

**Environmental Assessment of the Issuance
of an Endangered Species Act Section 10(a)(1)(A) Enhancement Permit
to the California Department of Fish and Wildlife
for the Operation of the Fall Creek Coho Salmon Hatchery Program**

FINDING OF NO SIGNIFICANT IMPACT (FONSI)

I. Purpose of Finding of No Significant Impact (FONSI)

The National Environmental Policy Act (NEPA) requires the preparation of an Environmental Impact Statement (EIS) for any proposal for a major federal action significantly affecting the quality of the human environment. 42 U.S.C. § 4332(C). The Council on Environmental Quality (CEQ) Regulations direct agencies to prepare a Finding of No Significant Impact (FONSI) when an action not otherwise excluded will not have a significant impact on the human environment. 40 CFR §§ 1500.4(b), 1500.5(b), & 1501.6. To evaluate whether a significant impact on the human environment is likely, the CEQ regulations direct agencies to analyze the potentially affected environment and the degree of the effects of the proposed action. 40 CFR § 1501.3(b). In doing so, agencies should consider the geographic extent of the affected area (i.e., national, regional or local), the resources located in the affected area (40 CFR § 1501.3(b)(1)), and whether the project is considered minor or small-scale (NAO 216-6A CM, Appendix A-2). In considering the degree of effect on these resources, agencies should examine, as appropriate, short- and long-term effects, beneficial and adverse effects, and effects on public health and safety, as well as effects that would violate laws for the protection of the environment (40 CFR § 1501.3(b)(2)(i)-(iv); NAO 216-6A CM Appendix A-2 - A-3), and the magnitude of the effect (e.g., negligible, minor, moderate, major). CEQ identifies specific criteria for consideration. 40 CFR § 1501.3(b)(2)(i)-(iv). Each criterion is discussed below with respect to the proposed action and considered individually as well as in combination with the others.

In preparing this FONSI, we reviewed the Environmental Assessment of the Issuance of an Endangered Species Act Section 10(a)(1)(A) Enhancement Permit to the California Department of Fish and Wildlife for the Operation of the Fall Creek Coho Salmon Hatchery Program (EA) which evaluates the affected area, the scale and geographic extent of the proposed action, and the degree of effects on those resources (including the duration of impact, and whether the impacts were adverse and/or beneficial and their magnitude). The EA is hereby incorporated by reference. 40 CFR § 1501.6(b).

II. Approach to Analysis

The proposed action is not considered to meaningfully contribute to a significant impact based on scale of impact as the coho salmon hatchery program is temporary (i.e., will only be in place for eight years), and is small in terms of economic and environmental impacts. The proposed action is meant to contribute to conservation objectives for Southern Oregon Northern California Coastal (SONCC) coho salmon, and will have limited impacts on non-target species, fisheries, or habitat. As discussed in the EA, all effects are beneficial, negligible, minor, or moderate. The proposed action is connected to the Klamath dam removal project (surrender, decommissioning, and removal of project works of the Lower Klamath Hydroelectric Project), for which the Federal Energy Regulatory Commission (FERC) issued a final Environmental Impact Statement (EIS) (FERC

Project No. 14803); however, the proposed action will not meaningfully add to the effects of the Klamath dam removal project in terms of significant economic or environmental impacts.

III. Geographic Extent and Scale of the Proposed Action

The Project Area is the geographic area where the Program and any direct or indirect effects would take place. This includes the location of activities described in the Hatchery Genetic Management Plan (HGMP) and associated production facilities. Program coho salmon will be spawned, incubated, reared, and released at Fall Creek Hatchery (FCH) located at Fall Creek, California. The fish will be released directly from the hatchery and will migrate from this point through the Klamath River and into the Pacific Ocean. Resultant adult coho salmon produced by the Program juveniles will travel to the ocean, and then return to FCH and may also stray into major Klamath River tributaries. The EA describes the Project Area, which is regional, and the environmental effects analyzed in the EA occur at a relatively small scale.

IV. Degree of Effect

A. The potential for the proposed action to threaten a violation of Federal, state, or local law or requirements imposed for environmental protection.

The proposed action will not threaten a violation of Federal, state, or local law, or requirement imposed for the protection of the environment. The proposed action is designed to be consistent with Federal law (issuance of the Section 10(a)(1)(A) is specifically an Endangered Species Act (ESA) action), and permit is being considered for issuance to the State of California.

B. The degree to which the proposed action is expected to affect public health or safety.

The proposed action will not have a significant impact on public health or safety because the proposed action includes hatchery activities that have a long history of safe implementation for hatchery employees and the human environment. The proposed hatchery program is a continuation of a current program at Iron Gate Hatchery (IGH), and would not be expected to have a substantial adverse impact on public health or safety because there would be no change in the risk of exposure of hatchery workers to chemicals or pathogens. Likewise, there would be no change in the potential nutritional benefits of the hatchery programs to human health and no change in the risk of public exposure to toxic contaminants relative to current conditions.

C. The degree to which the proposed actions is expected to affect a sensitive biological resource, including:

a. Federal Threatened or Endangered Species and Critical Habitat

The proposed action would not significantly affect any endangered or threatened species or its critical habitat. SONCC coho salmon, which are listed as threatened under the ESA, are potentially impacted by the proposed action, but NMFS has issued a biological opinion addressing the effects of the proposed action on SONCC coho salmon. In addition, NMFS concluded that the proposed action is not likely to adversely affect the species and critical habitat with respect to the Southern DPS of

North American green sturgeon, Southern DPS of Pacific Eulachon, and Southern Resident killer whale DPS.

The proposed action is expected to provide direct high beneficial short-term effects to the Upper Klamath Population Unit of SONCC coho salmon. As summarized in the EA, the program produces many hundreds of adult coho salmon that return to the hatchery and contribute to natural production in Fall Creek and Bogus Creek. The number of natural origin (NOR) adult coho salmon required for broodstock is less than 100 fish, thus the Program produces a net increase in adult coho salmon. Program adult coho salmon may also fail to return to the hatchery and instead spawn naturally in the Shasta River. Because of extremely low NOR coho salmon abundance in this stream, Program fish spawning naturally in the Shasta River increase population abundance and reduce extinction risk for this population. Additionally, Hatchery Origin (HOR) coho salmon surplus to broodstock needs will be released back to the Klamath River to spawn naturally in historically productive habitat made available with the removal of Klamath River Dams. Offspring of these naturally spawning HOR coho salmon will likely result in an increase in NOR juvenile and adult production.

The proposed action will have long-term direct moderate adverse effects on the genetics of coho salmon. These effects occur because of HOR coho salmon spawning naturally with natural origin coho salmon. The Program will function as an integrated recovery program. An integrated recovery program is defined as an artificial propagation project primarily designed to aid in the recovery, conservation or reintroduction of natural salmon population(s), and the fish produced are intended to spawn in the wild or be genetically integrated with the targeted natural population(s) (in this case the Upper Klamath River Population). HOR coho salmon spawning naturally can interbreed with NOR adults. This breeding can in turn reduce the genetic fitness of resulting offspring and the productivity and abundance of the NOR component of the population. The severity of the effect is estimated by calculating the proportionate natural influence value (PNI) for the Program. Program PNI has averaged 0.50 from 2014 to 2020. This level of PNI is expected to be achieved or exceeded over the short-term. Because PNI is < 1.0, the Program will continue to have moderate long-term adverse effects to coho salmon genetics. To reduce genetic effects of artificial breeding to the natural population, a genetic spawning matrix will be used to reduce inbreeding that may cause a decrease in population productivity, diversity, and abundance.

Therefore, while the proposed action may affect ESA-listed species, it is not expected to be significant under NEPA because the proposed action is designed to minimize or avoid adverse effects on ESA-listed species. The proposed action is temporary, and the hatchery program is designed to be responsive to the abundance of both HOR and NOR SONCC coho salmon, and the proposed action is consistent with existing ESA biological opinions.

b. Stocks of Marine Mammals as Defined in the Marine Mammal Protection Act

Since the FCH program is a continuation of the coho salmon production raised historically at IGH, and production levels are unchanged from past production levels, no effects are expected to Southern Resident Killer Whales or other marine mammals. Additionally, the HGMP will be implemented at FCH, which is approximately 193 river miles upriver from the Klamath River estuary or any marine environments where marine mammals are found.

c. Essential Fish Habitat Identified under the Magnuson–Stevens Fishery Conservation and Management Act

In the Klamath Basin, essential fish habitat (EFH) has been designated in the mainstem Klamath River and its tributaries from Iron Gate Dam to the mouth. EFH includes the water quantity and quality conditions necessary for successful adult migration and holding, spawning, egg-to-fry survival, fry rearing, smolt migration, and estuarine rearing of juvenile coho salmon and Chinook salmon. No adverse effects to estuarine habitat or marine habitat, including such habitat designated as EFH for coho or Chinook salmon, are expected from the proposed action because any adverse effects of the proposed action to habitat are expected to be ameliorated to an undetectable level before reaching any estuarine or marine habitat.

Potential effects on fish habitat from the proposed action would be similar to effects of the No-action Alternative. No significant effects on hydrologic conditions and resources are expected under the proposed action. The proposed action will have no significant impact on the quantity or consumption demand of water used for hatchery activities and the total amount of water diverted will remain small relative to the total volume of the river. Additionally, the total amount of water diverted into the hatchery is returned to the river below the hatchery. The water source for the hatchery is Fall Creek, and almost all of the water used for hatchery operations will return to Fall Creek. Hatchery facilities and operations are not expected to have any perceptible effect on water availability or use.

Therefore, NMFS believes the proposed action will have no significant impact on ocean and coastal habitats and EFH because, as described above, the proposed action is primarily biologically based; contains minimal instream modification or habitat alteration; does not include increases in the quantity of water used for hatchery facilities or change the water quality of water released from hatchery facilities; and will not have significant adverse effects on spawning, rearing, or migratory habitat.

d. Bird Species Protected under the Migratory Bird Treaty Act

There will also be no significant adverse effects to fish eating birds since the number of fish produced will remain the same as under current management practices.

e. National Marine Sanctuaries or Monuments

The proposed action is not expected to impact national marine sanctuaries or monuments in any way.

f. Vulnerable Marine or Coastal Ecosystems, Including, but not limited to, Shallow or Deep Coral Ecosystems

The proposed action is not expected to impact vulnerable marine or coastal ecosystems in any way.

g. Biodiversity or Ecosystem Functioning (e.g., Benthic Productivity, Predator-Prey Relationships, etc.)

Implementation of the proposed action will not result in significant impacts to the biodiversity or current ecosystem function because any adverse effects as a result of the proposed action will be similar to current conditions related to biodiversity, established flow regimes, sediment transport, predator/prey relationships, or other ecosystem functions. The HGMP contains biologically-based hatchery management strategies that are expected to contribute to the conservation of the SONCC coho salmon ESU. Implementation of the HGMP would increase egg-to-yearling survival and decrease the genetic and demographic risks of inbreeding (at the hatchery) and interbreeding between hatchery and natural origin coho salmon (on the spawning grounds), which would contribute to recovery of the SONCC coho salmon ESU. Accordingly, although there will be ongoing risks from predation, competitive interactions, and interbreeding, the conservation benefits of the HGMP outweigh the risks. Implementation of the HGMP would support recovery of the Upper Klamath and Shasta populations of the SONCC coho salmon ESU. Implementation of the HGMP will promote management of hatchery broodstock to achieve: proper genetic integration with natural populations; local adaptation of natural and hatchery populations; minimization of adverse ecological interactions between hatchery- and natural-origin fish; and minimization of effects of hatchery facilities on the ecosystem. Achievement of these goals will benefit all of the salmonid populations in the basin, and will have a positive impact on biodiversity and ecosystem function.

D. The degree to which the proposed action is reasonably expected to affect a cultural resource: properties listed or eligible for listing on the National Register of Historic Places; archeological resources (including underwater resources); and resources important to traditional cultural and religious tribal practice.

The proposed action is expected to have no impact on properties listed or eligible for listing on the National Register of Historic Places or on archeological resources (including underwater resources). However, under the proposed action, Tribal fishers would continue to catch Program coho salmon in Klamath River freshwater fisheries. As described in the EA, the degree of effect is considered moderate beneficial, which is not at a significant level.

E. The degree to which the proposed action has the potential to have a disproportionately high and adverse effect on the health or the environment of minority or low-income communities, compared to the impacts on other communities (EO 12898).

The FCH coho program is not expected to disproportionately affect minority and low-income communities. Implementation of the proposed action is expected to have a moderate

beneficial effect on Tribal fisheries and Tribal cultural needs. Implementation of an HGMP for the FCH coho salmon program is occurring within the larger context of restoration and the interests of tribal fisheries, tribal trust resources on the Klamath River.

- F. The degree to which the proposed action is likely to result in effects that contribute to the introduction, continued existence, or spread of noxious weeds or nonnative invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of the species.*

The proposed action is not expected to contribute to the introduction, continued existence, or spread of noxious weeds or nonnative species. The FCH program propagates SONCC coho salmon, which are native to the area. Hatchery staff consider nonnative invasive species, and ensure that hatchery practices have no effect on their introduction or spread.

- G. The potential for the proposed action to cause an effect to any other physical or biological resources where the impact is considered substantial in magnitude (e.g., irreversible loss of coastal resource such as marshland or seagrass) or over which there is substantial uncertainty or scientific disagreement.*

The proposed action is not expected to cause a substantial effect to any other physical or biological resource, nor is there substantial uncertainty or scientific disagreement on the impacts of the proposed action. The proposed FCH coho salmon program is similar to the IGH coho salmon program, for which there is a current permit that has been in place since 2014. The effects of the IGH coho salmon program have been analyzed and monitored, and are relatively well known, and are expected to continue to be insignificant in magnitude.

V. Other Actions Including Connected Actions

The proposed action was developed with consideration of the collective impact of the Klamath dam removal project (FERC Project No. 14803) to meet conservation and restoration objectives, consistent with the ESA.

VI. Mitigation and Monitoring

Program monitoring and evaluation (M&E) will consist of the following activities: in-hatchery fish production and survival by life stage, disease prevalence, treatment, and water quality monitoring of influent, rearing vessels, and effluent; genetic sampling of coho salmon adults for the spawning matrix; proportion of NOR and HOR fish used for spawning; calculate PNI (proportionate natural influence) for Coho salmon spawners in Bogus Creek; average smolt to adult survival rate calculated annually; average release size, with variation, annually; quantifying juvenile coho salmon production in Bogus Creek. Genetic samples will also be collected from a portion of the juveniles captured each year, and; adult monitoring and broodstock removal at the Bogus Creek weir/trap. Genetic samples will be taken from all coho salmon released upstream of the weir or considered for broodstock. Additionally, fish behavior at the new fish ladder at Fall Creek will be monitored for three-years. Such monitoring is needed to confirm that coho salmon entering Fall Creek can successfully migrate to, enter, and pass through the ladder. Operation of the Program as described is expected to continue the progress made in culture practices and outcomes with the implementation of the 2014 HGMP.

DETERMINATION

The CEQ NEPA regulations, 40 CFR § 1501.6, direct an agency to prepare a FONSI when the agency, based on the EA for the proposed action, determines not to prepare an EIS because the action will not have significant effects. In view of the information presented in this document and the analysis contained in the supporting EA prepared for the Issuance of an Endangered Species Act Section 10(a)(1)(A) Enhancement Permit to the California Department of Fish and Wildlife for the Operation of the Fall Creek Coho Salmon Hatchery Program, it is hereby determined that the Issuance of an Endangered Species Act Section 10(a)(1)(A) Enhancement Permit to the California Department of Fish and Wildlife for the Operation of the Fall Creek Coho Salmon Hatchery Program will not significantly impact the quality of the human environment. The Environmental Assessment of the Issuance of an Endangered Species Act Section 10(a)(1)(A) Enhancement Permit to the California Department of Fish and Wildlife for the Operation of the Fall Creek Coho Salmon Hatchery Program is hereby incorporated by reference. In addition, all beneficial and adverse impacts of the proposed action as well as mitigation measures have been evaluated to reach the conclusion of no significant impacts. Accordingly, preparation of an EIS for this action is not necessary.



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Date