United States Department of the Interior
FISH AND WILDLIFE SERVICE
Washington Fish and Wildlife Office
510 Desmond Dr. S.E., Suite 102
Lacey, Washington 98503

In Reply Refer To:
01EWFW00-2021-I-0451

Allyson Purcell, Chief
Anadromous Production and Inland Fisheries Branch
Sustainable Fisheries Division, National Marine Fisheries Service
ATTN: Chante Davis
1201 NE Lloyd Boulevard, Suite 1100
Portland, Oregon 97232-1274

Dear Ms. Purcell:

Subject: Five Hatchery Programs in Lake Washington Watershed

This letter is in response to your January 5, 2021, request for our concurrence with your determination that the proposed action in King and Snohomish Counties, Washington, "may affect, but is not likely to adversely affect" federally listed species. We received your letter and Biological Evaluation, providing information in support of "may affect, not likely to adversely affect" determinations, on January 5, 2021.

We requested additional information, including the Hatchery Genetic Management Plans (HGMPs), on September 3, 2021. We received the HGMPs and final information necessary to complete the consultation on September 9, 2021.

Project Description

The National Marine Fisheries Service (NMFS) proposes to approve and implement five HGMPs submitted by the Washington Department of Fish and Wildlife, the Muckleshoot Indian Tribe, and the Suquamish Tribe. The five HGMPs include the: 1) University of Washington Aquatic Research Facility Hatcheries for fall Chinook salmon (*Oncorhynchus tshawytscha*), 2) University of Washington Aquatic Research Facility Hatcheries for coho salmon (*O. kisutch*), 3) Issaquah Fall Chinook Hatchery Program; 4) Issaquah Coho Hatchery Program; and 5) Lake Washington Sockeye (*O. nerka*) Program. According to these HGMPs, five activities (i.e., broodstock collection, incubation, hatchery rearing, acclimation, and release) will be conducted at approximately 12 locations (Table 1). Greater detail regarding hatchery operations and procedures is available within the five HGMPs (UW SAFS 2018; WDFW 2019a, 2019b, 2019c, 2020).

Table 1. **Hatchery Programs, Locations, and Activities**.
(A = Acclimation, B = Broodstock Collection, H = Hatchery Rearing, I = Incubation, R = Release).

Locations	University of Washington Aquatic Research Facility Hatcheries - Fall Chinook	University of Washington Aquatic Research Facility Hatcheries - Coho	Issaquah Fall Chinook Hatchery Program	Issaquah Coho Hatchery Program	Lake Washington Sockeye Program
Ballard Locks, Lake Washington Ship Canal				B	B
Bear Creek, Tributary to the Sammamish River					B
Cedar River, RMs 1.7, 2.1, 13.5, and 21.7					BR
Cedar River Hatchery, Cedar River at RM 21.7					AHIR
Edmonds Net Pen, Puget Sound				AR	
Issaquah Hatchery, Issaquah Creek at RM 3.0			ABHIR	ABHIR	HI
Lake Washington					R
Landsburg Diversion Dam, Cedar River at RM 21.8					B
North Creek, Tributary to the Sammamish River				R	
Portage Bay, Lake Washington Ship Canal	ABHIR	ABHIR			AHIR
Swamp Creek				R	
Willow Creek Salmon Hatchery				HI	

No new facilities or features are proposed. Several routine maintenance activities will be conducted in or near water including sediment/gravel removal/relocation from intake and/or outfall structures, pond cleaning, pump maintenance, debris removal from intake and outfall structures, and maintenance of existing bank protection. All routine in-water maintenance activities (i.e., occurring on an annual basis; occurring with regularity, but not necessarily on an annual basis) are conducted within existing structures and footprints. The action area includes freshwater hatchery/facility locations and the larger basins and marine environments where hatchery fish migrate.

Specifically, you requested informal consultation pursuant to section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq*.) (ESA) for the federally listed species and critical habitat identified below:

- Bull trout (*Salvelinus confluentus*)
- Designated bull trout critical habitat
- Marbled murrelet (*Brachyramphus marmoratus*)

The NMFS has determined that the action will have "no effect" on additional listed species and designated critical habitat. The determination of "no effect" to listed resources rests with the action agency. The U.S. Fish and Wildlife Service (Service) has no regulatory or statutory authority for concurring with "no effect" determinations, and no consultation with the Service is required. We recommend that the action agency document their analyses on effects to listed species and maintain that documentation as part of the project file.

Sufficient information has been provided to determine the effects of the proposed action and to conclude whether it would adversely affect federally listed species and/or designated critical habitat. Our concurrence is based on information provided by the action agency, best available science, and complete and successful implementation of the conservation measures included by the action agency.

EFFECTS SPECIFIC TO BULL TROUT AND MARBLED MURRELET

I. Exposures and Effects to Bull Trout and Marbled Murrelet

Exposures and effects to individuals are extremely unlikely (discountable), or will not be measurable and will not significantly disrupt normal behaviors (i.e., the ability to successfully feed, move, and/or shelter), and are therefore considered insignificant, because of the following:

- The actions are located in the Lake Washington watershed (Lake Washington, Lake Sammamish, the Lake Washington Ship Canal, and Cedar River below Chester Morse Dam), where at present, bull trout occurrence is rare and exposure to this action is extremely unlikely. Additionally, NMFS will operate a net pen from January through June in the Port of Edmonds (Puget Sound). Because the Port is in a highly altered and disturbed area, and the net pen operates at a low capacity maximum of 2,500 lbs. of fish per year, net pen operations are unlikely to affect bull trout that may be foraging in and/or migrating through the area.
- Broodstock collection presents the possibility of incidental capture of non-target species, but collection methods, timing, and locations under the HGMPs make it extremely unlikely that bull trout will be collected or handled. At the Ballard Locks fish ladder, dip

netting partially overlaps the time of year when anadromous bull trout may be present in the Lake Washington basin. However, dip netting will target Chinook and/or sockeye salmon only and, combined with the low occurrence of bull trout in the area, incidental capture of bull trout is extremely unlikely. Additionally, from September through November, broodstock collection will occur by: 1) angling for sockeye salmon in the Cedar River; (2) installing temporary weirs in Bear Creek, Cedar River, and Issaquah Creek; and, (3) opening volitional-entry collection ponds at Portage Bay. However, since bull trout have not been observed in these waters, including Lake Washington or the Cedar River below Landsburg Diversion Dam, during this time of year, incidental capture of bull trout is extremely unlikely. Broodstock collection at the Landsburg Dam fish passage facility is addressed by the Cedar River Habitat Conservation Plan and Biological Opinion (FWS Ref: 1-3-00-FWF-0243).

- The actions will not significantly disrupt normal marbled murrelet behaviors in the terrestrial environment (i.e., the ability to successfully feed, move, and/or shelter). At the Cedar River Hatchery, the proposed action will continue to result in elevated sound levels, but at sufficient distances from surrounding suitable nesting habitat (i.e., 300 m or more), such that significant disruptions to nesting behaviors are extremely unlikely, and therefore discountable. In the marine environment (i.e., the urbanized/developed Port of Edmonds net pen vicinity), we expect that marbled murrelets use this area infrequently, in low numbers, and will not be prevented from continuing to successfully forage and migrate in the area. The Port of Edmonds net pen facility, as sited, designed, and operated, is unlikely to become a nuisance attractant for marbled murrelets and poses a low risk of wildlife entanglement and entrapment. We conclude that the entanglement or entrapment of individual marbled murrelets is extremely unlikely and therefore considered discountable. Foreseeable effects are therefore considered insignificant and/ or discountable.

- Long-term use and operations of the hatcheries and facilities will not disrupt normal species behaviors (i.e., the ability to successfully feed, move, and/or shelter).

- Long-term use and operations of the hatcheries and facilities will result in increased sound levels or other temporary stressors. However, because of the present level of development and activity in the vicinity, the action is not expected to significantly disrupt normal species behaviors (i.e., the ability to successfully feed, move, and/or shelter).

II. **Effects to Habitat and Prey**

With successful implementation of the conservation measures included by the action agency as part of the proposed action, we expect that the effects of the action will not measurably degrade or diminish habitat functions or prey resources in the action area. Therefore, effects from the action are considered insignificant:

- Hatcheries and facilities will result in discharges (release of effluent) to the receiving waters. Discharges may contain feces, uneaten food, disinfectants, and chemotherapeutic agents; disinfectants and chemotherapeutic agents are used infrequently and in low volumes. Effluent volumes are low, are subject to National Pollutant Discharge Elimination System limits (permit # WAG13-3010), and are rapidly diluted near the point of discharge. Water quality data are collected and monitored to inform management. Any exposures would be episodic, of limited duration and intensity, and therefore not likely to significantly disrupt normal behaviors (i.e., the ability to successfully feed, move, and/or shelter).

- The Port of Edmonds net pen facility is used for acclimation and release of hatchery salmon in Puget Sound. Net pen operations may affect water quality, native substrates, and benthos in the immediate vicinity of the operation. Due to its period of operations (i.e., between January and June) and the small quantity of fish reared (less than 2,500 lbs. of fish per year), any effects are expected to be small in scale, localized near the facility, and will not have measurable effects on bull trout, marbled murrelets, or their prey. Water quality impacts from net pen operation may extend a short distance from the perimeter of the structure, but these effects are expected to be minor and will not preclude use or movement through the area. Therefore, these effects are considered insignificant.

- Potential sources of disease, pest/infection, and fish health, are monitored throughout the incubation and rearing cycles. Monthly fish health checks will be conducted by a Fish Health Specialist, and a final health check will be conducted prior to fish release. Transmission of disease or pest/infection is considered extremely unlikely and therefore discountable.

EFFECTS TO DESIGNATED BULL TROUT CRITICAL HABITAT

The final revised rule designating bull trout critical habitat (75 FR 63898 [October 18, 2010]) identifies nine Primary Constituent Elements (PCEs) essential for the conservation of the species. The 2010 designation of critical habitat for bull trout uses the term PCE. The new critical habitat regulations (81 FR 7214) replace this term with physical or biological features (PBFs). This shift in terminology does not change the approach used in conducting our analyses, whether the original designation identified PCEs, PBFs, or essential features. In this letter, the term PCE is synonymous with PBF or essential features of critical habitat.

The following PCEs are in the action area. Of the PCEs present, some will not be affected by the proposed action.

PCE 1: *Springs, seeps, groundwater sources, and subsurface water connectivity (hyporheic flows) to contribute to water quality and quantity and provide thermal refugia.*

- The action will have no effect on this PCE.

PCE 2: *Migration habitats with minimal physical, biological, or water quality impediments between spawning, rearing, overwintering, and freshwater and marine foraging habitats, including but not limited to permanent, partial, intermittent, or seasonal barriers.*

- Hatchery and facility operations include temporary weirs in Bear Creek, Cedar River, and Issaquah Creek, the Port of Edmonds net pen, and intermittent discharges or other impacts to water quality. Hatchery and facility operations may result in temporary impacts to the function of migratory corridors, but will not permanently degrade functions, and (with consideration for timing and location) will not measurably prevent bull trout from successfully foraging and migrating in the action area.

PCE 3: *An abundant food base, including terrestrial organisms of riparian origin, aquatic macroinvertebrates, and forage fish.*

- The proposed action produces and releases hatchery salmon, and thereby enhances the bull trout prey base. Hatchery salmon releases may also at some scale establish competition for bull trout prey resources.

PCE 4: *Complex river, stream, lake, reservoir, and marine shoreline aquatic environments, and processes that establish and maintain these aquatic environments, with features such as large wood, side channels, pools, undercut banks and unembedded substrates, to provide a variety of depths, gradients, velocities, and structure.*

- The proposed action will maintain degraded habitat conditions by continuing to preclude and/or degrade natural instream and riparian processes, but will not result in further declines in instream or nearshore marine habitat complexity. The structures involved with these hatchery and facility operations have been present for decades, and no changes are proposed.

PCE 5: *Water temperatures ranging from 2 to 15 °C (36 to 59 °F), with adequate thermal refugia available for temperatures that exceed the upper end of this range. Specific temperatures within this range will depend on bull trout life-history stage and form; geography; elevation; diurnal and seasonal variation; shading, such as that provided by riparian habitat; streamflow; and local groundwater influence.*

- The proposed action may alter water temperatures in the immediate vicinity of the hatcheries and facilities (e.g., rearing ponds), but these changes would be difficult to measure, detect, or evaluate. Water temperatures at the hatcheries and facilities must be cold enough to support rearing juvenile salmonids and do not rise to levels that are detrimental to juvenile salmonids. Minor warming may occur in rearing ponds prior to water being discharged into the receiving waterbody. However, the volume of water discharged is small compared to the volume of the receiving waters and any incremental increase in temperature is not expected to be measurable beyond the mixing zones at the points of discharge.

PCE 7: *A natural hydrograph, including peak, high, low, and base flows within historic and seasonal ranges or, if flows are controlled, minimal flow departure from a natural hydrograph.*

- Water use is non-consumptive, returned near the point of withdrawal, and the volume of water used is extremely small relative to the volume of these waterbodies. Therefore, departures from the natural hydrograph are expected to be minimal.

PCE 8: *Sufficient water quality and quantity such that normal reproduction, growth, and survival are not inhibited.*

- Hatcheries and facilities will result in discharges (release of effluent) to the receiving waters. Effluent discharges are small and localized, with no measurable effect to water quality in the receiving waterbodies beyond the regulated mixing zones. Discharges, slightly reduced dissolved oxygen levels, and minor increases in temperature will not alter water quality to a degree that would inhibit or measurably affect reproduction, growth, or survival of bull trout or other salmonids.

CONCLUSION

This concludes consultation pursuant to the regulations implementing the ESA (50 CFR 402.13). Our review and concurrence with your effect determinations is based on implementation of the project as described. It is the responsibility of the federal action agency to ensure that the projects they authorize or carry out are in compliance with the regulatory permit and ESA. If a

permittee or the federal action agency deviates from the measures outlined in a permit or project description, the federal action agency has the obligation to reinitiate consultation and comply with section 7(d).

This project should be re-analyzed and re-initiation may be necessary: if 1) new information reveals effects of the action that may affect listed species or critical habitat in a manner, or to an extent, not considered in this consultation; 2) if the action is subsequently modified in a manner that causes an effect to a listed species or critical habitat that was not considered in this consultation; and/or, 3) a new species is listed or critical habitat is designated that may be affected by this project.

This letter constitutes a complete response by the Service to your request for informal consultation. A record of this consultation is on file at the Washington Fish and Wildlife Office, in Lacey, Washington. If you have any questions about this letter or our shared responsibilities under the ESA, please contact the consulting biologist or supervisor identified below.

U.S. Fish and Wildlife Service Consultation Biologist:
Mitchell Dennis (360-753-6038)
Ryan McReynolds (360-753-6047)

Sincerely,

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Brad Thompson, State Supervisor
Washington Fish and Wildlife Office

cc:
NOAA, Portland, OR (L. Kruzic)
NOAA, Portland, OR (C. Davis)

References

University of Washington (UW). 2018. Hatchery and Genetic Management Plan (HGMP) – University of Washington Aquatic Research Facility Hatchery – coho. Seattle, WA. 70pp.

Washington Department of Fish and Wildlife (WDFW). 2019a. Hatchery and Genetic Management Plan (HGMP) – Issaquah Coho Hatchery Program (Integrated). Olympia, WA. 64pp.

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