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

November 20, 2025 **Refer to NMFS No:** WCRO-2025-02279

James Mazza
Regulatory Division Chief
U.S. Department of the Army
San Francisco District, Corps of Engineers
450 Golden Gate Avenue, 4th Floor, Suite 0134
San Francisco, California 94102-3406

Re: Endangered Species Act Section 7(a)(2) Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Zone 7 Water Agency 2023 Storm Damage Repairs and Bank Stabilization Projects (Corps File Nos. SPN-2024-00254, SPN-2025-00034, SPN-2025-00056, and SPN-2025-00199)

Dear Mr. Mazza:

This letter responds to your August 4, 2025, request for initiation of consultation with NOAA's National Marine Fisheries Service (NMFS) pursuant to Section 7 of the Endangered Species Act (ESA) and Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) for the subject action. 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. Consultation was held in abeyance for 43 days due to a lapse in appropriations and resulting government shutdown. Consultation resumed on November 13,

We reviewed the U.S. Army Corps of Engineers' (Corps) 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. In our biological opinion (opinion) and essential fish habitat (EFH) response below we indicate what parts of your documents we have incorporated by reference and where that information is being incorporated.

On August 4, 2025, NMFS received a letter requesting to combine four separate Corps permit applications that were included in two previously requested individual consultations (WCRO-2025-00702 / FRN 151422WCR2025SR00076, WCRO-2025-00744 / FRN 151422WCR2025SR00089) into one single consultation with NMFS. The Corps determined that the effects of the projects justified a single, combined analysis. The Corps, NMFS, and Zone 7 conducted several virtual meetings from February through July 2025 to discuss project details. On August 26, 2025, NMFS requested additional information from the Corps by email clarifying the total linear feet of bank stabilization proposed. The Corps replied by email on August 27, 2025 with sufficient information for NMFS to initiate formal consultation.

We used generative Google Gemini artificial intelligence (AI) to assist with the initial drafting of the following sections of this biological opinion: action area; environmental baseline; effects of the action, cumulative effects, and integration and synthesis. All outputs from generative AI that were incorporated into the biological opinion were reviewed for accuracy by qualified staff members, and edited as necessary to ensure use of the best available scientific and commercial data. NMFS retains all responsibility for the content of this biological opinion.

Updates to the regulations governing interagency consultation (50 CFR part 402) were effective on May 6, 2024 (89 Fed. Reg. 24268). We are applying the updated regulations to this consultation. The 2024 regulatory changes, like those from 2019, were intended to improve and clarify the consultation process, and, with one exception from 2024 (offsetting reasonable and prudent measures), were not intended to result in changes to the Services' existing practice in implementing section 7(a)(2) of the ESA (89 FR 24268; 84 FR 45015). We have considered the prior rules and affirm that the substantive analysis and conclusions articulated in this biological opinion and incidental take statement would not have been any different under the 2019 regulations or pre-2019 regulations.

The Corps proposes to authorize the Alameda County Flood Control and Water Conservation District, Zone 7 (Zone 7), pursuant to Section 404 of the Clean Water Act (CWA) of 1972, as amended, 33 U.S.C. § 1344 et seq., to repair stormwater-damaged creekbanks at 56 sites along channel and creek banks in the Cities of Dublin and Pleasanton, Alameda County, California. The purpose of the action is to reestablish physical stability and maintain water conveyance infrastructure following damage from intense storms in late 2022 and early 2023. Work is scheduled to occur during the dry season (June 1 to October 15) over a minimum of three work seasons. The proposed action involves implementing seven different bank stabilization repair methods. These repairs include the installation of rock slope protection (RSP), riprap, and other long-term erosion control features, resulting in approximately 6,180 linear feet (6,178.26 linear feet) of fill along the stream and channel banks. If needed, some sites may require dewatering, which will involve isolating the work area with temporary cofferdams, routing water around the site, and fish rescue and relocation. Following construction, best management practices (BMPs) will be implemented, including revegetating disturbed areas with native seed mixes and direct plantings of native sedges and riparian tree species to encourage the reestablishment of vegetated slopes. Long-term effects to riverine and riparian habitats will be mitigated with the objective of no net loss of aquatic resources or habitat, at an agency-approved mitigation ratio. Additional Project details can be found in the Proposed Action section of the Combined BA (Zone 7 2025).

BIOLOGICAL OPINION

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. There is no designated critical habitat for CCC steelhead within the action area. The Combined BA (Zone 7 2025) provides information on the status of the species for the Central California Coast (CCC) Distinct Population Segment (DPS) steelhead (*Oncorhynchus mykiss*) that is being adopted here.

"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). As part of the consultation request package, the Combined BA (Zone 7 2025) and appendices (Zone 7 2025a, 2025b, 2025c, 2024) provide the description of the action area that is being adopted here and summarized in the paragraph below.

For this consultation, the action area is defined as the 56 repair sites located within the cities of Dublin, Pleasanton, and Livermore in Alameda County, California. Projects will occur along the following eleven streams and channels: Arroyo de la Laguna, the Pleasanton Canal, Arroyo del Valle, Arroyo Mocho, the Chabot Canal, Tassajara Creek, Alamo Canal, an unnamed tributary to the Alamo Canal, Alamo Creek, South San Ramon Creek, and San Ramon Creek. The action area at each project site includes a 30-foot buffer on all sides of each repair and is inclusive of adjacent upland habitat and access roads, extending approximately 500 feet upstream and downstream of the project footprints. This also includes all staging areas and entry points to each site.

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 impacts to listed species or designated critical habitat from federal agency activities or existing federal agency facilities that are not within the agency's discretion to modify are part of the environmental baseline (50 CFR 402.02). The Combined BA (Zone 7 2025) and appendices (Zone 7 2025a, 2025b, 2025c, 2024) provide the description of CCC DPS steelhead within the action area, which is being adopted here and summarized in the paragraph below.

The environmental baseline in the action area is characterized by a highly modified urban flood control channel network. Historically, barriers downstream prevented access for anadromous fish, but the construction of a fish ladder in lower Alameda Creek in 2022 reopened migration routes for CCC steelhead into the action area. The primary function of the waterways within the action area for CCC steelhead is as a migratory corridor to access higher quality spawning habitat upstream, which occurs during high-flow periods, typically between November and March. Habitat suitability declines significantly between April and October due to several limiting factors including low water depth and high-water temperatures that reach unsuitable and potentially lethal levels for steelhead, making summer rearing unlikely in the action area.

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.

The temporary and long-term effects of this proposed action are reasonably likely to include:

- temporary impacts during construction related to suspended sediment and increased turbidity;
- temporary impacts to stream flow during construction within each dewatered site;
- temporary impacts to riparian vegetation during construction;
- injury and mortality of steelhead during fish capture, handling and relocation activities associated with dewatering activities; and
- placement of fill during construction and long-term bank stabilization impacts post-construction.

A detailed discussion and comprehensive assessment of the effects of the proposed action are provided in the Combined BA (Zone 7 2025) and appendices (Zone 7 2025a, 2025b, 2025c, 2024). NMFS has evaluated the information in these documents and, after our independent, science-based evaluation, we have determined a portion of it meets our regulatory and scientific standards, and has been adopted here (50 CFR 402.14(h)(3)). NMFS provides a summary of that information in the paragraph below.

Temporary effects include short-term increases in turbidity, potential for contaminant spills, and temporary habitat loss from dewatering approximately 0.295 acres of channel. These temporary effects will be minimized by implementing BMPs. Regarding temporary impacts to streamflow, dewatered areas will be restricted to the minimum area and duration necessary to complete the work. Temporary impacts to riparian vegetation will reduce organic matter and nutritional inputs to aquatic habitat. Revegetation and post-construction monitoring will ensure vegetation is restored in the long-term, and may result in overall long-term improvements to vegetation within the action area due to native species composition of revegetation efforts.

In addition, as a supplement to the effects analysis included with the Corps' initiation package, NMFS provides information in the following paragraphs below.

If water is present at a project site, then fish rescue and relocation may occur during dewatering associated with construction activities. Dewatering activities and subsequent fish rescue operations may result in the injury, harassment, or capture and relocation of any steelhead present in the work area. These temporary effects will be minimized by implementing BMPs and conducting all in-water work during the dry season (June 1 to October 15), when low flows and high-water temperatures make steelhead presence in the action area unlikely. Any pump intakes used for dewatering will be equipped with fish screens with 0.25-inch or smaller mesh, meeting NMFS criteria, to prevent impingement of fish. A Fish Rescue Plan will be developed and submitted to NMFS for approval prior to cofferdam installation and dewatering. NMFS will be notified at least 48 hours before fish rescue efforts begin. To encourage fish to leave the work area voluntarily, cofferdams will be constructed starting at the upstream project limit to allow fish to move downstream. Fish will be relocated to suitable habitat downstream of the work area.

For CCC steelhead, since construction and maintenance activities in the action area are scheduled to occur between June 1 and October 15, capture, rescue, and relocation activities

will occur during the summer low-flow period after emigrating smolts have left and before adults have immigrated for spawning. Therefore, only small numbers of juvenile steelhead are expected to be in the action area during the construction period, and NMFS expects capture and relocation of listed steelhead will be primarily pre-smolting and young-of-the-year fish, and fewer yearling juvenile steelhead. Injury and mortality of juvenile salmonids during capture and relocation will be minimized during fish rescue and relocation activities because it will be conducted by qualified fisheries biologists following NMFS electrofishing guidelines (NMFS 2000). Netting may also occur. Seining could also result in injury or mortality to a small percentage of captured fish. Data on fish relocation efforts between 2002 and 2009 show mortality rates from fish capture and relocation are approximately two (2) percent for steelhead (Collins 2004; CDFW 2005, 2006, 2007, 2008, 2009, 2010).

Juvenile steelhead that avoid capture in the project work area will likely die during dewatering activities due to desiccation, thermal stress, or may be crushed by equipment or foot traffic if not found by biologists while water levels within the reach recede. All steelhead that avoid capture during fish relocation activities will be trapped in the isolated areas being dewatered, and 100-percent mortality is expected as a result. The guidelines provided by NMFS and applicable BMPs are expected to be effective at removing steelhead from work sites, and the pre-dewatering fish relocation efforts at the project site will be performed by qualified biologists. Therefore, it is anticipated that the number of juvenile steelhead that will be killed as a result of stranding during dewatering activities will be very small, likely no more than one (1) percent of the steelhead within the work site prior to dewatering.

Based on the above, unintentional mortality of juvenile steelhead expected during steelhead captured will be less than two (2) percent, and one (1) percent of steelhead will remain trapped in dewatered areas and not be rescued or relocated. Thus, dewatering, capture, and handling procedures are not expected to result in mortality that exceeds three (3) percent throughout the action area over the duration of the proposed action.

Proposed construction activities will result in the repair of approximately 6,180 linear feet of hardscape erosion control structures, such as riprap. This replacement of native-soil banks with hardscape degrades the quality of instream habitat for steelhead. The combined impact of hardening the banks at 56 sites constitutes a long-term adverse effect on steelhead habitat. By design, streambank stabilization projects prevent lateral channel migration and force streams into a simplified linear configuration without the ability to move laterally. This consequently results in streams eroding and deepening vertically (Leopold 1968; Dunne and Leopold 1978). Simplified stream reaches typically produce limited macroinvertebrate prey and poor functional habitat for rearing juvenile salmonids (Florsheim et al. 2008).

For as long as the bank stabilization structures persists, a small, unquantifiable number of migrating CCC steelhead (juvenile and adult) will be exposed to habitat impaired by bank stabilization within the action area. Displaced juveniles during and post-construction may search for new habitat within the action area's highly modified flood control channel network. These individuals will be exposed to habitat comprising relatively better, similar, or poorer rearing conditions compared to during- and post-project conditions within the action area. We expect steelhead individuals that move to areas with suitable rearing habitat conditions will experience

improved growth rates and improved fitness. The action area contains a mix of habitat conditions, much of which is already sub-optimal for steelhead rearing due to urbanization, bank stabilization, high summer temperatures and lack of complexity. Long-term effects to riverine and riparian habitats will be mitigated with the objective of no net loss of aquatic resources or habitat, at an agency-approved mitigation ratio. It is expected that these mitigation sites where habitat will be enhanced or restored will provide similar or improved habitat functions for steelhead compared with baseline conditions. Therefore, rearing juvenile steelhead that are exposed to habitat impaired by bank stabilization within the action area, and subsequently unable to access suitable rearing habitat, will experience reduced feeding ability, resulting in harm in the form of reduced growth rates and impaired fitness. If these smaller fish are unable to move to areas with better resources for growth, they will likely experience lower survival upon ocean entry (Holtby et al. 1990, Thompson and Beauchamp 2014), especially if unfavorable ocean conditions exist. As a result, these smaller fish are less likely to return and spawn.

Additionally, a subset of future generations of steelhead will experience these effects as they transit or rear within the action area. This impact cannot be quantified directly, given 1) the low abundance of steelhead in the Alameda Creek watershed, 2) the low densities of steelhead expected to occur in the action area in any one year, 3) the relatively small length of channel that will be stabilized at each project site, and 4) that only a subset of the steelhead exposed to post-project conditions are expected to experience reduced growth rates and reduced fitness due to their persistence within or movement into areas with similarly impaired or poorer habitat. Although it is not feasible to identify exact amounts of fish or locations adversely affected by the proposed action, NMFS expects that a low level of injury, harm, or mortality is reasonably certain to occur during exposure to impaired habitat conditions resulting from bank stabilization. Therefore, we expect any steelhead that experience harm in the form of reduced fitness or reduced growth rates as a result of this proposed action would represent a very small portion of the Alameda Creek steelhead population and an even smaller, inconsequential proportion of the overall CCC steelhead DPS.

“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). 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. Zone 7’s public ownership of the urban flood control channel network prevents actions that could occur under private ownership in the action area’s streams and channels (Zone 7 2025). NMFS performed a search in August 2025 for planned state or private projects that are located in the action area and surrounding areas and waters. The action area surrounding the streams and channels is located within the steadily urbanizing cities of Dublin and Pleasanton. A review of public planning documents on the California Environmental Quality Act web portal (https://ceqanet.lci.ca.gov) and city websites indicates that numerous state and private activities are reasonably certain to occur in the future. These include large-scale residential and commercial developments such as the Dublin Fallon 580 project, Wallis Ranch Community Park, and various other housing projects in Dublin and Pleasanton. Associated infrastructure projects, such as the Tassajara Road widening in Dublin, will also accompany this development. These future actions will contribute to cumulative effects on CCC steelhead and their habitat. The primary effects of this ongoing urbanization include:

- Increased impervious surfaces: development of roads, buildings, and parking lots will reduce water infiltration and increase the volume and velocity of stormwater runoff into the adjacent creeks. This can alter stream hydrology, accelerate bank erosion in untreated areas, and change channel morphology.

- Degraded water quality: runoff from urban and suburban landscapes carries a variety of pollutants, including oil, grease, pesticides, herbicides, and fertilizers, which degrades water quality and harms aquatic life.

The integration and synthesis section is the final step in our assessment of the risk posed to species 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, to formulate the agency's opinion as to whether the proposed action is likely to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing its numbers, reproduction, or distribution. There is no designated critical habitat for CCC steelhead within the action area.

The action area for this consultation consists of 56 bank stabilization sites within a highly modified urban flood control channel network in Alameda County, which is part of the Interior San Francisco Bay Diversity Stratum for Central California Coast (CCC) steelhead. The Alameda Creek population, to which the steelhead in the action area belong, is considered a functionally independent population essential to the recovery of the CCC steelhead DPS. Although habitat in the action area is degraded for steelhead by urbanization, altered hydrology, and impaired water quality, the recent construction of a fish ladder downstream has restored access for steelhead. The primary function of the waterways within the action area is to serve as a migratory corridor for steelhead attempting to move to upstream spawning habitats during winter high flows. The environmental baseline is further stressed by cumulative effects from ongoing urbanization, which is reasonably certain to continue leading to increased impervious surfaces, polluted runoff, and further loss of riparian habitat that will continue to degrade conditions for steelhead.

NMFS determined that CCC steelhead will be adversely affected by the proposed action, which will result in both temporary and long-term adverse effects to CCC steelhead and their habitat. Temporary effects during the in-water work window (June 1 to October 15) include increased turbidity and the potential for dewatering and fish relocation activities, which could cause injury, harassment, or mortality to any juvenile steelhead present. These effects are expected to be minimal, as high summer water temperatures make steelhead presence in the action area unlikely during this period. The number of impacted fish will likely be small, considering few steelhead are expected within the action area due to the currently degraded rearing habitat conditions and a construction schedule that avoids adult and smolt migration periods. Furthermore, mortality rates from capture, handling, and relocation during dewatering activities are expected to be below three (3) percent, so the risk of mortality to any encountered steelhead is low.

The primary, long-term adverse effect of the action is the repair of approximately 6,180 linear feet of hardscape erosion control structures, such as riprap. This habitat degradation simplifies

the channel, eliminates complex cover such as undercut banks, reduces recruitment of woody debris, and limits riparian vegetation that provides shade and terrestrial food inputs. The simplification of habitat and loss of cover are expected to displace juvenile steelhead into adjacent areas that may offer similar or poorer habitat conditions. This displacement increases energetic costs, competition, and predation risk, which is expected to reduce the growth, fitness, and survival of affected individuals, ultimately lowering their probability of surviving to return as spawning adults. As proposed by Zone 7, long-term effects to riverine and riparian habitats will be mitigated with the objective of no net loss of aquatic resources or habitat, at an agency-approved mitigation ratio. The mitigation plan will be developed by Zone 7 and submitted to NMFS for review and approval. Implementation of Zone 7's mitigation plan is expected to reduce adverse effects of bank stabilization on CCC steelhead that will utilize the action area post-construction.

The CCC steelhead DPS has experienced significant declines in abundance, and its long-term population trend is negative. Although the action area represents a small portion of the DPS's range, the Alameda Creek population is important for the species' recovery. Through the installation of hardscape bank protection, the proposed action will perpetuate a severely degraded state of habitat for CCC steelhead in the action area. While the proposed minimization measures, such as working in the dry season and replanting disturbed areas, will reduce some of the impacts, the repair of approximately 6,180 linear feet of hardscape erosion control structures will have a lasting harmful effect on the reproduction and numbers of the local steelhead population by reducing the survival of the juvenile life stage. Because the mitigation plan's objective is no net loss of aquatic resources or habitat, it is expected that habitat in the action area will be enhanced or restored to provide similar or improved habitat functions for steelhead compared with baseline conditions. Due to recent fish passage improvements, the Alameda Creek watershed steelhead population is increasing and the population size is expected to be larger upon completion of this proposed action (SFPUC 2025). The number of individuals expected to be affected is small in relation to the overall population size within the watershed and the DPS. Given the small number of individuals likely to be affected and the context of the already-degraded baseline, the proposed action's effects, when added to the environmental baseline and cumulative effects, are not expected to reduce appreciably the likelihood of both the survival and recovery of the CCC steelhead DPS. After reviewing and analyzing the current status of the listed species, 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 CCC steelhead.

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 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 opinion, NMFS determined that a low level of incidental take is reasonably certain to occur as follows: juvenile CCC steelhead injury, harm, harassment, or mortality is reasonably certain to occur during dewatering and fish relocation events that occur during sediment removal activities. A low level of incidental take of CCC steelhead in the form of injury, harm, or mortality is reasonably certain to occur during exposure to impaired habitat conditions resulting from bank stabilization.

Dewatering and Fish Relocation
In the opinion, NMFS determined that a low level of incidental take is reasonably certain to occur as follows: CCC steelhead capture, injury, harm, or mortality is reasonably certain to occur during dewatering and fish relocation events that occur during bank stabilization activities. The number of CCC steelhead that may be incidentally taken during dewatering and fish relocation events associated with the proposed project is expected to be very small, but cannot be accurately quantified due to: 1) the specific number of fish that may be present is unknown, and 2) the specific number of fish that may be stranded is unknown. Based on prior experience with current relocation techniques and protocols likely to be used to conduct the dewatering and fish relocation, unintentional mortality of listed salmonids expected from capturing, handling, and relocation of fish is not likely to exceed one (1) percent of the steelhead in the work area following dewatering, and two (2) percent for steelhead that are captured, handled, and relocated from within the dewatered area. The amount of incidental take during dewatering and fish relocation will be considered exceeded if steelhead mortality results in more than a total of three (3) percent of the total steelhead within all dewatered areas throughout the action area over the entire duration of the proposed action.

Bank Stabilization
NMFS determined that a low level of incidental take of CCC steelhead in the form of injury, harm, or mortality is reasonably certain to occur during exposure to impaired habitat conditions resulting from bank stabilization. The precise number of CCC steelhead that are expected to be incidentally taken resulting from these habitat-related impacts cannot be accurately quantified because: 1) some life-stages of steelhead are relatively small (especially as eggs, alevins, and juveniles); 2) these species live in aquatic environments where visibility is often low, hiding cover is often available, and predators feed; and 3) we cannot precisely predict where and when habitat impacts may affect these species later in their life cycles. Thus, in this circumstance, NMFS cannot provide an accurate amount of take that would be caused by exposure to habitat

impaired by bank stabilization, and instead is applying a surrogate to estimate the extent of incidental take. Here, the best available surrogate for the extent of incidental take is related to the spatial extent of habitat lost due to stabilizing the streambank and arresting natural fluvial and geomorphic processes. NMFS will use the area of proposed bank stabilization as a surrogate for the extent of incidental take resulting from stabilizing the streambank. NMFS will, therefore, use the following incidental take surrogate pursuant to 50 CFR 402.14(i)(1)(i).

- The extent of incidental take will, therefore, be considered exceeded if the total area of stabilized bank exceeds 6,180 linear feet along the creek banks throughout the action area.

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" refer to those actions the Director considers necessary or appropriate to minimize the impact of the incidental take on the species (50 CFR 402.02). NMFS believes the following reasonable and prudent measures are necessary and appropriate to minimize take of CCC steelhead:

1. Undertake measures to ensure that injury and mortality to steelhead resulting from fish capture, collection, relocation, and dewatering activities is low.
2. Undertake measures to minimize adverse effects on steelhead from project site construction, and degradation of aquatic habitat.
3. Prepare and submit an annual report regarding the number of fish encountered and relocated, or mortalities during the maintenance to document the effects of construction, relocation, and dewatering activities as well as any monitoring activities conducted.

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 Corps or Zone 7 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. As described in the project description of the BA, a Fish Rescue Plan will be developed by Zone 7 and submitted to NMFS for approval prior to cofferdam installation and dewatering. For timely approval, Zone 7 shall submit a draft Fish Rescue Plan a

minimum of 30 days before the first project site that is expected to need a cofferdam installation and dewatering component. The Fish Rescue Plan will be general and applicable to all project sites within this proposed action, resulting in one submittal to NMFS for review and approval for the Fish Rescue Plan. Subsequent modifications to the Fish Rescue Plan will be submitted to NMFS for review and approval.

b. Zone 7 or their contractor will retain qualified biologists with expertise in the area of anadromous salmonid biology, including handling, collecting, and relocating salmonids; salmonid/habitat relationship; and biological monitoring of salmonids. The biologist will be on site during all dewatering events and will monitor the construction site during placement and removal of cofferdams and channel diversions to ensure that any adverse effects to salmonids are minimized.
c. If any steelhead or salmon are found dead or injured, the biological monitor will contact NMFS staff at 707-575-1253 or brian.meux@noaa.gov. Any steelhead mortalities must be retained, placed in an appropriately sized whirl-pack or zip-lock bag, labeled with the date and time of collection, fork length, location of capture, and frozen as soon as possible. Frozen samples must be retained until specific instructions are provided by NMFS.
    i. Tissue samples are to be acquired from each mortality prior to freezing the carcass per the methods identified in the NMFS Southwest Fisheries Science Center Genetic Repository protocols: Either a 1 cm square clip from the operculum or tail fin, or alternately, complete scales (20-30) should be removed and placed on a piece of dry blotter/filter paper (e.g., Whatman brand). Fold blotter paper over for temporary storage. Samples must be air dried as soon as possible (don't wait more than 8 hours). When tissue/paper is dry to the touch, place into a clean envelope labeled with Sample ID Number. Seal envelope.
    ii. Include the following information with each tissue sample using the Salmonid Genetic Tissue Repository form or alternative spreadsheet: Collection Date, Collection Location (County, River, Exact Location on River), Collector Name, Collector Affiliation/Phone, Sample ID Number, Species, Tissue Type, Condition, Fork Length (mm), Sex (M, F or Unk), Adipose Fin Clipped (Y or N), Tagged (Y or N), Notes/Comments.
    iii. Send tissue samples to: NOAA Coastal California Genetic Repository, Southwest Fisheries Science Center, 110 McAllister Way, Santa Cruz, California 95060.

2. The following terms and conditions implement reasonable and prudent measure 2:

    a. As described in the project description of the BA, long-term effects to riverine and riparian habitats will be provided compensatory mitigation to result in no net loss of aquatic resources or habitat, at an agency-approved mitigation ratio. Based on this objective, Zone 7 must submit a draft mitigation plan to NMFS for review and approval within 6 months of the completion of this opinion.
    b. Any design modifications to the Project, either during construction or during post-construction reviews, particularly related to the length of bank stabilization, shall be reported by the Corps to NMFS biologist Brian Meux at (707) 575-1253 or via email at brian.meux@noaa.gov; or the NMFS North-Central Coast Office at (707) 575-6050. The purpose of the contact is to review the construction activities and to determine if

additional protective measures are required.

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

    a. Zone 7 must provide a written annual report to NMFS by January 31 of each year. Reports will be submitted electronically to NMFS North Central Coast Office, Attention: San Francisco Bay Branch Supervisor (darren.howe@noaa.gov), 777 Sonoma Avenue, Room 325, Santa Rosa, California, 95404-6528. The first annual report must contain, at a minimum, the following: date construction began at each project site, a description of the work proposed and completed that year, a discussion of design compliance specifically related to the total linear feet of bank stabilization, photos and description of bank stabilization dimensions and spatial extent of habitat impacts. The report must also include a discussion of any unanticipated effects or unanticipated levels of effects on steelhead, including a description of any and all measures taken to minimize those unanticipated effects and a statement as to whether or not the unanticipated effects had any effect on ESA-listed fish; the number of fish, by species, injured or killed and a brief narrative of the circumstances surrounding ESA-listed fish injuries or mortalities.

Reinitiation of Consultation

As 50 CFR 402.16 states, 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 taking specified in the ITS 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 on the listed species or critical habitat that was not considered in this opinion, or (4) a new species is listed or critical habitat designated that may be affected by the action.

ESSENTIAL FISH HABITAT RESPONSE

Thank you also for your request for EFH consultation. NMFS reviewed the proposed action for potential effects on EFH pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), implementing regulations at 50 CFR 600.920, and agency guidance for use of the ESA consultation process to complete EFH consultation. We have concluded that the action would adversely affect EFH designated under the Pacific Salmon Fishery Management Plan (FMP).

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 600.905(b)).

EFH Affected by the Proposed Action

The proposed project occurs within EFH for various federally managed fish species within the Pacific Coast Salmon FMP. The Project's action area is located within designated Salmon EFH based on the definition of the geographic extent of Salmon EFH in the Pacific Salmon FMP (PFMC 2014).[1]

Adverse Effects on EFH

NMFS determined the proposed action would adversely affect EFH as follows:

- temporary increases in turbidity during construction;
- temporary disturbances and loss of habitat from dewatering; and
- long-term alteration to instream habitat through bank stabilization at each project site.

As presented in the above biological opinion, effects to vegetation, stream flow, and water quality will be minimized by BMPs included in the Project. Each project site that includes dewatering will temporarily exclude fish from accessing a small portion of habitat and may temporarily decrease water quality in the action area at each project site when waters are reintroduced during cofferdam removal, which may result in a small turbidity plume. However, effects will only occur prior to migration of salmonids through the action area and water quality conditions are expected to return to pre-project conditions shortly after completion of each project site.

As presented in the biological opinion above, placement of fill and streambank stabilization can alter hydrology, geomorphology, and habitat function for salmonids; adversely affecting Salmon EFH. Armoring of the streambank produces limited macroinvertebrate prey and presents poor functional habitat for rearing juvenile salmonids. While the Project includes measures to minimize impacts to streambank habitat, and includes revegetation with native riparian species, the proposed action will result in long-term adverse effects to EFH not entirely addressed by these measures.

[1] The geographic extent of salmon freshwater EFH is described as all water bodies currently or historically occupied by Council-managed salmon within the USGS 4th field hydrologic units (HU) identified in Table 1 of the Pacific Salmon FMP (PFMC 2014).

EFH Conservation Recommendations

NMFS determined that the following conservation recommendation is necessary to avoid, minimize, mitigate, or otherwise offset the impact of the proposed action on freshwater Salmon EFH:

1. Zone 7 should minimize adverse effects that may result from project site construction and degradation of aquatic habitat by complying with Terms and Conditions identified to implement Reasonable and Prudent Measure 2 in the biological opinion above.

Statutory Response Requirement

As required by section 305(b)(4)(B) of the MSA, the Corps must provide a detailed response in writing to NMFS within 30 days after receiving an EFH conservation recommendation. Such a response must be provided at least 10 days prior to final approval of the action if the response is inconsistent with any of NMFS' EFH conservation recommendations, unless NMFS and the federal agencies have agreed to use alternative time frames for the federal agency response. The response must include a description of the measures proposed by the agencies for avoiding, minimizing, mitigating, or otherwise offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations, the federal agencies must explain reasons for not following the recommendations, including the scientific justification for any disagreements with NMFS over the anticipated effects of the action and the measures needed to avoid, minimize, mitigate, or offset such effects (50 CFR 600.920(k)(1)).

Supplemental Consultation

The Corps must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations (50 CFR 600. 920(l)).

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/welcome. A complete record of this consultation is on file at North-Central Coast Office in Santa Rosa, California.

Please direct questions regarding this letter to Brian Meux, (707) 575-1253, or via email at brian.meux@noaa.gov if you have any questions concerning this consultation.

Sincerely,

Penny Ruvelas

Penny Ruvelas
Assistant Regional Administrator
California Coastal Office

cc: Greg Brown, Corps of Engineers (gregory.g.brown@usace.army.mil)
Caroline Frentzen, Corps of Engineers (Caroline.A.Frentzen@usace.army.mil)
Copy to e-file FRN 151422WCR2025SR00184

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