UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404-4731

May 13, 2024 **Refer to NMFS No:** WCRO-2021-03500

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

Re: Endangered Species Act Section 7(a)(2) Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Piers 39 to 43½ Sediment Remediation Project in the City and County of San Francisco, California (Corps File No. SPN-2018-00396S)

Dear Mr. Mazza:

This letter responds to your May 17, 2022 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 Pacific Gas and Electric Company's (PG&E) proposed Piers 39 to 43½ Sediment Remediation 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' (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. Specific sections of the Project biological assessment (BA) that are incorporated into this opinion have been referenced in the text and listed at the end of this document. We also considered detailed background information on the biology and status of the listed species and critical habitat that has been published in NMFS recovery plans, status assessments, and status reviews. For information that has been taken directly from published, citable documents, those citations have been referenced in the text and listed at the end of this document.

Thank you also for your request for essential fish habitat (EFH) consultation. NMFS reviewed the proposed action for potential effects on EFH 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.

Consultation History

On July 1, 2022, NMFS received a formal consultation request letter dated May 17, 2022, from the Corps to authorize Project activities, which included a BA. On July 14, 2022, NMFS discussed by phone habitat restoration alternatives with PG&E's consultant, Johnson-Marigot Consulting. On August 5, 2022, NMFS requested additional information by email on turbidity curtains, habitat impacts, dock relocation, and monitoring. On August 31, 2022, PG&E provided a partial response by email to the Corps and NMFS. On September 13, 2022, NMFS and PG&E discussed by remote meeting the Project status update and green sturgeon (*Acipenser medirostris*) monitoring alternatives. On September 28 and 29, 2022, NMFS, PG&E, Corps, and other agencies discussed by phone the Project timeline and habitat restoration measures. During these September 2022 meetings, PG&E notified NMFS that the Project would be delayed due to proposed changes to the sediment materials handling facility and a temporary ferry operation relocation. A delay occurred due to a proposed change in the sediment handling facility for the Project, which delayed the in-water construction start date to June 2025. On January 31, 2023, NMFS and PG&E discussed by remote meeting the proposed changes to the sediment materials handling facility, ferry operation relocation, and green sturgeon monitoring. On March 23, 2023, NMFS and PG&E met remotely to discuss logistics of a green sturgeon monitoring. On April 11, 2023, PG&E provided a revised BA, including revised designs and appendices. On May 11, 2023, NMFS requested additional information by email regarding beneficial reuse of clean dredged sediment, supplemental erosion protection methods, and potential aids to navigation. On May 25, 2023, NMFS requested additional information by email on Project sequencing, and PG&E provided a response on May 26, 2023. On May 26, 2023, NMFS received sufficient information to initiate consultation.

On October 19, 2023, PG&E provided Project timeline modifications by email to NMFS and the Corps. On October 20, 2023, NMFS and PG&E's consultant, Integral, discussed Project timeline modifications and incidental take surrogate values. On December 19, 2023, NMFS received a revised BA (PG&E 2023) from PG&E, that included revisions to the sediment materials handling facility, temporary ferry operation relocation, and turbidity curtain enclosure area estimates.

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 Act. 89 Fed. Reg. at 24268; 84 Fed. Reg. at 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.

Project Description

The Corps proposes to authorize PG&E pursuant to Section 404 of the Clean Water Act (CWA) of 1972, as amended, 33 U.S.C. § 1344 *et seq.*, and Section 10 of the Rivers and Harbors Act

(RHA) of 1899, as amended, 33 U.S.C. § 403 *et seq.*, to remediate sediments contaminated with polycyclic aromatic hydrocarbons (PAHs) in an approximate 10.8-acre area. The Project is located at Pier 39, both the Pier 39 East and West Basins as defined by existing breakwaters, and the intertidal and subtidal areas between Pier 39 and Pier 43½, located along the margin of the San Francisco Bay (Bay) in the City of San Francisco, San Francisco County, California.

Project activities include dredging, placement of fill, and removal and installation of overwater structures (floating docks and piles) within approximately 10.8 acres of the Bay to remediate contaminated sediment. Descriptions of the following Project activities are detailed in Section 3 ('Project Description') and Section 4 ('Avoidance, Minimization, and Conservation Measures') of the BA:

- Water quality and containment, including turbidity curtains (included in Appendix A designs);
- Dredging and debris removal;
- Sediment and materials handling;
- Temporary dock relocation and replacement;
- Pile driving and removal;
- Slope stabilization and sediment pins;
- Capping, armoring, and supplemental erosion protection;
- Habitat enhancement actions;
- Avoidance and minimization measures during Project activities:
    - Salmonid in-water work window and timing (June 1 – November 30),
    - Hydroacoustic monitoring plan (BA, Appendix E, 'Estimation of Underwater Sound Levels for Fish');
- Sediment sampling;
- Post-remediation monitoring and institutional controls;
- Acoustic receivers.

Additional Project details are included in Section 3 of the BA ('Project Description').

ENDANGERED SPECIES ACT

This biological opinion analyzes impacts from the Project on threatened Central California Coast (CCC) steelhead (*Oncorhynchus mykiss*), threatened California Central Valley (CV) steelhead (*O. mykiss*), endangered Sacramento River winter-run (SR) Chinook salmon (*O. tshawystsha*), threatened Central Valley spring-run (CV) Chinook salmon (*O. tshawystsha*), threatened southern Distinct Population Segment (sDPS) of North American green sturgeon (*Acipenser medirostris*), and their designated critical habitats in accordance with section 7 of the ESA. All listed salmonid species and designated critical habitat for CCC steelhead and SR winter-run Chinook salmon are not expected to be adversely affected by the Project (see 'Not Likely to Adversely Affect' Determinations, below). We examined the status of sDPS green sturgeon, which is expected to be adversely affected by the Project, 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 sDPS green sturgeon that create the conservation value of that habitat (74 FR 52300).

Green sturgeon are a long-lived anadromous species that spawn on multiple occasions; undertaking repeated migrations from the ocean and estuary waters to freshwater spawning sites (NMFS 2018, NMFS 2021). The sDPS green sturgeon was listed as a federally threatened species in 2006 (71 FR 17757), and many of the principal factors considered when listing sDPS green sturgeon as threatened are relatively unchanged. According to the NMFS (2021) 5-year status review and the 2018 final recovery plan (NMFS 2018), some threats to the species have recently been eliminated, such as take from commercial fisheries and removal of some passage barriers. However, the species viability continues to be constrained by factors such as a small population size, lack of multiple populations, and concentration of spawning sites into just a few locations. The species continues to face a moderate risk of extinction. Section 7.2.4 in the BA includes information about the expected abundance of sDPS green sturgeon in the action area.

PBFs for green sturgeon critical habitat throughout its range and in the action area are degraded. Habitat degradation in the action area and throughout the San Francisco Bay is primarily due to altered and diminished freshwater inflow, shoreline development, shoreline stabilization, non-native invasive species, discharge and accumulation of contaminants, loss of tidal wetlands, and periodic dredging for navigation. Climate change continues to be a threat to sDPS green sturgeon, impacting PBFs of designated critical habitat essential for spawning, rearing, foraging, and migration (NMFS 2021). For the duration of Project activities, the function of PBFs for the conservation of sDPS green sturgeon is expected to remain similar to existing conditions. There have been some improvements to barriers to migration and spawning habitat in the Sacramento River that includes increased access to spawning habitat. However, temperature and drought conditions remain threats to green sturgeon critical habitat conditions. There is not enough evidence to suggest that green sturgeon habitat conditions as a whole have further degraded substantially since 2015, when the previous status review was conducted (NMFS 2021).

As part of the consultation request package, Section 7 of the BA (‘Species Occurrence, Accounts, and Protected Habitats’) provides the status of the species and critical habitat that are being adopted here. All species listed as either threatened or endangered under the ESA experience existing habitat conditions that are similar to previous status reviews. Information about the status of NMFS-listed species present in the action area is included in Table 7 of the BA (‘Special-Status Wildlife Species with Potential to Occur in Action Area’), and additional information is included in NMFS (2016), NMFS (2016a), NMFS (2016b), NMFS (2024), NMFS (2021), NMFS (2023). Additional information about the recovery of NMFS-listed species in the action area is included in NMFS (2014), NMFS (2016d), and NMFS (2018).

“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, Section 2 of the BA (‘Action Area’) provides the description of the action area that is being adopted here.

The “environmental baseline” refers to the condition of the listed species or its designated critical habitat in the action area, without the impacts 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). As part of the consultation request package, Section 6 of the BA ('Environmental Baseline') describes the environmental baseline that is being adopted here.

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 but that are not part of the 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 402.02). As part of the consultation request package, Section 8 of the BA ('Effects of the Action') and Appendix E of the BA ('Estimation of Underwater Sound Levels for Fish') describe the effects of the Project that are being adopted here and summarized in Table 1 ('Summary of Action Area Fill and Impact Acreages'). NMFS has reviewed this section and after our independent, science-based evaluation determined it meets our regulatory and scientific standards.

Table 1. Summary table of effects of the action that are reasonably certain to occur in the action area during and after Project activities. References to sections of the Project BA where effects analyses are presented and the associated Project activities. The table also includes NMFS' effects conclusions based on the effects analysis described in the BA (e.g., beneficial, improbable, negligible, harm, entrapment).

Effects Pathway	**Project Activities**	**BA Section**	**NMFS Effects Conclusions**
Contaminant removal	Sediment remediation activities	8.1	Beneficial to green sturgeon, and their designated critical habitat.
Degradation of water quality (turbidity)	Sediment transport and Materials Handling Facility	8 (pg. 8-1)	Effects to listed green sturgeon, and designated critical habitat are improbable.
	Dredging and debris removal	8.2.1-2	Negligible effects to green sturgeon outside turbidity curtains; likely harm to green sturgeon inside turbidity curtains.
Elevated underwater sound levels	Impact pile driving	8.3.1; Appendix E	Negligible effects to green sturgeon outside turbidity curtains and their designated critical habitat; likely harm to green sturgeon inside turbidity curtains.

Effects Pathway	Project Activities	BA Section	NMFS Effects Conclusions
	Vibratory pile driving and removal; slope stabilization and sediment pins		Negligible effects to green sturgeon, and their designated critical habitat.
Entrapment in turbidity curtains during Project activities	Water quality containment using turbidity curtains	8.4; 3.3.3; Table 4	Exposure to degraded water quality, and elevated underwater sound levels.
Benthic habitat disturbance and alteration	Dredging; capping, armoring, and supplemental erosion protection; habitat enhancement actions	8.2.3-4	Negligible effects to green sturgeon designated critical habitat.

"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. As part of the consultation request package, Section 8.6 of the BA ('Cumulative Effects'), describes the cumulative effects that are being adopted here. In addition, NMFS performed a search in April 2024 for planned state or private projects that are located in the action area and surrounding areas and waters. No additional results were found from sources including: San Francisco Environmental Planning Department (SFEP) 'Permits in My Neighborhood' online map, State of California's web portal for the California Environmental Quality Act (CEQAnet).

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 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.

The sDPS of green sturgeon may be affected during Project activities. As described in the BA, certain Project effects during construction are expected to be negligible to sDPS green sturgeon. These Project effects include: degraded water quality and elevated underwater sound during vibratory pile driving. The primary objective of the proposed Project is to remediate sediment

contaminated with PAHs as described in the BA, which is expected to remove or physically isolate contaminated sediments (PAHs) and provide long-term benefits to sDPS green sturgeon.

As described in the BA, sDPS green sturgeon juveniles, sub-adults, and adults are likely to be present, in very low densities, year-round within the action area. Turbidity curtains will enclose an area approximately 135 percent of the total surface area of each remedial response area (BA Table 1, 'Summary of Action Area Fill and Impact Acreages'). As described in the BA, green sturgeon that become entrapped in turbidity curtains may be exposed to degraded water quality, and elevated underwater sound levels from impact pile driving. Injury or mortality is likely to occur to those few individuals that become trapped within turbidity curtain enclosures. As described in the BA, these Project effects are not expected to involve more than a few individuals over the Project duration. As described in the BA (Section 7.2.4, 'Green Sturgeon'), small numbers of sDPS green sturgeon are expected to be located within the action area during Project activities, and a few individuals are expected to be exposed to effects that would result in injury or mortality. Any green sturgeon present in the action area during Project activities will likely make up a small proportion of the total numbers of sDPS green sturgeon (NMFS 2018, NMFS 2021). It is unlikely that the small loss of juvenile, subadult, or adult green sturgeon will impact future adult returns or juvenile production.

As described in the BA, effects to designated critical habitat for sDPS green sturgeon are expected to be negligible. Benthic habitat disturbance (temporary prey reduction) will occur in each remediation area, which is expected to recover to pre-dredging benthic invertebrate community composition and abundances within a few months to up to two years. Post-construction effects include benthic community alteration due to placement of the sediment cap. The current condition of habitat in the action area is severely degraded, and the disturbed and altered area represents a very small portion of the overall area of habitat available in San Francisco Bay for green sturgeon. Post-construction, the removal and isolation of contaminated sediment is expected to provide benefits to designated critical habitat sDPS green sturgeon. The removal of contaminates and improved condition of designated critical habitat physical and biological features for sDPS green sturgeon will likely contribute to an improved future condition of individuals that utilize the action area and San Francisco Bay (BA, Section 8). These improved habitat conditions may also help improve resilience of sDPS green sturgeon to climate change impacts.

Due to the anticipated small number of sDPS green sturgeon likely affected by Project activities, as well as the short-term impacts to critical habitat in the action area, the Project is not expected to appreciably diminish the abundance, productivity, diversity, or spatial structure of sDPS green sturgeon. Additionally, the Project is anticipated to improve long-term habitat conditions for this species, which in turn may contribute to improved population viability in the future.

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 sDPS green sturgeon, or destroy or adversely modify their designated critical habitat.

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 this biological opinion, NMFS determined that incidental take of sDPS green sturgeon in the form of injury, harm, or mortality is reasonably certain to occur in low numbers during occasional entrapment within turbidity curtain enclosures deployed during Project activities.

For turbidity curtain enclosures, NMFS is not able to estimate the specific number of sDPS green sturgeon that will be incidentally taken during turbidity curtain deployment activities due to the large geographic scope of the action area and low visibility and deep depths that will occur in the enclosures. Additionally, while NMFS anticipates only a small number of green sturgeon would be present, the specific number of green sturgeon likely present is unknown, and the specific number of fish that undergo entrapment is unknown. Monitoring or measuring the number of green sturgeon actually injured or killed during entrapment is also not feasible. Injured or killed fish are unlikely to be observed because they may not float to the surface or may be carried away by strong currents in portions of the action area. Due to the difficulty in quantifying the number of listed fish that could be injured or killed during entrapment, a surrogate measure of incidental take is necessary to establish a limit to take exempted by this incidental take statement. NMFS will therefore use the following incidental take surrogate pursuant to 50 CFR 402.14(i)(1)(i) for turbidity curtain enclosures during Project activities:

> Based on the information contained in the BA (Table 1, 'Summary of Action Area Fill and Impact Acreages') and an October 19, 2023 email provided by PG&E, turbidity curtain installation will require a moderate buffer around each remedial response area to allow for sufficient space for sediment removal without intersection with the actual remedial response area. It is expected that no more than 135 percent of each remedial response area will be enclosed by turbidity curtains, and the extent of incidental take will

be considered exceeded if turbidity curtain enclosures exceed 135 percent[1] of each remedial response area during deployment. The maximum turbidity curtain enclosure areas for the Project to remain within the expected extent of incidental take is included in the following table:

Remedial Response Area	Acres of Remedial Response Area	Acres of Maximum Turbidity Curtain Area
A	1.03	1.39
B	1.08	1.46
C	3.26	4.40
D	1.03	1.39
E	4.38	5.91

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" refers to those actions the Assistant Administrator for NMFS 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 sDPS green sturgeon:

1. Undertake measures to ensure that injury and mortality to green sturgeon is low during Project activities.

2. Prepare and submit an annual report regarding the number of fish encountered or mortalities observed, to document the effects of Project 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. PG&E 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] Local conditions (substrate topography, currents, structures, etc.) may prevent turbidity curtains from remaining at no more than 135 percent of each remedial response area. A relatively small increase in enclosed area is unlikely to capture more green sturgeon given their sparse occurrence in the action area. Therefore, NMFS has adjusted the surrogate to account for local conditions.

1. The following terms and conditions implement reasonable and prudent measure 1:

    a. To minimize fish entrapment, turbidity curtains will only be deployed for active capping and dredging.

    b. If low levels of turbidity occur during turbidity curtain deployment, then turbidity curtains will be reefed as specified in the Surface Water Quality Monitoring Plan (lifting and maintaining the ballast and curtain bottom off of the sediment surface to provide green sturgeon passage underneath).

    c. If any green sturgeon are found dead or injured, PG&E will contact the NMFS North Central Coast Office in Santa Rosa, California at (707) 575-6050. The purpose is to review the activities resulting in take, determine if additional protective measures are required, and to ensure appropriate collection and transfer of mortalities and tissue samples.

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

    a. PG&E shall include the following additional information in annual reports to NMFS (to be submitted by January 31 following each work season:

        i. Summary of turbidity curtain enclosure areas, including map(s) of locations of remedial response areas, amount of enclosed area (acres), dates of deployment and removal, and surface photographs of curtain deployment and removal.
        ii. The data collected from the acoustic receivers will be synthesized and compiled in a report by PG&E that will be provided to NMFS by January 31 of each year during Project activities. Reports must be submitted to NMFS North Central Coast Office, Attention: San Francisco Bay Branch Supervisor, 777 Sonoma Avenue, Room 325, Santa Rosa, California 95404-6528.

    b. Any green sturgeon mortalities must be retained, placed in an appropriately sized sealable 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.

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). NMFS has no conservation recommendations to provide.

Reinitiation of Consultation

Under 50 CFR 402.16(a): "Reinitiation of consultation is required and shall be requested by the federal agency 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.

'Not Likely to Adversely Affect' Determinations

The primary objective of the proposed Project is to remediate sediment contaminated with PAHs, as described in the BA, which is expected to remove or physically isolate contaminated sediments (PAHs) and provide long-term benefits to listed salmonids (CCC steelhead, CV steelhead, SR winter-run Chinook salmon, and CV spring-run Chinook salmon).

As described in the BA, certain Project effects during construction are expected to be discountable to listed salmonids due to the implementation of an in-water work window (June 1 - November 30). These Project effects include: degraded water quality, elevated underwater sound during impact pile driving, and entrapment in turbidity curtains.

As described in the BA, certain Project effects during construction are expected to be insignificant to listed salmonids due to the implementation of avoidance and minimization measures (AMMs). These Project effects include: degraded water quality from placing materials for capping and erosion protection and removing temporary piles; elevated underwater sound during vibratory driving of sediment pins, turbidity curtain piles and similar temporary structures; and Project activities involving vessel activity and transport, including spills from support vessels.

As described in the BA, effects to designated critical habitat for SR winter-run Chinook salmon and CCC steelhead are expected to be negligible. Benthic habitat disturbance (temporary prey reduction) will occur in each remediation area, which is expected to recover to pre-dredging benthic invertebrate community composition and abundances within a few months to up to two years. Post-construction effects include benthic community alteration due to placement of the sediment cap. The current condition of habitat in the action area is severely degraded, and the disturbed and altered area represents a very small portion of the overall area of habitat available in San Francisco Bay. Post-construction, the removal and isolation of contaminated sediment is expected to provide benefits to Sacramento River winter-run Chinook salmon and CCC steelhead designated critical habitat.

Based on this analysis, NMFS concurs with the Corps effects determination that the proposed action is not likely to adversely affect listed salmonids and designated critical habitat for SR winter-run Chinook salmon and CCC steelhead.

MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

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)).

Based on information provided by the Corps and PG&E, the Project could produce elevated underwater sound during pile driving and removal, degraded water quality, benthic habitat disturbance and alteration. NMFS has determined that the Project would adversely affect EFH designated under the Pacific Groundfish, Pacific Salmon and Coastal Pelagic Species Fishery Management Plans (FMPs). However, as presented above and in the Project BA (Section 9, 'Essential Fish Habitat Assessment'), the Project will implement measures to avoid, minimize, mitigate, or otherwise offset adverse effects that may result during Project activities. As described above and in the Project BA, benthic habitat disturbance (temporary prey reduction) will occur in each remedial response area, which is expected to recover to pre-dredging benthic invertebrate community composition and abundances within a few months to up to two years. Post-construction effects include benthic community alteration due to placement of the sediment cap. The current condition of habitat in the action area is severely degraded, and the disturbed and altered area represents a very small portion of the overall area of EFH available in San Francisco Bay. Post-construction, the removal and isolation of contaminated sediment is expected to provide benefits to designated EFH for fish managed under the Groundfish, Salmon, and Coastal Pelagic Species FMPs. Therefore, NMFS has no EFH conservation recommendations to provide.

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 concludes the MSA consultation.

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 of the North-Central Coast Office in Santa Rosa at 707-575-1253 or brian.meux@noaa.gov if you have any questions concerning this consultation, or if you require additional information.

Sincerely,

Alecia Van Atta
Assistant Regional Administrator
California Coastal Office

cc: Michael Orellana, Corps of Engineers, michael.s.orellana@usace.army.mil
Copy to e-file FRN 151422WCR2021SR00136

REFERENCES

71 FR 17757. 2006. Endangered and threatened wildlife and plants: Threatened Status for Southern Distinct Population Segment of North American Green Sturgeon. Federal Register 71:17757-17766.

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