UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
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April 13, 2023

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Lt. Col. ShaiLin KingSlack
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Re: Endangered Species Act Section 7(a)(2) Biological Opinion and Magnuson–Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Aquatic Organism Passage Projects – Moyer and Dagger Creeks. Boundary Creek–Middle Fork Salmon River 170602050402; Moyer Creek 170602030905, Lemhi and Valley Counties, Idaho

Dear Mr. Mark and Lt. Col. KingSlack:

This letter responds to your January 17, 2023, request for initiation of consultation with the 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 Salmon-Challis National Forest (SCNF) Aquatic Organism Passage (AOP) Projects. You also requested consultation pursuant to the essential fish habitat (EFH) provisions in Section 305(b) of the Magnuson–Stevens Fishery Conservation and Management Act [16 U.S.C. 1855(b)] for this action.

We reviewed the SCNF consultation request and related initiation package. This review was conducted pursuant to Section 7(b) of the Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531 et seq.) and its implementing regulations at 50 CFR 402; Section 305(b) of the MSA and implementing regulations at 50 CFR 600.920; and agency guidance for use of the ESA consultation process to complete EFH consultation. Your request qualified for our expedited review and analysis because it met our screening criteria and contained the required information on, and analysis of, your proposed action and its potential effects to listed species, designated critical habitat, and EFH. The SCNF determined the proposed action may affect, and is likely to adversely affect (LAA) Snake River (SR) spring/summer Chinook salmon (*Oncorhynchus tshawytscha*) and SR Basin steelhead (*O. mykiss*) and their designated critical habitats. This letter

addresses each of these determinations. Where relevant, we have adopted the information and analyses you have provided and/or referenced but only after our independent, science-based evaluation confirmed they meet our regulatory and scientific standards. The parts of the document we are incorporating by reference are explicitly stated in the sections below, where appropriate.

We adopt by reference the following sections of the SCNF's January 17, 2023, final biological assessment (BA): Section B (proposed action); Section C (species review, critical habitat review, and environmental baseline); Section D (effects of the action), Section G (supporting data), and engineer designs (USDA 2023). The referenced BA and other documents we have adopted are available in their entirety in our official project record, available at NMFS' Boise Office or by contacting Kimberly Murphy by email at kimberly.murphy@noaa.gov.

On July 5, 2022, the U.S. District Court for the Northern District of California issued an order vacating the 2019 regulations that were revised or added to 50 CFR part 402 in 2019 ("2019 Regulations," see 84 FR 44976, August 27, 2019) without making a finding on the merits. On September 21, 2022, the U.S. Court of Appeals for the Ninth Circuit granted a temporary stay of the district court's July 5 order. On November 14, 2022, the Northern District of California issued an order granting the government's request for voluntary remand without vacating the 2019 regulations. The District Court issued a slightly amended order two days later on November 16, 2022. As a result, the 2019 regulations remain in effect, and we are applying the 2019 regulations here. For purposes of this consultation and in an abundance of caution, we considered whether the substantive analysis and conclusions articulated in the biological opinion and incidental take statement would be any different under the pre-2019 regulations. We have determined that our analysis and conclusions would not be any different.

The SCNF submitted a draft BA to the Salmon-Challis Level 1 Streamlining Team (Level 1) on November 10, 2022, for review at the December 4, 2022, Level 1 meeting. Level 1 gave preliminary approval to submit the final BA, with modifications, during the December 4, 2022, meeting. The SCNF submitted a request for consultation in a letter dated January 17, 2023. On February 2, 2023, NMFS sent the action agencies a letter identifying January 17, 2023, as the official consultation initiation date.

On March 28, 2023, NMFS provided a copy of the proposed action and terms and conditions sections of the draft biological opinion to the action agencies and the Shoshone-Bannock Tribes. NMFS did not receive any comments.

Proposed Action

The proposed action is described in Section B of the SCNF Aquatic Organism Passage Projects Moyer Creek and Dagger Creek BA (pages 3–17). The SCNF proposes to replace a culvert and open water crossing with structures designed for AOP and stream simulation. The crossings are located on Moyer and Dagger Creeks. The Moyer Creek crossing will replace an open water crossing with a 40-foot span pre-fabricated bridge over an existing low water crossing. The Dagger Creek crossing will remove an existing 60-foot long culvert and replace it with a 40-foot span pre-fabricated bridge. The Dagger Creek project also includes replacing a 30-foot long

overflow pipe with an oversized embedded arch. Moyer Creek is located on the Salmon-Cobalt Ranger District and Dagger Creek is located on the Boise National Forest, but the SCNF administers management functions (e.g. road management).

Work in Moyer Creek will occur between July 15 and August 15, during seasonal low flows. This timing is within the preferred instream work window identified by the Upper Salmon Basin Technical Team (USBWP 2005). The Dagger Creek project will occur between September 6 to 15, 2023, during seasonal low flows. The BA (pages 3–17 and engineering designs) provides additional details regarding implementation, construction methods, and conservation measures and best management practices (BMP).

Federal actions triggering ESA consultation include: (1) U.S. Department of Agriculture Forest Service (USDA–FS) lands and funding for the engineering design work and construction of the bridges; and, (2) a Clean Water Act (CWA) Section 404 permit issued by the U.S. Army Corps of Engineers (Corps). The Forest Service is the lead Federal action agency for the purposes of this consultation. We considered, under the ESA, whether or not the proposed action would cause any other activities and determined that it would not.

Status of Species and Designated Critical Habitat

We examined the status of each species that would be adversely affected by the proposed action (SR spring/summer Chinook salmon and SR Basin steelhead) to inform the description of the species' "reproduction, numbers, or distribution" as described in 50 CFR 402.02. We also examined the condition of critical habitat throughout the designated area and discuss the function of the physical or biological features (PBFs) essential to the conservation of the species that create the conservation value of that habitat. We have augmented the SCNF's BA section on "ESA Listed Species and Critical Habitat Review" (pages 20–25) with information from the species recovery plans (NMFS 2017) and the most recent biological viability update (Ford 2022). Together, this information represents the best available and most recent information on the status of the species considered in this consultation.

This opinion considers the status of the SR spring/summer Chinook evolutionarily significant unit (ESU) and the SR Basin steelhead distinct population segment (DPS). Both this ESU and this DPS are 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 (ICTRT 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. NMFS' recovery plan for SR spring/summer Chinook salmon and SR Basin steelhead (NMFS 2017) describe these four parameters in detail and the parameter values needed for persistence of individual populations and for recovery of the ESU and the DPS.

The Moyer Creek action area falls within the boundaries for the SR Basin steelhead and SR spring/summer Chinook Panther Creek populations, which belong to the Salmon River and Upper Salmon River Major Population Groups (MPG), respectively (Table 1 and 2). The Dagger

Creek action area falls within the boundaries for the SR Basin steelhead and SR spring/summer Chinook Middle Fork Salmon River populations, which belong to the Salmon River and Middle Fork Salmon River MPGs, respectively (Table 1 and 2).

Table 1. Summary of viable salmonid population (VSP) parameter risks, current status, and proposed recovery goals for the Upper Middle Fork Salmon River and Panther Creek in the Snake River Basin steelhead distinct population segment (DPS) to achieve DPS recovery.

Major Population Group	Population	VSP Risk Rating[1]		Viability Rating	
		Abundance/ Productivity	Spatial Structure/ Diversity	2022 Assessment	Proposed Recovery Goal[2]
Salmon River (Idaho)	Upper Middle Fork Salmon River	Moderate	Low	Maintained	Viable
	Panther Creek	Moderate	High	High Risk	Viable

[1] Risk ratings are defined based on the risk of extinction within 100 years: High = greater than or equal to 25 percent; Moderate = less than 25 percent; Low = less than 5 percent; and Very Low = less than 1 percent.
[2] There are several scenarios that could meet the requirements for ESU recovery (as reflected in the proposed goals for populations in Oregon and Washington). What is reflected here for populations in Idaho are the proposed status goals selected by NMFS and the State of Idaho.

Table 2. Summary of viable salmonid population (VSP) parameter risks, current status, and proposed recovery goals for the Middle Fork Salmon River Above Indian Creek and Panther Creek in the Snake River spring/summer Chinook evolutionarily significant unit (ESU) to achieve ESU recovery.

Major Population Group	Population[2]	VSP Risk Rating[1]		Viability Rating	
		Abundance/ Productivity	Spatial Structure/ Diversity	2022 Assessment	Proposed Recovery Goal[2]
Middle Fork Salmon River (Idaho)	Middle Fork Salmon River above Indian Creek	High	Moderate	High Risk	Maintained
Upper Salmon River (Idaho)	Panther Creek	Insufficient Data			Reintroduction

[1] Risk ratings are defined based on the risk of extinction within 100 years: High = greater than or equal to 25 percent; Moderate = less than 25 percent; Low = less than 5 percent; and Very Low = less than 1 percent.
[2] There are several scenarios that could meet the requirements for ESU recovery (as reflected in the proposed goals for populations in Oregon and Washington). What is reflected here for populations in Idaho are the proposed status goals selected by NMFS and the State of Idaho.

Based on information available for the 2022 viability assessment (Ford 2022), none of the five SR Basin steelhead MPGs are meeting their recovery plan objectives and the viability of many populations remains uncertain. The recent, sharp declines in abundance are of concern and are expected to negatively affect productivity in the coming years. Overall, available information suggests that SR Basin steelhead continue to be at a moderate risk of extinction within the next 100 years. This DPS continues to face threats from tributary and mainstem habitat loss, degradation, or modification; predation; harvest; hatcheries; and climate change (NMFS 2022a).

On August 18, 2022, in the agency's 5-year review for SR spring/summer Chinook salmon, NMFS concluded that the species should remain listed as threatened (NMFS 2022b). Overall, this ESU is at a moderate-to-high risk of extinction. While there have been improvements in abundance/productivity in several populations since the time of listing, the majority of populations experienced sharp declines in abundance in recent years. If productivity remains low, the ESU's viability will become more tenuous. If productivity improves, populations could increase again, similar to what was observed in the early 2000s. This ESU continues to face threats from disease; predation; harvest; habitat loss, alteration, and degradation; and climate change (NMFS 2022b).

The SCNF determined the action is LAA designated critical habitat for SR spring/summer Chinook salmon and SR Basin steelhead. After we reviewed the information presented in the BA, we examined the condition of critical habitat for Chinook salmon and steelhead throughout the designated area and discuss the function of the PBFs essential to the conservation of the species that create the conservation value of that habitat. We have supplemented the BA's environmental baseline information (pages 31–39) with critical habitat information for SR spring/summer Chinook salmon and SR Basin steelhead at the scale of the ESA listings (see Table 3). Table 3 is based on the detailed information on the status of critical habitat throughout the designation area provided in the recovery plan for each species (NMFS 2017) and the most recent status reviews (NMFS 2022a; NMFS 2022b), which are incorporated by reference here.

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 evolutionarily significant unit (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 2017). Reduced summer stream flows, impaired water quality, and reduced habitat complexity are common problems.
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 2017). Reduced summer stream flows, impaired water quality, and reduced habitat complexity are common problems.

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 SR spring/summer Chinook salmon and SR Basin steelhead, PBFs include spawning gravel,

water quality, water quantity, food (juvenile migration only), access, riparian vegetation, water temperature, substrate, water velocity, cover or shelter, space, and safe passage. 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. Climate change and its influence on PBFs such as water quality, water quantity, temperature, and safe passage are expected to exacerbate current conditions for salmon, limiting future run timing (due to reduced adaptability) and thus increasing the difficulty of species recovery. A synthesis of current literature pertinent to these species' future habitat conditions can be found in NMFS' recovery plans (2017) and recent climate vulnerability assessments (Crozier et al. 2019).

For both species, the construction and operation of water storage and hydroelectric power development 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 hydro system 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 fish way facilities to improve migration passage for adult salmon and steelhead (NMFS 2020).

Action Area

"Action area" means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). Pages 17–19 of the January 17, 2023, BA completely described the action area that we have adopted here. Specifically, the action area includes the two discrete action areas specific to each project site proposed for bridge installation. The action areas includes 150 feet on each side of the stream, 100 feet upstream of the existing culverts or crossing to approximately 600 feet downstream of the existing or proposed structures. This action areas includes the projected extent of all project generated turbidity, noise, dewatering, water bypass routes, and other anticipated effects of the action.

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).

We adopted the BA's Environmental Baseline section (pages 21–29) for the action area. The Dagger Creek portion of the action area has low densities of adult and juvenile steelhead present indicating that there is spawning and rearing occurring. SR Chinook salmon have not been

documented in this reach of Dagger Creek. The Moyer Creek portion of the action area has low densities of adult and juvenile steelhead and Chinook presence indicating that there is spawning and rearing occurring. In recent years the closest Chinook spawning has been documented up to two miles below the action area.

The populations of SR spring/summer Chinook salmon and SR Basin steelhead in the action areas are important to the species' survival and recovery. Removal of artificial obstructions and improved safe passage will improve tributary access for all life stages and will help enhance the overall conservation value of critical habitat within Dagger and Moyer Creeks. Removal of these passage obstructions (e.g., culverts) will improve access to historically accessible habitat and directly support recovery goals identified in the 2017 recovery plan (NMFS 2017).

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).

The BA provides a detailed discussion and comprehensive assessment of the effects of the proposed action in (pages 29–35), and is adopted here (50 CFR 402.14(h)(3)). NMFS has evaluated this section and after our independent, science-based evaluation determined it meets our regulatory and scientific standards.

The temporary and long-term effects of this proposed action are:

- Minor behavioral impacts from underwater sound, caused by heavy equipment and construction work.

- Exposure to minor levels of suspended sediment, turbidity, and sediment deposition created during ground disturbance and rewatering of dewatered work areas. Only minor behavioral effects, not rising to the level of harm or harassment, are expected.

- Electrofishing related harm (including harassment, capture, injury, and potential death of individuals) caused by fish salvage efforts. Fish salvage will be performed to reduce potential for fish stranding, but a limited amount of stranding could occur.

- Minor levels of potential chemical contamination from heavy equipment and fuel storage.

Construction related effects on the environment will be temporary and minor (i.e., sound, turbidity, space, and riparian vegetation) and most are not expected to lead to harm, harassment, or other fish injury pathways. Conservation measures and BMPs incorporated into the proposed action have proven to be effective in the past and should effectively minimize these adverse

effects, but short-term effects will not completely be avoidable nor are they discountable. Harm from turbidity exposure, sediment deposition, or chemical contamination is not anticipated. Exposure to sound levels produced by construction equipment is expected to cause minor behavioral modifications in exposed fish that do not rise to the level of harm.

Due to the anticipated effectiveness of proposed BMPs, the effects most likely to harm ESA listed fish species will be from those caused by dewatering and associated fish salvage work at the Moyer and Dagger Creek sites. We do not anticipate that activities will affect any adult SR spring/summer Chinook or SR Basin steelhead, or their incubating eggs because of the location of the projects and proposed work windows. Moyer Creek dewatered work area will be approximately 9,412 square feet. It was sampled most recently in 2021, and steelhead densities were low (2.4 fish/100 square meters) with sizes ranging from 94 to 230 millimeters (mm). The BA did not provide Chinook density data for the action area. However, the BA states that genetic surveys indicate Chinook presence above and below the project site. We applied juvenile fish density estimates derived from tributary streams that have "poor" habitat conditions (Hall-Griswold & Petrosky 1996) due to the low number of Chinook believed to be present within the action area.

Dagger Creek dewatered work area is estimated at 2,601 square feet. The BA indicates that four juvenile steelhead were captured during fish sampling in 2022, confirming the availability of spawning and rearing habitat and the presence of steelhead in Dagger Creek. However, there are no available fish data for the Dagger Creek action area to calculate fish densities likely to be exposed. We applied juvenile fish density estimates derived from tributary streams that have "poor" habitat conditions (Hall-Griswold & Petrosky 1996) due to the low number of steelhead present within the action area. These density estimates likely result in a substantial overestimate of fish exposure. This is the best available information and allows us to make a conservative evaluation (i.e., worst-case scenario) of the action's effects. Juvenile Chinook salmon have not been documented within the Dagger Creek action area and are not expected to be present at this location.

Our analysis estimated that up to 21 juvenile steelhead and 52 juvenile Chinook salmon may be captured at the Moyer Creek site. Each of these fish would experience varying levels of elevated stress and potential harm, with some fish dying from the exposure to electrofishing and handling. Approximately one juvenile steelhead and three juvenile Chinook salmon may be killed from injuries or directly during electrofishing. Stranding of fish could occur but likely only very small numbers of fish will die from this effect pathway given the proposed dewatering plan and because of the assumed effectiveness of the proposed fish salvage methods. We assumed that an additional two juvenile steelhead and four juvenile Chinook salmon may die by stranding.

At the Dagger Creek site up to 15 juvenile steelhead may be captured. Approximately one juvenile steelhead may be killed from injuries or directly during electrofishing and an additional one juvenile steelhead salmon may die by stranding. As discussed above, these estimates are likely larger than what may actually occur, but are applied as a worst-case scenario.

Salvage related mortality will occur in 2023 and is expected to affect just one year class of Chinook and steelhead within the Panther Creek population (Moyer Creek project site) and one

year class of steelhead from the Upper Middle Fork Salmon River steelhead population (Dagger Creek site). These effects will be spread amongst fish originating from two populations of SR Basin steelhead and one population of SR spring/summer Chinook salmon.

Pages 33–35 of the adopted BA evaluate the action's potential effects on PBFs of designated critical habitat. For these action areas, modification of PBFs may affect juvenile steelhead freshwater rearing and migration through the action area at both project sites and for SR spring/summer juvenile Chinook at the Moyer Creek site. The channel dewatering at both project sites will cause the temporary loss of habitat (i.e., space). This habitat related impact will temporarily reduce the conservation value of the action area's habitat during the approximate two week period of work. Because this impact occurs during the summer, there will likely be temporary impacts to forage. Fish passage to all species' life histories will be retained through the action areas bypass channels. Other PBFs affected by the action and addressed in the BA include safe passage, water quantity, water quality (turbidity), floodplain connectivity, riparian vegetation, natural cover, substrate, and forage. As discussed in the BA (pages 33–35), effects to these PBFs will be minor and temporary and have little to no influence on the action area habitat for SR spring/summer Chinook salmon and SR Basin steelhead.

Potential for introducing aquatic invasive species or having a project related impact on water quality from chemical contamination were both evaluated and found to be extremely unlikely to occur given proposed conservation measures and successful history of similar work occurring without issues. The overall impact to ESA listed fish species and designated critical habitat as a result of activities is expected to be beneficial as it will improve spatial and temporal connectivity of waterways within and between watersheds where movement is currently obstructed or limited, permitting access to areas critical for fulfilling life history requirements, especially rearing and low levels of potential spawning.

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. The BA (page 34–35) discussed cumulative effects in the action area, and is incorporated here by reference. No new future State or private activities were identified that are not currently occurring.

Integration and Synthesis. The Integration and Synthesis section is the final step in our assessment of the risk posed to species and critical habitat as a result of implementing the proposed action. In this section, we add the effects of the action to the environmental baseline and the cumulative effects, taking into account the status of the species and critical habitat, to formulate the agency's biological opinion as to whether the proposed action is likely to: (1) appreciably reduce 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 critical habitat as a whole for the conservation of the species.

SR spring/summer Chinook and SR Basin steelhead abundance experienced population increases, relative to the time of ESA listing, through the mid-2000s. During the past 7 years,

abundance has dropped, with many populations nearing levels observed when the species were listed. Observed declines have been similar for all populations in the ESU and declines are believed to be tied to recent ocean conditions (Ford 2022). Action area conditions have not materially changed during this time and have likely had little influence on recent trends. In addition to abundance and productivity concerns for these species, climate factors will likely make it more challenging to increase abundance and recover the species (Crozier et. al. 2019; NMFS 2017). All individual populations, including those affected by this action, are still at high risk of extinction and remain far below recovery plan abundance and productivity targets. As a result, both species remain threatened with extinction.

Moyer Creek action area supports spawning and juvenile rearing for SR spring/summer Chinook and SR Basin steelhead. Dagger Creek action area supports spawning and juvenile rearing for SR Basin steelhead. Anticipated juvenile fish mortalities can be used to estimate the total number of adult equivalents potentially removed from the pool of affected populations. In an effort to quantify the level of mortality associated with implementation of fish salvage efforts, we considered the smolt-to-adult return (SAR) rates of anadromous fish species in Idaho: less than 1.58 percent and 1.10 percent for steelhead and for spring/summer Chinook salmon, respectively (Tuomikoski et al. 2012). Using the estimated juvenile mortalities for each species documented above, we estimated all construction related mortality would result in a loss of less than one adult equivalent for both SR spring/summer Chinook salmon and SR Basin steelhead. For both Chinook salmon (Mover Creek site only) and SR Basin steelhead (Moyer and Dagger Creeks) this would affect only the 2023 brood. The action areas are principally juvenile rearing and migratory corridor areas. Salvage related harm caused by the actions will be spread across two different populations of SR Basin steelhead and one population of SR spring/summer Chinook salmon the potential loss of less than one adult equivalent from one brood year is too small to have significant impacts on any of the affected individual populations' abundance or productivity. Due to the absence of population level impacts on viability, we find that the action will not affect the viability of the affected MPGs, nor the affected ESU or DPS. When considering the status of the species, and adding in the environmental baseline and cumulative effects, implementation of the proposed action will not appreciably reduce the likelihood of survival and recovery of SR spring/summer Chinook salmon or SR Basin steelhead.

Action area habitat conditions are in good condition under the environmental baseline (BA pages 24–25). The proposed action will not have any long-term impacts to habitat that could reduce the current growth and or survival of fish utilizing the action areas. In the short term, the actions will cause a temporary reduction in space during dewatering that is likely to lead to some of the individual fish mortalities described (i.e., stranding). All other PBFs of critical habitat for SR spring/summer Chinook and SR Basin steelhead will experience only minor effects with little to no influence on the action area's conservation value. Overall, the described effects on space will be limited to the reach scale, constituting a very small proportion of the overall habitat at the ESU/DPS scale. Additionally, effects to space will be temporary (i.e., two weeks) before returning to baseline conditions. There will also be a simultaneous increase in available space in the Dagger Creek channel once the culvert is replaced by a full span bridge. Effects from that increase will be beneficial in the long term. When considering the status of the designated critical habitat, and adding in the environmental baseline and cumulative effects, implementation of the proposed action will not appreciably reduce habitat conditions. There are no reasonably

foreseeable cumulative actions or effects that would otherwise affect the action area that were not previously considered in the environmental baseline. For these reasons, the conservation value of designated critical habitat for SR spring/summer Chinook and SR basin steelhead will not be appreciably diminished by the proposed action.

Conclusion. 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 SR spring/summer Chinook salmon or SR Basin steelhead or destroy or adversely modify their designated critical habitat.

INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and Federal regulations pursuant to Section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without a special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm" is further defined by regulation to include significant habitat modification or degradation that actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering (50 CFR 222.102). "Harass" is further defined by interim guidance as to "create the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering." "Incidental take" is defined by regulation as takings that result from, but are not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or applicant (50 CFR 402.02). Section 7(b)(4) and Section 7(o)(2) provide that taking that is incidental to an otherwise lawful agency action is not considered to be prohibited taking under the ESA if that action is performed in compliance with the terms and conditions of this incidental take statement (ITS).

Amount or Extent of Take

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

- Juvenile SR spring/summer Chinook salmon and SR Basin steelhead will likely be harmed, harassed, handled, or killed during salvage of dewatered areas during construction of the proposed stream crossings. Up to 21 juvenile steelhead and 52 juvenile Chinook salmon could be captured at Moyer Creek, and 15 steelhead at Dagger Creek. Of these, up to three steelhead may be killed at Moyer Creek and two at Dagger Creek sites and seven Chinook salmon (Moyer Creek only) may be killed during construction. Exceeding either the total number of fish handled or the stated number of mortalities would exceed the amount of take identified in this consultation.

- A very small number of juvenile SR spring/summer Chinook salmon (four at Moyer Creek) and SR Basin steelhead (two at Moyer Creek, one at Dagger Creek) could

potentially be stranded during construction related dewatering in 2023. Stranded fish may be buried in stream substrate and therefore difficult to quantify or otherwise measure. In these instances, NMFS uses a surrogate to describe the extent of incidental take, pursuant to 50 CFR 402.14[I]. In this case, we use the dewatered area as a surrogate for the amount of take. Although somewhat coextensive with the proposed action, the area dewatered is directly related to the stranding take pathway. Additionally, the area can be measured and thus serves as a reasonable reinitiation trigger if exceeded. For this reason, no more than 0.06 acres (2,601 square feet) of Dagger Creek and 0.22 acres (9,412 square feet) of Moyer Creek are authorized to be dewatered. Exceeding this limit will trigger the reinitiation provisions of this opinion.

Effect of the Take

In the biological opinion, NMFS determined that the amount or extent of anticipated take, coupled with other effects of the proposed action, is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

Reasonable and Prudent Measures

The "reasonable and prudent measures" (RPM) listed below are measures that are necessary or appropriate to minimize and/or monitor the impact of the amount or extent of incidental take (50 CFR 402.02).

The SCNF shall:

- Ensure completion of a monitoring and reporting program to confirm that the terms and conditions in this ITS are effective in avoiding and minimizing incidental take from permitted activities, and that the extent of take is not exceeded.

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 SCNF, 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. To implement RPM 1 the SCNF shall:

    a. Maintain records of the number, species, and size of fish handled during any electrofishing event in order to verify the extent of take authorized by this opinion is not exceeded.

        i. If more than 21 juvenile steelhead or 52 juvenile Chinook salmon are captured during construction related fish salvage, or if more than three

steelhead or seven Chinook salmon are killed during those activities at Moyer Creek, immediately stop work and contact NMFS to reinitiate ESA consultation.

ii. If more than 15 juvenile steelhead are captured during construction related fish salvage or if more than two steelhead are killed during those activities conducted at Dagger Creek, immediately stop work and contact NMFS to reinitiate ESA consultation.

b. Minimize dewatered areas to the extent possible (no larger than as proposed in the BA).

c. Measure the length and width of dewatered work areas. This information should be included in the post-construction report.

d. Adhere to the fish exclusion and removal protocols and standards provided in NMFS (2000).

e. A qualified fisheries biologist, with experience in work area isolation, shall supervise work area isolation to ensure safe handling of all fish.

f. Inspect the integrity of the isolation structure daily to prevent a failure and the possible entrainment of fish into the dewatered area.

g. The SCNF, shall submit a post-construction report to the Snake River Basin Office email (nmfswcr.srbo@noaa.gov) within 60 days of project completion. The report will address the monitoring identified in the proposed action and terms and conditions relevant to construction.

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).

The SCNF should identify and implement stream habitat enhancement and/or restoration activities in the Boundary Creek – Middle Fork Salmon River Watershed (170602050402) or the Moyer Creek Watershed (170602030905) that:

- Improve the quality of riparian habitat to increase cover and forage for juvenile migration and rearing.

Please notify NMFS if the SCNF carries out this recommendation so that we will be kept informed of actions that are intended to improve the conservation of listed species or their designated critical habitats.

Reinitiation of Consultation

Under 50 CFR 402.16(a): "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: (1) if the amount or extent of incidental taking specified in the ITS is exceeded; (2) if new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) if the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion or written concurrence; or (4) if a new species is listed or critical habitat designated that may be affected by the identified action."

MAGNUSON–STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

Section 305 (b) of the MSA directs Federal agencies to consult with NMFS on all actions or proposed actions that may adversely affect EFH. Under the MSA, this consultation is intended to promote the conservation of EFH as necessary to support sustainable fisheries and the managed species' contribution to a healthy ecosystem. For the purposes of the MSA, EFH means "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity", and includes the associated physical, chemical, and biological properties that are used by fish (50 CFR 600.10). Adverse effect means any impact that reduces quality or quantity of EFH, and may include direct or indirect physical, chemical, or biological alteration of the waters or substrate and loss of (or injury to) benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality or quantity of EFH. Adverse effects may result from actions occurring within EFH or outside of it and may include direct, indirect, site-specific or habitat wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810). Section 305(b) of the MSA also requires NMFS to recommend measures that can be taken by the action agency to conserve EFH. Such recommendations may include measures to avoid, minimize, mitigate, or otherwise offset the adverse effects of the action on EFH (50 CFR 600.0-5(b)).

The action area, as described above, is also EFH for SR spring/summer Chinook salmon (PFMC 2014). The Pacific Fishery Management Council (PFMC) designated the following five habitat types as habitat areas of particular concern (HAPCs) for salmon: complex channel and floodplain habitat, spawning habitat, thermal refugia, estuaries, and submerged aquatic vegetation (PFMC 2014). The action areas contain the following HAPCs: spawning habitat (potentially Moyer Creek) and thermal refugia (both sites).

The BA provides a detailed discussion and comprehensive assessment of the effects of the proposed action in Section D (pages 29–34) of the initiation package, and is adopted here (50 CFR 402.14(h)(3)). NMFS has evaluated this section and after our independent, science based evaluation determined it meets our regulatory and scientific standards. NMFS determined that no Conservation Recommendations are necessary to avoid, minimize, or otherwise offset the impact of the proposed action on EFH. This concludes the MSA consultation.

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

This letter underwent pre-dissemination review using standards for utility, integrity, and objectivity in compliance with applicable guidelines issued under the Data Quality Act (Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001, Public Law 106-554). The biological opinion will be available through NOAA Institutional Repository at https://repository.library.noaa.gov/welcome. A complete record of this consultation is on file at NMFS' Snake River Basin Office.

You may direct questions regarding this letter to Kimberly Murphy, consulting biologist, at (208) 756-5180 or kimberly.murphy@noaa.gov.

Sincerely,

Nancy L. Munn, Ph.D.
Acting Assistant Regional Administrator
Interior Columbia Basin Office

cc: K. Gebhardt – SCNF
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C. Colter – SBT
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