anadromous salmonids in the Sacramento River and its tributaries. These salmonids include Central Valley spring-run Chinook salmon (state- and federally-listed as threatened), Sacramento River winter-run Chinook salmon (state- and federally-listed as endangered), and Central Valley steelhead, federally listed as threatened. The Project will modify PG&E's hydroelectric facilities and operations to enable safe passage for naturally produced salmonids and facilitate salmonid growth and recovery in the Sacramento River and its tributaries. The selected alternative best meets the Project objective to restore salmon and steelhead habitat in a manner that minimizes the loss of clean and renewable energy produced by the Battle Creek Hydroelectric Project. Mitigation is identified and will be implemented to substantially reduce the impacts from the Project to the Oasis Springs Lodge to the extent possible. Two of the three impacts are not permanent, and there remains the opportunity to collaborate on further measures to reduce the long-term visual impact.

In addition, as set forth under Impact 4.8-1, Outfitters Properties requested an alternative configuration at the Inskip Diversion Dam project site which they believed would reduce their aesthetic impacts by eliminating the necessity of an access road in the Oasis Springs Lodge viewshed and reduce potential noise impacts by reducing access on their property for construction traffic. However, based on substantial evidence in the record, a south side Inskip screen and ladder alternative was eliminated during Project development as infeasible for biological, technological, and economic reasons. These factors included potential blunt trauma to juvenile fish which could occur from the changed and increased water velocities needed for a south side fish screen and greater adverse environmental impacts including, but not limited to, the increased need to excavate in an environmentally sensitive area for a south side facility because

of a steep canyon and the increased need to grade and disturb soil in order to build an alternative access road configuration and large bridge.

Lastly, the significant impacts to Cultural Resources by removing the historical dams, as set forth under Impact 4.15-1, cannot be avoided because the dams are fish migration barriers which must be removed in order to help achieve the Project's purpose of providing reliable fish passage.

Economic Considerations

As set forth under Section 4.14, Recreation, even with implementation of mitigation, construction of the Battle Creek project could have some significant adverse impacts on existing recreational opportunities, particularly at the Oasis Springs Lodge located near the Inskip reach. The Oasis Springs Lodge currently stocks the creek with non-resident trout. Once, the South Fork of Battle Creek is considered "anadromous waters" non-resident trout can no longer be stocked. However, it is important to note that this portion of Battle Creek will be considered anadromous water regardless of whether a new Inskip Diversion Dam ladder is constructed as part of the Battle Creek Project or the existing ladder is re-opened as per the current FERC license.

In the long term, implementing the Project would also result in increased flows in portions of both North Fork and South Fork Battle Creek. These increased flows could result in beneficial impacts on recreational activities associated with using the creek for kayaking and rafting. In addition, after flows increase and new fish ladders and screens are constructed, populations of economically important resident fish species are expected to increase in the Inskip and South reaches of Battle Creek. The increased flows and improved fish passage would likely result in a substantially increased population of native resident and anadromous trout within the first 2 years, and resident populations would likely reach their full potential within 5 years. It is also expected that the size of native resident and anadromous trout would also increase in the upstream reaches of both forks as more habitat is made available.

This increased fish population could benefit recreational industries by providing more abundant and larger trout, which would result in higher catch rates. In return higher catch rates may result in the creation of more fishing clubs, guide services, and commercial fisheries. As a result, increased fish populations could contribute to an increase in the number of people fishing in the area. Information on the current number of people fishing in the Battle Creek area is not available; therefore, the increased use of Battle Creek could not be quantified. While the number of people fishing in the area may increase, all commercial and sport fishing would continue to operate under strict fishing regulations until species listed under federal and state endangered species statutes have fully recovered and applicable fishing regulations have been modified. Fishing would also

continue to be in compliance with the applicable DFG fishing regulations. While no change in fishing regulations would result directly from the implementation of the Project, increased sport fishing opportunities are consistent with the goals of the California Fish and Game Commission. (see Final EIR/S page 4.14-14 and 4.14-15.)

Legal Considerations

As set forth under Aesthetic and Visual Impacts, DFG, Reclamation and PG&E have tried to, and are continuing to try to, work with the landowner to reduce aesthetic and visual, noise, and recreational impacts at the Oasis Springs Lodge. Specifically, Mr. Val Vaden, of Outfitters Properties LLC, owners of the Oasis Springs Lodge was asked for his preference as to work windows and the locations of construction staging areas. In addition, he was asked to provide access to a landscape architect who could provide further refinements on aesthetic mitigation by evaluating the viewshed from the perspective of the Oasis Springs Lodge. Mr. Vaden has not provided answers to these specific questions and has refused access to the Oasis Springs Lodge property for this purpose. Therefore, by asserting an alleged legal right to bar persons from the property for the purpose of evaluating mitigation refinements, Outfitters Properties has made such further refinements technically infeasible.

Social Benefits

A restored ecosystem will not only benefit species of concern, but will also help achieve societal goals. Restored habitats will provide for human uses and appreciation, such as enhanced recreation, aesthetics, scientific study, and other non-consumptive uses.

Conclusion

DFG, using independent judgment and analysis, believes that the important environmental, technical, economic and societal benefits described above will be derived from implementation of the Project. These benefits, when weighed against the adverse impacts from taking no action and as compared to the existing environment, override the significant unavoidable adverse impacts of the Project.

DFG has balanced these considerations against the various unavoidable environmental impacts of the Project and concludes that the benefits which will be derived from the implementation of the Project outweigh those impacts.

DFG therefore finds that these impacts are acceptable due to the overriding concerns described above and all of the environmental trade-offs involved in this course of action. DFG concludes that the proposed Project, with the mitigation

measures and strategies adopted, above, as part of the Findings, should be funded.

ACRONYMS

The following list of acronyms or abbreviations commonly used in these Findings is provided for ease of reference:

BMP – Best Management Practices
CALFED – CALFED Bay-Delta Program
CEQA – California Environmental Quality Act
CVRWQCB – Central Valley Regional Water Quality Control Board
DFG – California Department of Fish and Game
EFH – Essential Fish Habitat
EIS/R – Environmental Impact Statement/Environmental Impact Report
FERC – Federal Energy Regulatory Commission
HMMP – Habitat Mitigation and Monitoring Plan
MBTA – Migratory Bird Treaty Act
NCNCR – Northern California North Coast Region of DFG
NEPA – National Environmental Policy Act
NMFS – National Oceanic and Atmospheric Administration, National Marine Fisheries Service
NPDES – National Pollutant Discharge Elimination System
PG&E – Pacific Gas and Electric Company
Reclamation – U.S. Department of Interior, Bureau of Reclamation
SCAQMD – Shasta County Air Quality Management District
SHPO – State Historic Preservation Officer
SOP – Specific Operating Procedures
State Water Board – State Water Resources Control Board
SWPPP – Storm Water Pollution Prevention Plan
TCAPCD – Tehama County Air Pollution Control District
USFWS – United States Fish and Wildlife Service
VELB – Valley Elderberry Longhorn Beetle