



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
West Coast Region  
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Sacramento, California 95814-4700

Refer to NMFS ECO #: WCRO-2023-00291

June 1, 2023

Matthew Roberts  
Chief, California North Section  
Department of the Army  
United States Army Corps of Engineers  
Sacramento District  
1325 J Street  
Sacramento, California 95814-2922

Re: Endangered Species Act Section 7(a)(2) Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Parrot-Phelan Diversion Dam Restoration and Maintenance Project (SPK-2022-00042)

Electronic transmittal only

Dear Mr. Roberts:

This letter responds to your February 23, 2023, request for initiation of consultation with NOAA's National Marine Fisheries Service (NMFS) pursuant to Section 7 of the Endangered Species Act (ESA) for the Parrot-Phelan Diversion Dam Restoration and Maintenance Project (Project). Your request qualified for our expedited review and analysis because it met our screening criteria and contained all required information on, and analysis of, your proposed action and its potential effects to listed species and designated critical habitat.

We reviewed the U.S. Army Corps of Engineers (USACE) consultation request and related initiation package. Where relevant, we have adopted the information and analyses you have provided and/or referenced but only after our independent, science-based evaluation confirmed they meet our regulatory and scientific standards. Specifically, we incorporated by reference the following documents that have been provided by USACE, the applicant, or the applicant's consultant, in the initiation package that accompanied the original request for consultation, or in the subsequent correspondence with NMFS through electronic mail (email) during the course of the consultation process:

- The formal initiation request letter dated February 23, 2023, from Ms. Nancy Haley (USACE).
- A Biological Assessment (BA) for the Parrot-Phelan Diversion Dam Restoration and Maintenance Project (ECORP 2023).



- Email correspondence between NMFS, USACE, and the consultant, ECORP Consulting, Inc., clarifying questions on specific details of the proposed action.

### **Consultation History**

- On June 6, 2022, the USACE requested formal consultation with NMFS for the Project.
- Over several discussions between the USACE and NMFS during June 2022, more information was requested, and it was determined that near-term dam repairs and long-term maintenance activities would undergo separate consultations.
- On October 6, 2022, the USACE withdrew their 404 permit application for administrative reasons, and on October 18, 2022, NMFS withdrew the consultation.
- On February 23, 2023, NMFS received a request from the USACE for formal consultation.
- On March 8, 2023, NMFS sent the USACE an insufficiency letter via email, requesting more specific information on several aspects of the proposed action, and also asked if the in-water work window could end in August instead of mid-October.
- On March 22, 2023, the USACE provided sufficient responses to all questions, and confirmed the applicant can change the in-water work window per NMFS recommendation. On this date, the information received was sufficient to initiate consultation.

On July 5, 2022, the U.S. District Court for the Northern District of California issued an order vacating the 2019 regulations that were revised or added to 50 FR part 402 in 2019 (“2019 Regulations,” see 84 FR 44976, August 27, 2019) without making a finding on the merits. On September 21, 2022, the U.S. Court of Appeals for the Ninth Circuit granted a temporary stay of the district court’s July 5 order. As a result, the 2019 regulations are once again in effect, and we are applying the 2019 regulations here. For purposes of this consultation, we considered whether the substantive analysis and conclusions articulated in the biological opinion and incidental take statement would be any different under the pre-2019 regulations. We have determined that our analysis and conclusions would not be any different.

### **Proposed Federal Action**

“Action” means all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies (50 CFR 402.02). The USACE proposes to issue a Department of the Army permit to M&T Ranch, the applicant, to carry out the Project.

For the purposes of this consultation, NMFS adopts by reference the complete project description as it is presented in the BA (refer to Section 3.3 of the BA, ECORP 2023). The Project is located along Butte Creek on the south side of Honey Run Road on the southeastern side of the City of Chico, in Butte County, California. Approximate Project coordinates are: Latitude 39.709748°; Longitude -121.749357°. In summary, the Project will include erosion repair at an existing scour hole just downstream of the existing weir, and erosion repair along the southern bank of Butte Creek (Figure 1).



Figure 1. Aerial view of the Project area. Yellow = study area, light pink = permanent impacts to Waters of the U.S., purple = permanent RSP above the OHWM, and orange = temporary impacts to Waters of the U.S. from a temporary gravel pad. The dark pink star represents an existing fyke pipe outfall.

Repair of the existing scour hole that had developed adjacent to the weir during a high-water event is necessary, since it could compromise the integrity of the structure if left unrepaired. This 30-foot by 10-foot scour hole (approximately 0.004 acres) would be filled with rock slope protection (RSP).

Repair of the existing erosion on the southern bank of Butte Creek will be accomplished by the placement of fill material and RSP to help prevent any future erosion. This proposed stabilization area begins approximately 100 feet downstream of the existing weir and extends 253 feet along the southern bank, above the ordinary high-water mark (OHWM) of the creek.

The erosion repair will require heavy equipment, including an excavator, truck-mounted crane, and haul trucks. Heavy equipment access to the southern bank would be accomplished by constructing a temporary access pad within the creek. This temporary access pad would be approximately 40 feet long and 10 feet deep, and would contain up to 1,160 cubic yards of clean gravel, which would be sourced from the existing gravel bar on the northern bank. Gravel size would range from approximately 20 to 250 millimeters in diameter. NMFS has requested the

applicant disperse the gravel post-construction, rather than removing it, as it may provide beneficial habitat for fish.

Work will occur either in 2023 or 2024. The proposed in-water work window was between July 1 and October 15, however, the applicant agreed to a revised in-water work window of July 1 to August 31, to minimize the risk of exposure to listed fish species that may be migrating upstream towards spawning grounds in September and October.

## **ENDANGERED SPECIES ACT**

This biological opinion analyzes the effects of the Project on threatened Central Valley (CV) spring-run Chinook salmon (*Oncorhynchus tshawytscha*), threatened California Central Valley (CCV) steelhead (*O. mykiss*), and their designated critical habitats, per section 7 of the ESA.

We examined the status of each species that would be adversely affected by the proposed action to inform the description of the species' "reproduction, numbers, or distribution" as described in 50 CFR 402.02. We also examined the condition of critical habitat throughout the designated area and discuss the function of the physical or biological features (PBFs) essential to the conservation of the species that create the conservation value of that habitat. NMFS adopts by reference the description of the status of the species and their designated critical habitats that is provided in section 4 of the BA.

### **Action Area**

"Action area" means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). For the purposes of this consultation, NMFS adopts by reference the description of the action area provided in section 3.2 of the BA that was prepared by the applicant's consultant and supplied by the USACE as part of the original initiation package.

The action area includes the Project footprint, and areas where resuspension of sediments and associated increased turbidity levels resulting from disturbance of the aquatic substrate may occur. This disturbance may encompass the entire width of Butte Creek channels to a distance of 500 feet downstream of the Project area boundary, in which elevated levels of turbidity, suspended sediment, or disturbance may occur during construction-related activities.

### **Environmental Baseline**

The "environmental baseline" refers to the condition of the listed species or its designated critical habitat in the action area, without the consequences to the listed species or designated critical habitat caused by the proposed action. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultations, and the impact of State or private actions which are contemporaneous with the consultation in process. The consequences to listed species or designated critical habitat from ongoing agency activities or existing agency facilities that are not within the agency's discretion to modify are part of the environmental baseline (50 CFR 402.02). NMFS adopts by reference the description of the environmental baseline provided in the BA

(refer to Section 5.0 of the BA). However, since the BA broadly described the environmental baseline, more specific existing conditions are described below.

Historically, both CV spring-run Chinook salmon and CCV steelhead spawned in many of the headwaters and upstream portions of the Sacramento River and San Joaquin River basins. Passage impediments have contributed to substantial reductions in the populations of these species by isolating them from much of their historical spawning habitat.

The CV spring-run Chinook salmon Evolutionarily Significant Unit (ESU) is currently limited to independent populations in Mill, Deer, and Butte creeks, populations in the Feather and Yuba rivers and in Big Chico, Antelope, and Battle creeks, and a few other ephemeral or dependent populations. This ESU continues to be threatened by habitat loss, degradation and modification, small hydropower dams and water diversions (NMFS 2014).

Butte Creek CCV steelhead are limited by the same factors as CV spring-run Chinook salmon: low water and impassable dams. CCV steelhead ascend Butte Creek in the late fall and winter, and spawn in tributaries, such as Dry Creek and in the mainstem of Butte Creek above Parrot-Phelan Diversion Dam in winter and spring. Because runs are restricted to low elevations as a result of impassable rim dams, fish in the Central Valley are susceptible to climate change impacts, such as warmer temperatures, reduced snowpack, and altered seasonality and volume of seasonal hydrograph patterns.

The action area is within designated critical habitat for CV spring-run Chinook salmon and CCV steelhead. The PBFs of salmonid habitat within the action area include freshwater rearing habitat and freshwater migration corridors. The intended conservation roles of habitat in the action area are to provide appropriate freshwater rearing and migration conditions for juveniles and unimpeded freshwater migration conditions for adults. The area is outside of spawning habitat for CV spring-run Chinook salmon and CCV steelhead. The conservation condition and function of this habitat in the action area and throughout Butte Creek has been degraded within the action area due to warm water temperatures, dam construction, redd dewatering, and loss of spawning gravel recruitment.

A migratory corridor with adequate flows resulting in unimpeded passage is necessary for access to spawning grounds in Butte Creek and other tributaries. Suitable rearing habitat that supports juvenile growth and survival has an overall benefit to the fish populations. Although the aquatic habitat in the action area has been substantially altered and its quality diminished through years of human actions, its value remains high for the above NMFS-listed species and designated critical habitats.

### **Effects of the Action**

Under the ESA, “effects of the action” are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action (see 50 CFR 402.17). In our analysis, which describes the effects of the proposed action, we considered 50 CFR 402.17(a) and (b).

The BA provides a detailed discussion and comprehensive assessment of the effects of the proposed action in Section 6.0, and is adopted here (50 CFR 402.14(h)(3)). NMFS has evaluated this section and, after our independent, science-based evaluation, determined it meets our regulatory and scientific standards. In summary, the USACE proposes to authorize erosion repairs, including permanent placement of RSP and bank stabilization, and the creation of a temporary gravel pad within Butte Creek. Temporary and long-term effects of the proposed action will be caused by the following:

- Permanent placement of 0.004 acres of RSP at the weir wingwall.
- Permanent placement of 0.05 acres of RSP along the south bank of Butte Creek outside the OHWM.
- A 0.04-acre temporary gravel pad within Butte Creek to access south bank work.

The effects of the proposed action are based on best available life history information and monitoring data on the species for which ESA designated critical habitat and geographical range occurs in the action area. Adult CV spring-run Chinook salmon migrate upstream towards spawning grounds in mid-February and hold upstream in September to October. Fry emerge in November and December, and juveniles emigrate downstream in November to June. CCV steelhead adults migrate upstream August to March, and spawn from January to April. Juvenile CCV steelhead hold in freshwater for 1 to 3 years. These fish migrate to the ocean in January to June. Some CCV steelhead are iteroparous, and may return to the ocean after spawning, and migrate back upstream to spawn once or several more times.

During the July 1 to August 31 in-water work window, CV spring-run Chinook salmon are unlikely to be present in the action area. A few CCV steelhead adults may be migrating through the action area on their way upstream towards their spawning grounds during the month of August.

Temporary construction activities within Butte Creek will result in small, temporary impacts to water quality. At most, a few individual adult CCV steelhead will be temporarily disturbed as a result of increased turbidity, and construction-related noise from the operation of heavy equipment during erosion repair work and from physical disturbance during gravel pad installation and dispersal. Adult fish are likely to move away from the source of disturbance, and are unlikely to be physically harmed or killed from construction activity. In-water work is temporary, occurring for up to 14 days, and during daylight hours only. The construction footprint is also small: 300 square feet for RSP installation and a 40-foot long gravel pad, with expected turbidity impacts up to 500 feet downstream of the activity. Effects due to construction disturbance and water quality impacts are not expected to affect any adult or juvenile CV spring-run Chinook salmon, but may affect a small number of adult CCV steelhead that may be present during the 14 days of in-water work.

There is also the potential for hazardous spills to occur from heavy equipment use in and near the creek. Fueling would only occur in designated areas, and hazardous materials would be stored at an upland location away from the creek. All crew would take a worker environmental awareness training to make them aware of how to prevent and clean up spills. Since these BMPs would be implemented, the risk of a hazardous material spill is unlikely to occur.

The PBFs of the designated critical habitats for CV spring-run Chinook salmon and CCV steelhead that will be affected by the proposed action include freshwater rearing sites and

migration corridors. No spawning habitat for ESA-listed fish species is present in the action area; therefore, no adverse effects to the spawning sites PBF is expected.

Adverse effects to the rearing sites and migration corridors PBFs that are anticipated to occur as a result of the construction activities include the temporary placement of a 0.04-acre gravel pad (1,160 cubic yards of gravel), the permanent placement of up to 0.004 acres of RSP in the scour hole along the weir, and approximately 0.05 acres (approximately 253 feet x 9 feet) of RSP above the OHWM on the south bank of Butte Creek. Placement of materials within the creek will likely result in a reduction in foraging habitat and prey availability during and immediately following construction. Fixing the scour hole at the weir and repairing the southern bank may help prevent stirred up sediment by stabilizing the substrate. Dispersing the gravel from the temporary gravel pad will act as on-site mitigation, by providing long-term improvements to channel bottom substrate that may benefit rearing and migration PBFs for juvenile salmonids within the action area.

“Cumulative effects” are those effects of future state or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation (50 CFR 402.02 and 402.17(a)). Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. NMFS adopts by reference the description of cumulative effects provided in the BA (refer to Section 7.0) that was prepared by the applicant’s consultant and supplied by the USACE as part of the original initiation package. In summary, growth-inducing plans, flood risk management plans, restoration, and private landowner actions are likely to affect the action area. All potential future activities could alter habitat and increase the risk of adversely affecting federally listed fish species and the designated critical habitats of CV spring-run Chinook salmon and CCV steelhead, and would be cumulative to the effects of the proposed action.

## **Integration and Synthesis**

The Integration and Synthesis section is the final step in our assessment of the risk posed to species and critical habitat as a result of implementing the proposed action. In this section, we add the effects of the action to the environmental baseline and the cumulative effects, taking into account the status of the species and critical habitat, to formulate the agency’s biological opinion as to whether the proposed action is likely to: (1) Reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing its numbers, reproduction, or distribution; or (2) appreciably diminish the value of designated or proposed critical habitat as a whole for the conservation of the species.

CV spring-run Chinook salmon and CCV steelhead use the action area as an upstream and downstream migration corridor, as well as for rearing. Proposed construction is scheduled to occur during a July 1 to August 31 in-water work window. Adult and juvenile CV spring-run Chinook salmon, and juvenile CCV steelhead are unlikely to be present during this time. Adult CCV steelhead may be present in small numbers during the month of August. The numbers of individual listed fish that are present at the time of construction are expected to be low, and impacts to those individuals are not likely to translate into population-level effects.

The action area represents a small proportion of the similar adjacent habitat available for fish. Construction-related stressors (e.g. physical disturbance, noise, and turbidity) will be temporary

and are expected to dissipate quickly within the context of the larger surrounding habitat. For adult CCV steelhead that are present, it is anticipated that they will be temporarily affected by localized areas of disturbance. Turbidity-related effects to listed species are expected to be temporary and limited to behavioral responses and possible harm or injury of a few individuals migrating through the action area, for up to 14 days of work during the in-water work window of July 1 to August 31.

The proposed action will result in the temporary disturbance to 0.04 acres of aquatic habitat, and the permanent loss of approximately 0.004 acres of designated critical habitat for CV spring-run Chinook salmon and CCV steelhead on the channel bottom of Butte Creek.

The temporary degradation of the PBFs in the action area during construction, and the permanent degradation due to placement of the RSP within the creek is not appreciable in consideration of the available habitat adjacent to and adjoining the action area for rearing and migration. The permanent placement of dispersed gravel from the gravel pad is expected to provide improved riverine habitat in the vicinity and immediately downstream, which could benefit designated critical habitat at this location.

Although there will be temporary and permanent impacts from the Project, when added to the environmental baseline and cumulative effects, the impacts from the Project in the action area are small, and construction activities will occur during months when fish abundance is low. Therefore, the Project is not expected to reduce appreciably the likelihood of either the survival and recovery of CV spring-run Chinook salmon or CCV steelhead by reducing their numbers, reproduction, or distribution; or appreciably diminish the value of designated critical habitats for the conservation of either species.

After reviewing and analyzing the current status of the listed species and critical habitat, the environmental baseline within the action area, the effects of the proposed action, the effects of other activities caused by the proposed action, and cumulative effects, it is NMFS' biological opinion that the proposed action is not likely to jeopardize the continued existence of CV spring-run Chinook salmon or CCV steelhead, or destroy or adversely modify their designated critical habitats.

## **INCIDENTAL TAKE STATEMENT**

Section 9 of the ESA and Federal regulations pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without a 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 regulation to include significant habitat modification or degradation that actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering (50 CFR 222.102). "Harass" is further defined by interim guidance as to "create the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering." "Incidental take" is defined by regulation as takings that result from, but are not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or applicant (50 CFR 402.02). Section 7(b)(4) and section 7(o)(2) provide that taking that is incidental to an otherwise lawful agency action is not considered to be prohibited taking under the ESA if that action is performed in compliance with the terms and conditions of this incidental take statement (ITS).



## Amount or Extent of Take

In the biological opinion, NMFS determined that the proposed action is reasonably certain to result in the incidental take of individual adult CCV steelhead. Incidental take in the form of harassment, harm, or injury is expected to occur during temporary construction activities and from the alteration of habitat conditions in a manner that may significantly disrupt normal behavior. Because of proposed Project timing, and due to the location and small size of the action area in relation to surrounding habitat, actual numbers of fish adversely affected are expected to be low. NMFS does not anticipate the incidental take of any spawning fish, eggs, fry, or larval life stages of any of the listed species considered in this biological opinion, since no spawning habitat is present in the action area.

NMFS cannot, using the best available information, precisely quantify and track the amount or number of individuals that are expected to be incidentally taken (injured, harmed, harassed) as a result of the proposed action due to the variability and uncertainty associated with the long-term response of listed species to the effects of the proposed action, the varying population size, annual variations in the timing of migration, individual habitat use within the action area, and difficulty in observing affected fish. However, it is possible to estimate the extent of incidental take by designating, as ecological surrogates, those elements of the Project that are expected to result in adverse effects to listed fish species, that are more predictable and/or measurable, with the ability to monitor those surrogates to determine the extent of take that is occurring.

The most appropriate threshold for incidental take is an ecological surrogate of habitat degradation, which includes temporary and permanent degradation of aquatic habitat. The behavioral modifications or fish responses that result from the habitat disturbance are described below. NMFS anticipates annual take will be limited to the following forms:

1. Take in the form of harassment of adult CCV steelhead during gravel pad installation activity and RSP placement along the weir, during the month of August, when adults may be present in the action area. Construction activity is expected to result in behavioral changes, such as startle responses and fish leaving the area until the disturbance subsides. The analysis of the effects of the proposed action anticipates that these construction activities will result in a temporary disturbance of up to 0.04 acres and a permanent disturbance of 0.004 acres of riverine habitat.
2. Take in the form of harm or injury to adult CCV steelhead as a result of elevated turbidity in the aquatic environment relative to environmental background conditions. Increased turbidity is expected to cause elevated stress levels and disruption of normal habitat use. These temporary responses are linked to decreased survival and overall reduced fitness.
3. Take in the form of harm to rearing and outmigrating juveniles and migrating adults from the degradation of aquatic habitat from the temporary placement of the gravel pad, and the permanent addition of RSP within Butte Creek. This will permanently reduce the quantity and quality of approximately 0.004 acres of channel bottom habitat. However, dispersing the 1,160 cubic yards of gravel used for the gravel pad will help to mitigate for impacts to salmonid habitat, since it is expected to improve channel bottom habitat by providing more suitable substrate. Stabilizing the south bank and scour hole may also help prevent increases in turbidity.

Incidental take will be exceeded if the amount of habitat disturbance described in the above is exceeded.

### **Effect of the Take**

In the biological opinion, NMFS determined that the amount or extent of anticipated take, coupled with other effects of the proposed action, is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

### **Reasonable and Prudent Measures**

“Reasonable and prudent measures” are measures that are necessary or appropriate to minimize the impact of the amount or extent of incidental take (50 CFR 402.02).

1. Measures shall be taken to ensure that contractors, construction workers, and all other parties involved with the Project, will implement the Project as proposed in the BA and this biological opinion.
2. Measures shall be taken to minimize the impacts of bank protection by implementing integrated onsite conservation measures that provide beneficial growth and survival conditions for juvenile salmonids.
3. The USACE shall monitor the impacts of incidental take of listed fish and provide NMFS with a post-construction final report describing Project activities to ensure they did not exceed what was described in the BA and this biological opinion.

### **Terms and Conditions**

In order to be exempt from the prohibitions of section 9 of the ESA, the Federal action agency must comply (or must ensure that any applicant complies) with the following terms and conditions. The USACE or any applicant has a continuing duty to monitor the impacts of incidental take and must report the progress of the action and its impact on the species as specified in this ITS (50 CFR 402.14). If the entity to whom a term and condition is directed does not comply with the following terms and conditions, protective coverage for the proposed action would likely lapse.

1. The following terms and conditions implement reasonable and prudent measure 1:
  - a. The USACE shall provide a copy of this biological opinion and the BA to the contractor, making the primary contractor responsible for implementing all requirements and obligations included in these documents and to educate and inform all other contractors involved in the Project of the requirements of this biological opinion.
  - b. All personnel working onsite should receive worker environmental awareness training before entering the project area. This training should include an overview of the avoidance and minimization measures to be implemented to protect biological resources, the terms and conditions in the NMFS biological opinion,

what species may be present and their status, and fines for take of federally listed species.

2. The following terms and conditions implement reasonable and prudent measure 2:
  - a. The USACE should consider using alternative methods to traditional RSP for levee repairs. For instance, bioengineered products that are consistent with Project goals to resist erosive forces are good alternatives to using riprap.
  - b. The use of filter fabric or geotextile fabrics should be avoided to the extent practicable, as they can often be used incorrectly and often are unnecessary. Erosion can occur behind the filter fabric causing the bank to fail, or the fabric can create a slip-face and cause the RSP to slip, exposing the fabric.
  - c. To reduce the adverse impacts of predation associated with the placement of RSP with larger interstitial voids below the water line, NMFS recommends mixing smaller rock with the quarry stone to achieve an average rock diameter of no more than 8 inches. This reduces the size of the interstitial voids that could harbor predators.
  - d. Any plastic materials, such as silt fencing, should be removed immediately upon Project completion. The Project should use biodegradable materials when feasible, such as straw wattles wrapped with coir, especially for any materials that will be left onsite. No monofilament-wrapped products should be used.

3. The following terms and conditions implement reasonable and prudent measure 3:

- a. The report shall include a summary description of projected and actual start dates, progress, and completion of the Project and verify that take was not exceeded, all avoidance and minimization measures were followed, and any observation of listed fish species. Updates and reports required by these terms and conditions shall be submitted by December 31 of the construction year:

Electronically to the NMFS CCVO at the following e-mail address:  
[ccvo.consultationrequests@noaa.gov](mailto:ccvo.consultationrequests@noaa.gov)

- b. Any observations of mortalities or abnormal behavior shall immediately be reported to NMFS within 24 hours. This information shall include species observed, life history stage, location (including GPS coordinates if available), number of fish observed, time of day, as well as any other relevant details that are available. If possible, mortalities shall be collected, frozen, individually labeled with appropriate information. Any dead specimen(s) should be placed in a cooler with ice and either held for pick up by NMFS personnel or an individual designated by NMFS to do so, or sent to:

NMFS Southwest Fisheries Science Center  
 Fisheries Ecology Division  
 110 Shaffer Road  
 Santa Cruz, California 95060

## Conservation Recommendations

Section 7(a)(1) of the ESA directs Federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Specifically, conservation recommendations are suggestions regarding discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information (50 CFR 402.02).

1. The USACE should recommend that contractors use biodegradable lubricants and hydraulic fluid in construction machinery. The use of petroleum alternatives can greatly reduce the risk of contaminants, such as polycyclic aromatic hydrocarbons (PAHs) or heavy metals directly or indirectly entering the aquatic ecosystem.
2. The USACE should limit the amount of RSP used for bank and in-stream protection in the Central Valley to the minimum amount needed for erosion and scour. Engineering plans should be provided to the contractors that clearly show the amount of RSP to be placed at the Project site. Limitation of RSP in design considerations is consistent with agency requirements set forth in section 7(a)(1).
3. The USACE should consider using alternative methods to traditional RSP and incorporating geotextiles for bank erosion control and prevention. Bioengineered products are available on the market and can be used to protect areas against erosive forces along shorelines and is an alternative to using RSP. Implementation of RSP alternatives in design considerations is consistent with agency requirements set forth in section 7(a)(1).
4. The USACE should recommend that project applicants incorporate increased instream cover in Butte Creek into their projects, in order to minimize predatory opportunities for striped bass and other nonnative predators on anadromous salmonids, consistent with recovery action BUC-2.2 in the NMFS Recovery Plan (NMFS 2014).
5. The USACE should identify stream reaches in Butte Creek that have been most altered by anthropogenic factors and develop and implement actions that restore natural river processes, consistent with recovery action BUC-2.5 in the NMFS Recovery Plan (NMFS 2014).

### **Reinitiation of Consultation**

Under 50 CFR 402.16(a): “Reinitiation of consultation is required and shall be requested by the Federal agency or by the Service where discretionary Federal agency involvement or control over the action has been retained or is authorized by law and: (1) If the amount or extent of taking specified in the incidental take statement is exceeded; (2) If new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion or written concurrence; or (4) If a new species is listed or critical habitat designated that may be affected by the identified action.”

### **MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT ESSENTIAL FISH HABITAT RESPONSE**

NMFS also reviewed the proposed action for potential effects on essential fish habitat (EFH) designated under the Magnuson-Stevens Fishery Conservation and Management Act (MSA),

including conservation measures and any determination you made regarding the potential effects of the action. This review was conducted pursuant to section 305(b) of the MSA, implementing regulations at 50 CFR 600.920, and agency guidance for use of the ESA consultation process to complete EFH consultation.

Section 305 (b) of the MSA directs Federal agencies to consult with NMFS on all actions or proposed actions that may adversely affect EFH. Under the MSA, this consultation is intended to promote the conservation of EFH as necessary to support sustainable fisheries and the managed species' contribution to a healthy ecosystem. For the purposes of the MSA, EFH means "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity", and includes the associated physical, chemical, and biological properties that are used by fish (50 CFR 600.10). Adverse effect means any impact that reduces quality or quantity of EFH, and may include direct or indirect physical, chemical, or biological alteration of the waters or substrate and loss of (or injury to) benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality or quantity of EFH. Adverse effects may result from actions occurring within EFH or outside of it and may include direct, indirect, site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810). Section 305(b) of the MSA also requires NMFS to recommend measures that can be taken by the action agency to conserve EFH. Such recommendations may include measures to avoid, minimize, mitigate, or otherwise offset the adverse effects of the action on EFH (50 CFR 600.0-5(b)).

NMFS determined the proposed action would adversely affect EFH designated under the Pacific Coast Salmon FMP. Additional species that utilize EFH designated under this FMP within the action area include fall-run and late fall-run Chinook salmon. The effects of the proposed action on Pacific salmon EFH will be similar to those discussed in the Effects of the Action section for Chinook salmon. The Habitat Areas of Particular Concern (HAPCs) within the action area include (1) complex channels and floodplain habitats, (2) thermal refugia, and (3) spawning habitats for CV fall-run Chinook salmon.

Adverse effects to HAPCs are appreciably similar to effects to critical habitat; therefore, no additional discussion is included. Listed below are the adverse effects on EFH reasonably certain to occur. Affected HAPCs are indicated by number, corresponding to the list in the previous paragraph.

### 1. Sedimentation and Turbidity

- Reduced habitat complexity (1, 2, 3)
- Degraded water quality (1, 2, 3)
- Reduction in aquatic macroinvertebrate production (1, 2)

### 2. Installation of Riprap

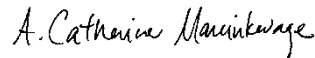
- Permanent loss of natural substrate (1)
- Reduced habitat complexity (1, 2)

The terms and conditions and conservation recommendations in this biological opinion contain adequate measures to avoid, minimize, or otherwise offset the adverse effects to EFH. Therefore, NMFS has no EFH conservation recommendations to provide.

This letter underwent pre-dissemination review using standards for utility, integrity, and objectivity in compliance with applicable guidelines issued under the Data Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001, Public Law 106-554). The biological opinion will be available through NOAA Institutional Repository (<https://repository.library.noaa.gov/>). A complete record of this consultation is on file at the NMFS California Central Valley Office, in Sacramento, California.

Please direct questions regarding this letter to Kristin Begun in NMFS' California Central Valley Office at [kristin.begun@noaa.gov](mailto:kristin.begun@noaa.gov), or by phone at (916) 996-7249.

Sincerely,



Cathy Marcinkevage  
Assistant Regional Administrator for  
California Central Valley Office

cc: Copy to File No: ARN 151422-WCR2022-SA00024

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Mr. Nicholas Bonzey, ECORP Consulting, [nbonzey@ecorpconsulting.com](mailto:nbonzey@ecorpconsulting.com)

## REFERENCES

ECORPS Consulting, Inc. 2023. Biological Assessment for the Parrot-Phelan Diversion Dam Restoration and Maintenance Project. Rocklin, California. 40 pp.

National Marine Fisheries Service. 2014. Recovery Plan for the Evolutionarily Significant Units of Sacramento River Winter-run Chinook Salmon and Central Valley Spring-run Chinook Salmon and the Distinct Population Segment of California Central Valley Steelhead. California Central Valley Area Office. July 2014. 428 pp.