

U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in

or may be Affected by Projects in the

BALLS FERRY (628B)

U.S.G.S. 7 1/2 Minute Quad

Database last updated: April 29, 2010

Report Date: June 7, 2011

Listed Species

Invertebrates

Branchinecta conservatio

Conservancy fairy shrimp (E)

Branchinecta lynchi

Critical habitat, vernal pool fairy shrimp (X)

vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus

valley elderberry longhorn beetle (T)

Lepidurus packardi

Critical habitat, vernal pool tadpole shrimp (X)

vernal pool tadpole shrimp (E)

Fish

Acipenser medirostris

green sturgeon (T) (NMFS)

Hypomesus transpacificus

delta smelt (T)

Oncorhynchus mykiss

Central Valley steelhead (T) (NMFS)

Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha

Central Valley spring-run chinook salmon (T) (NMFS)

Critical Habitat, Central Valley spring-run chinook (X) (NMFS)

Critical habitat, winter-run chinook salmon (X) (NMFS)

winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Rana draytonii

California red-legged frog (T)

Plants

Orcuttia tenuis

Critical habitat, slender Orcutt grass (X)

slender Orcutt grass (T)

Candidate Species

Birds

Coccyzus americanus occidentalis

Western yellow-billed cuckoo (C)

Key:

- (E) *Endangered* - Listed as being in danger of extinction.
- (T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
- (P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the [National Oceanic & Atmospheric Administration Fisheries Service](#). Consult with them directly about these species.
- *Critical Habitat* - Area essential to the conservation of a species.

- (PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
- (C) *Candidate* - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) *Critical Habitat* designated for this species



United States Department of the Interior

FISH AND WILDLIFE SERVICE



Coleman National Fish Hatchery Complex
24411 Coleman Fish Hatchery Road
Anderson, CA 96007
Phone: 530.365.8622 FAX 530.365.0913

August 8, 2011

Ms. Maria Rea
Supervisor, Sacramento Area Office
National Marine Fisheries Service
650 Capitol Mall, Suite 8-300
Sacramento, CA 95814-4706

Subject: Request For Letter of Concurrence and Informal Consultation Under Section 7 of the Endangered Species Act for the Coleman National Fish Hatchery Complex's Barrier Weir Site Modifications Project

Dear Ms. Rea:

The Bureau of Reclamation (Reclamation), in cooperation of the U.S. Fish and Wildlife Service (Service) proposes to lead the implementation of several construction actions including modification of the existing barrier weir overshot gate and the construction of a visitor viewing platform at the Service's Coleman National Fish Hatchery Complex, located in Anderson, CA. All proposed construction work is located and physically associated with the recent (2008) Barrier Weir Modification project. The proposed action would begin in 2012 and would be completed by the end of September 2012. All in-water work would be completed within a work window of June 1-September 30. Enclosed is a Biological Assessment (BA) to initiate informal consultation under Section 7(a)(2) of the Endangered Species Act (ESA) for this construction work.

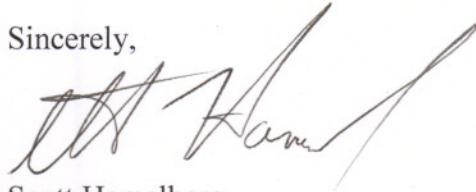
As described in the enclosed BA, the proposed action will have no effect on the following ESA-listed species: Sacramento River winter-run Chinook salmon ESU (*Oncorhynchus tshawytscha*), and the Southern DPS of North American Green Sturgeon (*Acipenser transmontanus*). The proposed action may affect, but is not likely to adversely affect, the following ESA-listed species: California Central Valley steelhead (*O. mykiss*) Distinct Population Segment (DPS), Central Valley spring-run Evolutionarily Significant Unit (ESU) Chinook salmon (*O. tshawytscha*). Further, the proposed action will have no effect on designated green sturgeon habitat and may affect, but is not likely to adversely affect, designated critical habitat for listed salmonids. Consideration is also given to Central Valley fall/late-fall Chinook salmon as a federal species of concern. I request your

concurrency with our determinations, and hereby request informal consultation under Section 7 of the ESA.

Additionally, it is determined that the proposed project is not likely to impact or significantly diminish or disrupt Essential Fish Habitat (EFH) for Pacific salmon inhabiting Battle Creek. The direct impact to EFH would consist of the temporary loss (availability) of habitat for the time period that the cofferdams are in place.

If you have any questions or require additional information, please contact me by telephone at (530) 365-8622 or by e-mail at scott_hamelberg@fws.gov. Thank you for your assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Hamelberg", written in a cursive style.

Scott Hamelberg
Project Leader

Enclosure –Biological Assessment

cc: Ms. Naseem Alston, National Marine Fisheries Service
Mr. Matthew Kelley, U.S. Army Corps of Engineers
Mr. Tom Kisanuki, U.S. Bureau of Reclamation
Mr. Jim, Smith, USFWS, Red Bluff, CA
Mr. Dan Castleberry, USFWS, Sacramento, CA
Mr. Robert Clarke, USFWS, Sacramento, CA
Mr. Mike Berry, CDFG, Redding, CA



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

September 29, 2011

In response refer to:
2011/03560

Scott Hamelberg
U.S. Fish and Wildlife Service
Coleman National Fish Hatchery Complex
24411 Coleman Fish Hatchery Road
Anderson, California 96007

Dear Mr. Hamelberg:

This letter is in response to your letter of August 8, 2011, requesting section 7 consultation pursuant to the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*), with NOAA's National Marine Fisheries Service (NMFS). The U.S. Fish and Wildlife Service (USFWS) has determined that the proposed Coleman Barrier Weir Site Modifications project, in Shasta County, near Anderson, California, may affect, but is not likely to adversely affect, federally listed threatened Central Valley (CV) spring-run Chinook salmon (*Oncorhynchus tshawytscha*), or threatened California CV steelhead (*O. mykiss*), and their respective designated critical habitats. USFWS is requesting NMFS concurrence on this determination. The action area for the proposed project has been designated as Essential Fish Habitat (EFH) of Pacific salmon pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (MSA). This letter also serves as consultation under the authority of, and in accordance with, the provisions of the Fish and Wildlife Coordination Act of 1934 (FWCA), as amended.

USFWS project plans include five components: (1) modification of the Coleman Barrier Weir overshot gate; (2) increasing the height of the wasteway canal wall; (3) minor modifications to the old fish ladder, including pouring concrete slabs to cover existing openings, in conjunction with the modification of a trash rack on the upstream end of the old fish ladder; (4) construction of a visitor platform, 30 by 30 feet, immediately downstream of the barrier weir; and (5) minor modifications to existing infrastructure, including handrails and guardrails, and addition of metal ramps and walkways. For component (5), modifications would be performed outside of the Battle Creek channel, and will not be further described here as no potential impacts are expected.

Modification of the overshot gate (1) is needed in order to prevent fish from passing upstream, and involves the attachment of a steel, hinged weir panel attached to the top of the overshot gate. The overshot gate is approximately 1.7 feet in height by 10.5 feet in width. To allow workers to



safely access and install the hinged weir, a portion of the creek must be diverted away from the construction area. The addition of the hinged weir panel requires modification of the existing gate hoist to increase its capacity. The hoist work would take place during the gate modification behind the cofferdam or out of the water. A temporary cofferdam system will be installed to divert the creek away from the overshot gate area and direct the creek over the barrier weir. An estimate of 383 square feet may be temporarily impacted by installation and removal of this cofferdam. Flow depth during construction would be less than six feet and likely less than four feet. The cofferdam will be installed by placing a closely-spaced free-standing steel-support system and an impervious durable plastic fabric membrane. Workers will stand in the creek, or on a flotation device to perform deployment. A land-based crane or lifting equipment would be utilized for transportation of materials required for cofferdam assembly. This method of cofferdam (Portadam) is the most likely method to be used, a second type may be considered, which is a gravel-bag-style cofferdam. The gravel bags will consist of clean spawning gravel with a membrane in the front. Land-based lifting equipment would place the bags in the creek, stacked as wide and high as needed to achieve stability and freeboard. Workers would place a membrane on the face of the cofferdam and may similarly extend the membrane out into the water and apply additional bags to improve stability and the seal. Installation and removal would take one to two weeks, and modifications are expected to take two to three weeks, for a total of up to five weeks of this portion of the creek being diverted.

Constructing a new wasteway wall (2) is needed to prevent debris from entering and potentially damaging the existing wasteway and entrance to the ladder junction structures. The new wall would be constructed between the existing wasteway wall and the downstream right abutment area. Because this wall is in close proximity to the proposed new viewing platform, the new wasteway wall would be integrated with the vertical wall that supports the overhang for the viewing platform deck. The new wasteway wall would also be integrated with the existing 30-inch-diameter temporary wasteway diversion pipe. The top of the new wasteway wall would be set at the same elevation as the existing wasteway wall and south slab area to provide the same level of flood protection. Excavation will be required to construct the footing for this wall, which will need a cofferdam and dewatering system. This cofferdam and dewatering system will be incorporated with the construction needs of the viewing platform. As described above, either a Portadam or gravel-bag-style cofferdam will be used. Since the in-stream work will be performed in the low flow time of year, water levels held back are expected to be one to three feet in depth. This cofferdam and would take one to two weeks to install, by land-based crane, and would be in place for up to 60 days. The approximate dimensions of the cofferdam are 50 by 17 feet and would isolate a streambed area approximately 850 square feet in area.

The concrete cover component (3), installed over the old ladder, is needed to prevent debris from entering the old fish ladder and potentially damaging the bar rack that separates the old fish ladder from the mouth of the new fish ladder. This would require raising the existing creek side wall about two feet. The metalwork of the existing trash racks, bulkhead, and diffuser bars would be modified or replaced to accommodate the new configuration. Grating and ladders would be added to provide worker access to the new enclosed area and allow safe and efficient debris removal. These modifications would restore public access to prime viewing areas of the creek, and although the old fish ladder is located immediately adjacent to Battle Creek, the channel would not be disturbed by these actions.

The visitor platform (4) will be situated downstream of the barrier weir on the north bank of Battle Creek. The platform will be comprised of a concrete slab, 30 by 30 feet in dimension and supported by a concrete stem wall. As described above, the cofferdam for the wasteway wall also allows for placement of the visitor platform foundation. After the cofferdam is in position, the existing bank riprap and foundation materials will be excavated and temporarily stockpiled for reuse. The proposed viewing platform will be cantilevered eight feet over a vertical retaining wall. The edge of the platform will be positioned as close to the waterline as practicable, balancing the need for viewing, while minimizing temporary construction impacts to the creek. In addition to the platform, a new concrete path will be built to connect the viewing platform with the restored public access areas at the south slab area. All excavation, concrete, and fencing associated with this work would take place outside of the creek. Compacted backfill for the viewing platform may be obtained from the USFWS stockpile, from stream channel alluvium and bank materials, located 700 feet east of the barrier weir.

Species and life stages within the action area that may be affected include: (1) spring-run Chinook salmon adults may be affected by the project as the timing of their upstream migration is within the inwater work timing (June and into July). The Barrier Weir operations (allowing fish to pass upstream) continue until August 1, so spring-run Chinook salmon adults may continue to use the new ladder system up until its closure, although monitoring by USFWS show a decrease in passage after June, and by mid-July have generally only been observed in small numbers (personal communication, USFWS). At this site, the cofferdam and visitor platform work will not begin until August 1 or as early as mid-July if confirmation from USFWS monitoring demonstrate absence of adult spring-run Chinook salmon. Although adult spring-run Chinook salmon may be migrating upstream during this time, no harm is expected because passage will not be delayed or impeded as a result of the project construction. Once adult fish pass through the ladder system, they have been observed to move upstream quickly and not hold or spawn in the area in the project vicinity, so the only period with potential impacts is during the passage itself; (2) juvenile spring-run Chinook salmon and steelhead may continue to outmigrate during the inwater work timing, however downstream passage is so low during these months USFWS has ceased sampling during this time since 2005 (personal communication, USFWS). In addition, the total area that will be cofferdammed is estimated to be approximately 12 percent, leaving the remaining 88 percent open and unimpeded for downstream migration. Possible impacts to juvenile salmonids include temporary noise disturbance during cofferdam construction and removal (each cofferdam is expected to take one to two weeks for installation and removal). Juveniles are not expected to be rearing at the upstream cofferdam site (for the overshot gate construction) as water temperatures during the construction window are generally not within preferred range, and the desirable habitat features such as shade cover and natural banks that exist immediately adjacent, are not present. Juvenile salmonids are also not expected to be rearing in the immediate vicinity of the downstream cofferdam site (for the visitor platform construction), as water temperatures during the construction window are generally not within preferred range, and desirable habitat features such as shade cover and natural banks that exist immediately adjacent, are not present (the existing bank in the construction area consists entirely of rip rap). Any juvenile fish rearing in the general project area would be expected to temporarily avoid the area for adjacent suitable habitat during construction activities; and (3) steelhead adults may be migrating upstream in small numbers during the inwater work timing,

however, impacts would be avoided as described for spring-run Chinook salmon as passage will not be impeded.

Specific activities that may potentially impact listed species include: (1) dewatering inside the cofferdam - juvenile salmonids could be disturbed by noise, stranded or impinged during dewatering inside of cofferdam, however juvenile spring-run Chinook salmon are not expected during the construction timing, and juvenile steelhead are not expected to be rearing in the immediate vicinity of either cofferdam site. Out-migrating juvenile salmonids are also not expected to be in the area of the cofferdam, both based on estimates on juveniles migrating in the area discussed above and the likelihood that any out-migrating salmonids are likely to utilize the center of the channel, rather than the margins that are being dewatered. In addition, a biologist will be inspecting the area prior to cofferdam installation, and before dewatering to ensure no salmonids are present; (2) obstruction and/or interference of adult salmonid entry into the fish ladder – the project will not affect the normal open period of the ladder, so no impacts to adult upstream migration is expected; (3) increased sedimentation or erosion impacting water quality, redds, eggs, and rearing juveniles – timing of construction avoids steelhead spawning and spring-run Chinook salmon spawn far upstream of the action area. Additionally, best management practices will be implemented to minimize and avoid impacts; (4) accidental spill of construction-related or hazardous materials – as above, best management practices will minimize and avoid the potential for materials to enter the creek; and (5) noise and vibration disturbance from heavy equipment operations – overall, noise generated by construction activities is expected to be minimal, such that fish may temporarily avoid the area, but no other impact is expected.

Endangered Species Act (ESA) Section 7 Consultation

Based on our review of the proposed project and the best scientific and commercial information currently available, NMFS concurs with your determination that the proposed Coleman Barrier Weir Site Modifications project may affect, but is not likely to adversely affect, listed anadromous fish or any of their designated critical habitat. The potential for adverse effects is discountable and not expected to reach the level where take will occur based on the incorporation of the following measures into the project description and for the following reasons:

1. Preventing accidental spill of construction-related or hazardous materials
 - Implementation of a Spill Prevention, Control, and Countermeasure Plan
 - All materials used for construction of in-channel structures must meet applicable state and federal water quality criteria. Avoid or minimize the use of such materials that are deleterious to aquatic organisms.
 - Discharges from controllable sources of pollutants shall be conducted in a manner that complies with water quality objectives designated by the Regional Water Quality Control Board (RWQCB) for the maintenance of salmon and steelhead in designated habitats (in-channel and near-channel construction activities).
 - Soils contaminated with fuels or chemicals will be disposed of in a suitable location to prevent discharge to surface waters.
 - Temporary cofferdams will be used to separate construction areas from flowing waters.

- On-site fuels or other hazardous materials will be placed or contained in an area protected from direct runoff.
- If hazardous materials are accidentally released, appropriate state and federal agencies will be notified immediately.
- Concrete delivery and transfer equipment will be washed in contained areas protected from direct runoff until the material sets.
- Equipment and machinery coming in contact with water will be inspected daily and completely free of grease, oil, petroleum products, or other nonnative materials. This project is not reasonably expected to release oil and oil products into Battle Creek.

2. Preventing/minimizing increased sedimentation or erosion

- Monitor water quality for turbidity and settleable materials according to the RWQCB Section 401 Water Quality Certification standard conditions.
- Cofferdams will be constructed in a manner that will avoid or minimize sediment discharges. Methods may include, but not be limited to, the use of clean/washed spawning-sized gravel, riprap placement, and geotechnical fabric. Temporary sediment control measures will be located at disturbed areas to prevent sediment from entering Battle Creek. These measures will be kept in place until disturbed areas are stabilized.
- Disturbed soils will be sprayed with water to minimize wind erosion or dust during construction.
- Interim measures to control erosion and sedimentation over winter will include BMPs. The long-term plan is to seed disturbed and new areas. Methods may include, but not be limited to, the use of mulch, straw wattles, and silt fences.
- At the conclusion of the project, disturbed soils will be stabilized and revegetated using BMPs. To the greatest extent possible, disturbed soils will be reseeded or replanted with native plant species.
- BMPs will be monitored after project completion and necessary repairs conducted so that disturbed areas are adequately stabilized similar to pre-project conditions.
- Decant waters will meet RWQCB permit criteria prior to discharge into Battle Creek. Excavated materials will be stored using BMPs as required by RWQCB.

3. Minimize disturbance to spawning and rearing habitat

- All in-stream construction work will be completed during the period of lower creek flow, June 1 to September 30. This time frame avoids steelhead spawning, emerging salmonid fry, majority of adult salmonid upstream migration, spring-run juvenile out-migration. Spring-run Chinook salmon spawning habitat is located far upstream of the action area and is not expected to be impacted.
- A short time frame will be used for the installation and removal of cofferdams, coupled with the unlikelihood of salmonid presence in the cofferdam areas when cofferdams are installed or removed.
- More suitable rearing habitat is immediately adjacent to the areas that will be behind the cofferdams; areas subject to dewatering within the cofferdams are not likely to be rearing locations during the project activities.
- Avoid or minimize channel modifications in important natural, rearing, and migratory habitats that may result in habitat degradation and diminished habitat connectivity.

- Compensate for adverse impacts on habitats by in-kind, on-site replacement of habitats and their functional values.
4. Minimize or avoid potential for delay or disturbance to upstream adult migration and juvenile out-migration
- Passage will remain open and unimpeded for upstream migrating adults and downstream migrating juveniles.
 - The proximity of the lower cofferdam (for visitor platform construction) was designed to be of sufficient distance to the upstream fish ladder to allow for continual, unimpeded passage.
 - The total cofferdammed area leaves 88 percent of the width of the creek open for continual juvenile outmigration at the project site.
 - All in-stream construction work will be completed during the period of lower creek flow, June 1 to September 30. This time frame avoids most spring-run juvenile out-migration.
 - A short time frame will be used for the installation and removal of cofferdams, coupled with the unlikelihood of salmonid presence in the cofferdam areas when cofferdams are installed or removed.

This concludes informal consultation for the proposed project. Re-initiation of consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (2) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered; or (3) a new species is listed or critical habitat designated that may be affected by the action.

The proposed Coleman Barrier Weir Site Modifications project also requires a U.S. Army Corps of Engineer (Corps) permit (SPK-2005-00631). The Corps has designated USFWS as the lead Federal agency for this project. This letter of concurrence to USFWS that the proposed project is not likely to adversely affect listed species analyzes the effects of the proposed project on federally listed species, and therefore satisfies the Corps' requirement to consult with NMFS under section 7 of the ESA of 1973, as amended (16 U.S.C 1531 *et seq.*).

EFH Consultation

The action area has been identified as EFH for Pacific Salmon in Amendment 14 of the Pacific Salmon Fishery Management Plan pursuant to the MSA. Federal action agencies are mandated by the MSA (Section 305[b][2]) to consult with NMFS on all actions that may adversely affect EFH, and NMFS must provide EFH conservation recommendations back to those agencies (Section 305[b][4][A]). Based on our review of the material provided and the best scientific information available, NMFS has determined that the proposed action would adversely affect EFH for Pacific salmon. However, the proposed action includes adequate measures (described in the ESA section 7 consultation above) to avoid, minimize, or otherwise offset the adverse effects to EFH. Therefore, additional EFH conservation recommendations are not being provided at this time; and written response as required under section 305(b)(4)(B) of the MSA

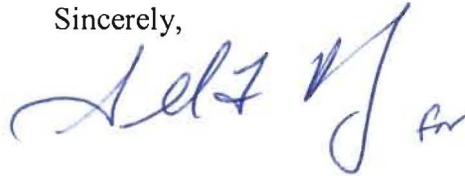
and Federal regulations (50 CFR 600.920(k)) will not be required. However, if there are substantial revisions to the proposed action that may adversely affect EFH, the lead Federal agency will need to re-initiate EFH consultation.

FWCA Consultation

The purpose of the FWCA is to ensure that wildlife conservation receives equal consideration, and is coordinated with other aspects of water resources development (16 U.S.C. § 661). The FWCA establishes a consultation requirement for Federal departments and agencies that undertake any action that proposes to modify any stream or other body of water for any purpose, including navigation and drainage (16 U.S.C. § 662(a)). Consistent with this consultation requirement, NMFS provides recommendations and comments to Federal action agencies for the purpose of conserving fish and wildlife resources. The FWCA provides the opportunity to offer recommendations for the conservation of species and habitats beyond those currently managed under the ESA and MSA. Because the proposed project is designed to minimize impacts to aquatic habitats and to improve holding, spawning, and rearing habitat conditions for aquatic species, NMFS has no additional FWCA comments to provide.

Please contact Ms. Naseem Alston at (916) 930-3655, or via e-mail at naseem.alston@noaa.gov, if you have any questions concerning this correspondence or require additional information.

Sincerely,

A handwritten signature in blue ink, appearing to read "Rodney R. McInnis".

Rodney R. McInnis
Regional Administrator

cc: Copy to file - AR# 151422SWR2005SA00838
NMFS-PRD, Long Beach, CA
Mr. Jim Smith, U.S. Fish and Wildlife Service, 10950 Tyler Road, Red Bluff, CA 96080
Mr. Tom Kisanuki, U.S. Bureau of Reclamation, 16349 Shasta Dam Boulevard, Shasta Lake, California 96019-8400
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Biological Assessment – Coleman Barrier Weir Site Modifications

Prepared by:

Bureau of Reclamation
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Coleman National Fish Hatchery Complex
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Chapter 1 Introduction

Project Background

The Department of the Interior, U.S. Fish and Wildlife Service (Service) and the Bureau of Reclamation are working cooperatively on a new project at the Fish Barrier Weir and Fish Ladder facility (Barrier Weir) at the Coleman National Fish Hatchery Complex (CNFHC), near Anderson, California, Shasta County (see Appendix I). This new activity is titled *Coleman Barrier Weir Site Modifications* (Project). Although this Project is a new development, several distinct components of this Project are related to a recent construction project at CNFHC, the Coleman National Fish Hatchery Fish Barrier Weir and Ladder Modification Project (Barrier Weir Project). The Barrier Weir Project was built in cooperation by the Service and Reclamation in 2008, which improved fish passage management capabilities at the previously existing fish barrier weir.

Following completion of the Barrier Weir Project in 2008, post construction evaluation demonstrated that the majority of the fish passage management objectives were being met by the newly constructed infrastructure including the main lipped section of the weir being shown to be successful at blocking Chinook salmon from migrating upstream. However, the overshot gate section failed to meet the desired goal of effectively blocking salmon from migrating over the weir (Null et al. 2011). Also, it was noted that debris was likely to deposit into the wasteway wall of the fish ladder structures during high water events.

Further, the recently completed Barrier Weir Project resulted in diminished viewing opportunities for the visiting public. Prior to the modification, the public had ample views of the salmon congregating at the barrier weir and the fish ladder entrance and Battle Creek. Post-project viewing conditions are very limited and are mostly obstructed by the new infrastructure.

Project Features

1. The first action is to modify the overshot gate in a manner that will more effectively prevent fish from passing upstream.
2. The second action is increasing the height of the wasteway canal wall. This action is necessary to prevent water-borne debris from entering into the adjacent concrete wasteway canal structure during periods of high flows in Battle Creek. This modification, called the Wastewater Wall, will be

constructed of concrete, and its sole purpose is to limit debris entry into the wasteway canal, which augments water flow at the mouth of the fish ladder.

3. The third action involves minor modifications to the recently built infrastructure associated with the Fish Barrier Weir Modification project. Existing handrails and guardrails will be either modified and/or replaced. The concrete capping of the open areas of the old fish ladder will be approximately 8 inches (in) higher than the surrounding concrete infrastructure. Therefore, metal ramps and walkways that are compliant with the Americans with Disabilities Act (ADA) will be placed to provide visitor access to the old fish ladder. Proposed improvements to handrails, guardrails, walkways, curbs, gratings, and ramps in the south slab area would be necessary to allow public access and be ADA compliant. These additions and modifications would restore public access to the original fish ladder facilities at the edge of Battle Creek. These proposed modifications would be performed outside the Battle Creek channel.
4. The fourth action involves minor modifications to the old fish ladder. Concrete slabs will be poured to cover existing openings of the old fish ladder, in conjunction with the modification of a trash rack on the upstream end of the old fish ladder. These features will help prevent fish entrainment through the top of the old fish ladder and prevent stream-borne debris from entering and clogging a bar rack, which separates the old fish ladder from the mouth of new fish ladder.
5. The fifth action at the CNFHC is the proposed construction of the visitor platform, a concrete platform approximately 30 by 30 feet (ft) to provide the visiting public with a direct view of the adult salmon, which congregate at the base of the barrier weir. The visitor platform additionally restores most of the fish viewing opportunities that were lost upon construction of the recent project. This new visitor platform will be situated immediately downstream and adjacent to the north side of the barrier weir and overhangs Battle Creek. The visitor platform restores the spectacular views of adult salmon in Battle Creek.

The purpose of this Biological Assessment (BA) for the Project is to assess the effects of the Project upon threatened, endangered, proposed, or sensitive species as well as their associated designated critical habitat and Essential Fish Habitat (EFH) that have the potential to be affected by the proposed action.

The Service is the lead federal agency for compliance with the federal Endangered Species Act (ESA) and is the federal colead for compliance with the National Environmental Policy Act (NEPA). Reclamation is the lead agency for project management, engineering design, and environmental compliance including the U.S. Army Corps of Engineers (USACE) 404 Permit and the California Regional Water Quality Control Board Clean Water Act permitting.

Reclamation is also the federal lead agency for NEPA compliance. This document constitutes the BA for the Project and is prepared in accordance with legal requirements set forth under section 7 of the ESA (16 U.S.C. 1536) and section 305 (b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

Chapter 2 Description of Proposed Action and Action Area

Proposed Action

Overshot Gate Modification

The modification of the overshot gate involves the attachment of a steel, hinged weir panel attached to the top of the overshot gate. The overshot gate is approximately 1.7 feet (ft) in height by 10.5 ft in width. The hinged weir panel matches the full width of the overshot gate and extends horizontally 24 inches (in) in a downstream direction to create an overhang when the overshot gate is in the raised position. When the overshot gate is lowered, the hinged weir panel is not held in the horizontal position but instead lowers under its own weight and the weight of overflowing water until it contacts the concrete apron, then lays flat on the apron due to the hinge arrangement. A new hoist and wire ropes that can handle the increased loading due to the extension will also be installed.

A vertical steel plate and support guides will also be mounted to the wall and apron that separate the overshot gate area from the barrier weir. The plate is necessary to eliminate an opening that might lead to unwanted fish passage when the overshot gate is lowered, and to protect the hinged weir panel from side flows. The guides are attached to the existing concrete by anchor bolts. A smooth, curved steel shield covers these bolts and all welds are ground smooth to ensure that there are no surfaces that could injure fish.

To allow workers to safely install the hinged weir panel and sidewall, a portion of the creek must be diverted away from the construction area. The facility does not have a bulkhead type of feature to isolate the area to allow the gate work to be performed safely. A temporary cofferdam (portadam) system would need to be installed to divert the creek away from the overshot gate area and direct the creek over the barrier weir to allow construction activities to occur. Up to 1,000 square feet (sq ft) of Battle Creek could be temporarily impacted by installation and removal of this portadam though only approximately 500 sq ft is expected. Battle Creek surface water levels will be dependent on the water year type though flow depth would be less than six feet and would likely be less than four ft during in-

water construction. The recent 2008 Barrier Weir project used the portadam system to isolate the work areas and divert the creek into a constructed side channel. For the present project, portadam would be used to divert surface water flow away from the construction area. This method consists of placement of a free-standing steel-support system and impervious fabric membrane. The frames are closely-spaced and interconnected to ensure stability, and the membrane is a durable plastic. To control the seepage that typically occurs under the membrane, the membrane is often extended out into the flow several feet and weighted with gravel bags to secure the membrane to the creek bottom and improve the seal. Workers stand in the creek, or on a flotation device, e.g. barge or boat, to perform the deployment. A land-based crane or other lifting equipment would be utilized for transportation of materials required for portadam assembly. Any water control measures that might be needed would comply with applicable CWA permits and requirements.

The second typical cofferdamming method involves a simple gravel-bag-style cofferdam, which would consist of clean spawning gravel (Trade name “Supersacks”) with a membrane in the front. A land-based crane or similar lifting equipment would place the bags in the creek in a stable configuration (stacked as wide and high as needed to achieve stability and freeboard). Workers would place a membrane on the face of the cofferdam and may similarly extend the membrane out into the water and apply additional bags to improve stability and the seal. Any water control measures that might be needed would comply with applicable CWA permits and requirements.

To more thoroughly dewater the work area immediately adjacent to the gate, a second line of sandbags or a temporary bulkhead device consisting of angles attached to the concrete wall and floor that would support a barrier panel may be installed after the main cofferdam is in place. Any water control measures that might be needed would comply with applicable CWA permits and requirements. The addition of the hinged weir panel requires modification of the existing gate hoist to increase its capacity. The hoist work would take place during the gate modification behind the cofferdam or out of the water. The cofferdam would be installed and removed by a land-based crane. Installation and removal would take 1 to 2 weeks. The modifications to the structure may only take 2 to 3 weeks to perform, so the cofferdams would be in and out of Battle Creek fairly quickly.

Wasteway Wall

To prevent debris from entering and potentially damaging the existing wasteway and entrance to the ladder junction structures, a new wasteway wall would be constructed between the existing wasteway wall and the downstream right abutment area. Because this wall is in close proximity to the proposed new viewing platform, the new wasteway wall would be integrated with the vertical wall that supports the overhang for the viewing platform deck. The new wasteway wall would also be integrated with the existing 30-inch-diameter

temporary wasteway diversion pipe. The top of the new wasteway wall would be set at the same elevation as the existing wasteway wall and south slab area to provide the same level of flood protection.

Excavation would be required to construct the footing for this wall and extends deep enough that a temporary cofferdam and dewatering system would need to be installed to separate the area from Battle Creek and allow the work to be performed in the dry. This cofferdam and dewatering system would be incorporated with a common system needed for the viewing platform construction. Because the in-stream work would be performed in the low flow time of year, the water level to be held back is in the 1- to 3-foot depth range.

As described above, a Portadam method or a simple gravel-bag-style cofferdam would be used. A limited amount of the existing riprap would be temporarily removed to provide adequate foundation for the frames or gravel bags and to minimize the amount of under-seepage that would need to be handled. This cofferdam would take 1 to 2 weeks to install and would be in place for up to 60 days. Water from cofferdam and foundation seepage would be controlled by several possible means. Pumps placed in gravel-filled trenches and sumps that collect and lower water levels are typical methods. Water collected would be pumped to treatment facilities before being allowed to be discharged back into Battle Creek. The approximate dimensions of this cofferdam are 50 by 17 ft and would isolate a streambed area approximately 850 sq ft in area. The cofferdam would be installed and removed by a land-based crane. Any water control measures that might be needed would comply with applicable CWA permits and requirements.

Visitor Access and ADA-Compliance Actions

The existing concrete infrastructure will undergo actions such as the replacement and/or modifications of guardrails and handrails, placement of steel ramps, and walkways. The existing guardrails do not meet contemporary standards for public visitors (typically no openings greater than 4 in).

The step between the south slab and the new concrete cover would be fitted with removable ADA-compliant metal ramps and platforms and handrails as previously described. These modifications serve to improve access to the public.

Concrete Cover and Trash Rack for Old Fish Ladder

To prevent debris from entering the old fish ladder and potentially damaging the bar rack that separates the old fish ladder from the mouth of the new fish ladder, a reinforced concrete cover would be installed over the ladder. This would require raising the existing creek side wall about 2 ft. The metalwork of the existing trash racks, bulkhead, and diffuser bars would be modified or replaced to accommodate the new configuration. Grating and ladders would be added to provide worker access to the new enclosed area and allow safe and efficient debris removal. Repositioning of guardrails and a step between the south slab and the new concrete cover would be fitted with removable ADA-compliant metal ramps,

platforms, and handrails. These modifications would restore public access to prime viewing areas. Although the old fish ladder is located immediately adjacent to Battle Creek, the active Battle Creek channel would not be disturbed by these actions.

Visitor Platform

The visitor platform is situated downstream of the recent Project area, on the north bank of Battle Creek. The platform is comprised of a concrete slab, 30 by 30 ft in dimension and supported by a concrete stem wall. The visitor platform will be ADA compliant.

As described, the cofferdam for the wasteway wall construction also allows for placement of the visitor platform foundation. After the cofferdam is in position, the bank riprap and foundation materials would be excavated and temporarily stockpiled for reuse. The proposed viewing platform would be cantilevered 8 ft over a vertical retaining wall. The edge of the platform would be positioned as close to the waterline as practicable, balancing the need for viewing, while minimizing temporary construction impacts to the creek. Once the excavation, concrete placements, and riprap replacement for the platform and wasteway wall are completed to above the waterline, the cofferdam and dewatering systems would be removed.

A new concrete path would be built to connect the viewing platform with the restored public access areas at the south slab area. All excavation, concrete, and fencing associated with this work would also take place outside of the creek.

Access to the work sites would be by means of existing paved or graveled roads. Staging areas would be in sites used on the prior project or portions of CNFHC's existing equipment and materials storage yard adjacent to the work site. No grading or alteration of these areas would be performed. Compacted backfill for the viewing platform may be obtained from the Service stockpile, located 700 ft east of the barrier weir. The materials in stockpile are excess excavated materials from the 2008 project, which originated from stream channel alluvium and bank materials. Alternatively, the compacted backfill materials may be imported from approved sources of clean fill.

Construction Schedule

The Project construction will commence and be completed during 2012. The contractor will have discretion, with Service concurrence, to sequence the Project activities. However, all in-stream construction will take place during the specified in-stream construction window between June 1 and September 30, 2012, inclusive. The anticipated Project completion date is September 30, 2012.

Action Area

The Project is located within the CNFHC, near Anderson, California, in Shasta County, on the north bank of Battle Creek, a tributary to the Sacramento River. Specifically, the Project will occur at the CNFHC fish ladder and barrier weir facility, which is situated on the north (right) bank of Battle Creek (see Appendix II). CNFHC is located on a relatively flat parcel of land, approximately 3 miles east of the Sacramento River and 20 miles southeast of the city of Redding. Battle Creek provides surface water supply for the CNFHC. The discharge of Battle Creek is regulated above CNFHC by Pacific Gas and Electric Company's hydroelectric power plants, reservoirs, and diversions. The rolling foothills of the Cascade Range surrounds CNFHC to the north and south, with peaks ranging from 1,000 to 2,700 ft mean sea level. Small valleys and sharp breaks in the land are produced by numerous seasonal streams draining the area. Battle Creek flows through a valley from the east to the west along the south edge of the hatchery property. Battle Creek enters the Sacramento River 5 river miles to the west of CNFHC.

CNFHC is operated by the Service and is cited on 75 acres and was established in 1942 to mitigate for the habitat loss after the construction of Shasta and Keswick Dams, which were major features of the Central Valley Project. CNFHC is known as the largest salmonid hatchery in the United States. CNFHC also administers the Livingston Stone National Fish Hatchery, which is located at the base of Shasta Dam on the Sacramento River.

Long-term annual production goals for CNFHC are as follows:

- 12,000,000 fall Chinook salmon
- 1,000,000 late-fall Chinook salmon
- 250,000 winter-run Chinook salmon
- 600,000 steelhead trout

Chapter 3 Status of Federally Listed Species and Designated Critical Habitat

Listed Fish Species in Battle Creek

Battle Creek supports the following anadromous fish species: Chinook salmon (*Oncorhynchus tshawytscha*), Pacific lamprey (*Lampetra tridentata*), and steelhead (*O. mykiss*). There are three runs of Chinook salmon in Battle Creek: fall run, late-fall-run, and spring run. A population of Winter-run Chinook salmon does not currently exist in Battle Creek.

The federally listed fish species and associated critical habitat which occur in Battle Creek, and therefore could potentially be impacted by the Project, are the spring-run Chinook salmon; Central Valley (CV) spring-run Chinook salmon Evolutionarily Significant Unit (ESU); and steelhead, California Central Valley Distinct Population Segment (DPS). Green sturgeon (*Acipenser transmontanus*) are federally listed as the Southern DPS of North American green sturgeon and occur in the mainstem Sacramento River, but this species is not known to occur in Battle Creek. While Winter- run Chinook salmon are not expected in Battle Creek, impact on critical habitat is considered

Life-History Information on Chinook Salmon in the Project Area

The current status of salmonid populations, their critical habitat, and EFH is contained in two primary documents: the *Battle Creek Salmon and Steelhead Restoration Plan*, and the *Battle Creek Salmon and Steelhead Restoration Project Draft Action Specific Implementation Plan (2005, 2006)*. Information contained in these documents were further collaborated and refined by personal communications with Mike Berry (Fishery Biologist, California Department of Fish and Game), Matthew Brown (Fishery Biologist, Service, Red Bluff), and Scott Hamelberg (Project Leader/Fishery Biologist, Service, CNFHC) during the development of the recent Barrier Weir Project.

Adult escapement data, provided by the Service, are from the fish trapping in the upstream ladder of the barrier weir, or from the CNFHC. The fish trap in the upstream fish ladder is monitored between approximately March 1 and August 1. Between March 1 and approximately late May, fish are trapped and directly handled and counted. Between approximately early June and August 1, fish are counted using videography. Beginning on August 1, current Battle Creek fishery management protocol calls for closure of the barrier weir fish ladder. Therefore, during August and September (approximately one-half of the in-stream construction window), upstream fish migration is blocked, and fish monitoring is discontinued, as called for by fishery management considerations. The fish ladder is opened again about October 1 as adults are handled for broodstock collection and spawning purposes at the CNFHC. Broodstock collection and spawning operations continues at CNFHC until the end of February. Juvenile outmigration data are derived from a Service rotary screw trap located approximately 100 yards upstream of the barrier weir.

Status of Sacramento River Winter-Run Chinook Salmon

Sacramento River winter-run Chinook salmon originally were listed as threatened in August 1989 under emergency provisions of the ESA and formally listed as threatened in November 1990 (55 FR 46515). The ESU designation by National Oceanic and Atmospheric Administration, National Marine Fisheries Service, (NOAA Fisheries) consists of only one population that is confined to the upper Sacramento River in California's CV. The ESU was reclassified as endangered on January 4, 1994 (59 FR 440) due to increased variability of run sizes, expected weak returns as a result of two small year classes in 1991 and 1993, and a 99-percent decline between 1966 and 1991. NOAA Fisheries reaffirmed the listing of Sacramento River winter-run Chinook salmon as endangered on June 28, 2005 (70 FR 37160). Winter-run Chinook from the Livingston Stone National Fish Hatchery are included in the listed Sacramento River winter-run Chinook salmon population as of June 28, 2005 (70 FR 37160). NOAA Fisheries designated critical habitat for winter-run Chinook salmon on June 16, 1993 (58 FR 33212).

The designated critical habitat for Sacramento River winter-run Chinook salmon includes the Sacramento River from Keswick Dam, river mile (RM) 302 to Chipps Island (RM 0) at the westward margin of the Sacramento-San Joaquin Bay Delta (Delta); all waters from Chipps Island westward to Carquinez Bridge, including Honker Bay, Grizzly Bay, Suisun Bay, and Carquinez Strait; all waters of San Pablo Bay westward of the Carquinez Bridge; and all waters of San Francisco Estuary to the Golden Gate Bridge north of the San Francisco/Oakland Bay Bridge. Critical habitat for Sacramento River winter-run Chinook salmon contains specific areas that contain the primary constituent elements (PCE) and physical habitat elements essential to the conservation of the species. In the Sacramento River, critical habitat includes the river water column, river bottom, and adjacent riparian zone used by fry and juveniles for rearing. In the areas westward of Chipps Island, critical habitat includes the estuarine water column and essential foraging habitat and food resources used by Sacramento River winter-run Chinook salmon as part of their juvenile emigration or adult spawning migration.

Since 2007, a total of five adult winter-run Chinook salmon (adipose-fin-clipped hatchery-origin fish) have been observed at the barrier weir trap facility. These Livingston Stone NFH origin fish were sacrificed to afford tag extraction and no additional observations of adult winter-run Chinook salmon in Battle Creek have been noted since that time and natural production of winter-run Chinook salmon in Battle Creek at this time is not expected.

Juvenile out-migration monitoring is conducted by using a rotary screw trap located 100 yards upstream of the barrier weir. While no natural production of winter Chinook salmon currently occurs in Battle Creek, it is possible that juvenile winter Chinook salmon may use non-natal rearing habitats in Battle

Creek downstream of the barrier weir. However, due to lower creek flows and higher water temperatures during the in-water work window, non-natal rearing by winter Chinook salmon at the time is unlikely. Activities associated with the proposed Project may result in juveniles avoiding the immediate area of the cofferdams and general Project area. Juveniles that actively avoid the Project area would have opportunity to continue to reside in Battle Creek or migrate downstream. Juvenile fishes will be guided around the work area by cofferdams. Any juvenile fishes present in the project area prior to the installation of cofferdams would have opportunity to disperse from the Project area during the course of their installation.

Status of Central Valley Spring-Run Chinook Salmon

NOAA Fisheries listed the CV spring-run Chinook salmon ESU as threatened on September 16, 1999 (64 FR 50394). In June 2004, NOAA Fisheries proposed that CV spring-run Chinook salmon remain listed as threatened (69 FR 33102). This proposal was based on the recognition that, although CV spring-run Chinook salmon productivity trends are positive, the ESU continues to face risks from having a limited number of remaining populations (i.e., 3 existing populations from an estimated 17 historical populations), a limited geographic distribution, and potential hybridization with Feather River Hatchery (FRH) spring-run Chinook salmon, which until recently were not included in the ESU and are genetically divergent from other populations in Mill, Deer, and Butte Creeks. On June 28, 2005, after reviewing the best available scientific and commercial information, NOAA Fisheries issued its final decision to retain the status of CV spring-run Chinook salmon as threatened (70 FR 37160). This decision also included the FRH spring-run Chinook salmon population as part of the CV spring-run Chinook salmon ESU.

Critical habitat was designated for CV spring-run Chinook salmon on September 2, 2005 (70 FR 52488). Critical habitat for CV spring-run Chinook salmon includes stream reaches such as those of the Feather and Yuba Rivers, Big Chico, Butte, Deer, Mill, Battle, Antelope, and Clear Creeks, and the Sacramento River, bypass channels, and the Delta. Critical habitat includes the stream channels in the designated stream reaches and the lateral extent as defined by the ordinary high-water line. In areas where the ordinary high-water line has not been defined, the lateral extent will be defined by the bankfull elevation (defined as the level at which water begins to leave the channel and move into the floodplain; it is reached at a discharge that generally has a recurrence interval of 1 to 2 years on the annual flood series) (70 FR 52488). Critical habitat for CV spring-run Chinook salmon contains specific areas that contain the PCE and physical habitat elements essential to the conservation of the species.

The spring-run Chinook salmon population that currently exists in Battle Creek is at low levels. Monitoring conducted by the Service estimated escapement at

about 100 adult fish per year over the past several years. Adult escapement can begin as early as March, peaking in early May, and decreasing through June and July. Spawning occurs from mid-August through October, with a peak in late September. Adults hold and spawn far upstream of the barrier weir in reaches where water temperatures are cooler. Juvenile out-migration has averaged approximately 16,000 to 120,000 per year over the past several years. Peak juvenile out-migration is between December and February, but continues throughout the summer months of June through August.

The Service conducts juvenile monitoring operations in Battle Creek, and their datasets from 2005 and 2008 through 2010 years were used to estimate the number of juvenile spring-run Chinook salmon that could migrate during the 4-month in-stream work window. Within this dataset, the highest number (451) of juvenile spring-run Chinook salmon occurred in June 2010.

An average of 123 juveniles would occur in June (2005 and 2008 through 2010 datasets), 0 in July (2005 and 2010), 15 in August (2005 only), and 0 in September (2005 only). Therefore, based upon these data, we estimate that an average of 138 juvenile spring-run Chinook salmon will out-migrate past the Project site during the in-stream work window.

During the years of 2005 to 2010, adult spring-run Chinook salmon averaged 86, with a maximum of 141 during the in-stream work window. This data does not reflect adult monitoring during August and September. Due to likely unsuitable environmental conditions in the Project area in August and September (low flows and warm water temperatures), adult spring Chinook salmon are generally not expected to be present in the Project area at that time.

Status of Fall-Run Chinook Salmon

Fall-run Chinook salmon comprise the largest population of Chinook salmon in Battle Creek, and they have been intentionally restricted from passing upstream of the CNFHC barrier weir since 1989. During the past 5 years of record (2006 through 2010), an average of about 29,393 adult fall-run Chinook salmon returned to Battle Creek, of which an average of 20,721 were allowed to enter the CNFHC. The remaining fish were excluded from the hatchery and were mostly confined downstream of the CNFHC barrier weir. The abundance of fall-run Chinook salmon in Battle Creek was increasing during the 1993 through 2002 time period, but has subsequently declined.

Status of Late Fall-Run Chinook Salmon

Late-fall-run Chinook salmon comprise the second largest population of Chinook salmon in Battle Creek. During the past 5 years, an average of 3,623 adult late-fall-run Chinook salmon returned to the CNFHC. Only a small number of

unmarked, possibly natural-origin, late-fall-run Chinook salmon utilized Battle Creek. Hatchery-origin late-fall-run Chinook salmon are generally restricted from passing upstream of the CNFHC barrier weir; however, all natural-origin late-fall Chinook salmon encountered during hatchery broodstock collection are subsequently passed upstream to promote natural spawning in upper Battle Creek. An unknown, but small number of late-fall-run Chinook salmon also potentially pass upstream at the CNFHC barrier weir during high flow events. The number of late-fall-run Chinook salmon spawning naturally below the CNFHC barrier weir is unknown, but is presumed to be small.

Finally, during the in-stream construction window rotary screw trap monitoring shows low number of late-fall Chinook salmon out-migrants in response to low summer flows and suboptimal mean-daily water temperatures that range from 59.7°F (15.4°C) to 69.8°F (21.0°C) from 2000 to 2004.

Status of Central Valley Steelhead

Central Valley steelhead were originally listed as threatened on March 19, 1998 (63 FR 13347). This DPS consists of steelhead populations in the Sacramento and San Joaquin River Basins in California's CV. In June 2004, NOAA Fisheries proposed that CV spring-run Chinook salmon remain listed as threatened (69 FR 33102). On June 28, 2005, after reviewing the best available scientific and commercial information, NOAA Fisheries issued its final decision to retain the status of CV steelhead as threatened (70 FR 37160). This decision also included the CNFHC and FRH steelhead populations. These populations were previously included in the DPS but were not deemed essential for conservation and thus not part of the listed steelhead population. Critical habitat was designated for CV steelhead on September 2, 2005 (70 FR 52488).

Critical habitat for CV steelhead includes stream reaches such as those of the Feather and Yuba Rivers, Big Chico, Butte, Deer, Mill, Battle, Antelope, and Clear Creeks, and the Sacramento River, bypass channels, and the Delta. Critical habitat includes the stream channels in the designated stream reaches and the lateral extent as defined by the ordinary high-water line. In areas where the ordinary high-water line has not been defined, the lateral extent will be defined by the bankfull elevation (defined as the level at which water begins to leave the channel and move into the floodplain; it is reached at a discharge that generally has a recurrence interval of 1 to 2 years on the annual flood series) (70 FR 52488). Critical habitat for CV spring-run Chinook salmon contains specific areas that contain the PCE and physical habitat elements essential to the conservation of the species.

The steelhead population that currently exists in Battle Creek is comprised mostly of hatchery-origin fish and to a lesser extent natural-origin and resident rainbow trout. Resident rainbow trout are generically indistinguishable from anadromous steelhead. The majority of adult steelhead enters Battle Creek between September

and January, but adults have been observed at the Project area in August. Returning steelhead typically spawn between late December and early May. Steelhead juveniles are present and can out-migrate to the Sacramento River in every month of the year. However, out-migration is significantly reduced during the summer months due to high water temperatures.

Over the past 5 years (2007-2011), the annual average abundance of steelhead in Battle Creek, including hatchery and natural-origin fish, has been about 1,817 adults, of which only about 10 percent are estimated to be of natural origin. Based on baseline conditions, an average of 50 adults are expected to return to Battle Creek during the June and July time period (maximum = 81). In addition, over the past 5 years (2007 through 2011), the CNFHC documented an average of 34 natural-origin (315 average total combined natural-origin and hatchery fish) adult steelhead present in October.

For the purpose of this BA, to be conservative, it will be assumed that these adult fish noted as being present in October are present during September. Since there is no monitoring for adult steelhead during August and September, yet it is reasonable to assume that adult steelhead could be present at the project site in September, the October data is assumed to represent the number of adults that would occur in September. Based on this premise, an average of 365 adults (both hatchery origin and natural origin) would be expected to occur at the Project site during the June through September in-stream work window.

Based upon the Service rotary screw trap data collected during the years 2005 and 2008 through 2010, an average of 1,050 juveniles would migrate past the Project area during the 4-month in-stream work window. An average of 829 juveniles (2005 and 2008 through 2010) would occur in June, 206 in July (2005 and 2010), 0 in August (2005 dataset only), and 15 in September (2005 dataset only). The juvenile abundance during August and September are typically so low that the Service has not conducted sampling during these months since 2005.

CNFHC-origin steelhead and resident rainbow trout are part of the CV DPS.

Southern Distinct Population Segment of North American Green Sturgeon

The Southern DPS of North American green sturgeon was federally listed as threatened on April 7, 2006 (70 FR 17386) and includes the North American green sturgeon population spawning in the Sacramento River and utilizing the Sacramento River, the Delta, and the San Francisco Estuary. Green sturgeon are not known to occur in Battle Creek.

Primary Constituent Elements of Critical Habitat

Critical habitat is a specific geographic area that is essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery. PCE's are those physical and biological features of a habitat that a species needs to survive and reproduce. PCE's for Chinook salmon and steelhead within the Project area are described below.

Spawning Habitat

Freshwater spawning sites are those with water quantity and quality conditions and substrate supporting spawning, incubation, and larval development. Most spawning habitat in the CV for Chinook salmon and steelhead is located in areas directly downstream of dams containing suitable environmental conditions for spawning and incubation. Spawning habitat for Sacramento River winter-run Chinook salmon is restricted to the Sacramento River primarily between Red Bluff Diversion Dam (RBDD) and Keswick Dam. CV spring-run Chinook salmon also spawn on the mainstem Sacramento River between RBDD and Keswick Dam and in tributaries such as Battle, Mill, Deer, and Butte Creeks. Spawning habitat for CV steelhead is similar in nature to the requirements of Chinook salmon, primarily occurring in reaches directly below dams (i.e., above RBDD on the Sacramento River), throughout the CV. Spawning habitat has a high conservation value as its function directly affects the spawning success and reproductive potential of listed salmonids.

Freshwater Rearing Habitat

Freshwater rearing sites are those with water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility; water quality and forage supporting juvenile development; and natural cover such as shade, submerged and overhanging large wood, log jams, beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks. Both spawning areas and migratory corridors comprise rearing habitat for juveniles, which feed and grow before and during their out-migration.

Non-natal, intermittent tributaries also may be used for juvenile rearing. Rearing habitat condition is strongly affected by habitat complexity, food supply, and presence of predators of juvenile salmonids. Some complex, productive habitats with floodplains remain in the system, e.g., the lower Cosumnes River and Sacramento River reaches with setback levees (primarily located upstream of the city of Colusa). However, the channeled, leveed, and riprapped river reaches and sloughs that are common in the Sacramento-San Joaquin system typically have low habitat complexity, low abundance of food organisms, and offer little protection from either fish or avian predators. Freshwater rearing habitat also has a high conservation value as the juvenile life stage of salmonids is dependent on the function of this habitat for successful survival and recruitment.

Freshwater Migration Corridors

Ideal freshwater migration corridors are free of obstruction with water quantity and quality conditions and contain natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility, survival, and food supply. Migratory corridors are downstream of the spawning area and include the lower Sacramento River and the Delta. These corridors allow the upstream passage of adults and the downstream emigration of out-migrant juveniles. Migratory habitat condition is strongly affected by the presence of barriers, which can include dams, unscreened or poorly screened diversions, and degraded water quality. For successful survival and recruitment of salmonids, freshwater migration corridors must function sufficiently to provide adequate passage. For this reason, freshwater migration corridors are considered to have a high conservation value.

Estuarine Areas

Estuarine areas free of obstruction with water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions between fresh and salt water are included as a PCE. Natural cover such as submerged and overhanging large wood, aquatic vegetation and side channels are suitable for juvenile and adult foraging. Estuarine areas contain a high conservation value as they function as predator avoidance and as a transition to the ocean environment.

Chapter 4 Description of Environmental Baseline and Biological Requirements

Environmental Baseline

The environmental baseline used to assess effects of implementing the Project on federally listed species in this BA is defined as the existing, pre-project, environmental conditions (existing conditions). Existing conditions are the existing extent of habitats and abundance and distribution of covered species and includes the past and present effects of all actions and other human activities in the Project area, other than the Project-associated activities described in Chapter 3. Ongoing human activities that occur in the Project area include operation and maintenance of the CNFHC and livestock grazing. The status of covered species and their critical habitat is described in Chapter 3.

Impact Mechanisms

Impact mechanisms are the specific activities and results of those activities that will be undertaken to implement the Project that could affect covered species, including: accidental spill of construction-related or hazardous materials, increased sedimentation or erosion, stranding and/or impingement of fish during dewatering operations, spawning and rearing habitat disturbance, noise and vibration disturbance, and obstruction and/or interference of adult fish entry into the fish ladder and/or other impacts to fish migration or the migration corridor.

Methods to Assess Project-Related Effects

The primary method to assess the impacts of the proposed Project relied upon the known presence, distribution, and abundance of listed fish species in relation to the Project duration and intensity, and the Project's in-stream work window. The assessment also relied on the collective professional judgment and experience of various Service and Reclamation personnel involved in the planning and design of this Project.

Existing literature, discussions with professional fishery biologists, and examination of the 2005 and 2006 *Action Specific Implementation Plan* (Service, 2005 and 2006) documents for the barrier weir Project, its fish monitoring documents, and the institutional knowledge attained from post-project discussions with federal and state biologists provided information used to evaluate the environmental consequences of the Project on listed fish species and their habitat. This assessment addresses Project-specific construction-related effects and long-term effects. Construction-related effects are effects that occur during or shortly after construction, including potential spill of contaminants, input of fine sediment, direct injury to individual organisms, temporary impedance of movement, temporary disturbance of channel bank and bottom, and construction-related noise. Construction-related effects are generally of relatively short duration and affect a restricted area, and effects are not anticipated beyond the construction period.

Chapter 5 Effects of the Proposed Action on Federally Listed Fish Species and Designated Critical Habitat

This chapter describes the current status of each federally listed species and their associated critical habitat that could be affected by the Project. The effects of the Project on the species, Best Management Practices (BMP) and conservation

measures that will be implemented to avoid, minimize, and compensate for potential effect are identified.

Anadromous Salmonids

Current Status of Chinook Salmon and Steelhead in the Project Area

The current status of salmonid populations, their critical habitat, and EFH is contained in two primary documents: the *Battle Creek Salmon and Steelhead Restoration Plan*, and the *Battle Creek Salmon and Steelhead Restoration Project Draft Action Specific Implementation Plan*. As previously stated, prior to the recent Barrier Weir Project, information contained in these documents was further collaborated and refined by previous communications with various agency fishery biologists.

Adult escapement data provided by the Service are from the fish trapping in the upstream ladder of the barrier weir or from the CNFHC. The fish trap in the upstream fish ladder is monitored between approximately March 1 and August 1. Between March 1 and approximately late May, fish are trapped and directly handled and counted. Between approximately early June and August 1, fish are counted using videography.

Beginning on August 1, current Battle Creek fishery management protocol calls for closure of the barrier weir ladder. Therefore, during August and September (approximately one-half of the in-stream construction window) upstream fish migration is blocked and fish monitoring is discontinued, as called for by fishery management considerations. Monitoring begins again about October 1 as adults are handled for broodstock collection and spawning purposes at the CNFHC. Juvenile out-migration data are derived from a Service rotary screw trap located approximately 100 yards upstream of the barrier weir.

Project Impacts on Winter-Run Chinook Salmon

As previously stated, a population of winter Chinook salmon is not known to exist in Battle Creek. Monitoring conducted by the Service has documented an average of less than one adult fish per year over the last 10 years. While no natural production of winter Chinook salmon currently occurs in Battle Creek, it is possible that juvenile winter Chinook salmon may use non-natal rearing habitats in Battle Creek downstream of the barrier weir. Any juvenile fish present in the Project area prior to the installation of the cofferdams would have opportunity to disperse from the Project area during the course of their installation. However, due to lower creek flows and higher water temperatures during the in-water work window, non-natal rearing by winter Chinook salmon at the time is unlikely and has not been documented and therefore no impacts are expected on this species.

Project Impacts on Spring-Run Chinook Salmon

The spring-run Chinook salmon population that currently exists in Battle Creek is at low levels. Monitoring conducted by the Service estimated escapement at about 100 adult fish per year over the past several years. Adult migration can begin as early as March, peaking in early May, and decreasing through June and July. Spawning occurs from mid-August through October, with a peak in late September. Adults hold and spawn far upstream of the barrier weir in reaches where water temperatures are cooler.

The in-stream Project window (June 1 through September 30) coincides with the end of the adult return timing. Based on baseline conditions, from 2005 to 2010, an average of 86 (maximum = 141) spring Chinook adults were observed during the June 1 to September 30 in-stream construction window. Note that adult monitoring only occurs during the first two of the four construction months. The fish ladder at the barrier weir is closed August 1 through September 30, and spring-run Chinook salmon are not anticipated to be present in Battle Creek at the site of the barrier weir due to low flows and high water temperatures. Based upon this information, an average of 86 spring Chinook adults could be expected during the in-stream work window. Similarly, if the maximum abundance value is used, 141 adult fish may be present during the in-stream work window. During the months of the in-water work window when the upstream fish ladder is open (June and July), adult fish will be able to continue their migration upstream, as the Project will neither block nor impede passage through the fish ladder. Moreover, adult spring-run Chinook salmon do not spawn in the Project vicinity. Any disturbance caused by Project activities would be brief and of limited duration and the scope of the Project size and footprint and duration are such that impacts to adult spring-run Chinook salmon are not anticipated.

Juvenile spring Chinook salmon out-migration has averaged approximately 16,000 to 120,000 per year over the past several years. Peak juvenile out-migration is between December and February, but continues throughout the summer months of June through August. As discussed in Chapter 3, during the in-stream construction window, monitoring conducted by the Service has documented that an average of 138 juvenile spring-run Chinook salmon will out-migrate past the Project site. Juvenile passage during the latter 3 months of the construction window is so low that the Service has not conducted sampling during these months since 2005.

Because adult and juvenile spring-run Chinook salmon would be present in Battle Creek during the in-stream work window, the Project holds the potential to affect this run. Possible impacts would be primarily in the form of noise and disturbance from cofferdam construction and removal. The placement and removal of these cofferdams would be limited in duration and not require the entire 4-month in-stream work window. The modification to the overshot gate would be limited in duration (potentially 1 week). The excavation and

construction of the concrete footings for the visitor platform may require several weeks, but not the full duration of the in-stream work window.

Although the in-stream work window is 4 months, construction work is not expected to occur continuously on a daily basis throughout its entire duration. Moreover, the in-stream work area is limited to the two primary cofferdams, which comprise a total area of approximately 1,233 sq ft. Using an estimate of 128 ft for the linear stream-bank distance from the upstream outlet of the old fish ladder to the downstream point of the lowermost cofferdam, and assuming the average width of Battle Creek is 80 ft, this equates to a 10,024 sq ft surface area cross section of the adjacent Battle Creek channel. Hence, the area occupied by the two cofferdams would be approximately 12 percent of the total adjacent stream area. This simple relationship provides a general understanding that the cofferdams occupy a small percentage of the immediate stream area and, therefore, do not pose a restriction to the migration corridor. Additionally, operation of the upstream fish ladder at the CNFHC will not be affected by proposed construction activities.

Despite the in-stream work window overlap with the time period that spring-run Chinook salmon are present in Battle Creek, the highly localized and brief duration of the Project activities would not equate to adverse impacts on adult or juvenile spring-run Chinook salmon or adversely modify critical habitat. Cofferdams will effectively guide fish through the main creek channel and away from construction activities associated with near-shore areas. Any juvenile fish present in the Project area prior to the installation of cofferdams would have opportunity to disperse from the Project area during the course of the installations.

Project Impacts on Fall-Run Chinook Salmon

Fall-run Chinook salmon comprise the largest population of Chinook salmon in Battle Creek, and they have been intentionally restricted from passing upstream of the CNFHC barrier weir since 1989. During the past 5 years of record, an average of about 29,393 adult fall-run Chinook salmon returned to Battle Creek, of which an average of 20,721 were allowed to enter the CNFHC. The remaining fish were excluded from the hatchery and were mostly confined downstream of the CNFHC barrier weir. As adult fall Chinook salmon are not expected to spawn upstream of the barrier weir, juvenile fall Chinook salmon are not expected to be migrating through the Project area. Small numbers of fall Chinook salmon adults may be present in Battle Creek at or near the Project area in August and September, but, as with spring Chinook salmon adults, the scope of the project size and footprint and duration are such that impacts to adult fall Chinook salmon and spring-run Chinook salmon are not anticipated.

Project Impacts on Late-Fall-Run Chinook Salmon

Late-fall-run Chinook salmon comprise the second largest population of Chinook salmon in Battle Creek. During the past 5 years, an average of 5,290 adult late-fall-run Chinook salmon returned to the CNFHC. Only a small number of unmarked, possibly natural-origin, late-fall-run Chinook salmon utilized Battle

Creek. Hatchery-origin late-fall-run Chinook salmon are generally restricted from passing upstream of the CNFHC barrier weir; however, all natural-origin late-fall Chinook salmon encountered during hatchery broodstock collection are subsequently passed upstream to promote natural spawning in upper Battle Creek. An unknown, but small number of late-fall-run Chinook salmon presumably have been able to pass upstream at the CNFHC barrier weir during high flow events. The number of late-fall-run Chinook salmon spawning naturally below the CNFHC barrier weir is unknown, but is presumed to be small. The Project is not anticipated to impact adult late-fall Chinook salmon as the in-water work window does not overlap with the return of adult late-fall-run Chinook salmon into Battle Creek.

Although juvenile life stages of the late-fall-run Chinook salmon overlaps the in-stream work window, rotary screw trap monitoring shows low number of late-fall Chinook salmon out-migrants in response to low summer flows and suboptimal mean-daily water temperatures and the localized and brief duration of the Project activities are not expected to impact this run.

Project Impacts on Steelhead

The steelhead population that currently exists in Battle Creek is comprised mostly of hatchery-origin fish and to a lesser extent natural-origin and resident rainbow trout. Resident rainbow trout are genetically indistinguishable from anadromous steelhead. The majority of adult steelhead enters Battle Creek between September and January, but adults have been observed at the Project site through August. Returning steelhead typically spawn between late December and early May.

Over the past 5 years, the annual average abundance of steelhead spawners in Battle Creek, including hatchery and natural-origin fish, has been about 1,817 adults, of which only about 10 percent are estimated to be of natural origin. In addition, over the past 5 years (2007 to 2011), the CNFHC documented an average of 34 natural-origin (315 total, combining natural-origin and hatchery fish) adult steelhead present in October. For the purpose of this BA, as previously described in Chapter 3, it is conservatively assumed that the same number of fish are also present during September. Therefore, using October abundance data, combined with monitoring data from June and July, we estimate that an average of 365 adults (both hatchery origin and natural origin) would occur at the Project site during the in-stream work window.

The Project activities occur during the time period that adult steelhead are present in Battle Creek. During the months of the in-water work window when the upstream fish ladder is open (June and July), adult fish will be able to continue their migration upstream, as the Project is not anticipated to neither block nor impede passage. Project activities in September may discourage steelhead from holding near to the construction site, however, the fish ladder at the CNFHC is closed at that time and fish are confined downstream of the barrier weir. Furthermore, work activities would not occur continuously during September, and

as with Chinook salmon adults, the scope of the Project size and footprint and duration are such that impacts to adult steelhead are not anticipated.

Steelhead juveniles are present and can out-migrate to the Sacramento River in every month of the year. However, out-migration is significantly reduced during the in-stream construction window due to high water temperatures in lower Battle Creek. Juvenile steelhead/rainbow trout estimates were based upon datasets from the Service's rotary screw trapping operations that were conducted in 2005 and 2008 through 2010. As previously described, an average of 829 juveniles would occur in June, 206 in July, 0 in August, and 15 in September (refer to Chapter 3). Therefore, an estimated average of 1,050 juveniles would migrate past the Project area during the in-stream work window.

The Project activities may result in juveniles avoiding the immediate area of the cofferdams and general Project area. Juveniles that actively avoid the Project area would not preclude them from migrating downstream. Downstream migrant juvenile steelhead will be guided around the work area by cofferdams. Any juvenile fish present in the Project area prior to the installation of the cofferdams would have opportunity to disperse from the Project area during the course of their installation.

Project Impacts on Essential Fish Habitat

Battle Creek is considered EFH for spawning and rearing Pacific salmon. The Project will not result in any temporary or permanent loss of available spawning habitat. No streambed or habitat alteration will result from the modification of the overshot gate. Construction activities will not alter any spawning activity as steelhead, fall Chinook salmon, and late-fall Chinook salmon will not be spawning during the in-water work window. Spring-run Chinook salmon can only successfully spawn well upstream of the Project area. During Project construction and post-project, the area will maintain its function as a migration corridor both upstream and downstream. Some stream shading may be lost during the course of Project construction if it is deemed necessary to remove three oak trees to the west of the visitor platform.

Effects of the Proposed Project

Upon completion, the Project is expected to have beneficial effects on federally listed species and their critical habitat. During construction, any negative effects to salmonids will be minimized to the greatest extent practicable by implementing in-stream work components of the Project during the June 1 through September 30 in-stream construction window and by implementing conservation measures and BMPs. During construction, the Project poses the following concerns to listed fish species and their critical habitat:

- Accidental spill of construction-related or hazardous materials.

- Increased sedimentation or erosion.
- Stranding and/or impingement of fish during dewatering operations.
- Spawning and rearing habitat disturbance.
- Upstream adult migration and juvenile out-migration disturbance.
- Noise and vibration disturbance from heavy equipment operations.
- Obstruction and/or interference of adult fish entry into the fish ladder.

Accidental Spill of Other Construction-Related or Hazardous Materials

Accidental spills of construction-related or hazardous materials could cause mortality, habitat degradation to EFH, and decreased reproductive success of fish and other aquatic species in Battle Creek. Any undesirable effects will be avoided or minimized with implementation of the Spill Prevention, Control, and Countermeasure Plan that will be developed in coordination with the Regional Water Quality Control Board through the Section 401 CWA permitting process and with implementation of avoidance measures including:

- Soils contaminated with fuels or chemicals will be disposed of in a suitable location to prevent discharge to surface waters.
- Temporary cofferdams will be used to separate construction areas from flowing waters.
- On-site fuels or other hazardous materials will be placed or contained in an area protected from direct runoff.
- If hazardous materials are accidentally released, appropriate state and federal agencies will be notified immediately.
- Concrete delivery and transfer equipment will be washed in contained areas protected from direct runoff until the material sets.
- Equipment and machinery coming in contact with water will be inspected daily and completely free of grease, oil, petroleum products, or other nonnative materials. This project is not reasonably expected to release oil and oil products into Battle Creek.

Increased Sedimentation Into Battle Creek

Increased sedimentation or erosion could result in diminished survival and/or mortality of fish eggs, larvae, and rearing juveniles. In addition, long-term effects include degradation of critical habitat and EFH. This Project is approximately

0.2 acres in area and, therefore, does not require compliance with the Construction General Permit/Storm Water Pollution Prevention Plan. However, a Detailed Water Quality Management Plan (DWQMP) is required for construction activities that involve less than 1 acre of land, e.g., in the vicinity of any stream, therefore, a DWQMP will be developed prior to project implementation.

In addition, the Project will implement the following measures:

- Monitor water quality for turbidity and settleable materials according to the Regional Water Quality Control Board (RWQCB) Section 401 Water Quality Certification standard conditions.
- Cofferdams will be constructed in a manner that will avoid or minimize sediment discharges. Methods may include, but not be limited to, the use of clean/washed spawning-sized gravel, riprap placement, and geotechnical fabric. Temporary sediment control measures will be located at disturbed areas to prevent sediment from entering Battle Creek. These measures will be kept in place until disturbed areas are stabilized.
- Disturbed soils will be sprayed with water to minimize wind erosion or dust during construction.
- Interim measures to control erosion and sedimentation over winter will include BMPs. The long-term plan is to seed disturbed and new areas. Methods may include, but not be limited to, the use of mulch, straw wattles, and silt fences.
- At the conclusion of the Project, disturbed soils will be stabilized and revegetated using BMPs. To the greatest extent possible, disturbed soils will be reseeded or replanted with native plant species.
- BMPs will be monitored after Project completion and necessary repairs conducted so that disturbed areas are adequately stabilized similar to pre-Project conditions.
- Decant waters will meet RWQCB permit criteria prior to discharge into Battle Creek. Excavated material will be stored using BMPs as required by RWQCB permits.

Stranding and/or Impingement of Fish During Dewatering Operations

During pumping operations to dewater behind the cofferdams, juvenile salmonids may be at risk to stranding. Juvenile salmonids may also be subject to impingement at the intake pipe.

Relatively small areas (383 sq ft) for the overshot gate modification and 850 sq ft for the visitor platform/wasteway construction of the streambed will be cordoned

by the cofferdams. During the placement of the cofferdams, the disturbance caused by the work activities would typically disperse any adult or juvenile fish that are present away from the work site. Prior to the final placement of the gravel sacks to complete the cofferdams, the area being confined will be visually inspected by a fish biologist to ensure that fish are not present. Similarly, prior to dewatering the areas behind the cofferdams, a fish biologist will conduct a visual inspection to ensure that fish are not present. After completion of the cofferdams and/or dewatering of areas behind the cofferdams, a fish rescue will be conducted in attempt to fully remove any native, non-listed fish (e.g., tule perch), that may still be present. In the unlikely event that a listed fish species (i.e., salmonid), is encountered during this effort, NOAA Fisheries will be immediately notified.

Although the potential exists for juvenile fish to remain or seek refugia within the area confined by the cofferdam, the likelihood would be very low to non-existent. Therefore, the relative low risk of fish being stranded and/or becoming impinged at the intake pipe would be extremely unlikely.

Direct Disturbance of Spawning and Rearing Habitat by Use of Cofferdams

Approximately 383 sq ft of the streambed will be dewatered during the in-stream construction windows for modifying the overshot gate and 850 sq ft for constructing the footings of the visitor platform (see Appendix III). These areas will not be available to juvenile and adult salmonids during the time periods that the cofferdams are in place.

The project implementation may affect rearing habitat, but only for the duration that the cofferdams are being constructed, in place, and during their removal. The area of the Battle Creek streambed affected by cofferdam construction and dewatering are considered very low when compared to the remainder of juvenile habitat available in Battle Creek at and near the construction site.

During the in-stream work window, spring-run Chinook salmon spawning occurs far upstream of the Project area in reaches with cool water temperatures. Fall-run and late-fall-run Chinook salmon spawning and steelhead spawning would not be impacted because it occurs outside the in-stream work window. Heavy equipment will not cross Battle Creek.

The potential removal of approximately two to three smaller oaks (<12" DBH) will have a short-term reduction in the amount of rearing and shaded riverine aquatic habitat. Direct impacts to EFH will be lessened shade to the stream, and there would no longer be organic, e.g., leaf litter, input into Battle Creek from these trees. Similarly, any existing contributions of terrestrial insects these oaks are providing into Battle Creek would no longer occur. The total amount of riparian habitat disturbed is minimal when compared to similar habitat along the lower reaches of Battle Creek. The removal of these trees is not expected to result in short-term or long-term degradations to Battle Creek or EFH of a magnitude

that would cause reductions in the ability of the EFH to support anadromous salmonids.

Although the removal of these oak trees is not a direct, planned outcome of this Project, the potential impacts are disclosed in the event that unforeseen work circumstances warrant the removal of one or more of these trees. No other riparian disturbance is expected.

Disturbance to Upstream Adult Migration and Juvenile Out-Migration

The Project's in-stream work activities could potentially disrupt (harass) the upstream adult migration and downstream juvenile migration of spring-run Chinook salmon and steelhead. If project activities such as placing cofferdams in the stream result in delays to adult upstream migration or juvenile downstream migration, then there would be impacts to fish movement. However, the time period necessary to install the cofferdams will be brief, approximately 5 to 7 days in duration and the in-stream work activities would typically take place during daylight hours so the potential disruption of migration would not be on a continuous basis. The time period required to remove the cofferdams would likely require less time.

The Project will not physically block the flow of Battle Creek, and there will be no physical barriers to downstream or upstream movement. The time period for cofferdam placement and the modification work is expected to require about one week. If the cofferdams are installed during June or July, then upstream passage for adult fish would still occur through the fish ladder. However, if the modification work occurs in August or September, the blockage of adult salmonids is not considered to be an undesirable impact, as fishery management protocols call for the closure of the fish ladder during these months.

The dewatering of the areas behind the cofferdams could result in the stranding of juvenile salmonids, although this occurrence is not anticipated. However, activity around and within the cofferdam areas, coupled with limited fish abundance of listed species and the limited areas of the streambed to be dewatered, limit the likelihood that listed species adults or juveniles will be contained in the areas behind the cofferdams. It is also assumed that the majority of the listed downstream migrant juveniles would migrate through the main creek channel away from near shore areas where the cofferdams are to be located. After completion of the cofferdams and or dewatering of areas behind the cofferdams, a fish rescue will be conducted in an attempt to fully remove any native non-listed fish that may still be present. In the unlikely event that a listed fish species (i.e., salmonid), is encountered during this effort, NOAA Fisheries will be immediately notified. Fish rescues will preferentially employ beach seines and only use electroshocking as a final measure for removal.

Noise Disturbance From Heavy Equipment Operations

Construction activities will not employ the use of sheet piling to help contain spawning gravel used for cofferdams or during other construction activities.

Noise may be created during excavation behind cofferdams or during pouring of concrete behind cofferdams. Overall, noise generated by construction activities is expected to be minimal.

Obstruction and/or Interference of Adult Fish Entry Into the Fish Ladder

The placement of the lower cofferdam for the wasteway and visitor platform construction will be several feet away from the fish ladder entrance; the proximity of the cofferdam is sufficiently distant from fish ladder entrance to alleviate any concerns; and its physical presence is not expected to alter, influence, or block the ability of adult salmonids to freely access the fish ladder. If placed improperly, the presence of the lower cofferdam may affect the behavior and/or prevent adult salmonids from entering the fish ladder entrance. Reclamation inspector presence during the cofferdam placement will assure proper cofferdam placement.

Other Conservation Measures

In addition to already-identified measures, the Project will incorporate the following conservation measures:

- All materials used for construction of in-channel structures must meet applicable state and federal water quality criteria. Avoid or minimize the use of such materials that are deleterious to aquatic organisms.
- Discharges from controllable sources of pollutants shall be conducted in a manner that complies with water quality objectives designated by the RWQCB for the maintenance of salmon and steelhead in designated habitats.

For all in-channel and near-channel construction activities, implement construction BMPs (such as erosion and sediment control measures).

- Avoid or minimize channel modifications in important natal, rearing, and migratory habitats that may result in habitat degradation and diminished habitat connectivity.
- Compensate for adverse impacts on habitats by in-kind, on-site replacement of habitats and their functional values.

The visitor access and ADA-compliance actions are carried out in conjunction with the actions for the overshot gate modification and the visitor platform construction. The work activities for carrying out the ADA-compliance actions are distinctly different from the other activities, and this action, by itself, will not directly or indirectly, or cumulatively, affect federally listed fish species found in Battle Creek. There is no in-stream work, and noise disturbance would be very limited in duration such as cutting small sections of concrete and drilling into the existing concrete structures. Much of this noise would be no greater than existing

ambient day-to-day operations of the facility that are not related to this construction activity.

Direct Effects

Potential direct effects to listed salmonid species have been discussed in detail. Potential effects to fish would be relatively brief in duration, and the highly localized in-stream Project activities would not alter or prevent the ability of fish to swim away from any Project-created disturbance. Salmonids are known to avoid unnatural disturbances to their immediate environments. The placement of cofferdams in the stream is unlikely to induce stress upon fish that would be sufficient to seriously alter or disrupt their behavioral or physiological functions or affect their associated habitat.

Indirect Effects

Indirect effects to listed species resulting from Project actions would be difficult to determine and quantify. However, professional knowledge is applied to identify potential indirect effects. Project operations may potentially influence or indirectly affect fish through:

Behavioral Response

Fish disturbed or affected by Project actions may disperse from and avoid the Project area. Alternatively, fish may acclimate to the disturbance and may remain in the Project area.

Physiological Response

Fish disturbed or affected by Project actions may exhibit a biochemical response, such as elevated level of stress hormones. Dependent upon the degree and duration of response, the fish may be affected to a certain degree, which affects its ability to feed, avoid predation, disease, etc. The physiological response is assumed to be minimal, as the fish have the ability to move away from the negative stimuli, i.e., disturbance and noise, etc., associated with the Project area.

Chapter 6 ESA Effect Determinations

The final ESA determinations for the overshot gate modification and visitor platform project were made after considering the intensity and extent; timing of project operations of the proposed activities; the proximity of anadromous salmonids and their habitat to proposed activities; and the distribution, life history, and biological requirements of anadromous salmonids that occur in the Project area. Fish abundance data collected through monitoring programs in Battle Creek by the Service offices (Red Bluff FWO and CNFHC) were utilized

to help assess how the Project actions may affect the various life-history stages of federally listed species.

Although physical activities near and in the stream pose valid concerns, the nature of the Project actions does not involve heavy machinery in the water. All of the physical activities would occur out of the water and behind cofferdams. The placement and removal of the small cofferdams (using sacks of clean gravel) by a land-based crane is the most substantial in-stream activity. At all times, Battle Creek would remain free-flowing, and unobstructed to fish movement.

Winter-Run Chinook Salmon

The Project will have no effect on listed winter-run Chinook salmon since Battle Creek currently does not either contain these fish and/or any occurrence of these fish would be extremely rare.

Spring-Run Chinook Salmon

The Project may affect, not likely to adversely affect spring-run Chinook salmon. In addition, implementation of the Project may affect, but is not likely to adversely modify designated critical habitat for the species. Based upon available data, average abundance during the construction window is estimated to be approximately 86 adults and 1,050 juveniles combined over the 4-month in-stream work window.

The adult monitoring takes place in June and July only. Although monitoring does not occur in August and September, the abundance of adults at the Project area during these two latter months would be very low, or none at all. Spring-run Chinook salmon do not spawn in the vicinity of the Project area. The Project activities would not directly impede or block adult upstream migration. The risk of impacts to juvenile rearing and migration are low due to the scope of the work activities and would be localized and limited in duration.

Juvenile abundance estimates are based on direct rotary screw trap monitoring, which indicates an average of 1,050 out-migrating past the project site during the entire construction window.

Based upon these monitoring data, and taking a cautious approach in assessing potential impacts to listed species, the presence of juveniles in the Project area during June through August does present the possibility of effects to juvenile spring-run Chinook salmon. However, anticipated effects are limited by the small\ scope, time/duration, and area of proposed Project activities.

The type of construction activities, both in-stream, e.g., cofferdam placements using sandbags/gravel supersacks, and non-in-stream work are neither

extraordinary nor complex and constitute commonly executed actions taken throughout other areas of the Sacramento River Basin, California, and the Pacific Northwest. Additionally, the use of BMPs and conservation measures will further minimize risk of adverse effects to listed species.

Steelhead/Resident Rainbow Trout

The Project may affect, not likely to adversely affect natural-origin and hatchery-origin steelhead trout and resident rainbow trout and its critical habitat.

Based upon returns of adult steelhead to CNFHC for the 2007 to 2010 return years, the average run size is 1,817 (hatchery origin and natural origin). For the in-stream work window, the average number of adults expected is estimated to be 365. Adult steelhead are not spawning during this time period, and this life stage would not be affected. The in-stream work activities may physically disturb migrating adult and juvenile steelhead through construction noise and human presence, particularly during the placement and removal of cofferdams. These activities are expected to be of brief (a few days to several weeks) duration but would be conducted intermittently throughout the 4-month in-stream work window. The anticipated reactions of adult and juvenile steelhead are avoidance, acclimation, and movement upstream/downstream from the Project site, etc.

An estimated average of 1,050 juveniles would migrate past the Project area during the in-stream work window. Most of these fish would occur in June (average 829), 206 in July, 0 in August, and 15 in September.

The potential for negative effects of Project activities is limited by the scope of the project's size, duration, and area. Additionally, the Project will apply BMP, and mitigation measures are integral components of the construction contract. Measures incorporated into the Project will significantly reduce the likelihood, magnitude, and duration of any event that could possibly result in incidental take to ESA-listed species. Furthermore, the proposed action will use BMPs and conservation measures to reduce the likelihood of creating an adverse affect.

Green Sturgeon

This Project will have no effect on this species. For the Southern DPS of the North American green sturgeon, this species is not known to occur in Battle Creek.

Chapter 7 Aggregated Federal Effects

Aggregated federal effects do not apply to this Project.

Chapter 8 Summary of Effects of the Project by Watershed

Potential Project effects are not applicable to the Battle Creek Watershed, as the Project is highly localized in its scope and size of the affected area and is not directly linked or related to other federal actions being consulted upon in the Battle Creek watershed.

Chapter 9 ESA Cumulative Effects

For purposes of the ESA, cumulative effects are defined as the effects of future state or private activities, not involving federal activities, that are reasonably certain to occur within an action area of the federal action subject to consultation (50 CFR 402.02). Future federal actions are not included here because they require separate consultation pursuant to section 7 of the ESA.

As applied under section 7 of the ESA, cumulative effects describe the likely effects of future non-federal activities, including state, tribal, local, or private actions, which are reasonably certain to occur in the Project area (50 CFR 402.02). Future activities are planned in the Battle Creek watershed which could affect listed species. However, the Project area is specifically confined to federal property that constitutes the CNFHC. Therefore, because non-federal activities are not expected to occur on federal property, cumulative effects are not anticipated.

Chapter 10 Essential Fish Habitat Assessment

The Magnuson-Stevens Fisheries Conservation and Management Act of 1996 Public Law 104-297 defines ESA as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity,” and requires fishery management councils to identify EFH for federally-managed species.

In Section 305 (b)(2) of the amended Magnuson-Stevens Act, Congress directs each federal agency to consult with the Secretary of the Interior with respect to any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any EFH identified under the Magnuson-Stevens Act.

Actions do not need to occur inside identified EFH to adversely affect EFH. Therefore, EFH consultation with NOAA Fisheries is required for federal agencies conducting, permitting, or funding activities that may adversely affect EFH, regardless of the activity's location.

All four CV Chinook salmon runs (winter-, spring-, fall- and late-fall-run Chinook salmon) are subject to the Magnuson-Stevens Act and regulated by the Pacific Coast Salmon Fishery Management Plan (FMP). The FMP includes designation of EFH and requires consultation with NOAA Fisheries if a project or action potentially would affect EFH. EFH applies to Pacific salmon and other commercial fish species and is defined as the aquatic habitat necessary for spawning, breeding, feeding, or growth to maturity. Important components of EFH are substrate; water quality; water quantity, depth, and velocity; channel gradient and stability; food; cover and habitat complexity; space; access and passage; and habitat connectivity.

The Battle Creek action area is within EFH for all four Chinook salmon runs. This BA has addressed Project effects on Chinook salmon and critical habitat that are listed under the ESA. Because CV fall-/late-fall-run Chinook salmon are not listed but are covered under the MSA, their status, distribution, life history, and habitat requirements have been reviewed within this document.

Description of the Action

The Project actions are all within or adjacent to the CNFHC's barrier weir facility. The Service and Reclamation propose to modify the overshot gate, which is an integral component of the barrier weir facility. Additionally, a concrete cover will be placed over the existing old fish ladder, and a new trash rack installed to help prevent stream-borne debris from entering and clogging the fish ladder. The Project will also construct a new wasteway wall and a new visitor platform. Finally, the Project will also construct new and/or modify existing handrails, guardrails, and install ramp ways to improve visitor access to the existing facilities. These modifications will be ADA compliant. The Project work is scheduled to take place during 2012.

The purpose of these actions is to:

1. Prevent adult salmonids from passing upstream at the overshot gate.
2. Prevent stream-borne debris from clogging and damaging the fish ladders.
3. Restore and provide ADA-compliant public visitation access to the fish ladder and barrier weir site at Battle Creek.

Detailed descriptions of the action are presented in Chapters 1 and 2 of this document.

Analysis of the Potential Adverse Effects on the EFH

Typically, concerns generated by this type of Project actions relate to impacts to fish and their physical habitat. Potential impacts on fish habitat may result from physical disturbance of the streambed, e.g., sedimentation, pollution from hazardous substances, equipment and machinery, etc. Although these impacts pose concerns for EFH, the Project actions do not call for operating any heavy machinery in the stream. The cofferdams will be placed and removed by means of a mechanical crane positioned out of the water. The most substantial disturbance to the streambed/channel will be the temporary removal of riprap material from the stream bank to facilitate the placement of the lower cofferdam. The riprap material will be stockpiled and replaced upon removal of the cofferdam.

The Project actions will not have adverse effects on the EFH for Chinook salmon. The in-stream work is limited to construction of small cofferdams and dewatering behind the cofferdams so that the proposed work activities may occur. The duration of the time required to construct the cofferdams, operate them, and subsequent removal will not result in long-term effects to EFH.

Two cofferdams will be built to facilitate the Project actions. The first cofferdam will impact a triangular-shaped area approximately 37 by 21 ft (383 sq ft) of the Battle Creek streambed, and the second cofferdam will impact an area 50 by 17 ft (850 sq ft). The total area affected by the cofferdams has been conservatively estimated to be 1,233 sq ft; the actual affected area would be greater.

The in-stream work window is June 1, 2012, through September 30, 2012. Although this is a 4-month work window of opportunity, the actual activities that require dewatering to carry out the stream-related portions of the construction may only be a few weeks in duration.

Chapter 5 of this document provides detailed discussion on the potential effects to federally listed fish species and their habitat in Battle Creek.

Federal Agency's Conclusions on Effects on the EFH

The Service and Reclamation conclude that the Project will result in minor short-term (up to a maximum 4 months) impacts on a total of 1,233 sq ft of Battle Creek EFH during the 2012 in-stream work construction period. This short-term impact will exclude juvenile and adult fish from 1,233 sq ft of EFH during the time the cofferdams are in place. The relative impact is expected to be greater upon juvenile life stages than the adults. Once the cofferdams are removed, the habitat will become available to fish. Although the in-stream work window is 4 months in duration, the actual time period that in-stream work occurs is expected to be far

shorter in duration. The majority of the Project activities will be on out-of-water construction.

The Project will not adversely affect designated EFH for federally managed commercial fishery species within Battle Creek. These agency conclusions are based upon the duration and magnitude of the proposed work activities and the fact that the impacted EFH areas are extremely small in relation to the total habitat available in the general Project area and Battle Creek. The nature of the proposed work activities is common and successfully conducted throughout California and the Pacific Northwest.

Proposed Mitigation, if Applicable

No mitigation proposed.

Chapter 11 Literature Cited

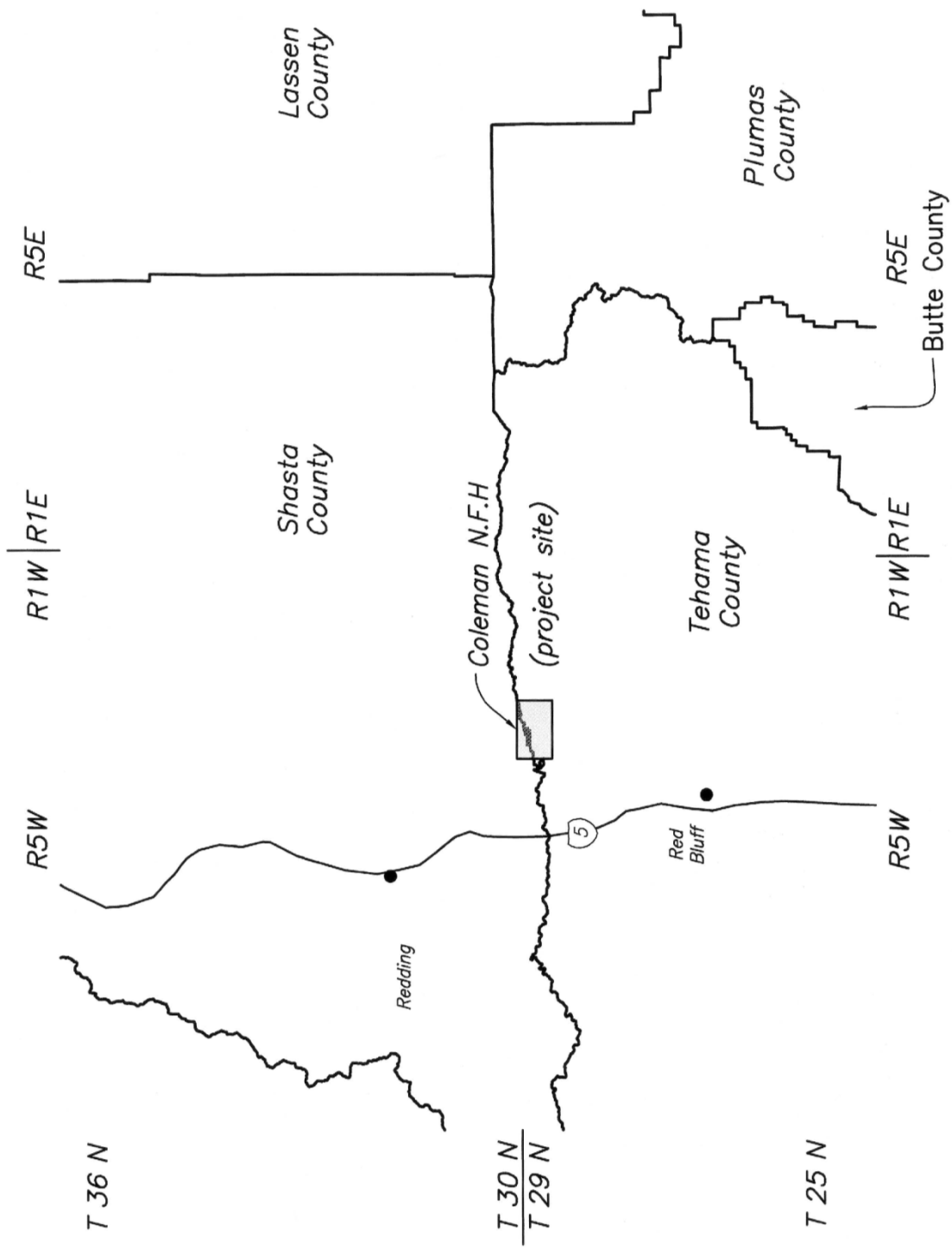
Bureau of Reclamation and Fish and Wildlife Service. 2005. Action Specific Implementation Plan. Coleman National Fish Hatchery Fish Barrier Weir and Ladder Modification Project.

Bureau of Reclamation and Fish and Wildlife Service. 2006. Action Specific Implementation Plan. Coleman National Fish Hatchery Fish Barrier Weir and Ladder Modification Project. Amended December 20, 2006.

Null, R. E., J. Newton, C. Brownfield, S. Hamelberg, and K. Niemela. 2011. Monitoring and Evaluation of the Modified Fish Ladder and Barrier Weir at the Coleman National Fish Hatchery. U.S. Fish and Wildlife Service Report. U.S. Fish and Wildlife Service, Red Bluff Fish and Wildlife Office, Red Bluff, California

Appendices

N.T.S.

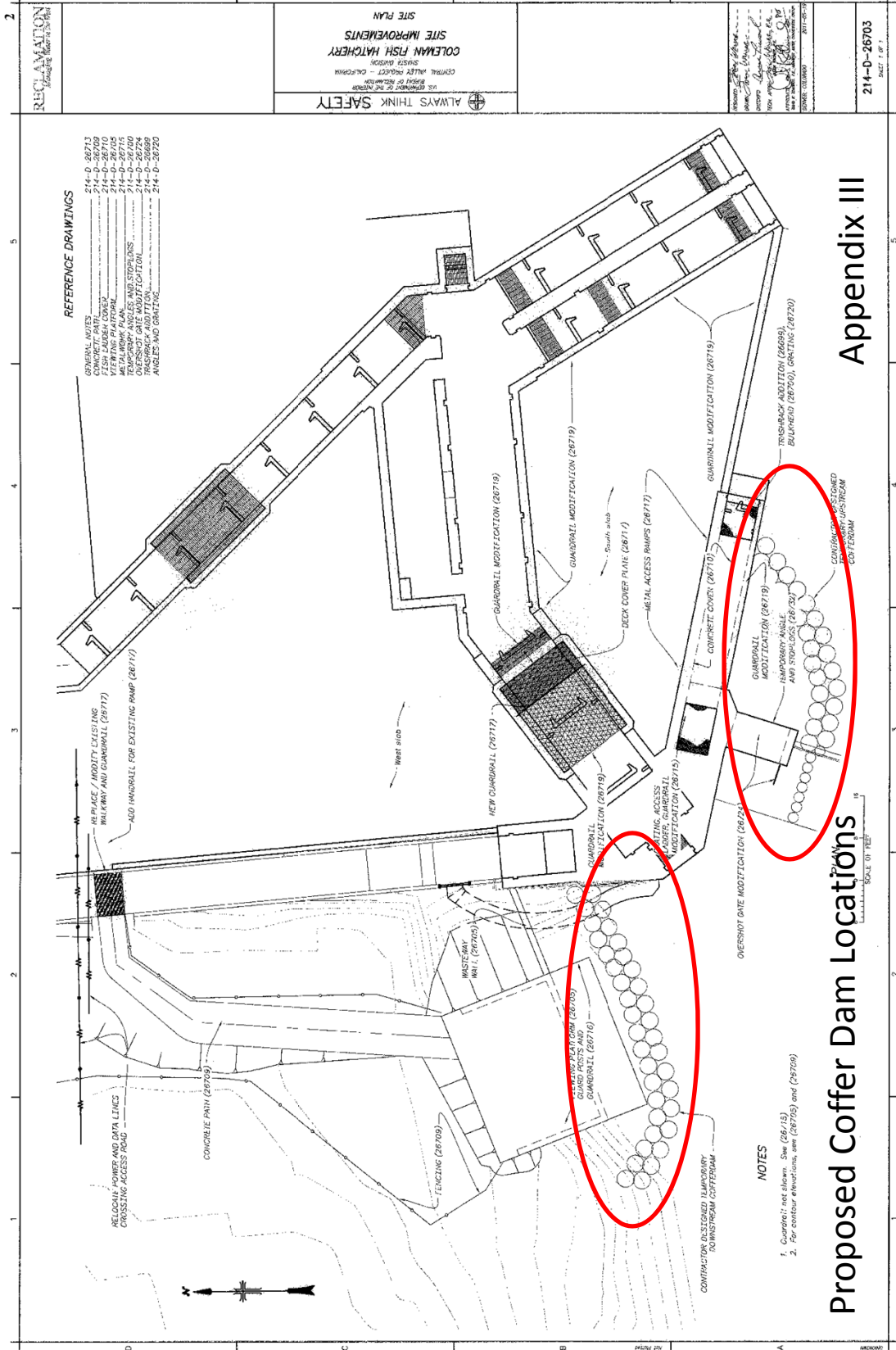


COUNTY MAP
N.T.S.

Appendix I



CNFH Site Improvements
BA Appendix II



REFERENCE DRAWINGS

GENERAL NOTES

- 214-D-26713
- 214-D-26710
- 214-D-26709
- 214-D-26705
- 214-D-26700
- 214-D-26724
- 214-D-26720

ALWAYS THINK SAFETY

U.S. BUREAU OF RECLAMATION
CENTRAL WATER PROJECT
SOUTH DIVISION
COLEMAN FISH HATCHERY
SITE IMPROVEMENTS
SITE PLAN

214-D-26703
SHEET 1 OF 1

DATE: 02/08/2010
BY: [Signature]
CHECKED BY: [Signature]
APPROVED BY: [Signature]

Appendix III

Proposed Cofferd Dam Locations

- NOTES**
1. Cofferdam not shown. See (26/13)
 2. For contour elevations, see (26705) and (26709)

**OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION**

P.O. BOX 942896
SACRAMENTO, CA 94296-0001
(916) 653-6624 Fax: (916) 653-9824
jalshpo@ohp.parks.ca.gov

| BUREAU OF RECLAMATION OFFICIAL FILE COPY RECEIVED | | |
|---|--------|-------------------|
| DEC 30 2005 | | |
| CODE | ACTION | SURNAME & DATE |
| EA 1-3 | ✓ | Nepstad 12/10/05 |
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December 28, 2005

In Reply Refer To: BUR051205A

Michael Nepstad
Deputy Regional Environmental Officer
United State Department of the Interior
Bureau of Reclamation
Mid-Pacific Regional Office
2800 Cottage Way
Sacramento, CA 95825-1898

Dear Mr. Nepstad:

Re: MP-153, ENV-3.00. Coleman National Fish Hatchery, Fish Barrier Weir Modification Project, Tehama and Shasta Counties, California.

You are consulting with me, regarding the above noted undertaking, pursuant to 36 CFR Part 800 (as amended 8-05-04) regulations implementing Section 106 of the National Historic Preservation Act. The Bureau of Reclamation (BUR) is the lead Federal agency for a project that will modify the existing fish weir at the Coleman National Fish Hatchery (CNFH). The land involved is managed by the United States Fish and Wildlife Service and the Bureau of Land Management and the BUR is funding the project.

The proposed modifications will increase the effectiveness of the weir for diverting fish, blocking undesirable fish species from migrating upstream, and will allow for better downstream migration of sensitive fish species. The major surface disturbance is the construction of a temporary bypass channel, including two coffer dams that will divert the flow of Battle Creek around the weir while it is being modified. Although the CNFH and related facilities are located on the north side of Battle Creek in Shasta County, most of the Area of Potential Effects is south of Battle Creek in Tehama County, where the temporary bypass channel will be constructed.

The Coleman National Fish Hatchery (established 1942) has been evaluated by the United States Fish and Wildlife Service and found to be ineligible for the National Register of Historic Places due to diminished integrity, setting, materials, workmanship, feeling, association, or design. The State Historic Preservation Officer (SHPO) concurred on this determination in a letter dated May 27, 1997 (Property # 108393). In addition to your letter of December 2, 2005, you have submitted the following document in support of this undertaking:

- *Bureau of Reclamation Mid-Pacific Region Cultural Resources Report: Archeological Inventory of the Coleman National Fish Hatchery, Fish Barrier Modification Project, Tehama and Shasta Counties, California* (A. Lawrence and P. Welch, Bureau of Reclamation Mid-Pacific Region: October 31, 2005)

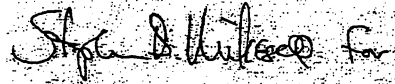
| | |
|----------------|----------|
| Submission No. | ENV 3.00 |
| Project | 2478892 |
| Control No. | 50118892 |
| Folder I.D. | 59804-0 |

Based on my review of your letter and the documentation submitted in support of this undertaking, I have the following comments:

- 1) I concur that the Area of Potential Effects is appropriate as per 36 CFR Parts 800.4(a)(1) and 800.16(d) and that the efforts made to identify historic properties have been appropriate as per 36 CFR Part 800.4(b).
- 2) I further concur that archeological site CW-1 is *not* eligible for the National Register of Historic Places.
- 3) I further concur that the finding of No Historic Properties Affected is appropriate pursuant to 36 CFR Part 800.4(d)(1) and that the supporting documentation has been provided as per 36 CFR Part 800.11(d).
- 4) Be advised that under certain circumstances, such as unanticipated discovery or a change in project description, the BUR may have additional future responsibilities for this undertaking under 36 CFR Part 800.

Thank you for seeking my comments and for considering historic properties in planning your project. If you require further information, please contact William Soule at phone 916-654-4614 or email wsoule@parks.ca.gov.

Sincerely,



Milford Wayne Donaldson, FAIA
State Historic Preservation Officer



United States Department of the Interior

FISH AND WILDLIFE SERVICE



Coleman National Fish Hatchery Complex
24411 Coleman Fish Hatchery Road
Anderson, CA 96007
Phone: 530.365.8622 FAX 530.365.0913

June 17, 2011

Mr. Mathew P. Kelley
Chief, Redding Regulatory Office
U.S. Army Corps of Engineers
152 Hartnell Ave.
Redding, CA 96002

Subject: Request for 5 year time extension of Permit # 200500631 as issued under Section 404 of the Clean Water Act.

Dear Mr. Kelley:

The U.S. Fish and Wildlife Service (Service) formally requests approval of a 5 year time extension of Permit # 200500631 issued under Section 404 of the Clean Water Act for the Coleman National Fish Hatchery Fish Barrier Weir and Ladder Modification Project, Shasta County.

The time limit for the existing authorization carries through until July 20, 2011. General Condition 1. of the existing authorization indicates a request for time extension can be submitted for consideration. With this letter, I therefore formally request a 5 year extension to the existing authorization.

Thank you in advance for your consideration of this request. Please contact me at 530-365-8622 if you have any questions related to this request.

Sincerely,


Scott Hamelberg
Project Leader
Coleman National Fish Hatchery Complex

cc: Mr. Tom Kisanuki, BOR, 16348 Shasta Dam Blvd., Shasta Lake, CA 96019

TEL: 530.365.8622
FAX: 530.365.0913
email: scott_hamelberg@fws.gov

----- Forwarded by Scott Hamelberg/MOBILE/R1/FWS/DOI on 08/25/2011 02:03 PM -----

George Day <gday@waterboards.ca.gov>

To <Scott_Hamelberg@fws.gov>, Guy Chetelat <gchetelat@waterboards.ca.gov>

cc

08/09/2011 01:12 PM

Subject Re: status of formal request for continuation of our 401 Cert (WDID # 5A45CR00194)

From our stand point we certify the 404 permit issued by the Corps for the life of the permit/project. If the Corps continues/extends your 404 permit then our certification is also continued/extended. If the Corps requires a new permit then we would require a new water quality certification application. However, since this is a continuation of an existing project we could issued a new WQ certification in a very short period of time.

George D. Day, P.E.
Senior Water Resources Control Engineer
Storm Water & Water Quality Certification Unit
Central Valley Regional Water Quality Control Board
415 Knollcrest Drive, Suite 100
Redding, CA 96002

530.224.4859

>>> <Scott_Hamelberg@fws.gov> 8/9/2011 12:59 PM >>>
Hello George,

On July 26 ,2011, I submitted to you a formal request for continuation of our 401 Cert (WDID # 5A45CR00194).

We also continue to work with Mr. Matthew Kelley on extension of our 404 Permit. And, yesterday (8/8/2011), I submitted the final BA to NMFS for their consideration of the work to be completed at the barrier weir site



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO
ATTENTION OF

August 30, 2011

Regulatory Division SPK-2005-00631

Mr. Scott Hamelberg
US Fish and Wildlife Service
24411 Coleman Fish Hatchery Road
Anderson, California 96007

Dear Mr. Hamelberg:

This letter concerns the designation of lead Federal agency for the proposed Coleman National Fish Hatchery Barrier Weir Project. The project is located on Battle Creek, in Section 1, Township 29 North, Range 3 West, Mount Diablo Meridian, Latitude 40.398°, Longitude - 122.1442°, Shasta County, California.

Following early coordination with your agency on August 8, 2011, we hereby designate the U.S. Fish and Wildlife Service as the lead Federal agency to act on our behalf for purposes of compliance with the Section 7 of the Endangered Species Act (ESA) and Section 106 of the National Historic Preservation Act (NHPA) for Department of the Army (DA) authorization required for the Coleman National Fish Hatchery Barrier Weir project.

When you initiate consultation under Section 7 of the ESA or Section 106 of the NHPA, please include a statement indicating that we have designated the U.S. Fish and Wildlife Service as the lead Federal agency for the project, along with a copy of this letter.

Please refer to identification number SPK-2005-00631 in any correspondence concerning this project. If you have any questions, please contact Matthew Kelley at Redding Regulatory Office, 152 Hartnell Avenue, Redding, California 96002, email Matthew.P.Kelley@usace.army.mil, or telephone 530-223-9534. For more information regarding our program, please visit our website at www.spk.usace.army.mil/regulatory.html.

Sincerely,

A handwritten signature in black ink, appearing to read "Matthew Kelley".

for Nancy A. Haley
Chief, California North Branch

Copy furnished

Ms. Maria Rea, National Marine Fisheries Service, 650 Capitol Mall, Suite 8-300, Sacramento, California 95814-4706