



**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

March 26, 2007 In response refer to:  
2005/07461

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

Dear Mr. Hamelberg:

This is in response to your letter of January 8, 2007, received on January 12, 2007, requesting an amendment to the final biological opinion for the U.S. Fish and Wildlife Service's (FWS) Coleman National Fish Hatchery (Coleman NFH) Fish Barrier and Weir and Ladder Modification Project (project) issued to you by NOAA's National Marine Fisheries Service (NMFS) on June 1, 2006. An *Action Specific Implementation Plan* (ASIP), amended December 20, 2006, was included with your correspondence. You also have requested reinitiation of consultation on essential fish habitat (EFH) for Pacific salmon to assess the effects of the proposed amendment to the biological opinion. The biological opinion addressed the potential impacts to Federally-listed endangered Sacramento River winter-run Chinook salmon (*Oncorhynchus tshawytscha*), threatened Central Valley spring-run Chinook salmon (*O. tshawytscha*), and threatened Central Valley steelhead (*O. mykiss*), and the designated critical habitat of Central Valley spring-run Chinook salmon and Central Valley steelhead associated with the proposed replacement of the current Coleman NFH fish barrier weir and ladder, at RM 5.8 in lower Battle Creek, Shasta County, California. NMFS confirms that the listed fish species stated above correctly reflects those under our jurisdiction and that we have determined that these species may be affected by the proposed action.

Based upon the ASIP of December 7, 2005, NMFS concluded that the project is not likely to jeopardize the continued existence of the above listed species or adversely modify designated critical habitat, and issued a biological opinion and incidental take statement with reasonable and prudent measures and non-discretionary terms and conditions to minimize the incidental take associated with the project. NMFS also concluded that the project will temporarily adversely affect essential fish habitat (EFH) for Pacific salmon in the action area and included EFH conservation recommendations for Pacific salmon as required by the Magnuson-Stevens Fishery Conservation and Management Act (MSA) as amended (16 U.S.C. 1801 *et seq.*). The FWS has determined that the project will have no effect on the threatened southern distinct population segment of North American green sturgeon (*Acipenser medirostris*), based on the absence of green sturgeon in Battle Creek.



FWS wishes to amend the project description to now include the utilization of portable, temporary cofferdam structures of inert material. The overall schedule of the proposed action and the June 1 to September 30 instream construction window remains unchanged, with the exception of a 1-year forward shift of the project 3-year implementation timeline, from 2006-2008, to 2007-2009 (S. Osborn, U.S. Bureau of Reclamation (Reclamation), pers. comm.).

As described in the amended ASIP:

"Free-standing, temporary cofferdams or water diversion structures would be constructed of a portable steel framework support and a flexible, impervious fabric membrane that can accommodate uneven stream bed contours. This free-standing, portable structure can be installed on solid impenetrable foundations, eliminating the need (for) pile driving or for excavating "keys" or foundations below the natural stream bed or into the stream banks."

Portable cofferdams are installed on the existing streambed, and there is no need to excavate a foundation or for pile driving, crossbracing and anchorage. Hydraulic loading on the membrane assists sealing and stability of the entire structure. All portable cofferdams would be completely removed at the end of each work season instream construction window.

#### *Effects of Installing a Portable Cofferdam*

The installation of a portable cofferdam is reported as being similar to that of installing an Alaskan or picket weir, in that the support structure would be installed directly on the existing streambed, but with the placement of an impermeable membrane over the structure to divert or impound water. A portable cofferdam can be installed in any configuration and length, and over uneven bed contours, and is designed to transfer fluid loading to a near vertical downward load, allowing its installation on solid impenetrable foundations while eliminating the need for internal bracing. The disturbance of fine sediments from the installation of portable cofferdams would be less than that expected from the installation of gravel cofferdams because there is no need to excavate below the creek bed or into the creek banks, or to deposit several hundred to thousands of cubic yards of gravel into Battle Creek.

If a gravel cofferdam is used, then one or two cofferdams, each consisting of 500 cubic yards of clean, spawning gravel, and requiring the removal of approximately 200 cubic yards of instream material for a foundation, would be in place for construction of the new fish ladder. Two cofferdams consisting of a total of approximately 1,600 to 2,000 cubic yards of gravel would be needed to isolate the work area for the diversion channel, which is expected to be approximately 600 feet in length and requiring excavation of approximately 12,000 cubic yards of upland material. Also, the placement of this large volume of gravel would dislodge sediment and increase turbidity in Battle Creek. Placement of a portable cofferdam is expected to be days to weeks faster, with less associated noise, dust, streambed disturbance, and refueling of heavy equipment, than the placement of a gravel cofferdam.

Dewatering of the creek inside a portable cofferdam may be accomplished by pumping. The risk of fish stranding due to dewatering activities associated with a portable cofferdam may be slightly reduced as the placement of steel frame structures into the water may allow more opportunity for fish to exhibit avoidance behavior than would be if gravel were unloaded directly into the creek. Smaller fish that escape initial fish rescue attempts may not be able to avoid being suctioned into a pump, or become entrained on the screen.

#### *Effects of Deconstructing a Portable Cofferdam*

The deconstruction of a portable cofferdam and subsequent re-watering of the work site may resuspend and release an accumulation of trapped silt and sediment into Battle Creek. The effects of sedimentation may include impairment of spawning substrate and rearing habitat, mortality of fish eggs, fish larvae, and rearing juveniles; reduced feeding and growth rates, increased predation, fish stress, and delayed migration. Unlike a gravel cofferdam which would be completely removed between construction seasons except for the bottom foot of gravel, there is no short-term spawning and rearing enhancement benefit from portable cofferdams.

#### *Effects of Portable Cofferdams on EFH*

Approximately 120 linear feet of shaded, riverine aquatic (SRA) rearing habitat would be impacted by the installation of portable cofferdams, one-third the linear footage that would be impacted with a gravel cofferdam. Vegetation removal is necessary for the construction of access roads to the diversion channel cofferdams and any cofferdam tie-ins on creek banks. The portable cofferdam membrane tarp may be laid over herbaceous vegetation and conform around tree trunks, decreasing the amount of vegetation removed.

The effects on an in-channel use of a crane or other machinery for the placement and removal of portable cofferdams include soil compaction of the streambank and substrate, impairment to the ecological connectivity (e.g., ecosystem processes such as the natural hydrology, sediment transport, fish passage, or the movement of woody debris), removal of riparian vegetation on the banks of Battle Creek, erosion of the levee, and increased sedimentation into Battle Creek.

#### *Integration and Synthesis*

NMFS believes that any escaping discharge from the operation or deconstruction of a portable cofferdam resulting in a temporary increase of turbidity levels immediately below the work site would dissipate quickly in the seasonal 300-400 cubic feet per second flow range in Battle Creek. However, direct observation of the first work season cofferdam deconstruction will determine if further precautions are required to minimize risks to fish.

NMFS anticipates the use of a crane in the transfer and placement of portable cofferdams, and recommends that any machinery necessary to accomplish this task should work from outside the channel, if possible. Otherwise, NMFS recommends that the machine be clean, free of oil leaks, and proceed at the lowest minimum speed necessary to move the crane into the creek, with maximum speed no greater than between 5 and 10 miles per hour if necessary, to minimize the

possibility of injury or mortality to juvenile salmonids in the immediate area, and to keep within the designated work and staging areas established for the project.

Conservation measures, best management practices (BMPs), designated work zones and exclusion zones, an in-stream construction window, and monitoring actions, previously have been incorporated into the project description that would avoid or minimize the effects associated with portable cofferdam placement and utilization. A *Spill Prevention and Countermeasure Plan* will prevent contamination of soils and waterways from construction and hazardous materials, and a *Storm Water Pollution Prevention Plan* will avoid or minimize the potential for sediment input into aquatic systems and will be part of the National Pollution Discharge Elimination System General Construction Activity Storm Water Permit for the project. Appropriate implementation of BMPs and conservation measures is expected to reduce the potential impacts to water quality, in particular to the level that they would not be likely to adversely affect listed salmonids. Potential long-term impacts to a relatively small amount of habitat will diminish and are expected to be fully compensated for over a few years as SRA habitat is recovered, and the riparian area adjacent to the project site is restored.

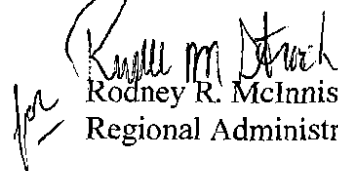
### *Conclusion*

After reviewing the best available scientific and commercial information, the current status of Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon and Central Valley steelhead, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is NMFS' biological opinion that the Coleman NFH Fish Barrier Weir and Ladder Modification project, as amended, is not likely to jeopardize the continued existence of Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead, and is not likely to destroy or adversely modify designated critical habitat of Central Valley spring-run Chinook salmon and Central Valley steelhead.

NMFS does not anticipate an increase in take of listed Chinook salmon and steelhead associated with the placement, operation, and deconstruction of a portable cofferdam. The incidental take statement (Enclosure) for the Coleman NFH Fish Barrier Weir and Ladder Modification Project has been revised to reflect the amended description and replaces the previously issued incidental take statement. NMFS has determined that there is no change to the EFH conservation recommendations, based on the amended project description.

If you have any questions regarding this correspondence or if NMFS can provide further assistance on this project, please contact Shirley Witalis in our Sacramento Area Office, 650 Capitol Mall, Suite 8-300, Sacramento, CA 95814-4706. Ms. Witalis may be reached by telephone at (916) 930-3606, or via e-mail at [shirley.witalis@noaa.gov](mailto:shirley.witalis@noaa.gov).

Sincerely,

  
Rodney R. McInnis  
Regional Administrator

Enclosure

Personal Communication

Sandy Osborn, Reclamation, February 2, 2007.

## IX. INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulations pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by NMFS as an act which kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by FWS so that they become binding conditions of any grant or permit issued to the Contracted Party (Contractor) providing the construction services, for the exemption in section 7(o)(2) to apply. FWS has a continuing duty to regulate the activity covered by this incidental take statement. If FWS 1) fails to assume and implement the terms and conditions or 2) fails to require the Contractor to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, FWS and the Contractor must report on the progress of the action and its impact on the species and proposed critical habitat to NMFS as specified in the incidental take statement (50 CFR §402.14[i][3]).

### A. Amount or Extent of Take

No take of Sacramento River winter-run Chinook salmon is anticipated because they have rarely been observed in the action area in recent years. NMFS anticipates that a total of 105 Central Valley spring-run adults and 3,000 spring-run juveniles could be exposed and taken at the Battle Creek project site over a 3-year period, based on 35 percent of the total adult run average (35 fish) of 100 fish returning to Battle Creek and the average number of 1000 outmigrating spring-run juveniles, during the June 1 to September 30 instream construction window period. Likewise, NMFS anticipates that a total of 237 Central Valley steelhead adults and 4,314 steelhead juveniles could be taken at the Battle Creek project site over a 3-year period, based on the annual averages of 79 adults and 1,438 juveniles monitored in the project site area during the June 1 to September 30 instream construction window period. The incidental take is expected to be in the form of increased stress levels, increased noise levels, migration delays, displacement from preferred habitat, capture by seine or electroshocking, handling, transport, and associated monitoring. NMFS anticipates unintentional lethal take of 2 adult and 20 juvenile (< 150 mm FL) Central Valley spring-run Chinook salmon and 4 adult and 29 juveniles (< 250 mm FL) Central Valley steelhead per year in each of the construction seasons in **2007, 2008, and 2009,**

based on observed rates of lethal take during electroshocking (McMichael *et al.* 1998). Incidental take coverage will extend through the **2009** instream work season or until end of project completion.

The project footprint is not expected to exceed approximately 7.6 ac, consisting of: Battle Creek dewatered, 0.9 ac; south side island work area, 0.5 ac; diversion channel, 1.2 ac; diversion channel spoil pile, 1.6 ac; contractor area, 2.3 ac; cofferdam access roads, 0.2 ac; fish ladder construction area, 0.4 ac; staging area, 0.3 ac; and north side access roads, 0.2 ac.

Anticipated incidental take may be exceeded if project activities exceed the criteria described above or if the project is not implemented as described in the ASIP, **amended December 20, 2006**, for the project, including the full implementation of the proposed conservation measures listed in the *Description of the Proposed Action* section.

#### **B. Effect of the Take**

In the accompanying biological opinion, NMFS determined that this level of anticipated take is not likely to result in jeopardy to the species or the destruction or adverse modification of critical habitat.

#### **C. Reasonable and Prudent Measures.**

Pursuant to section 7(b)(4) of the ESA, the following reasonable and prudent measures are necessary and appropriate to minimize take of Central Valley spring-run and Central Valley steelhead:

1. Due to close cooperation between FWS and Reclamation throughout the planning and development of this project, NMFS believes that all measures which are necessary and appropriate to minimize take of Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead have been incorporated into the project. Therefore, the only requirement will be for thorough monitoring and reporting to NMFS on the efficacy of the proposed conservation measures and any documented take that results from construction of the project.

#### **D. Terms and Conditions**

In order to be exempt from the prohibitions of section 9 of the Act, the FWS, in cooperation with Reclamation, must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

1. **Due to close cooperation between FWS and Reclamation throughout the planning and development of this project, NMFS believes that all measures which are necessary and appropriate to minimize take of Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead have been incorporated into the project. Therefore, the only requirement will be for thorough monitoring and reporting to NMFS on the efficacy of the proposed conservation measures and any documented take that results from construction of the project.**
  - a. FWS, in cooperation with Reclamation, shall closely monitor all construction activities and report any incidences of take of listed salmonids within 48 hours to NMFS at the contact information below.
  - b. FWS, in cooperation with Reclamation, shall provide annual reports to NMFS' Sacramento Area Office (see contact information below) within six months of the close of each instream construction season (*i.e.*, approximately March 1, following an October 1 close of construction). These reports shall include: a summary of total numbers of listed salmonids encountered, captured, or killed during construction and rescue operations; progress on construction elements and updated timelines for project completion; and efficacy of the conservation measures and descriptions of any unforeseen problems or incidents that may have affected listed salmonids.
  - c. FWS, in cooperation with Reclamation, for the purposes of agency review shall provide to NMFS at least 14 days prior to implementation the finalized project plans describing the following:
    - any chemically-treated substances that will be used in the water or have the potential to enter Battle Creek;
    - the final stream crossing design;
    - **the chosen cofferdam alternative;**
    - **if gravel cofferdams are used**, the source location of gravel and extraction methodology, if the area is within Battle Creek watershed;
    - the design specifications and installation process for the crest cap and overshot gate to the existing barrier weir;
    - any pile-driving or dredging activities; and,
    - the final area of deposition of project spoils.
  - d. FWS, in cooperation with Reclamation, for the purposes of agency review and approval shall provide to NMFS at least 60 days prior to implementation the finalized project plans for any blasting activities.



Updates and reports required by these terms and conditions shall be submitted to:

Office Supervisor  
NMFS  
Sacramento Area Office  
650 Capitol Mall, Suite 8-300  
Sacramento, CA 95814

## **X. CONSERVATION RECOMMENDATIONS**

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

NMFS believes the following conservation recommendation is consistent with these obligations, and therefore should be implemented by FWS and Reclamation.

- a. FWS and Reclamation should continue to work cooperatively to implement the screening of Coleman NFH water supply intakes. This screening project will further integrate Coleman NFH operations/management with salmonid restoration activities in Battle Creek. Specifically, the intake screening project has been identified as necessary for protecting restored runs of Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead in the Battle Creek watershed.

In order for NMFS to be kept informed of actions avoiding or minimizing adverse effects or benefiting listed species or their habitats, NMFS requests notification of implementation of the conservation recommendation.

## **XI. REINITIATION OF CONSULTATION**

This concludes formal consultation on the action(s) outlined in the March 12, 2004 request for consultation received from the FWS. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: 1) the amount or extent of incidental take is exceeded, 2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion, 3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion, or 4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, formal consultation shall be reinitiated immediately.