UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
1201 NE Lloyd Boulevard, Suite 1100
PORTLAND, OR 97232-1274

Refer to NMFS No: WCR-2019-02763

December 6, 2019

Thomas Montoya
Forest Supervisor
Wallowa-Whitman National Forest
1550 Dewey Avenue, Suite A
Baker City, Oregon 97814

Lt. Col. Christian N. Dietz
U.S. Army Corps of Engineers
Walla Walla District
201 North Third Avenue
Walla Walla, Washington 99362

Re: Endangered Species Act Section 7 Formal Consultation and Magnuson-Stevens Fishery and Conservation and Management Act Essential Fish Habitat Response for the Hells Canyon Creek Boat Dock Repair, Wallowa County, Oregon, HUC 170601010102

Dear Mr. Montoya and Lt. Col. Dietz:

Thank you for your letter of September 23, 2019, requesting initiation of consultation with NOAA's National Marine Fisheries Service (NMFS) pursuant to section 7 of the Endangered Species Act of 1973 (ESA) (16 U.S.C. 1531 et seq.) for the Hells Canyon Creek Boat Dock Repair Project. This consultation was conducted in accordance with the 2019 revised regulations that implement section 7 of the ESA (50 CFR 402, 84 FR 45016).

The Wallowa-Whitman National Forest (WWNF) made a "likely to adversely affect" determination for Snake River Basin steelhead. The WWNF made a "not likely to adversely affect" determination for Snake River spring/summer Chinook salmon, Snake River fall Chinook salmon, and designated critical habitat for all three species. Because these species and their critical habitat are present in the action area, and there will be in-water work, NMFS does not concur with the WWNF's "not likely to adversely affect" determinations. We therefore address potential effects to these species and their critical habitats in this biological opinion (Opinion). In this Opinion, NMFS concludes that the action, as proposed, is not likely to jeopardize the continued existence of Snake River Basin steelhead, Snake River spring/summer Chinook salmon, and Snake River fall Chinook salmon, or result in the destruction or adverse modification of designated critical habitat for these species.

NMFS also reviewed the likely effects of the proposed action on essential fish habitat (EFH), pursuant to section 305(b) of the Magnuson-Stevens Fishery and Conservation Management Act (16 U.S.C. 1855(b)), and concluded that the action would adversely affect the EFH of Pacific Coast Salmon. Therefore, we have included the results of that review in Section 3 of this document.

As required by section 7 of the ESA, NMFS provides an incidental take statement (ITS) with the Opinion. The ITS describes reasonable and prudent measures (RPMs) NMFS considers necessary or appropriate to minimize the impact of incidental take associated with this action. The take statement sets forth nondiscretionary terms and conditions, including reporting requirements that the WWNF, U.S. Army Corps of Engineers, and/or any person who performs the action must comply with to carry out the RPMs. Incidental take from actions that meet these terms and conditions will be exempt from the ESA take prohibition.

Please contact Ms. Sarah Fesenmyer, Southern Snake Branch Office, at (208) 378-5660, or sarah.fesenmyer@noaa.gov, if you have any questions concerning this consultation, or if you require additional information.

Sincerely,

Michael P. Tehan
Assistant Regional Administrator
Interior Columbia Basin Office

Enclosure

cc: A. Miller – WWNF
M. Lopez – NPT

Endangered Species Act (ESA) Section 7(a)(2) Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation

Hells Canyon Creek Boat Dock Repair Project, Wallowa County, Oregon
Snake River-Butte Creek Subwatershed, HUC 170601010102

NMFS Consultation Number: WCRO-2019-02763

Action Agencies: U.S. Forest Service (Wallowa-Whitman National Forest)
U.S. Army Corps of Engineers

Affected Species and Determinations:

ESA-Listed Species	Status	Is Action Likely to Adversely Affect Species or Critical Habitat?	Is Action Likely to Jeopardize the Species?	Is Action Likely to Destroy or Adversely Modify Critical Habitat?
Snake River Basin steelhead (*Oncorhynchus mykiss*)	Threatened	Yes	No	No
Snake River spring/summer Chinook salmon (*O. tshawytscha*)	Threatened	Yes	No	No
Snake River fall Chinook salmon (*O. tshawytscha*)	Threatened	Yes	No	No

Essential Fish Habitat (EFH):

Fishery Management Plan That Identifies EFH in the Project Area	Does Action Have an Adverse Effect on EFH?	Are EFH Conservation Recommendations Provided?
Pacific Coast Salmon	Yes	Yes

Consultation Conducted By: National Marine Fisheries Service, West Coast Region

Issued By:

Michael P. Tehan
Assistant Regional Administrator

Date: December 5, 2019

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ACRONYM	DEFINITION
BA	Biological Assessment
BO	Biological Opinion
COE	U.S. Army Corps of Engineers
CWA	Clean Water Act
DPS	Distinct Population Segment
DQA	Data Quality Act
EFH	Essential Fish Habitat
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
HAPC	Habitat Areas of Particular Concern
ITS	Incidental Take Statement
MPG	Major Population Groups
MSA	Magnuson-Stevens Fishery Conservation and Management Act
NMFS	National Marine Fisheries Service
NPT	Nez Perce Tribe
Opinion	Biological Opinion
PBF	Physical and Biological Features
PCE	Primary Constituent Element
RPM	Reasonable and Prudent Measures
VSP	Viable Salmonid Population
WWNF	Wallowa-Whitman National Forest

1. INTRODUCTION

This Introduction section provides information relevant to the other sections of this document and is incorporated by reference into Sections 2 and 3, below.

1.1. Background

The National Marine Fisheries Service (NMFS) prepared the biological opinion (Opinion) and incidental take statement (ITS) portions of this document in accordance with section 7(b) of the Endangered Species Act (ESA) of 1973 (16 USC 1531 et seq.), and implementing regulations at 50 CFR 402, as amended. We also completed an essential fish habitat (EFH) consultation on the proposed action, in accordance with section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) (16 U.S.C. 1801 et seq.) and implementing regulations at 50 CFR 402.

We completed pre-dissemination review of this document using standards for utility, integrity, and objectivity in compliance with applicable guidelines issued under the Data Quality Act (DQA) (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001, Public Law 106-554). The document will be available within 2 weeks at the NOAA Library Institutional Repository [https://repository.library.noaa.gov/welcome]. A complete record of this consultation is on file at the NMFS office in Boise, Idaho.

1.2. Consultation History

The Wallowa-Whitman National Forest (WWNF) proposes to replace an existing public boat dock at the Hells Canyon Creek Boat Launch and Visitor Center site. The WWNF shared a draft biological assessment (BA) for this project with NMFS in June 2019. NMFS provided comments on July 10, 2019. The WWNF and NMFS discussed the consultation by email in September 2019, and the WWNF submitted a final BA on September 23, 2019 (WWNF 2019). This consultation is based on that final BA. The U.S. Army Corps of Engineers (COE) may issue a Clean Water Act (CWA) section 404 permit for the project, and this consultation also addresses the COE's issuance of the permit.

The WWNF made a "likely to adversely affect" determination for Snake River Basin steelhead. The WWNF made a "not likely to adversely affect" determination for Snake River spring/summer Chinook salmon, Snake River fall Chinook salmon, and designated critical habitat for all three species. Because these species and their critical habitat are present in the action area, and there will be in-water work, NMFS does not concur with the WWNF's not likely to adversely affect determinations. We therefore address potential effects to these species and their critical habitats in this Opinion.

Because this action has the potential to affect tribal trust resources, NMFS provided copies of the draft proposed action and terms and conditions for this Opinion to the Nez Perce Tribe on November 14, 2019. The Nez Perce Tribe did not respond. NMFS also provided a copy of the draft proposed action and terms and conditions to the WWNF for review. The WWNF responded with no comments or concerns.

1.3. Proposed Federal Action

"Action" means all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by federal agencies (50 CFR 402.02). For EFH, the federal action means any action authorized, funded, or undertaken, or proposed to be authorized, funded or undertaken by a Federal agency (50 CFR 600.910). The proposed action is the replacement and repair of the floating boat dock and associated structures at the Hells Canyon Creek Launch site on the Snake River. The original floating boat dock and shore structures were damaged during a 2012 flash flood event on Hells Canyon Creek. The boat dock consists of a rail system, a stair system, and a floating dock. The floating dock consists of linked floats attached to the rail system on the shore. The floats move up and down the rail system in response to river flow, which varies considerably in the Snake River throughout the year based on dam releases from Hells Canyon Dam, 0.75 miles upstream. The dock does not have any piers. The stair system allows safe access to the dock from the shore. The boat dock is used by both commercial and private boats (e.g., jet boats). Figures 1 and 2 show the existing damaged rail and stair system. Figure 2 shows how flood deposits are covering the rail and stair structures below the water line. Since the flood damage, the WWNF has removed the old floating dock from the water and jet boats are tying up directly to the rail system to load and unload passengers. Figure 3 shows an aerial view of the project site before the old floating dock was removed.

Figure 1. Hells Canyon Creek boat dock damaged stair and rail structures.

Figure 2. Hells Canyon Creek boat dock structures showing flood deposits covering the rail and stair structures below the water line.

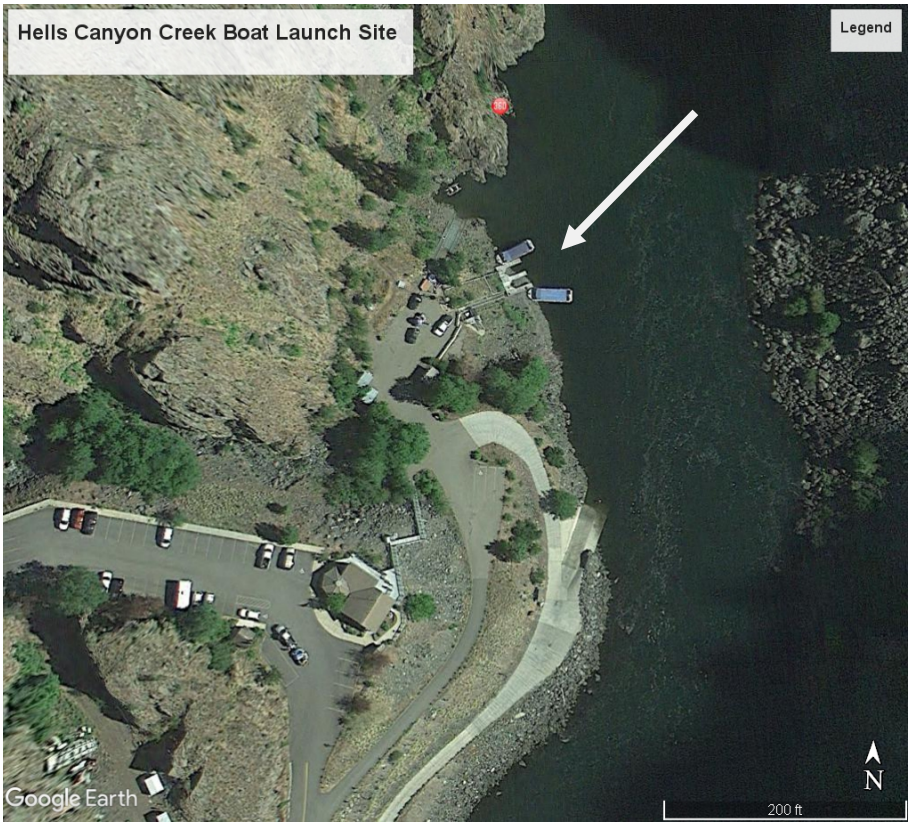

Figure 3. Hells Canyon Creek Boat Dock with old floating dock still in place. The arrow points to the floating dock.

Replacing and repairing the boat dock and shore structures will involve the following steps and will adhere to the conservation measures in Table 1.

1. Use an excavator to redistribute roughly 20 cubic yards of river substrate that accumulated on the lower portion of the rail system during the 2012 flood; and redistribute 10 cubic yards of substrate that accumulated on the stair system. Working from the dry shoreline, the excavator would scoop up this substrate and deposit it immediately downstream of the boat dock. The substrate to be moved is below the bankfull width of the Snake River channel.

2. Replace damaged sections of the rail system.

3. Replace the stair system. The new stair system will be constructed without treated lumber (The existing stair system utilized treated lumber).

4. Replace the floating dock. The new dock will have grate-style decking to allow light penetration below the dock to discourage warmwater fish species from using it for cover.

After substrate is removed from the rails and stairs, and those structures are repaired and replaced, then the WWNF will place the new floating dock in the water using heavy machinery operating from dry ground.

Table 1. Conservation Measures.

Category	Specific Measures
Instream Work	• All work within the active channel will be completed between July 1 and October 15, per the Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife resources (ODFW 2008, or the most recent version). • Instream work will take approximately 1 to 2 weeks. • The U.S. Forest Service will work with Idaho Power to maintain stable flows in the Snake River during the repair project. • When removing submerged flood deposits on the rail and stair systems from the water, heavy equipment operators will use a digging motion rather than pushing and scrapping motions. This will likely require a large track hoe with a long reach. • Where flood deposits on the rail and stair systems are above the wetted channel, the operator will scatter the flood deposits in dry bank areas.
Sediment Control	• Heavy equipment will be operated from dry land. • A pollution and erosion control plan will be developed to minimize the risk and scale of pollution and erosion from equipment or the construction site. The plan must include practices that: minimize erosion and sedimentation associated with all aspects of the project; prevent construction debris from entering the water; and prevent and control hazardous material spills. • During construction, erosion controls will be monitored to ensure controls are properly functioning. If monitoring shows that the erosion controls are ineffective at preventing visible sediment discharge into the Snake River, the construction must stop for

Category	Specific Measures
	evaluation of the erosion control measures. Repairs, replacements, or the installation of additional erosion control measures must be completed before the project resumes. • Proper maintenance of sediment control measures includes removal of sediment and debris from erosion controls like silt fences or hay bales once the sediment has reached one third of the exposed height of the control. • All heavy equipment will be operated from land. Heavy equipment will be selected and operated as necessary to minimize adverse effects on the environment (e.g., minimally-sized, low pressure tires, minimal hard turn paths for tracked vehicles, temporary mats or plates within wet areas or sensitive soils). • The WWNF or contractor will visually monitor the Snake River for a turbidity plume every 4 hours during construction, between the project site and 300 feet downstream of the project site. If the WWNF or contractor observes a turbidity plume within this distance, the contractor will modify sediment controls and continue work. If the contractor observes a turbidity plume within this distance lasting 8 hours, then the contractor will stop work. If the contactor observes a turbidity plume beyond 300 feet downstream from the project site, then the contactor will stop work.
Equipment Spill and Leak Prevention	• To prevent spillage of fuel into the Snake River and other water sources, all fuel storage and refueling would occur outside of the beds and banks of the Snake River and in designated sites away from water sources. Spill prevention and containment kits will be required to be onsite during all periods of construction activity. • To comply with the WWNF Hazardous material plan and protect water sources, all spills will be mitigated and reported in accordance with the WWNF hazardous material plan. All vehicles and other heavy equipment will be: • Stored, fueled, and maintained in a vehicle staging area placed 150 feet or more from any waterbody, or in an isolated hard zone such as a paved parking lot. • Inspected daily for fluid leaks before leaving the vehicle staging area for operation within 50 feet of any waterbody. • Steam-cleaned before operation below ordinary high water, and as often as necessary during operation to remain free of all external oil, grease, mud, seeds, organisms, and other visible contaminants. • Generators, cranes, and any other stationary equipment operated within 150 feet of any waterbody will be maintained and protected as necessary to prevent leaks and spills from entering the water.

We considered whether or not the proposed action would cause any other activities and determined that it would not. Repairing and replacing the boat dock will not lead to increased boat traffic on the Snake River because boats may still tie up at the existing rail system even without replacing the dock.

2. ENDANGERED SPECIES ACT: BIOLOGICAL OPINION AND INCIDENTAL TAKE STATEMENT

The ESA establishes a national program for conserving threatened and endangered species of fish, wildlife, plants, and the habitat upon which they depend. As required by section 7(a)(2) of the ESA, each federal agency must ensure that its actions are not likely to jeopardize the continued existence of endangered or threatened species, or adversely modify or destroy their designated critical habitat. Per the requirements of the ESA, federal action agencies consult with NMFS and section 7(b)(3) requires that, at the conclusion of consultation, NMFS provide an opinion stating how the agency's actions would affect listed species and their critical habitats. If incidental take is reasonably certain to occur, section 7(b)(4) requires NMFS to provide an ITS that specifies the impact of any incidental taking and includes non-discretionary reasonable and prudent measures (RPMs) and terms and conditions to minimize such impacts.

2.1. Analytical Approach

This Opinion includes both a jeopardy analysis and an adverse modification analysis. The jeopardy analysis relies upon the regulatory definition of "jeopardize the continued existence of" a listed species, which is "to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species" (50 CFR402.02). Therefore, the jeopardy analysis considers both survival and recovery of the species.

This Opinion relies on the definition of "destruction or adverse modification," which "means a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species" (50 CFR 402.02).

The designations of critical habitat for Snake River spring/summer Chinook salmon, Snake River fall Chinook salmon, and Snake River Basin steelhead use the term primary constituent element (PCE) or essential features. The 2016 critical habitat regulations (50 CFR 424.12) replaced this term with physical or biological features (PBFs). The shift in terminology does not change the approach used in conducting a ''destruction or adverse modification'' analysis, which is the same regardless of whether the original designation identified PCEs, PBFs, or essential features. In this Opinion, we use the term PBF to mean PCE or essential feature, as appropriate for the specific critical habitat.

The 2019 regulations define effects of the action using the term "consequences" (50 CFR 402.02). As explained in the preamble to the regulations (84 FR 44977), that definition does not change the scope of our analysis and in this opinion we use the terms "effects" and "consequences" interchangeably.

We use the following approach to determine whether a proposed action is likely to jeopardize listed species or destroy or adversely modify critical habitat:

- Evaluate the rangewide status of the species and critical habitat expected to be adversely affected by the proposed action.

- Evaluate the environmental baseline of the species and critical habitat.

  Evaluate the effects of the proposed action on species and their habitat using an exposure-response approach.

- Evaluate cumulative effects.

- In the integration and synthesis, add the effects of the action and cumulative effects to the environmental baseline, and, in light of the status of the species and critical habitat, analyze whether the proposed action is likely to: (1) Directly or indirectly reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species; or (2) directly or indirectly result in an alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species.

- If necessary, suggest a reasonable and prudent alternative to the proposed action.

2.2. Rangewide Status of the Species and Critical Habitat

This opinion examines the status of each species that would be adversely affected by the proposed action. The status is determined by the level of extinction risk that the listed species face, based on parameters considered in documents such as recovery plans, status reviews, and listing decisions. This informs the description of the species' likelihood of both survival and recovery. The species status section also helps to inform the description of the species' "reproduction, numbers, or distribution" as described in 50 CFR 402.02. The opinion also examines the condition of critical habitat throughout the designated area, evaluates the conservation value of the various watersheds and coastal and marine environments that make up the designated area, and discusses the function of the essential PBFs that help to form that conservation value.

This Opinion considers the status of three species: Snake River Basin steelhead, Snake River spring/summer Chinook salmon, and Snake River fall Chinook salmon. Each of these evolutionarily significant units (ESU) or distinct population segments (DPS) is composed of multiple populations which spawn and rear in different watersheds across the Snake River basin. Having multiple viable populations makes an ESU or DPS less likely to become extinct from a single catastrophic event (ICBTRT 2010). NMFS expresses the status of an ESU or DPS in terms of the status and extinction risk of its individual populations, relying on McElhaney et al.'s (2000) description of a viable salmonid population (VSP). The four parameters of a VSP are abundance, productivity, spatial structure, and diversity. The recovery plan for Snake River spring/summer Chinook salmon and Snake River Basin steelhead (NMFS 2017a), and the recovery plan for Snake River fall Chinook salmon (NMFS 2017b) describe these four parameters in detail and the parameter values needed for persistence of individual populations and for recovery of the ESU or DPS.

Table 2 summarizes the status and available information on the Snake River Basin steelhead DPS, the Snake River spring/summer Chinook salmon ESU, and the Snake River fall Chinook

salmon ESU, based on the detailed information on the status of individual populations, and the species as a whole provided by the *ESA Recovery Plan for Snake River Spring/Summer Chinook Salmon & Snake River Basin Steelhead* (NMFS 2017a), *ESA Recovery Plan for Snake River Fall Chinook Salmon* (NMFS 2017b), and *Status review update for Pacific salmon and steelhead listed under the Endangered Species Act: Pacific Northwest* (NWFSC 2015). These three documents are incorporated by reference here. All species remain threatened with extinction due to many individual populations not meeting recovery plan abundance and/or productivity targets.

Table 2. Most recent listing classification and date, status summary (including recovery plan reference and most recent status review), and limiting factors for species considered in this Opinion.

Species	Listing Status	Status Summary	Limiting Factors
Snake River Spring/summer Chinook Salmon	Threatened 6/28/05	This ESU comprises 28 extant and four extirpated populations, organized into five major population groups (MPGs), none of which are meeting the viability goals laid out in the recovery plan (NMFS 2017a). All except one extant population (Chamberlin Creek) are at high risk of extinction (NWFSC 2015). Most populations will need to see increases in abundance and productivity in order for the ESU to recover. Several populations have a high proportion of hatchery-origin spawners—particularly in the Grande Ronde, Lower Snake, and South Fork Salmon MPGs—and diversity risk will also need to be lowered in multiple populations in order for the ESU to recover (NWFSC 2015). Overall adult returns have remained very low over the past 3 years (Nez Perce Tribe 2018; Nez Perce Tribe 2019), and the trend for the most recent 5 years (2014-2018) has been generally downward (ODFW and WDFW 2019).	• Adverse effects related to the mainstem Columbia and Snake River hydropower system and modifications to the species' migration corridor. • Degraded freshwater habitat, including altered streamflows and degraded water quality. • Harvest-related effects. • Predation in the migration corridor. • Potential effects from high proportion of hatchery fish on natural spawning grounds.
Snake River Fall Chinook Salmon	Threatened 6/28/05	This ESU comprises one extant population of fish spawning in the mainstem of the Snake River and the lower reaches of the associated major tributaries including the Tucannon, Grande Ronde, Clearwater, Salmon, and Imnaha Rivers. Historically, a single extirpated population spawned and reared above the Hells Canyon Dam. The ESU also includes four artificial propagation programs (NMFS 2017b). The population has a high proportion of hatchery-origin spawners. The population is considered viable, but will need to see an increase in productivity combined with a reduction in diversity risk for the ESU to recover (ICBTRT 2010; NWFSC 2015). From 2015 through 2018, annual returns steadily decreased (Personal Communication,	• Adverse effects related to the mainstem Columbia and Snake River hydropower system and modifications to the species' migration corridor. • Harvest-related effects. • Potential effects from high proportion of hatchery fish on natural spawning grounds.

Species	Listing Status	Status Summary	Limiting Factors
		Bill Young, Nez Perce Tribe Hatchery Evaluations Coordinator, October 17, 2019).	
Snake River Basin Steelhead	Threatened 1/5/06	This DPS comprises 24 populations organized into five MPGs. Currently, five populations are tentatively rated at high risk of extinction, 17 populations are rated at moderate risk of extinction, one population is viable, and one population is highly viable. Four out of the five MPGs are not meeting the population viability goals laid out in the recovery plan (NMFS 2017a). In order for the species to recover, more populations will need to reach viable status through increases in abundance and productivity. Additionally, the relative proportion of hatchery fish spawning in natural spawning areas near major hatchery release sites remains uncertain and may need to be reduced (NWFSC 2015, most recent species status review). Since 2015, abundance has declined steadily with only 10,717 natural-origin adult returns counted in 2018 (ODFW & WDFW 2019).	• Adverse effects related to the mainstem Columbia and Snake River hydropower system and modifications to the species' migration corridor. • Genetic diversity effects from out-of-population hatchery releases. Potential effects from high proportion of hatchery fish on natural spawning grounds. • Degraded fresh water habitat. • Harvest-related effects, particularly B-run steelhead. • Predation in the migration corridor.

The proposed action will occur in the Hells Canyon watershed in the Snake River. For steelhead, this section of the Snake River was historically occupied by the Hells Canyon Tributaries steelhead population of the Hells Canyon MPG. This population is considered extirpated, and the Hells Canyon MPG is not expected to contribute to DPS recovery (NMFS 2017a). Tributaries available to steelhead below the Hells Canyon Dam are not considered large enough to support an independent population. The Hells Canyon reach of the Snake River does not currently support an independent population, although steelhead do occur in the action area. Although we suspect that the majority of steelhead occurring in the action area are likely hatchery fish, adult, wild steelhead protected under the ESA are regularly caught at the Hells Canyon Dam trap facility. Because ESA-listed steelhead have access to the action area and could be present, effects on Snake River Basin steelhead are evaluated in this Opinion.

Habitat analyses and historical records indicate historical and current presence of Snake River spring/summer Chinook in the action area. The area above Hells Canyon Dam once supported several anadromous populations of spring/summer Chinook (NMFS 2017a). Although the Hells Canyon reach of the Snake River does not currently support an independent population, spring/summer Chinook salmon do currently occur in the action area. We suspect that the majority of spring/summer Chinook salmon occurring in the action area are hatchery fish, but adult wild spring/summer Chinook protected under the ESA are occasionally caught at the Hells Canyon Dam trap facility. Because ESA-listed spring/summer Chinook salmon have access to the action area and could be present, effects on Snake River Spring/summer Chinook salmon are also evaluated in this Opinion.

For fall Chinook, this section of the Snake River is occupied by the Lower Snake River population, which is the single extant population for the ESU. This population includes fish spawning in the mainstem of the Snake River and lower reaches of several associated tributaries (NMFS 2017b). The population is currently rated at low risk for abundance/productivity, moderate risk for spatial structure, moderate risk for diversity, and is likely achieving maintained status for an overall viability rating (NMFS 2017b). The Snake River fall Chinook ESU as a whole is not meeting the recovery goals described in the recovery plan for the species, which require the single population to be "highly viable with high certainty" (NWFSC 2015).

Table 3 summarizes designated critical habitat for Snake River Basin steelhead, Snake River spring/summer Chinook salmon, and Snake River fall Chinook salmon, based on the detailed information on the status of critical habitat throughout the designation area provided in the recovery plan for each species (NMFS 2017a; NMFS 2017b), which is incorporated by reference here. NMFS describes critical habitat in terms of essential PBFs of that habitat to support one or more life stages (e.g., sites with conditions that support spawning, rearing, migration, and foraging). For Snake River Basin steelhead, PBFs include water quality, water quantity, spawning substrate, floodplain connectivity, forage, natural cover, and passage free of artificial obstructions. For Snake River spring/summer Chinook salmon, PBFs include spawning gravel, water quality, water quantity, food, riparian vegetation, water temperature, substrate, water velocity, cover/shelter, space, and safe passage. For Snake River fall Chinook salmon, PBFs are the same as for spring/summer Chinook salmon, but also include access. Across the designations, the current ability of PBFs to support the species varies from excellent in wilderness areas to poor in areas of intensive human land use.

Table 3. Critical habitat, designation date, Federal Register citation, and status summary for critical habitat considered in this Opinion.

Species	Designation Date and Federal Register Citation	Critical Habitat Status Summary
Snake River Spring/summer Chinook Salmon	10/25/99 64 FR 57399	Critical habitat consists of river reaches of the Columbia, Snake, and Salmon Rivers, and all tributaries of the Snake and Salmon rivers (except the Clearwater River) presently or historically accessible to this ESU (except reaches above impassable natural falls, and Dworshak and Hells Canyon Dams). Habitat quality in tributary streams varies from excellent in wilderness and roadless areas, to poor in areas subject to heavy agricultural and urban development (NMFS 2017a). Reduced summer stream flows, impaired water quality, and reduced habitat complexity are common problems.
Snake River Fall Chinook Salmon	12/28/93 58 FR 68543	Critical habitat consists of all Columbia River estuarine areas, as well as river reaches upstream to the confluence of the Columbia and Snake Rivers, and all Snake River reaches from the confluence of the Columbia River upstream to Hells Canyon Dam. It also includes lower portions of the Palouse, Clearwater, and North Fork Clearwater Rivers. Habitat quality in all reaches is influenced by various land uses, especially irrigated agriculture, in terms of heavy sediment and nutrient loading from irrigation returns (NMFS 2017b).

Species	Designation Date and Federal Register Citation	Critical Habitat Status Summary
Snake River Basin steelhead	9/02/05 70 FR 52630	Critical habitat encompasses 25 subbasins in Oregon, Washington, and Idaho. Habitat quality in tributary streams varies from excellent in wilderness and roadless areas, to poor in areas subject to heavy agricultural and urban development (NMFS 2017a). Reduced summer stream flows, impaired water quality, and reduced habitat complexity are common problems.

For all three species, the construction and operation of water storage and hydropower projects in the Columbia River basin, including the run-of-river dams on the mainstem lower Snake and lower Columbia Rivers, have altered biological and physical attributes of the mainstem migration corridor for juveniles and adults. However, several actions taken since 1995 have reduced the negative effects of the hydrosystem on juvenile and adult migrants. Examples include providing spill at each of the mainstem dams for smolts, steelhead kelts, and adults that fall back over the projects; and maintaining and improving adult fishway facilities to improve migration passage for adult salmon and steelhead.

2.2.1 Climate Change Implications for ESA-listed Species and their Critical Habitat

One factor affecting the status of the species and its critical habitat considered in this Opinion is climate change. Likely changes in temperature, precipitation, wind patterns, and sea-level height have implications for survival of Snake River Basin steelhead species in both its freshwater and marine habitats. During the next century average temperatures in the Pacific Northwest are projected to increase 3 to 10°F, with the largest increases predicted to occur in the summer (Mote et al. 2014). Decreases in summer precipitation of as much as 30 percent by the end of the century are consistently predicted across climate models (Mote et al. 2014). Precipitation is more likely to occur during October through March, less during summer months, and more winter precipitation will be rain than snow (ISAB 2007; Mote et al. 2014). Earlier snowmelt will cause lower stream flows in late spring, summer, and fall, and water temperatures will be warmer (ISAB 2007; Mote et al. 2014). Models consistently predict increases in the frequency of severe winter precipitation events (i.e., 20-year and 50-year events) in the western United States (Dominguez et al. 2012). The largest increases in winter flood frequency and magnitude are predicted in mixed rain-snow watersheds (Mote et al. 2014). In general, these changes in air temperatures, river temperatures, and river flows are expected to cause changes in salmon and steelhead distribution, behavior, growth, and survival, although the magnitude of these changes remains unclear.

Climate change could affect the three species in the following ways (NMFS 2017a; NMFS 2017b):

- Winter flooding in transient and rainfall-dominated watersheds may scour redds, reducing egg survival.

- Warmer water temperatures during incubation may accelerate the rate of egg development and result in earlier fry emergence and dispersal, which could be either beneficial or detrimental, depending on location and prey availability.

- Reduced summer and fall flows may reduce the quality and quantity of juvenile rearing habitat, strand fish, or make fish more susceptible to predation and disease.

- Reduced flows and higher temperatures in late summer and fall may decrease parr-to-smolt survival.

- Warmer temperatures will increase metabolism, which may increase or decrease juvenile growth rates and survival, depending on availability of food.

- Overwintering survival may be reduced if increased flooding reduces suitable habitat.

- Timing of smolt migration may be altered due to a modified timing of the spring freshet, such that there is a mismatch with ocean conditions and predators.

- Higher temperatures while adults are holding in tributaries and migrating to spawning grounds may lead to increased prespawning mortality or reduced spawning success as a result of delay or increased susceptibility to disease and pathogens.

- Increases in water temperatures in Snake and Columbia River reservoirs could increase consumption rates and growth rates of predators and, hence, predation-related mortality on juvenile spring/summer Chinook salmon and steelhead.

- Lethal water temperatures (temperatures that kill fish) may occur in the mainstem migration corridor or in holding tributaries, resulting in higher mortality rates.

- If water temperatures in the lower Snake River (especially Lower Granite Dam and reservoir) warm during late summer and fall sufficiently that they cannot be maintained at a suitable level by cold-water releases from Dworshak Reservoir, then migrating adult Snake River summer Chinook salmon and steelhead could have higher rates of mortality and disease.

Both freshwater and marine productivity tend to be lower in warmer years for Snake River salmon and steelhead populations. Climate factors will likely make it more challenging to increase abundance and recover the species by reducing the suitable rearing areas and leading to a more limited run-timing under the warmer future conditions. This possibility reinforces the importance of achieving survival improvements throughout the species' entire life cycle, and across different populations since neighboring populations with different habitat may respond differently to climate change.

2.3. 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 action area includes the project work site in and around the Snake River, and the Snake River starting with the project work site and extending downstream 1,000 feet (the likely extent of potential downstream sediment effects).

2.4. 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 project site is located approximately 0.75 miles downstream from Hells Canyon Dam on the Oregon side of the Snake River. The action area is located on U.S. Forest Service land administered by the WWNF. The Snake River through the Hells Canyon is a stable stream channel that is deeply entrenched with minimal floodplain development. The channel banks and stream bed within Hells Canyon are dominantly comprised of boulders. Tributary streams within Hells Canyon are steep, deeply entrenched channels. The majority of the Hells Canyon reach of the Snake River is bounded on both sides by the Hells Canyon Wilderness Area, which was established in 1975. Management activities within the Wilderness are limited primarily to dispersed recreation and fire suppression activities.

The Hells Canyon Creek Boat Launch and Visitor Center site is located on the alluvial fan of Hells Canyon Creek. The mouth of Hells Canyon Creek is approximately 100 feet upstream from the boat dock. The alluvial fan has been extensively modified for the construction of a visitor center, parking areas, boat dock, and boat ramp. Additionally, the site may have received fill material from work associated with the construction of the Hells Canyon Dam. The Snake River wetted stream width at the dock site is about 250 feet.

Steelhead use the action area for both migration and juvenile rearing. A limited number of spring/summer Chinook salmon may use the action area as migration habitat. Fall Chinook salmon use the action area as holding habitat for adult fish and rearing/migration habitat for juvenile fish (WWNF 2019). The action area does not provide spawning habitat for any of the species.

2.5. Effects of the Action

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

2.5.1 Effects to Species

The proposed action will take place between July 1 and October 15. All work within the active channel will be completed in accordance with the Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources (ODFW 2008). The WWNF estimates that the actual work period will be 1 to 2 weeks. Table 4 summarizes potential salmonid species and life stages presence in the action area during the project work window. Life stages and species that could be present, and thus subject to consequences, during project construction are: migrating or holding adults for all three species, and rearing juveniles for steelhead and fall Chinook salmon.

Table 4. Periodicity of species and life stages of salmonids in the action area during the project work window (adapted from WWNF 2019).

Life Stage/Activity/Species	Jul		Aug		Sep		Oct	
Upstream Adult Migration								
Summer steelhead								
Spring/summer Chinook salmon								
Fall Chinook salmon								
Adult Holding/Overwintering								
Summer steelhead								
Spring/summer Chinook salmon								
Fall Chinook salmon								
Adult Spawning								
Summer steelhead								
Spring/summer Chinook salmon								
Fall Chinook salmon								
Egg Incubation through Fry Emergence								
Summer steelhead								
Spring/summer Chinook salmon								
Fall Chinook salmon								
Juvenile Rearing								
Summer steelhead								
Spring/summer Chinook salmon								
Fall Chinook salmon								
Downstream Juvenile Migration								
Summer steelhead								
Spring/summer Chinook salmon								
Fall Chinook salmon								

Note: Darker shading indicates primary period for the activity.

Salmonids present in the action area during the project implementation period could experience the following consequences from the proposed action:

- Risk of injury or death during relocation of river substrate;
- Exposure to short-term turbidity plumes downstream of the project site;
- Altered use of habitat due to increased sediment deposition along the banks of the river;
- Exposure to construction noise and disturbance;

- Exposure to chemical contamination; and

- Increased risk of predation from predator fish using the dock as cover.

The proposed action includes conservation measures to help avoid and/or minimize adverse effects to salmonids. The likelihood of exposure and the magnitude of response to these consequences are discussed below.

2.5.1.1 Injury or Mortality from Redistribution of River Substrate

Redistribution of river substrate from the structure to the Snake River has the potential to disturb, injure, or kill fish located at the project site or immediately downstream from the site. We expect that any holding adult salmon or steelhead at the project site will quickly and easily move upstream or downstream to occupy adjacent holding habitat as equipment moves into place and begins to operate. The proposed action will therefore not injure adult salmon or steelhead. Rearing juveniles, on the other hand, may not all move out of the construction area, and could therefore be crushed by the excavator bucket or by the placement of river substrate in the river immediately downstream from the dock rails and stairs.

We expect that only a small number of rearing juveniles will be crushed or injured during scooping and placement of river substrate from the rails and stairs to immediately downstream of the structures because:

- The action area has been extensively modified by the boat dock infrastructure and does not provide high quality rearing habitat, such that few juveniles are likely to be in the action area during the 1 to 2 weeks of project construction.

- The area where river substrate will be removed from has a relatively small footprint of roughly 35 feet by 20 feet.

- Like adult fish, juvenile fish may relocate to other nearby suitable habitat as soon as the excavator moves into position and begins operating in the project area.

Since the river is approximately 250 feet wide near the boat ramp, project activities will only affect a very small portion of the river channel, and inwater work will only last for a week or two. This considered, NMFS expects that although some fish may be killed or injured, the majority of juvenile fish present in the action area during the work window will not be exposed or will be readily able to relocate to nearby suitable habitat (i.e., behavioral response only) for the short duration of the project. It will not be feasible to monitor the number of fish injured or killed as a result of the river substrate redistribution.

2.5.1.2 Turbidity

The effects of increased suspended sediment on salmonids vary based on exposure time and concentration. These effects were reviewed by Newcombe and Jensen (1996) and range from avoidance response, to minor physiological stress from increased rate of coughing, to injury from

abrasion of gill tissue, to death. Salmonids are relatively tolerant of low to moderate levels of suspended sediment (Gregory and Northcote 1993). Salmon and steelhead tend to avoid suspended sediment above certain concentrations (Servizi and Martens 1992; McLeay et al. 1987). Avoidance behavior can mitigate adverse effects when fish are capable of moving to an area with lower concentrations of suspended sediment. Researchers have reported thresholds for salmonid avoidance behavior at turbidities ranging from 30 to 70 nephelometric turbidity units (Lloyd 1987; Servizi and Martens 1992; Berg and Northcote 1985).

The WWNF proposes to use an excavator (operating from dry ground) to redistribute approximately 30 cubic yards of river substrate to repair the rails and stairs associated with the boat dock. Redistributing the river substrate within the wetted channel will create temporary minor increases in turbidity within the action area. However, the operation of Hells Canyon Dam and high flow volume in the project area likely maintains a low baseline volume of fine sediment. The excavator will work from dry ground and additional conservation measures per a site-specific erosion control plan will also be employed in the project site. For these reasons, overall fine sediment delivery and turbidity due to the action are expected to be minor. Visible turbidity in some cases of instream work can extend as far as 2,500 feet downstream (Foltz et al. 2013). However, for this project, with limited baseline sediment, low amounts of in-water work, and high flow volumes, we expect project-associated turbidity will be undetectable beyond 1,000 feet downstream from the project site. The turbidity plume will likely extend downstream from the boat dock into an eddy adjacent to the dock. The turbidity plume will likely dissipate at a rapid rate as a result of mixing with high volume streamflow from the river.

Fish exposed to turbidity plumes near the boat dock could temporarily relocate to nearby suitable habitat. Therefore, the duration and extent of the turbidity increases resulting from substrate redistribution are expected to be short-term and localized, with minimal impact to ESA-listed fish.

2.5.1.3 Sediment Deposition

Turbidity plumes from redistributing substrate will deposit a small amount of fine sediment in the Snake River downstream from the project site. The majority of mobilized sediment is likely to be dispersed by high flows during the work window. Some mobilized sediment is expected to be deposited near river banks up to 1,000 feet downstream of the project site, which would likely be dispersed during the following spring high flows. The most concentrated sediment deposits caused by the proposed action would likely occur on the banks of the river and in the eddy adjacent to the boat dock, with the eddy being an area where juvenile salmonids could be rearing. The nearest known spawning area for salmonids is approximately 0.75 miles downstream from the boat ramp, below the expected extent of sediment deposition caused from the proposed action. High-flow events are likely to disperse any project-generated sediment deposits in spring, causing only slight increases in the amount of fine sediment deposition in rearing areas (fine sediment deposition in rearing areas can reduce cover). As described above in Section 2.5.1.2, only a small amount of sediment is expected to be mobilized; thus, there will only be a small amount of sediment available for deposition. Because of the expected effectiveness of the proposed sediment control conservation measures as well as proper project design

characteristics, we do not expect that enough sediment deposition will take place to alter salmonid use of the habitat.

2.5.1.4 Noise and Disturbance

Construction noise or visual stimulus may disturb nearby salmonids, causing them to move away from the project site. Although individual fish may move in response to equipment noise, noise from heavy construction equipment will not likely rise to the decibel level known to physically harm fish (FHWA 2008; Wysocki et al. 2007). If fish move, they are expected to move only short distances to an area where they feel more secure, and only for a few hours in any given day (Grant and Noakes 1987; Ries 1995; Olson 1996; SNF 2009). Because the stream habitat near the project site is relatively uniform, we expect that if fish are displaced temporarily into nearby areas they are unlikely to be noticeably affected by those changes in location.

2.5.1.5 Chemical Contamination

Use of construction equipment and heavy machinery adjacent to and within stream channels poses the risk of an accidental spill or leakage of fuel, lubricants, hydraulic fluid, antifreeze, or similar contaminants into the riparian zone, or directly into the water. If these contaminants enter the water, the substances could negatively affect habitat, injure or kill aquatic food organisms, or directly impact ESA-listed species (e.g., Neff 1985; Staples et al. 2001). The proposed action includes multiple conservation measures aimed at minimizing the risk of fuel, oil, or similar contaminant leakage into the stream (Table 1). For example, equipment will be checked daily for leaks. Based on the past success of these types of conservation measures in other projects, negative impacts to ESA-listed fish and fish habitat from fuel spills or leaks are unlikely.

2.5.1.6 Increase in Predation from Predator Fish

Reinstalling a new floating dock could create predator fish habitat, potentially leading to an increase in predation mortality for subyearling Chinook salmon rearing in the action area. Connor et al. (2015) estimated that smallmouth bass (*Micropterus dolomieu*) found in shoreline areas of the free-flowing Snake River consumed more than 600,000 subyearling fall Chinook salmon in 2014. In the same study, Connor et al. (2015) found that only one percent of salmonids consumed by smallmouth bass were steelhead. The NMFS recovery plans for Snake River fall Chinook salmon and Snake River spring/summer Chinook salmon identify mortality from predator fish—primarily smallmouth bass in the free-flowing Snake River—as a limiting factor for recovery of these species (NMFS 2017a; NMFS 2017b). Smallmouth bass have a strong affinity for in-water structures such as docks (Carrasquero 2001), where they can hide in the shadows to prey upon juvenile salmonids. As light levels decrease (e.g., underneath docks), predation on juvenile salmonids by piscivorous fishes may increase due to a diminished ability for the juvenile salmonids to detect predators (Rondorf et al. 2010). The new floating dock will have grate-style decking to allow light penetration below the dock to discourage warmwater fish species from using it for cover. Therefore we anticipate minimal increases in predation on rearing juvenile salmonids from the new floating dock.

2.5.2 Effects to Critical Habitat

Implementation of the proposed project is likely to affect freshwater rearing and migration habitat for ESA-listed salmonids. The PBFs that could be adversely affected by the proposed action are water quality and substrate.

Water Quality. The proposed action could negatively affect water quality through chemical contamination or short-term increases in turbidity. As described above in Section 2.5.1.4, we expect the proposed conservation measures will prevent leaks or spills from machinery from entering the Snake River. We expect increases in turbidity from river substrate redistribution to occur in short pulses (less than an hour) during construction and extend no more than 1,000 feet downstream from the construction site, and likely a much shorter distance. These short-term increases in turbidity will not reduce the conservation value of critical habitat in the action area because the impacts will cover a small area and will be short-term.

Substrate. Turbidity plumes from construction work will deposit a small amount of sediment in the Snake River. Because of the expected effectiveness of the proposed sediment control conservation measures and the low levels of sediment expected to be transported, NMFS does not expect that enough sediment deposition will take place to alter salmonid use of the habitat. Habitat quality will likely recover as fine sediments are flushed downstream during high flows after project completion, and will not reduce the conservation value of critical habitat.

2.6. Cumulative Effects

"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.

Some continuing non-federal activities taking place upstream are reasonably certain to contribute to climate effects within the action area. However, it is difficult if not impossible to distinguish between the action area's future environmental conditions caused by global climate change that are properly part of the environmental baseline *vs.* cumulative effects. Therefore, all relevant future climate-related environmental conditions in the action area are described in the environmental baseline (Section 2.4).

The action area is entirely federal land. All land-based activities occurring there are authorized or managed by the WWNF. The Hells Canyon Dam, which is operated by Idaho Power, is located approximately 0.75 miles upstream from the action area. Discharge rates from the Hells Canyon Dam are adjusted on a regular basis. Changes in discharge rates will continue to affect streamflow volume and stream velocity of the Snake River within the action area. Additionally, the thermal regime in the Hells Canyon reach of the Snake River is likely more productive for fall Chinook salmon today than it was historically due to the influence of the Hells Canyon Dam. However, other issues associated with the operation of the Hells Canyon Dam limit Snake River fall Chinook salmon viability in this reach (NMFS 2017b).

2.7. 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 (Section 2.5) to the environmental baseline (Section 2.4) and the cumulative effects (Section 2.6), taking into account the status of the species and critical habitat (Section 2.2), 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.

Species. Each species in this consultation remains threatened with extinction. For Snake River Basin steelhead and Snake River spring/summer Chinook, the Hells Canyon reach of the Snake River does not currently support independent populations. The fish in this reach, however, are listed fish under the ESA. For Snake River fall Chinook, the action area falls in the Lower Snake River population. This population will need an increase in productivity combined with a reduction in diversity risk in order to recover. Furthermore, climate factors will likely make it more challenging to increase abundance and recover each of the species by reducing the suitable rearing areas and leading to a more limited run-timing under the warmer future conditions (NMFS 2017a; NMFS 2017b). River habitat in the action area has been extensively modified and disturbed for the construction of the boat dock and associated structures.

Salmonids in the action area could potentially be killed or injured during redistribution of river substrate, or through exposure to turbidity, sediment deposition, noise, chemicals, and predation. For all but redistribution of river substrate, these effects are expected to be minor because of the proposed conservation measures and the ability of fish to avoid prolonged exposure by readily moving out of the affected area into similar nearby habitats during construction. For redistribution of river substrate, we expect that a small number of rearing juveniles will be crushed or injured. The small number of juvenile salmonids that might be affected by the proposed action in this manner is too few to affect the abundance or productivity of nearby populations or the DPS or ESUs as a whole. The proposed action is therefore unlikely to reduce the survival or recovery of either of these species.

Critical habitat. Critical habitat for Snake River Basin steelhead, Snake River spring/summer Chinook salmon, and Snake River fall Chinook salmon is present in the action area. The proposed action will cause either small or short-term effects to PBFs (water quality and substrate). Due to the small or short-lived nature of these effects, the conservation value of critical habitat in the action area will not likely be reduced. For this reason, the conservation value of critical habitat of each species would also not likely be diminished.

2.8. Conclusion

After reviewing the current status of the listed species and their designated critical habitats, the environmental baseline within the action area, the effects of the proposed action, and cumulative effects, it is NMFS' Opinion that the proposed action is not likely to jeopardize the continued

existence of Snake River Basin steelhead, Snake River spring/summer Chinook salmon, and Snake River fall Chinook salmon, or destroy or adversely modify their associated designated critical habitats.

2.9. 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). On an interim basis, NMFS interprets "harass" to mean "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 ITS.

2.9.1 Amount or Extent of Take

In this Opinion, NMFS determined that incidental take is reasonably certain to occur as follows:

- **Injury or death from redistribution of river substrate**. Due to free flowing nature and depth of the river channel in the action area, it is not possible to observe the number of fish injured or killed from excavating substrate during project construction (injured or killed fish will either be flushed downstream or buried in substrate). That being the case, NMFS will use the volume of river substrate redistributed from the existing structure as a surrogate for take. This is a rational surrogate for take because the greater volume of substrate redistributed, the greater amount of take that could occur. Although this surrogate could be considered coextensive with the proposed action, monitoring and reporting requirements will provide opportunities to check throughout the course of the proposed action whether the surrogate is exceeded. For this reason, the surrogate functions as an effective reinitiation trigger. NMFS will consider the extent of take exceeded if more than 40 cubic yards of substrate is redistributed within the river channel.

2.9.2 Effect of the Take

In the 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.

2.9.3 Reasonable and Prudent Measures

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

The WWNF and COE (for those measures relevant to the CWA section 404 permit) shall:

1. Minimize incidental take from construction activities and implementation of the proposed conservation measures.

2. Ensure completion of a monitoring and reporting program to confirm that the terms and conditions in this ITS were effective in avoiding and minimizing incidental take from permitted activities and that the amount and extent of take was not exceeded.

2.9.4 Terms and Conditions

The terms and conditions described below are non-discretionary, and the WWNF, the COE, or any applicant must comply with them in order to implement the RPMs (50 CFR 402.14). The WWNF, COE, 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 RPM 1:

    a. Any terms applied to the CWA 404 permit shall be consistent with the project description, conservation measures, and terms and conditions in the BA and this Opinion.

    b. When redistributing substrate from the rails and stairs into the adjacent Snake River channel, place substrate in a manner that minimizes the intensity of any resultant turbidity plumes and minimizes potential injury or death to fish.

    c. Ensure that the construction contractor stabilizes all disturbed areas within 12 hours of any break in work unless construction will resume within 7 days.

2. The following terms and conditions implement RPM 2:

    a. Notify NMFS immediately and ensure that the contractor ceases activities if more than 40 cubic yards of river substrate is redistributed within the river channel (extent of take).

    b. Submit a report to the WWNF Level 1 Team by April 15 of the year following project completion with results of visual monitoring of turbidity plumes and volume of redistributed river substrate. The report can be in the form of an email update.

2.10. 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). Conservation recommendations are as follows:

1. The construction contractor should place the redistributed river substrate in a manner that conforms to natural channel processes in the project site.

2. If possible, the construction contractor should redistribute the substrate in the least amount of stages as possible (i.e., few work breaks between placements) to reduce the possibility of fish returning to the project site after initial relocation.

2.11. Reinitiation of Consultation

This concludes formal consultation for Hells Canyon Creek Boat Dock Repair Project.

As 50 CFR 402.16 states, reinitiation of consultation is required and shall be requested by the Federal agency or by the Service where discretionary federal agency involvement or control over the action has been retained or is authorized by law and 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 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 (4) a new species is listed or critical habitat designated that may be affected by the action.

3. MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT ESSENTIAL FISH HABITAT RESPONSE

Section 305(b) of the MSA directs federal agencies to consult with NMFS on all actions or proposed actions that may adversely affect EFH. The MSA (Section 3) defines EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." 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 on EFH may result from actions occurring within EFH or outside of it and may include site-specific or EFH-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810). Section 305(b) also requires NMFS to recommend measures that can be taken by the action agency to conserve EFH. This analysis is based, in part, on the EFH assessment provided by the WWNF and descriptions of EFH for Pacific Coast salmon (PFMC 2014) contained in the

fishery management plans developed by the Pacific Fishery Management Council and approved by the Secretary of Commerce.

3.1. Essential Fish Habitat Affected by the Project

The proposed action (Section 1.3) and action area (Section 2.2) for this consultation are described earlier in this Opinion. The action area includes areas designated as EFH for rearing and migration life-history stages of Chinook salmon. Environmental effects of the proposed action may adversely affect EFH. The affected EFH possesses areas containing the features and habitat function consistent with habitat areas of particular concern (HAPC). The HAPC for Pacific coast salmon potentially affected by the proposed action is "complex channels and floodplain habitats."

3.2. Adverse Effects on Essential Fish Habitat

The construction activities of the proposed project may adversely affect EFH (complex channels and floodplain habitats HAPC) for Chinook salmon through either small or short-term effects to water quality and substrate, described earlier in this Opinion in Section 2.5, Effects of the Action. Because of the proposed conservation measures, we expect any adverse effects to EFH to be small and/or temporary.

3.3. Essential Fish Habitat Conservation Recommendations

NMFS believes that the following conservation measures are necessary to avoid, mitigate, or offset the impact of the proposed action on EFH. These conservation recommendations are a subset of the ESA terms and conditions in the Opinion. NMFS believes that the implementation of the terms and conditions provided in the ESA consultation above are adequate to ensure conservation of EFH within the action area.

1. When redistributing substrate from the rails and stairs into the adjacent Snake River channel, place substrate in a manner that minimizes the intensity of any resultant turbidity plumes.

2. Ensure that the construction contractor stabilizes all disturbed areas within 12 hours of any break in work unless construction will resume within 7 days.

3. The construction contractor should place the redistributed river substrate in a manner that conforms to natural channel processes in the project site.

3.4. Statutory Response Requirement

As required by section 305(b)(4)(B) of the MSA, the WWNF and COE must provide a detailed response in writing to NMFS within 30 days after receiving an EFH Conservation Recommendation. Such a response must be provided at least 10 days prior to final approval of the action if the response is inconsistent with any of NMFS' EFH Conservation Recommendations unless NMFS and the federal agency have agreed to use alternative

timeframes for the federal agency response. The response must include a description of measures proposed by the agency for avoiding, minimizing, mitigating, or otherwise offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the Conservation Recommendations, the federal agency must explain its reasons for not following the recommendations, including the scientific justification for any disagreements with NMFS over the anticipated effects of the action and the measures needed to avoid, minimize, mitigate, or offset such effects (50 CFR 600.920(k)(1)).

In response to increased oversight of overall EFH program effectiveness by the Office of Management and Budget, NMFS established a quarterly reporting requirement to determine how many conservation recommendations are provided as part of each EFH consultation and how many are adopted by the action agency. Therefore, we ask that in your statutory reply to the EFH portion of this consultation, you clearly identify the number of conservation recommendations accepted.

3.5. Supplemental Consultation

The WWNF and COE 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)).

4. Data Quality Act Documentation and Pre-Dissemination Review

The Data Quality Act (DQA) specifies three components contributing to the quality of a document. They are utility, integrity, and objectivity. This section of the opinion addresses these DQA components, documents compliance with the DQA, and certifies that this opinion has undergone pre-dissemination review.

4.1. Utility

Utility principally refers to ensuring that the information contained in this consultation is helpful, serviceable, and beneficial to the intended users. The intended users of this opinion are the WWNF, the COE, and any of their cooperators, contractors, or permittees. Individual copies of this opinion were provided to the WWNF and the COE. The document will be available within 2 weeks at the NOAA Library Institutional Repository [https://repository.library.noaa.gov/welcome]. The format and naming adheres to conventional standards for style.

4.2. Integrity

This consultation was completed on a computer system managed by NMFS in accordance with relevant information technology security policies and standards set out in Appendix III, 'Security of Automated Information Resources,' Office of Management and Budget Circular A-130; the Computer Security Act; and the Government Information Security Reform Act.

4.3. Objectivity

Information Product Category: Natural Resource Plan

Standards: This consultation and supporting documents are clear, concise, complete, and unbiased; and were developed using commonly accepted scientific research methods. They adhere to published standards including the NMFS ESA Consultation Handbook, ESA regulations, 50 CFR 402.01 et seq., and the MSA implementing regulations regarding EFH, 50 CFR 600.

Best Available Information: This consultation and supporting documents use the best available information, as referenced in the References section. The analyses in this opinion contain more background on information sources and quality.

Referencing: All supporting materials, information, data and analyses are properly referenced, consistent with standard scientific referencing style.

Review Process: This consultation was drafted by NMFS staff with training in ESA, and reviewed in accordance with West Coast Region ESA quality control and assurance processes.

5. REFERENCES

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