



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-2022-00248

July 29, 2022

William Abadie
Portland District Regulatory Branch Chief
U.S. Army Corps of Engineers
Attention: CENWP-OD-G
P.O. Box 2946
Portland, Oregon 97208-2946

Re: Endangered Species Act Section 7(a)(2) Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Washington County Department of Land Use & Transportation's SE Cornelius Pass Road Bridge over Butternut Creek Project (NWP-2021-524), Hillsboro, Oregon (HUC# 1709001004 Rock Creek – Tualatin River).

Dear Mr. Abadie:

This letter responds to your February 4, 2022, request for initiation of 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.

On July 5, 2022, the United States District Court for the Northern District of California issued an order vacating the 2019 regulations adopting changes to 50 CFR part 402 (84 FR 44976, August 27, 2019). This consultation was initiated when the 2019 regulations were still in effect. As reflected in this document, we are now applying the section 7 regulations that governed prior to adoption of the 2019 regulations. For purposes of this consultation, we considered whether the substantive analysis and its conclusions regarding the effects of the proposed actions articulated in the biological opinion and incidental take statement would be any different under the 2019 regulations. We have determined that our analysis and conclusions would not be any different.

We reviewed the Washington County Department of Land Use & Transportation's (DLUT) initiation package, submitted with the Corps' consultation request. Where relevant, we have adopted the information and analyses provided and/or referenced in the *Cornelius Pass Bridge Project Biological Assessment* (AKS Engineering 2022), but only after our independent, science-based evaluation confirmed they meet our regulatory and scientific standards.

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We adopt by reference here, the following sections of the BA:

- Section 1 *Introduction* (of the BA) including the project background, consultation history, and listed species and critical habitat
- Section 2 *Project Description* including the proposed action, project elements and sequencing
- Section 3 *Project Action Area* including the limits of construction and downstream stormwater limits
- Section 4 *Action Area Baseline Conditions* including Butternut Creek, the Tualatin, Willamette and Columbia rivers, and the Natural History and Species Occurrence
- Section 5 *Impact Avoidance and Minimization Measures*
- Section 6 *Analysis of Project Effects* including direct, indirect, and cumulative effects
- Section 7 *Finding of Effect*
- Section 8 *Essential Fish Habitat (EFH) Consultation* for the Magnuson-Stevens Fisheries Conservation and Management Act essential fish habitat response section of this Opinion.

Pre-consultation discussions were held between the applicant's consultant – Julie Wirth-McGee, AKS Engineering & Forestry, LLC (AKS) – and NMFS, beginning in September 2021. Additional conversations occurred via phone and email, as detailed below:

- October 13, 2021: Email correspondence from Julie Wirth-McGee (AKS) to Brad Rawls (NMFS), which provided a brief overview of the Project and requested that ESA coverage be provided under Standard Local Operating Procedures for Endangered Species (SLOPES V) Programmatic Biological Opinion for Stormwater, Transportation and Utilities (STU) actions authorized by USACE in Oregon (NMFS 2014a).
- October 20, 2021: Phone conversation between Brad Rawls (NMFS) and Julie Wirth-McGee (AKS) to discuss Project details and ESA coverage. Determination made by NMFS that the proposed new bridge crossing precluded use of SLOPES V – STU for the Section 7 consultation, but that the Project would likely qualify for review using the condensed Biological Opinion (BiOp) to expedite review and processing.
- Request for formal consultation and the initiation package was received by NMFS on February 4, 2022.

Washington County DLUT proposes to construct a new section of SE Cornelius Pass Road between SE McInnis Street and SE Butternut Creek Parkway, located in Hillsboro, Oregon (Figure 1). The project will connect sections of SE Cornelius Pass Road that are currently separated by Butternut Creek. The project will require constructing a new bridge crossing over Butternut Creek. SE Cornelius Pass Road is classified as a major travel corridor (arterial) for the south Hillsboro area, which currently only has two stream crossings over Butternut Creek. The purpose of the project is improved multi-modal transportation within the south Hillsboro area to address existing travel congestion, expansion of public transportation service, and accommodation of future growth in the south Hillsboro area.

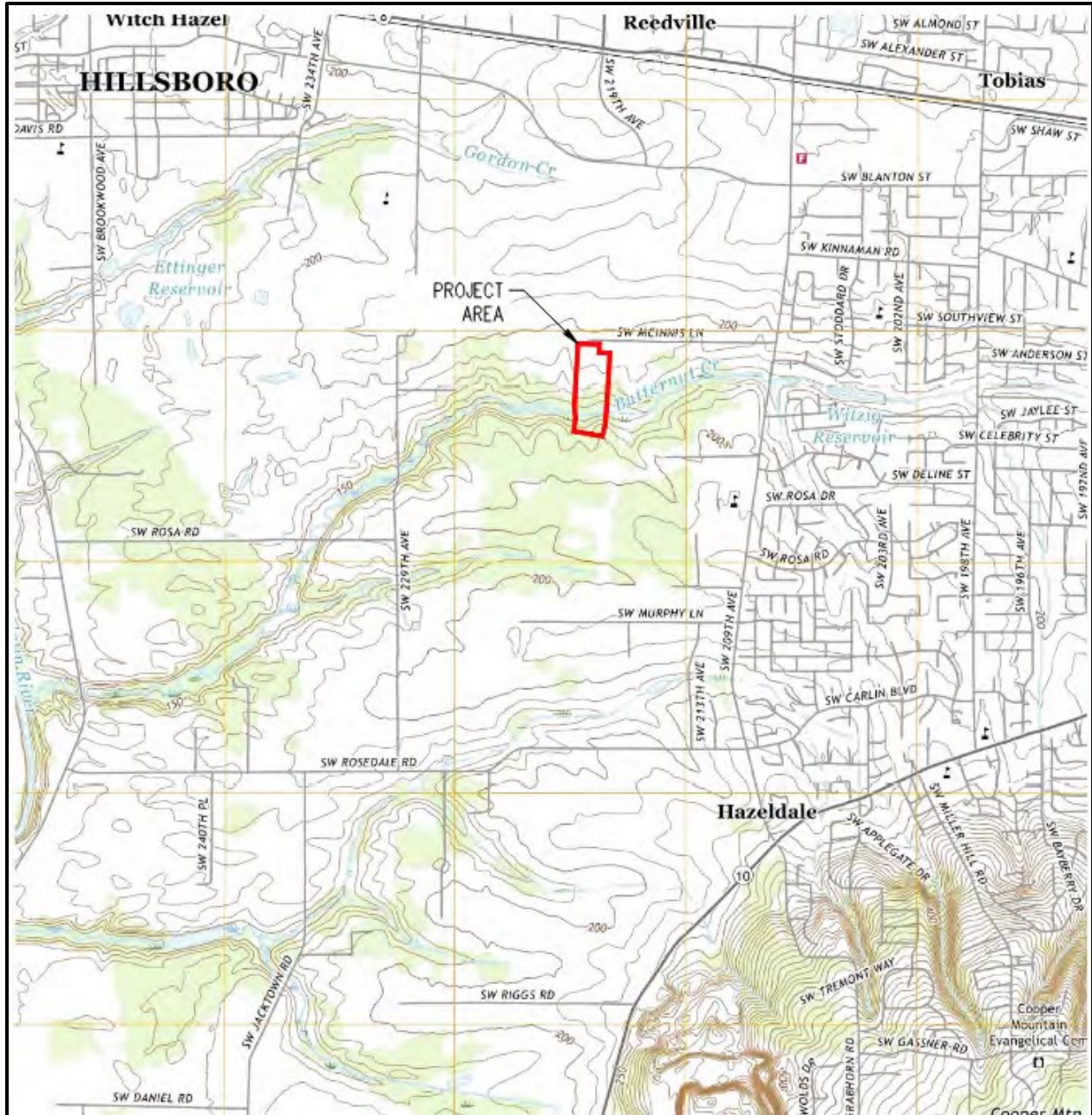


Figure 1. Project Location Map (AKS Engineering 2022)

The roadway improvements include 400 feet of new roadway, 66-feet in width. The roadway will provide two 12-foot travel lanes in each direction separated by a 14-foot median, and bicycle lanes and pedestrian sidewalks on both sides of the roadway. The new bridge crossing will include a 166-foot long, clear span structure, 95-feet in width. The bridge will also support an 18-inch water main, a 12-inch sanitary sewer line, and stormwater conveyance line. The crossing will be 24-feet above the channel of Butternut Creek and no bridge elements will be constructed within the Federal Emergency Management Agency’s (FEMA) 100-year flood elevation. Construction will require temporary crane/road access to the floodplain north of Butternut Creek,

but will not require a temporary stream crossing, nor will it require in-water work. A detailed description of construction methods can be found in the project Biological Assessment (BA, AKS Engineering 2022). Construction is anticipated to begin in April of 2023 and take one year to complete.

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.

Section 1 of the BA, *Introduction*, identifies the listed species and designated critical habitat potentially affected by the proposed action in Table 1; whereas Section 4 provides specific information on those listed species and designated critical habitats occurring in Butternut Creek and the Tualatin River (AKS Engineering 2022). Based on our own analysis and data, (IC-TRT 2011; NMFS 2009; NMFS 2011a; NMFS 2011b; NMFS 2011c; NMFS 2013; NMFS 2014b; NMFS 2015a; NMFS 2015b; NMFS 2015c; NMFS 2016a; NMFS 2016b; NMFS 2016c; NMFS 2017a; NMFS 2017b; NMFS 2017c; NMFS 2018; ODFW and NMFS 2011; and NWFSC 2015) NMFS concurs with the listed species and critical habitats which may be adversely affected, which include:

ESA-Listed Species	Status	ESA-Listed Species	Status
Lower Columbia River Chinook salmon ^{1,2} (<i>Oncorhynchus tshawytscha</i>)	Threatened 6/28/05 CH 09/02/05	Upper Columbia River steelhead ^{6,2} (<i>O. mykiss</i>)	Threatened 1/5/06 CH 09/02/05
Upper Columbia River spring-run Chinook salmon ^{1,2} (<i>O. tshawytscha</i>)	Endangered 6/28/05 CH 09/02/05	Lower Columbia River steelhead ^{6,2} (<i>O. mykiss</i>)	Threatened 1/5/06 CH 09/02/05
Snake River spring/summer-run Chinook salmon ^{1,3} (<i>O. tshawytscha</i>)	Threatened 6/28/05 CH 10/25/99	Upper Willamette River steelhead ^{6,2} (<i>O. mykiss</i>)	Threatened 1/5/06 CH 09/02/05
Upper Willamette River Chinook salmon ^{1,2} (<i>O. tshawytscha</i>)	Threatened 6/28/05 CH 09/02/05	Middle Columbia River steelhead ^{6,2} (<i>O. mykiss</i>)	Threatened 1/5/06 CH 09/02/05
Snake River fall-run Chinook salmon ^{1,4} (<i>O. tshawytscha</i>)	Threatened 6/28/05 CH 12/28/93	Snake River basin steelhead ^{6,2} (<i>O. mykiss</i>)	Threatened 1/5/06 CH 09/02/05
Columbia River chum salmon ^{1,2} (<i>O. keta</i>)	Threatened 6/28/05 CH 09/02/05	Southern DPS of green sturgeon ^{7,8} (<i>Acipenser medirostris</i>)	Threatened 4/7/06 CH 10/09/09
Lower Columbia River coho salmon ^{1,5} (<i>O. kisutch</i>)	Threatened 6/28/05 CH 09/02/05	Southern DPS of eulachon ^{9,10} (<i>Thaleichthys pacificus</i>)	Threatened 3/18/10 CH 10/20/11
Snake River sockeye salmon ^{1,4} (<i>O. nerka</i>)	Endangered 6/28/05 CH 12/28/93		
¹ 70 FR 37160; ² 70 FR 25630; ³ 64 FR 57399; ⁴ 58 FR 68543 ⁵ 81 FR 9252;		⁶ 71 FR 834; ⁷ 71 FR 17757; ⁸ 74 FR 30714; ⁹ 75 FR 13012; ¹⁰ 74 FR 65324	

Listed species with the potential to occur within the project’s construction area is limited to Upper Willamette River (UWR) Distinct Population Segment (DPS) winter-run steelhead, with the stream reach identified as supporting spawning and rearing habitat uses (StreamNet 2022). No part of Butternut Creek is designated as critical habitat for this population (NMFS 2022a) and the documented upstream range within Butternut Creek is delineated at the proposed crossing

site of the new bridge (StreamNet 2022). These steelhead are part of the Willamette River Recovery Domain (NMFS 2022a) though NMFS has concluded that the Tualatin River likely does not constitute an independent population but may function as a population sink within the DPS meta-population structure (NMFS 2016b).

The Tualatin Basin, including Butternut Creek, is designated as Essential Fish Habitat (EFH) for the Pacific Salmon EFH, though no Habitat Areas of Particular Concern (HAPC) have been defined in Butternut Creek (NMFS 2022b). Both UWR ESU Chinook salmon and Lower Columbia River (LCR) ESU coho salmon occur in the Tualatin Basin, though neither species are documented as occurring in Butternut Creek (StreamNet 2022).

“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). Section 3 of the BA, *Project Action Area*, describes the limits of construction, anticipated construction-related effects, and the effects of riparian vegetation loss, shading, and the downstream limits of stormwater impacts resulting from operation of the proposed infrastructure. For the proposed project, the action area includes approximately 0.67 acres of area disturbed by construction activities, representing approximately 10,791 square feet (sf) of the Butternut Creek floodplain, 24,462 sf of riparian habitat within 100-feet of the stream channel, and 2,386 sf of permanent shading impacts from the new crossing structure (AKS Engineering 2022). Potential water quality impacts may occur downstream of construction activities, including temporary elevated levels of turbidity and increased sedimentation, should erosion control measures fail or be improperly implemented. Long-term water quality impacts will occur as a result of increased stormwater runoff that will be discharged into Butternut Creek. Due to the persistent nature of stormwater contaminants in the aquatic environment and the ability for downstream transport, the action area also includes all downstream surface waters from the proposed bridge crossing to the confluence of the Columbia River Estuary with the Pacific Ocean.

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 consultation, and the impact of state or private actions which are contemporaneous with the consultation in process (50 CFR 402.02).

Section 4 of the BA, *Action Area Baseline Conditions*, provides a description of the aquatic and terrestrial resources that may be impacted as a result of the proposed action. The BA specifically describes baseline conditions in Butternut Creek, the FEMA-defined floodplain, the Tualatin River, the Willamette River, and the Columbia River. We have adopted the information provided and/or referenced in Section 4 the BA (AKS Engineering 2022) after evaluation confirmed they meet our regulatory and scientific standards.

Under the ESA, “effects of the action” means the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, that will be added to the environmental baseline (50 CFR 402.02). Indirect effects are those that are caused by the proposed action and are later in time, but still are reasonably certain to occur.

Section 6 of the BA, *Analysis of Project Effects*, provides a detailed discussion and comprehensive assessment of the effects of the proposed action and is adopted here. NMFS has evaluated this section and after our independent, science-based evaluation determined it meets our regulatory and scientific standards. The temporary, long-term, and cumulative effects of this proposed action are:

Short-term impacts:

- Increased risk of sedimentation and turbidity,
- Loss of riparian and floodplain habitat
- General construction-related noise/vibrations/light.

Only UWR steelhead DPS has the potential to be affected by anticipated short-term impacts from the project's construction. Designated critical habitat does not occur in the immediate project vicinity, with the closest downstream designated habitat occurring in the Willamette River. As such, no critical habitat will be affected by anticipated short-term impacts from the project's construction.

Long-term impacts include:

- Habitat alteration from vegetation shading
- Habitat alteration from floodplain development
- Habitat alteration as a result of population growth and development
- Increases in impervious surface/increase in water quality pollutants

An analysis of the effects of the proposed action on designated critical habitat is contained in Section 6 of the BA. The primary impact on critical habitat is increased pollutant loads that would enter affected waters as the proposed action will add 0.97 ac of new impervious surface area that will generate stormwater runoff. Proposed stormwater facilities will use LID techniques to meet water quality treatment criteria for local, state, and federal regulators. Despite a stormwater treatment approach that meets or exceeds NMFS' programmatic project design criteria (NMFS 2014a; NMFS 2021a), some water quality contaminants will be discharged to receiving waters, due to facility inefficiency for certain pollutants and storm events which may exceed facility design (Claytor and Brown 1996; NCHRP 2006). Consequently, the proposed action will contribute pollutants to receiving waters, which constitutes a long-term adverse effect to both species and critical habitat, but at substantially reduced concentrations from untreated stormwater (Carls and Meador 2009; Claytor and Brown 1996; Sandahl et al. 2007; Scholz et al. 2011; Spromberg and Meador 2006; Spromberg et al. 2016).

"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.

Section 6 of the BA, *Analysis of Project Effects*, provides an assessment of the cumulative effects of the proposed action. The cumulative effects identified are associated with future growth and development in the south Hillsboro area. The BA argues that the project has

independent utility from regional growth and development due to existing land use planning and existing available crossings of Butternut Creek (AKS Engineering 2022). However, NMFS finds that this project would not occur but for the proposed growth in the region and the land use planning that has been implemented to accommodate such growth. Consequently, the project should include the anticipated cumulative effects from regional growth. Additionally, climate change is not addressed in the project BA, so has been included here for analysis.

The population of Oregon is expected to increase in the next several decades with a corresponding increase in natural resource consumption (Metro 2000; Metro 2008; Metro 2011). Additional residential and commercial development and a general increase in human activities are expected to cause localized degradation of freshwater and estuarine habitat. However, population growth will also lead to redevelopment within the project's watershed, which will likely result in an incremental water quality improvement as sites are redeveloped with more protective regulations for stormwater treatment. Interest in restoration activities is also increasing as is environmental awareness among the public. This will lead to localized improvements to freshwater and estuarine habitat (CRITFC 1995; ODFW & NMFS 2011; NWPCC 2012; OWEB 2011).

Climate change is projected to result in a regional shift in precipitation, from winter snowfall to rainfall, which is likely to have pronounced effects on water quantity and quality in the Columbia Basin (Abatzoglou et al. 2014; Dominguez et al. 2012; Raymondi et al. 2013). Decreased snow-fed runoff could have significant impacts on all salmonid populations covered in this Opinion. Changes in runoff patterns, volume, and temperature can adversely affect individual fitness, run timing, and habitat suitability for listed species and critical habitat (Crozier et al. 2008; Goode et al. 2013; Raymondi et al. 2013; Scheuerell and Williams 2005; Winder and Schindler 2004; Zabel et al. 2006).

The Integration and Synthesis section is the final step in our assessment of the risk posed to species and critical habitat resulting from 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 described in the BA – Section 2 (*Project Description*), Section 5 (*Impact Avoidance and Minimization Measures*), and Section 6 (*Analysis of Project Effects*) – the activities associated with the construction and operation of the proposed action can be reduced, to some degree, through implementation of appropriate construction best management practices (BMPs), avoidance and minimization measures, and operational (monitoring and maintenance) BMPs. The BMPs that are proposed were selected based on their consistency with measures detailed in existing programmatic opinions for transportation-related actions (NMFS 2014a; NMFS 2021). These measures are likely to minimize exposure of ESA-listed fish species to the adverse effects of construction noise and disturbance, turbidity and sedimentation, limitations to up and downstream passage, increased stormwater runoff, and adverse hydromodification.

Adverse effects associated with stormwater pollutants will occur in the receiving waters into which the proposed stormwater facilities will discharge, including Butternut Creek, the Tualatin River, the lower Willamette River, and the lower Columbia River. Pollutants in stormwater runoff from the proposed action will combine with pollutants from other sources in mixtures and concentrations that exceed thresholds for sublethal and lethal effects on the growth and survival of individual fish (Claytor and Brown 1996). The effect of the action on populations would be the integrated responses of individual fish to the predicted increased pollutant load associated with the proposed action. Instantaneous measures of population characteristics, such as population size, growth rate, spatial structure, and diversity, are the sums of individual characteristics within a particular area, while measures of population change, such as a population growth rate, are measured as the productivity of individuals over the entire life cycle (McElhany et al. 2000). A persistent change in the environmental conditions affecting a population, for better or worse, can lead to changes in each of these population characteristics.

NMFS identified many factors as limiting the recovery of the salmonid species analyzed in this opinion, three of which will be affected by the proposed action: substrate, water quality, and estuarine conditions. The identification of substrate and water quality as limiting factors refers to both tributary and mainstem conditions. Within the Willamette-Lower Columbia (WLC) recovery domain, estuarine and nearshore marine conditions are limiting for CR chum salmon and LCR Chinook salmon; stream substrate is limiting for LCR Chinook salmon, CR chum salmon, LCR coho salmon, and LCR steelhead; and water quality is limiting for LCR Chinook salmon, UWR Chinook salmon, CR chum salmon, and LCR coho salmon (NMFS 2011c; NMFS 2013; NMFS 2016). Similarly, for species within the Interior Columbia (IC) recovery domain, estuarine and nearshore marine conditions are limiting for UCR spring-run Chinook salmon; stream substrate is limiting for UCR spring-run Chinook salmon, SR spring/summer-run Chinook salmon, UCR steelhead, MCR steelhead, and SRB steelhead; and water quality is a factor limiting recovery of SR spring/summer-run Chinook salmon, MCR steelhead, and SRB steelhead (IC-TRT 2011; NMFS 2009; NMFS 2014b). SR sockeye are not limited by any of these three factors (NMFS 2017c).

For Southern DPS green sturgeon, NMFS identified the primary limiting factor as reduction of its spawning area to a single known population limited to a small portion of the Sacramento River, although poaching, the effects of nonnative species, and effects of contaminants were identified as other potentially serious threats (NMFS 2015a). Of those, this action affects contaminants. Limiting factors for Southern DPS eulachon include water pollution and sediment balances, which are also affected by this action, although the primary threats include changes in ocean and freshwater conditions due to climate change, by-catch of eulachon in commercial fisheries, adverse effects related to dams and water diversions, artificial fish passage barriers, over-harvest, and predation (NMFS 2017b).

The effects of the proposed action are likely to cause a minor increase in the limiting factors related to estuarine and nearshore marine conditions. However, substrate and water quality, contaminant exposure, and water pollution from the project area are expected to have a long-term, adverse effect on the listed species and critical habitats evaluated in this Opinion. This includes the following named streams and rivers:

- Butternut Creek;
- Tualatin River;
- Willamette River; and
- Columbia River

Those effects will be due to the additive characteristics of persistent pollutants contributed to areas with impaired water quality and/or contaminated substrate and making them available for accumulation in the prey base (Sandahl et al. 2007; Scholz et al. 2011; Spromberg and Meador 2006). These impacts are likely to impair essential fish rearing and feeding behavior patterns for some individuals of each species considered. However, the number of individual salmon, steelhead, southern green sturgeon, or eulachon injured or killed annually from this incremental increase in stormwater pollutants will be commensurate with its contribution to the total pollutant load that now enters the Columbia River from all sources, and therefore, is not likely to cause a new risk of harm or deterioration in the pre-action condition of any species or appreciably reduce the likelihood of survival or recovery.

Of the 15 species that are likely to be adversely affected by the proposed action, none meet NMFS' guidelines for a viable salmonid population (McElhany et al. 2000). It may seem that populations in such weak condition could not sustain additional habitat degradation. However, habitat is only one of many factors associated with population abundance and productivity, and its impacts must be evaluated over a long time-scale of decades or longer to account for the effects of habitat recovery actions, the influence of genetic factors, and role the environmental cycles and processes (McElhany et al. 2000). Toxic pollutant loading in the receiving waters downstream of the proposed action has decreased and is likely to continue to decrease due to abatement of anthropogenic sources, techniques to minimize stormwater pollutant contributions, and natural flushing process of stream and river discharge (NCHRP 2006). The listed species considered in this opinion are likely to benefit from anticipated long-term, incremental reductions in pollutant loading.

Climate change presents a number of unknowns for Columbia Basin salmonids. A projected regional shift in precipitation, from winter snowfall to rainfall, is likely to have pronounced effects on water quantity and quality in the basin (Abatzoglou et al. 2014; Dominguez et al. 2012; Raymondi et al. 2013). Decreased snow-fed runoff could have significant impacts on all salmonid populations covered in this Opinion, except CR chum salmon. Changes in runoff patterns, volume, and temperature can adversely affect individual fitness, run timing, and habitat suitability for listed species and critical habitat (Crozier et al. 2008; Goode et al. 2013; Raymondi et al. 2013; Scheuerell and Williams 2005; Winder and Schindler 2004 Zabel et al. 2006).

Climate change and human development have and continue to adversely impact critical habitat creating limiting factors and threats to the recovery of the ESA-listed species considered. Climate change will likely result in a generally negative effect on stream flow and temperature. Information in Section 4 of the BA describes the environmental baseline in the action area as poor, particularly regarding water quality. NMFS assumes that the environmental baseline is not meeting all biological requirements of individual fish of the listed species present. This is due to one or more impaired aquatic habitat functions related to any of the habitat factors limiting the recovery of the species in that area. Non-federal plans to mitigate climate change are largely unknown but may have localized benefits that extend to species and habitat within the Columbia Basin as a whole. When these influences are considered collectively, we expect trends in habitat quality to remain flat or degrade gradually over time. This will, at best, further stress population abundance and productivity for the species affected by this consultation. In a worst-case scenario, we expect population abundance trends to decline. We expect the quality and function of critical habitat physical and biological features (PBFs) to express a gradual, positive trend over time with respect to water quality improvements from increased stormwater treatment, and a negative trend with respect to climate change induced water temperature and water quantity impairment.

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 the following species or destroy or adversely modify their designated critical habitat.

- Lower Columbia River Chinook salmon
- Upper Columbia River spring-run Chinook salmon
- Snake River spring/summer-run Chinook salmon
- Upper Willamette River Chinook salmon
- Snake River fall-run Chinook salmon
- Columbia River chum salmon
- Lower Columbia River coho salmon
- Snake River sockeye salmon
- Upper Columbia River steelhead
- Lower Columbia River steelhead
- Upper Willamette River steelhead
- Middle Columbia River steelhead
- Snake River basin steelhead
- Southern DPS of green sturgeon
- Southern DPS of eulachon

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). “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 ITS.

Amount or Extent of Take

In the biological opinion, NMFS determined that incidental take is reasonably certain to occur as follows:

Construction-related direct and indirect effects:

Only UWR steelhead are likely to occur in habitats directly affected by construction-related actions. These species occur in Butternut Creek. Potential direct effects to these species that may result in take include the disturbance of aquatic habitat, increased sedimentation and turbidity, and increased shading. Fish affected by the proposed action will likely incur short-term stress due to visual, auditory, and vibrational disturbance and the loss of riparian vegetation from shading. Nonlethal stress experienced by individual fish can vary in duration from brief (minutes to hours for removal activities), to moderate (weeks to months for construction disturbances), to long (years for riparian vegetation regeneration), and to permanent (shading from new structure crossings).

The proposed action includes a number of avoidance and minimization BMPs to prevent, to the extent practicable, take of UWR steelhead individuals from construction activities (AKS Engineering 2022). BMPs include seasonal work restriction for near-water work (e.g., work windows); development and implementation of a Spill Prevention, Control and Countermeasures Plan; and development and implementation of a Temporary Erosion and Sediment Control Plan. Proper implementation of these BMPs will reduce the potential for take but will not remove all such potential.

The following take indicators will be monitored and recorded during construction activities and reported back to NMFS annually throughout project construction. These indicators include:

1. For floodplain, riparian, streambank and channel conditions within the project’s construction footprint:
 - a. Acres of upland vegetation disturbed in the riparian zone and floodplain.

- b. Number of trees removed greater than 6” diameter at breast height in the riparian zone.
 - c. Acres of upland vegetation restored in the riparian zone and floodplain.
 - d. Number of trees replanted in the riparian zone.
 - e. Acres of net new impervious area created.
2. For construction discharge:
- a. Construction runoff turbidity may not exceed 10% increase in natural stream turbidity, as demonstrated by a turbidity monitoring protocol that is sufficient to meet Clean Water Act section 401 certification requirements, except for limited duration activities necessary to address an emergency or accommodate essential construction activities (e.g., channel reconstruction, removal of work area containment), provided that all practicable turbidity control techniques have been applied.

Incidental take within the action area that meets the terms and conditions of this incidental take statement will be exempt from the taking prohibition.

Operations-related effects:

Operation of the proposed action will result in the creation of new impervious surface area and reconstruction of existing impervious surface area, both of which will generate stormwater runoff. Stormwater runoff conveys pollutants that degrade water quality in receiving waters. Because of the persistent nature of a number of stormwater pollutants, individuals from all listed populations evaluated in this Opinion may experience take as a result of water quality impairment.

The proposed action includes a number of stormwater BMPs to treat and manage stormwater, thereby minimizing adverse effects to Columbia Basin listed salmonids, southern green sturgeon, and southern eulachon (AKS Engineering 2022). The effectiveness of stormwater facilities to treat and manage runoff relies upon monitoring and maintenance of each facility. Documentation of facility monitoring and maintenance will serve as a take surrogate for water quality protection from stormwater pollutants. Documentation will include the following:

1. Development of a Post-construction Stormwater Management Plan (PCSMP) for the project alignment. The PCSMP will identify all stormwater basins that receive stormwater from impervious surface in the Project footprint and areas of impervious surface contiguous to the Project that drain onto Project impervious surfaces. Provide:
 - a. A map delineating all stormwater basins and a corresponding key or table that details:
 - i. A description of the stormwater treatment and management facilities constructed to treat and manage stormwater discharged to each basin;
 - ii. The receiving water to which the stormwater facility discharges;
 - iii. A description of the effectiveness and capacity of the stormwater facilities based on the expected runoff volume, including, the design storm, BMP geometry, and analyses of residence time, as appropriate.

- b. A description of the maintenance, repair, and component replacement requirements for each facility, or general type of facility constructed. Include:
 - i. Manufacturer operations and maintenance specifications, if applicable;
 - ii. Proposed routine maintenance schedule and description of maintenance activities;
 - iii. Conditions triggering maintenance outside those routinely scheduled (e.g., recent storm size, specific weather conditions);
 - iv. Proposed inspection schedule and description of facility elements to be inspected; and
 - v. Vegetation condition criteria, for vegetated facilities, required to determine proper functioning condition. Include the methods by which such criteria will be determined (e.g., percent cover, percent bare ground, number of dead plants).
 - c. Identification of the jurisdictional authority responsible for the operations, inspections, and maintenance of each facility.
2. For five consecutive years following commencement of Project operations, provide an annual report to NMFS that documents for each stormwater facility:
 - a. Routine inspections conducted;
 - b. Non-routine inspections conducted and the cause;
 - c. Maintenance activities undertaken;
 - d. Maintenance activities recommended for later implementation.

Incidental take related to Project operations within the action area that meets the terms and conditions of this incidental take statement will be exempt from the taking prohibition.

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 when the reasonable and prudent alternative is implemented.

Reasonable and Prudent Measures

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

1. Minimize incidental take associated with project construction by ensuring that all BMPs described in the proposed action and this Opinion are implemented and reported, as appropriate.
2. Minimize incidental take associated with post-construction operations by ensuring development and implementation of a comprehensive stormwater monitoring and reporting program authorized or conducted by the Corps or its applicants.

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 any applicant has a continuing duty to monitor the impacts of incidental take and must report the progress of the action and its impact on the species as specified in this ITS (50 CFR 402.14). If the entity to whom a term and condition is directed does not comply with the following terms and conditions, protective coverage for the proposed action would likely lapse.

1. The following terms and conditions implement reasonable and prudent measure 1:
 - a. Carry out all relevant conservation measures as described in the BA.
 - b. Turbidity: The Corps, or its applicants, must implement appropriate BMPs to minimize turbidity during in-water work. Any activity that causes turbidity to exceed 10% above natural stream turbidity is prohibited except as specifically provided below:
 - i. Monitoring: Turbidity monitoring must be conducted and recorded as described below. Monitoring must occur at two-hour intervals each day during daylight hours when in-water work is being conducted on streambank portion of the project area. A properly calibrated turbidimeter is required unless another monitoring method is proposed and authorized by the Oregon Department of Environmental Quality (DEQ).
 1. Representative Background Point: Applicant must take and record a turbidity measurement every two hours during in-water work at an undisturbed area. A background location shall be established at a representative location approximately 100 feet upstream of the in-water/streambank activity unless otherwise authorized by DEQ. The background turbidity, location, date, tidal stage (if applicable) and time must be recorded immediately prior to monitoring downstream at the compliance point described below.
 2. Compliance Point: The Applicant must monitor every two hours. A compliance location shall be established at a representative location approximately 100 feet downstream from the disturbance at approximately mid-depth of the waterbody and within any visible plume. The turbidity, location, date, and time must be recorded for each measurement.
 - ii. Compliance: The Applicant must compare turbidity monitoring results from the compliance points to the representative background levels taken during each two-hour monitoring interval. Pursuant to OAR 340-041-0036, short term exceedances of the turbidity water quality standard are allowed as follows:

Turbidity Level	Restriction to Duration of Activity
0 to 4 NTU above background	No Restrictions
5 to 29 NTU above background	Work may continue a maximum of 4 hours. If turbidity remains 5 to 29 NTU above background, stop work and modify BMPs. Work may resume when NTU is between 0 to 5 NTU above background.
30 to 49 NTU above background	Work may continue a maximum of 2 hours. If turbidity remains 30 to 49 NTU above background, stop work and modify BMPs. Work may resume when NTU is between 0 to 5 NTU above background.
50 NTU or more above background	Stop work immediately and inform NMFS

2. The following terms and conditions implement reasonable and prudent measure 2: Implement the monitoring and maintenance requirements described in the ITS under “Operations-related effects:”
 - a. A project completion report within 60-days of completing construction, including:
 - i. Project name
 - ii. Corps contact person
 - iii. Construction completion date
 - iv. An explanation of the stormwater system as built or installed by the construction contractor, including any on-site changes from the original design plans
 - v. A photograph of the stormwater outfall with a map showing its location
 - b. Five annual reports on stormwater system operation and maintenance – for the years 2023 to 2027 – including a copy of the:
 - i. Stormwater facility monitoring log with:
 - (1) The name of the contractor (if applicable) for all inspections
 - (2) The date of each regular inspection, and any additional inspection made within 48-hours of storm events with greater than or equal to 1.0 inch of rain during a 24-hour period
 - (3) A description of any structural repairs, maintenance, or facility cleanout activities, *e.g.*, sediment and oil removal and disposal, vegetation management, erosion control, structural repairs or seals, ponding water, pests, and trash or debris removal
 - (4) An estimate of the % cover of healthy vegetation in the bioswale
 - ii. Stream corridor enhancement monitoring and maintenance report:
 - (1) The name of the contractor (if applicable) for all inspections
 - (2) The date of each regular inspection and any additional inspection deemed necessary
 - (3) A description of any issues identified that may require maintenance or modification per the Adaptive Management Plan
 - c. Each annual report must be submitted to NMFS at the following address, no later than March 31:

projectreports.wcr@noaa.gov

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).

- No conservation recommendations are included with this Opinion.

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.

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. EFH for Pacific coast salmon was identified as being present within the action area (PFMC 2014). No HAPCs were identified. Based on information provided by the action agency and the analysis of effects presented in the ESA portion of this document, NMFS concludes that proposed action will have adverse effects on EFH designated for Chinook and coho salmon (i.e., Pacific Salmon EFH). These effects include:

1. Temporary disturbance and/or injury from construction activities in proximity to the instream environment;
2. Long-term injury and habitat impairment (water quality, sediment composition) resulting from increased stormwater pollutant generation;
3. Long-term habitat degradation (water quality, sediment composition) as local development increases and population grows, resulting in habitat impacts over time;
4. Long-term habitat degradation (water quantity, temperature) resulting from climate change; and
5. Long-term, incremental habitat improvement (water quality, sediment composition) as stormwater treatment BMPs reduce stormwater contaminant concentrations over time.

The reasonable and prudent measure proposed in the ESA analysis, above, also serve to minimize these effects on Pacific Salmon EFH. Implementations of RPAs 1 and 2, above, including all required Terms and Conditions, will serve as conservation measures for Pacific Salmon 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 Oregon Washington Coastal Office, in Portland, Oregon.

Please contact Brad Rawls, Oregon-Washington Coast Office, 503-231-5414, brad.rawls@noaa.gov. 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: Danielle Erb, Regulatory Project Manager, U.S. Army Corps of Engineers
Julie Wirth-McGee, AKS Engineering & Forestry, LLC
Joe Younkens, Washington County Dept of Land Use and Transportation

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