UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
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Refer to NMFS No.:
WCRO-2022-01754

November 16, 2022

Ralph J. Rizzo
Division Administrator
U.S. Department of Transportation, Federal Highway Administration
Washington Division
Suite 501 Evergreen Plaza
711 South Capital Way
Olympia, Washington 98501-1284

Re: Endangered Species Act Section 7(a)(2) Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the City of Hoquiam: Broadway Avenue Safety Improvement (Project HUC 171001050203)

Dear Mr. Rizzo:

This letter responds to your July 19, 2022, request for initiation of formal consultation with the National Marine Fisheries Service (NMFS) pursuant to section 7 of the Endangered Species Act (ESA) 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 and designated critical habitat.

We reviewed Federal Highway Administration formal 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.

We adopt by reference here:

- sections 1.2.1 - 1.2.4 of the biological assessment (BA) for the proposed action and best management practices (BMP) (BMPs are called impact avoidance and minimization measures in the BA).
- sections 1.1 and 3.0 for the action area,
- section 4.1.6 for the status of green sturgeon and their critical habitat affected by the proposed action,
- section 2.2 for the environmental baseline of the action area
- sections 5.1, 5.3 and 6.6 - 6.8 for the analysis of the effects of the proposed action on ESA-listed species and their critical habitat

We note where we have supplemented information in the BA with our own data and analysis. We also note here that the BA that was provided with the request for formal consultation indicated effects which were thoroughly described, but identified by the preparer as not likely to adversely affect. The BA will be included in the administrative record for this consultation and we will send it to readers of the biological opinion as an email reply attachment to requests sent to Tom.Hausmann@noaa.gov

The Federal Highway Administration (FHWA) sent NMFS the BA and a formal consultation request on July 19, 2022. We did not ask for additional information and initiated consultation on July 20, 2022.

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.

Action. The FHWA is proposing to fund the reconstruction of 0.11 miles of Broadway Avenue in Hoquiam, Washington under the Surface Transportation Block Grant Program in the Fixing America's Surface Transportation (FAST) Act (Pub. L. 114-94). The roadway is adjacent to the Hoquiam River at (approximately) river mile 1.4. On page 5, the BA describes how the reconstruction will add or replace 0.65 acres of pollution generating impervious surface (PGIS) and how PGIS stormwater runoff will be collected in a grass-lined bioswale before discharge to the Hoquiam River through a new culvert across an unnamed stream. The in-water work window is August 1 to October 15. On pages 5 and 6, the BA describes how the proposed action will mitigate for filling 0.11 acres of wetland along the roadway by removing riprap and placing beach sediment to restore 730 feet of the Grays Harbor shoreline. We supplement the BA with Figure 1 to show the spatial relationship between the roadway construction site and the mitigation site. The proposed action is described in detail in BA section 1.2 on pages 4-6. Best management practices (impact avoidance and minimization measures) are listed on pages 6 and 7.

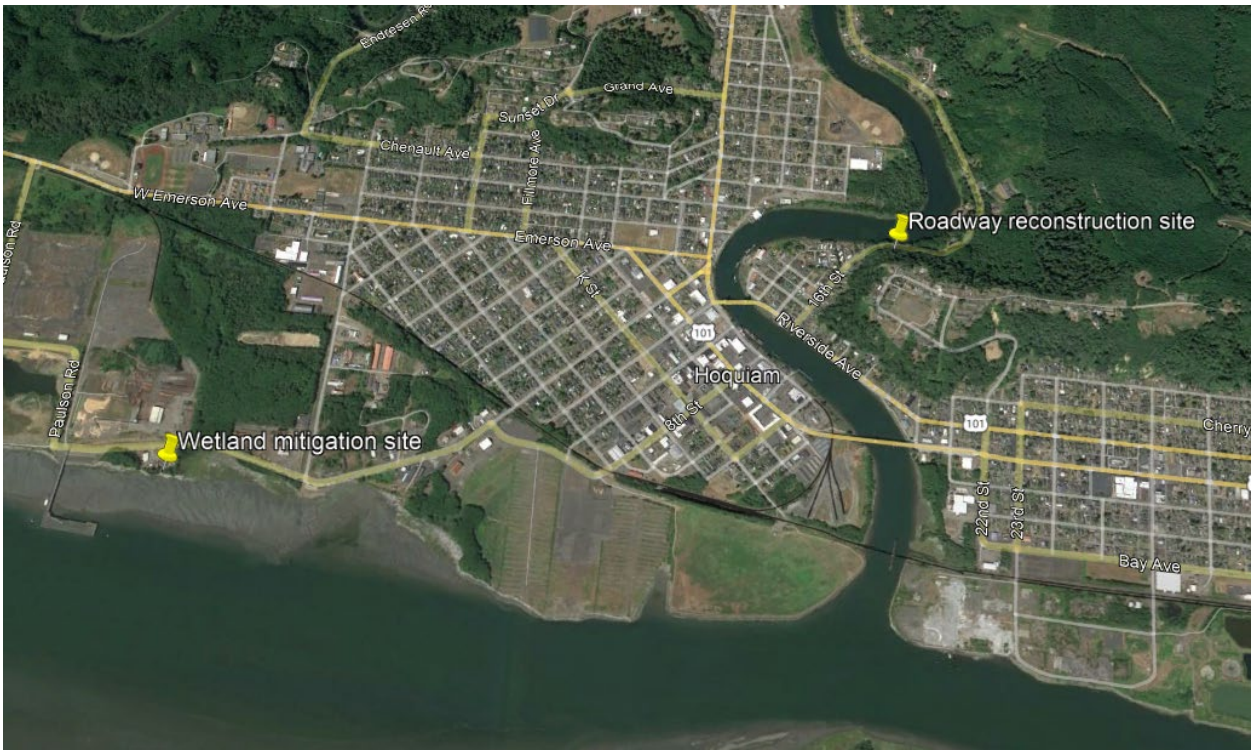


Figure 1. Location of the roadway reconstruction site along the Hoquiam River and the wetland mitigation site along Grays Harbor.

Species. 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 essential to the conservation of the species that create the conservation value of that habitat.

The FHWA requested formal consultation only on the effects of the proposed action on green sturgeon critical habitat[1]. The status of green sturgeon is in BA section 4.1.6 on pages 30-31. The status of green sturgeon critical habitat is also in BA section 4.1.6 on pages 31-32.

We supplement the BA with Table 1 summarizing the status of the Southern DPS of green sturgeon and Table 2 summarizing the status of green sturgeon critical habitat. We also supplement the information provided in the BA with the following summary of the effects of climate change on the status of ESA listed species considered in this opinion and aquatic habitat at large.

[1] The FHWA also requested informal consultation on the effects of the proposed action on green sturgeon, eulachon and Southern Resident Killer Whales (SRKW).

Table 1. Listing classification and date, recovery plan reference, most recent status review, status summary, and limiting factors for each species considered in this opinion.

Species	Listing Classification and Date	Recovery Plan Reference	Most Recent Status Review	Status Summary	Limiting Factors
Southern DPS of green sturgeon	Threatened 4/7/06	NMFS 2018	NMFS 2015c	The Sacramento River contains the only known green sturgeon spawning population in this DPS. The current estimate of spawning adult abundance is between 824-1,872 individuals. Telemetry data and genetic analyses suggest that Southern DPS green sturgeon generally occur from Graves Harbor, Alaska to Monterey Bay, California and, within this range, most frequently occur in coastal waters of Washington, Oregon, and Vancouver Island and near San Francisco and Monterey bays. Within the nearshore marine environment, tagging and fisheries data indicate that Northern and Southern DPS green sturgeon prefer marine waters of less than a depth of 110 meters.	• Reduction of its spawning area to a single known population • Lack of water quantity • Poor water quality • Poaching

Table 2. Critical habitat, designation date, federal register citation, and status summary for critical habitat considered in this opinion.

Southern DPS of green sturgeon	10/09/09 74 FR 52300	Critical habitat has been designated in coastal U.S. marine waters within 60 fathoms depth from Monterey Bay, California (including Monterey Bay), north to Cape Flattery, Washington, including the Strait of Juan de Fuca, Washington, to its United States boundary; the Sacramento River, lower Feather River, and lower Yuba River in California; the Sacramento-San Joaquin Delta and Suisun, San Pablo, and San Francisco bays in California; tidally influenced areas of the Columbia River estuary from the mouth upstream to river mile 46; and certain coastal bays and estuaries in California (Humboldt Bay), Oregon (Coos Bay, Winchester Bay, Yaquina Bay, and Nehalem Bay), and Washington (Willapa Bay and Grays Harbor), including, but not limited to, areas upstream to the head of tide in various streams that drain into the bays. Several activities threaten the PBFs in coastal bays and estuaries and need special management considerations or protection. The application of pesticides, activities that disturb bottom substrates/ adversely affect prey resources/ degrade water quality through re-suspension of contaminated sediments, commercial shipping and activities that discharge contaminants and result in bioaccumulation of contaminants in green sturgeon; disposal of dredged materials that bury prey resources; and bottom trawl fisheries that disturb the bottom/prey resources for green sturgeon.

Climate change is likely to play an increasingly important role in determining the abundance and distribution of ESA-listed species, and the conservation value of designated critical habitats, in the Pacific Northwest. These changes will not be spatially homogeneous across the Pacific Northwest. Major ecological realignments are already occurring in response to climate change (IPCC Working Group II, 2022). Long-term trends in warming have continued at global, national and regional scales. Global surface temperatures in the last decade (2010s) were estimated to be 1.09 °C higher than the 1850-1900 baseline period, with larger increases over land ~1.6 °C compared to oceans ~0.88 (IPCC WGI, 2021). The vast majority of this warming has been attributed to anthropogenic releases of greenhouse gases (IPCC WGI, 2021). Globally, 2014-2018 were the 5 warmest years on record both on land and in the ocean (2018 was the 4th warmest) (NOAA NCEI 2022). Events such as the 2013-2016 marine heatwave (Jacox et al. 2018) have been attributed directly to anthropogenic warming in the annual special issue of Bulletin of the American Meteorological Society on extreme events (Herring et al. 2018). Global warming and anthropogenic loss of biodiversity represent profound threats to ecosystem functionality (IPCC WGII 2022). These two factors are often examined in isolation, but likely have interacting effects on ecosystem function.

Updated projections of climate change are similar to or greater than previous projections (IPCC Working Group I, 2021). NMFS is increasingly confident in our projections of changes to freshwater and marine systems because every year brings stronger validation of previous predictions in both physical and biological realms. Retaining and restoring habitat complexity, access to climate refuges (both flow and temperature) and improving growth opportunity in both freshwater and marine environments are strongly advocated in the recent literature (Siegel and Crozier, 2020).

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).

The BA describes the Action Area in section 3.1 on pages 18 and 19 which extends from the work site to the mouth of the Hoquiam River, in Grays Harbor.

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).

The Environmental Baseline is described in section 2.2 on pages 11 to 17. No NMFS ESA listed species are present in the Hoquiam River. The BA discusses the occurrence of green sturgeon in Grays Harbor including the mitigation site action area in section 4.1.6 on page 31.

Effects. 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 biological assessment provides a detailed discussion and comprehensive assessment of the effects of the proposed action in section 5.1 of the initiation package, 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.

The FHWA proposes to fund the reconstruction of a roadway and the restoration of a wetland mitigation site. The temporary and long-term effects of construction at the mitigation site are minor impacts to green sturgeon critical habitat water, sediment and forage quality from partially treated[2] stormwater runoff from the reconstructed roadway discharged to the Hoquiam River. BA section 5.1 includes an extensive review of ongoing efforts by the FHWA, NMFS, the Washington Department of Transportation (WSDOT), and the Washington Department of Ecology to better analyze the fate and transport of 6PPD-quinone and other pollutants from road runoff and develop BMPs to reduce their toxicity. In this case, the effects on Hoquiam River water, sediment and forage quality will be small and intermittent but it will be present for the life of the reconstructed roadway. The permanent loss of habitat quality resulting from the proposed action is very small when compared to the habitat available for the affected population.

We supplement the BA effects analysis as follows. The BA concluded that while the Hoquiam River action area is green sturgeon critical habitat, the WDFW has no records of green sturgeon in the Hoquiam River and the FHWA could find no other reports of green sturgeon use of the Hoquiam River. Therefore, even though the partially treated stormwater runoff adversely affects green sturgeon critical habitat, green sturgeon are not likely to be exposed to those adverse effects.

However, green sturgeon are not precluded from entering the Hoquiam River and being exposed to metals and chemicals in stormwater runoff from the reconstructed roadway that are not retained by the bioswale. Furthermore, some fraction of metals and chemical in stormwater runoff from the reconstructed runway that reach the Hoquiam River are transported to Grays Harbor where green sturgeon are either directly exposed or exposed through their food web. Layshock et al. (2022) reports concentrations of metals and pesticides in the blood plasma of green sturgeon from Grays Harbor. Copper and selenium concentrations ranged from 100 to 1000 nanograms per milliliter and 200 to 400 nanograms per milliliter respectively. Pesticide concentrations ranged from 2-10 nanograms per milliliter blood plasma. Although metals and pesticides have known toxic effects in green sturgeon, blood plasma concentration toxicity thresholds and the relationship between blood plasma concentrations and environmental exposure concentrations for green sturgeon are unknown. Therefore, we must retain the possibility that the untreated fraction of stormwater runoff from the reconstructed roadway may

[2] Stormwater is collected in a grass lined bioswale.

ultimately expose green sturgeons to metals, pesticides or other chemicals that add to these baseline blood plasma concentrations and increase their toxicity. We expect any increase in toxicity to be small.

"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. The BA describes cumulative effects in the Action Area in section 5.4 on page 41.

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.

As shown in Tables 1 and 2, ESA-listed green sturgeon recovery is limited by water quality and their critical habitat is degraded by activities (such as stormwater runoff from PGIS) that discharge contaminants into estuaries where they can bioaccumulate in green sturgeon. The BA sections 4.1.6 makes it clear that individual green sturgeon are likely to migrate into and forage in parts of the action area at some point in their life history. BA sections 2.2 make it clear that all fish in the action area will encounter habitat conditions that have been degraded by human activity. The BA section 5 describes that the proposed action will result in slightly degraded action area water and sediment quality for the life of the reconstructed roadway. Our supplemental information explains how the permanent input of partially treated stormwater runoff may expose individual fish to toxic effects added to the toxic effects of background contaminants in Grays Harbor water and sediment. However, even when we consider the current status of the green sturgeon and degraded environmental baseline within the action area, and the cumulative effects, the proposed action's effect on abundance is expected to be very low such that their distribution, diversity, or productivity is not discernibly altered. Because the proposed action's reduction in abundance will not appreciably reduce the productivity, spatial structure, or diversity the affected populations, the action, even when combined with a degraded environmental baseline and continual pressure from cumulative effects, we determine that the action will not appreciably reduce the likelihood of survival or recovery of green sturgeon.

Although the proposed action includes mitigation for lost wetlands, recovery of the action area from the baseline condition to properly functioning conditions is likely to be extremely slow because of continuing anthropogenic uses that are expected to delay, or further degrade the action area; these future actions are likely to continue to cause slight negative pressure on green sturgeon critical habitat into the future. The project will slightly aggravate limiting factors in the action area, but does constrain the conservation role to its current degraded level.

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 jeopardize Southern DPS green sturgeon or to adversely modify their designated critical habitat.

Reinitiation of Consultation

Reinitiation of consultation is required and shall be requested by the FHWA or by NMFS, where discretionary Federal involvement or control over the action has been retained or is authorized by law and (1) the amount or extent of incidental taking specified in the ITS is exceeded, (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) 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 this biological opinion; or if (4) a new species is listed or critical habitat designated that may be affected by the identified action.

Not Likely to Adversely Affect Species

The BA describes the aquatic effects of construction at the roadway and mitigation sites in section 5.1 on pages 35 – 37. We reiterate those NLAA determinations here, and our concurrence.

Eulachon. The BA describes the status and occurrence of eulachon in the action area in section 4.1.7 on pages 32 and 33. There is no eulachon critical habitat in the action area. We concur with the FHWA that the likelihood of exposure of eulachon to construction effects or stormwater effects at the roadway site or to construction effects at the mitigation site is discountable.

SRKW. The BA describes the status of SRKW in section 4.1.8 on pages 33 – 35. There is no SRKW critical habitat in the action area but SRKW forage on salmonids produced in the action area. The BA describes the effects of stormwater runoff on SRKW salmonid prey in section 6.8 on page 47. We concur with the FHWA that the decrease in SRKW prey abundance or quality from exposure to stormwater runoff at the roadway site is insignificant.

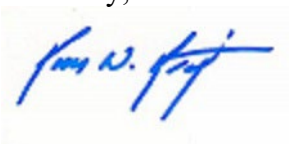
NMFS also reviewed the proposed action for potential effects on essential fish habitat (EFH) designated under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), including conservation measures and any determination you made regarding the potential effects of the action. This review was 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.

BA section 7.0 identifies the Hoquiam River and Grays Harbor action areas as EFH for Pacific Coast Salmon (PCS) and identifies the Grays Harbor estuary as a Habitat of Particular Concern (HAPC). Stormwater runoff from the reconstructed roadway will adversely affect PCS EFH.

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 Lacey, Washington.

Please contact Tom Hausmann, in Portland, Oregon, at tom.hausmann@noaa.gov or 503-231-2315, if you have any questions concerning this consultation, or if you require additional information.

Sincerely,



Kim W. Kratz, Ph.D
Assistant Regional Administrator
Oregon Washington Coastal Office

cc: Liana Liu, Area Engineer, FHWA Washington Division

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