



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

November 1, 2017

**Record of Decision
for the
Final Environmental Impact Statement
to Analyze Impacts of NOAA's National Marine Fisheries Service Proposed Approval of
the Continued Operation of 10 Hatchery Facilities for Trout, Salmon, and Steelhead Along
the Oregon Coast, as Described in Oregon Department of Fish and Wildlife Hatchery and
Genetic Management Plans Pursuant to Section 4(d) of the Endangered Species Act**

National Marine Fisheries Service
West Coast Region

I. Introduction and Background

The Oregon Department of Fish and Wildlife (ODFW) submitted 42 Hatchery and Genetic Management Plans (HGMPs) for hatchery programs associated with the 10 hatchery facilities (and associated ancillary facilities) along the Oregon Coast. The National Marine Fisheries Service (NMFS) is the federal agency responsible for administering the Endangered Species Act (ESA) for coho salmon, which are listed as a threatened species under the ESA along the Oregon Coast. NMFS' ESA §4(d) regulations allow ODFW to apply for a take exemption for the operation of their hatchery programs which affect ESA-listed threatened coho salmon. The Proposed Action is NMFS' determination that ODFW's HGMPs meet the requirements of Limit 5 of the 4(d) Rule. The HGMPs for Oregon Coast hatcheries would be exempted from the take prohibitions of the ESA regarding threatened coho salmon, and the programs would continue to be implemented by ODFW.

This Record of Decision (ROD) was developed by NMFS in compliance with decision-making requirements, pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended (40 CFR 1505.2). The purpose of this ROD is to document NMFS' decision regarding the Oregon Coast HGMPs.

This ROD is designed to 1) state NMFS' decision and present the rationale for that decision; 2) identify the alternatives considered in the final Environmental Impact Statement (EIS) in reaching the decision; and 3) state whether all practicable means to avoid or minimize environmental harm from implementation of the selected alternative have been adopted, and if not, why they were not (40 CFR 1505.2).

II. Description of Alternatives Considered

Alternative 1 (No-action)

Under Alternative 1, the No-action alternative, NMFS would not approve the HGMPs under limit 5 of the 4(d) Rule for the take of ESA-listed coho salmon along the Oregon Coast. If the hatchery programs are not exempted from the take prohibitions of the ESA, several possible outcomes could result. The take of natural-origin coho salmon for broodstock purposes would not occur by ODFW and these programs would continue to be segregated from their respective natural populations. ODFW could pursue obtaining ESA coverage for the programs under alternative means such as an ESA section 10 incidental take permit.

Alternative 2 (Proposed Action/Preferred Alternative)

Under Alternative 2, NMFS would approve the take exemption for ODFW's most recent HGMPs for the operation of the hatchery programs and associated facilities under the ESA. For the coho salmon programs, this would allow natural-origin fish to be taken for broodstock-integration purposes in the South Umpqua, Trask, and Nehalem populations. For the other HGMPs, the programs would implement recent hatchery reforms to reduce impacts on listed coho salmon and other natural-origin salmon and steelhead stocks along the Oregon Coast. The most recent HGMPs are guided by ODFW's Coastal Multi-Species Conservation and Management Plan adopted in 2014.

Alternative 3

Under Alternative 3, no take exemption would be issued and all of the hatchery programs currently in place along the Oregon Coast, with the exception of the Cole Rivers coho salmon program (HGMP already approved by NMFS in 1999), would be terminated and the facilities closed. No hatchery fish would be produced and released along the Oregon Coast.

Alternative 4

Under Alternative 4, a take exemption would be issued once all of the hatchery programs reduced hatchery-fish releases by 50% compared to the proposed levels in the submitted HGMPs evaluated under Alternative 2.

Alternative 5

Under Alternative 5, the highest risk hatchery programs to natural-origin salmon and steelhead populations would be terminated. For the remaining programs that would continue because biological risks are lower, take exemptions would be issued specifying that additional hatchery reforms identified in section 1.16 of the respective HGMPs would also be implemented. This alternative reduces annual hatchery-fish releases by approximately 1.16 million hatchery fish compared to Alternative 1.

III. Public Involvement

NMFS formally initiated environmental review of the project through a Notice of Intent (NOI) to prepare an EIS in the Federal Register on January 15, 2016. This NOI announced a 60-day public scoping period, during which other agencies, tribes, and the public were invited to provide comments and suggestions regarding issues and alternatives to be included in the EIS.

A Draft EIS was subsequently produced and made available for a 60-day public comment period announced in the Federal Register on August 26, 2016. During the comment period, 11 comment letters were received from governmental agencies, non-governmental organizations, and the general public. Primary issues raised in the comments were not related to ESA-listed coho salmon, but for other programs propagating Chinook salmon and steelhead. The comments focused on reducing impacts from the winter steelhead and fall Chinook salmon hatchery programs (in particular) on natural salmon and steelhead populations and implementing hatchery reforms to further lessen impacts on the human environment. Appendix B of the Final EIS contains a summary of comments received on the draft documents and NMFS' responses, including a description of changes made to the Draft EIS.

The Final EIS was subsequently produced and made available for a 30-day public review period announced in the Federal Register on June 9, 2017. During the review period, four comment letters were received and are summarized in the Attachment of this ROD. A review of the comments revealed that most of the issues had already been raised in public comments on the Draft EIS, and they had been addressed in the preparation of the Final EIS. The rest of the comments were considered during NMFS' decision-making process in this ROD. Specific replies can be found in Responses to Comments (Attachment).

IV. Environmentally Preferred Alternative(s)

NMFS is required by regulation to specify in the ROD "the alternative or alternatives which were considered to be environmentally preferable" (40 CFR 1505.2(b)). The environmentally preferred alternative generally means the alternative that causes the least damage to the biological and physical environment; it also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources (The Council on Environmental Quality (CEQ), Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, 46 Fed. Reg. 18,026 (March 23, 1981). Alternative 2 was identified in the FEIS as the preferred alternative. Alternative 3 would likely result in the least amount of damage to the human environment.

Alternative 3 evaluated terminating all of the hatchery programs along the Oregon Coast. This alternative would result in the least damage to the aquatic environment because water would not be used to raise hatchery fish, hatchery effluent would not be discharged into adjacent streams, and no hatchery fish would be released to create risks associated

with genetic effects, competition, predation and disease. However, this alternative would also negatively affect certain wildlife species that prey upon hatchery fish, reduce socioeconomic benefits to the human environment from fisheries catching hatchery fish, increase harvest impacts on some stocks of natural-origin Chinook salmon and steelhead, and decrease ecosystem nutrient benefits from hatchery fish carcasses decomposing in the natural environment.

V. Mitigation and Monitoring

The CEQ's NEPA regulations require agencies to identify in the ROD whether all practical means to avoid or minimize environmental harm from the alternative selected have been adopted and if not, why they were not (40 CFR Part 1505.2(c)). The regulations further state that a monitoring and enforcement program be adopted and implemented, where applicable, for any mitigation. Mitigation includes avoidance, minimization, and reduction of impacts, and compensation for unavoidable impacts.

The hatchery programs included in Alternative 2 require both mitigation of hatchery impacts on affected resources and monitoring and evaluation. These are described further below.

The primary reason why NMFS has identified Alternative 2 as the preferred alternative is that NMFS' authority under the 4(d) regulations is limited to reviewing HGMPs as submitted by hatchery operators and making determinations whether they meet the applicable regulatory standards. If NMFS finds that they do, the hatchery programs described in the HGMPs are considered exempt from the take prohibitions of the ESA with respect to threatened coho salmon. As far as making changes to HGMPs for the benefit of coho salmon, NMFS works cooperatively with hatchery operators to emphasize program design and operations that minimize impacts to threatened salmon prior to the submission of HGMPs for review. Thus, in addition to meeting NMFS' regulatory role, Alternative 2 includes substantive elements that merit the selection as the preferred alternative.

Alternative 2 is the culmination of hatchery reforms taken since coho salmon were listed 20 years ago to mitigate impacts of all of the programs on natural-origin salmon and steelhead. Significant hatchery reforms and mitigation has been implemented, such as complete elimination of entire hatchery programs (in particular the hatchery coho salmon programs), and changes in release numbers, locations, and life stages to reduce impacts on natural-origin fish. ODFW's Coastal Multi-species Conservation and Management Plan approved in 2014 also implemented reforms for some hatchery programs and currently provides the management direction for Alternative 2. This plan also directs further mitigation actions if the stated goals and objectives for hatchery impacts are not met in the near future.

Under Alternative 2, the proposed HGMPs will apply best management practices to minimize deleterious genetic effects and to ensure high survival of fish in the hatchery by monitoring and evaluation of fish health, implementing necessary precautionary and

treatment actions, and releasing smolts that are healthy to reduce risks of pathogen transmission to natural fish, and minimize ecological interactions while emigrating to the ocean. Broodstock collection will occur to minimize impacts on natural-origin salmon and steelhead and reduce domestication selection in the hatchery environment.

Monitoring and evaluation of the hatchery programs included in Alternative 2 will occur annually. The specific details of the monitoring is included in section 11 (and other applicable sections) of the HGMPs. Most of the annual monitoring is focused on evaluating the performance of the hatchery program. Evaluating impacts on natural-origin salmon and steelhead from the hatchery programs is focused predominately on measuring hatchery fish on the spawning grounds. In most areas, this basic information is collected on an annual basis. Other genetic and ecological impact studies occur from time to time as funding and the need arises.

VI. Decision and Rationale for Decision

As stated above, NMFS has a responsibility to comply with NEPA before making a determination under the ESA on whether ODFW's HGMPs meet the criteria of limit 5 of the 4(d) Rule for listed coho salmon along the Oregon Coast. A range of alternatives were analyzed. However, Alternative 2, the Proposed Action/Preferred Alternative, met the criteria for limit 5, does not jeopardize ESA-listed coho salmon along the Oregon Coast, and meets ODFW's purpose and need for fisheries targeting hatchery-origin salmon and steelhead according to their coastal management plan. Other alternatives may reduce impacts to listed and non-listed salmon and steelhead, but do not provide the desired level of recreational and commercial fishery benefits for the state of Oregon.

Alternative 2 was identified in the final EIS as the preferred alternative. This alternative corresponds to NMFS' authority, which consists of providing a determination on the HGMPs as provided, and also results in a balance among the affected resources in realizing benefits while minimizing the environmental and social impacts. Alternative 2 allows natural-origin coho salmon to be collected for broodstock integration which will reduce the genetic impacts of these programs on natural-origin coho salmon populations. The operation of the hatchery facilities will affect the adjacent rivers and streams but the water quantity and water quality impacts are limited in scope and relatively short lived. The proposed releases of hatchery fish under Alternative 2 reduce impacts on the natural environment compared to the No-action alternative, while providing some socioeconomic benefits to recreational and commercial fisheries in the ocean and freshwater.

In balancing the projected effects of the various alternatives presented in the EIS and the public interest with economic, technical, NMFS statutory mandates, and matters of national policy, NMFS has decided to implement Alternative 2. Through the EIS and the documentation in this ROD, NMFS considered the objectives of the Proposed Action and analyzed a range of alternatives that address the objectives of the Proposed Action, and the extent to which the impacts of the action could be mitigated. NMFS also considered public and agency comments received during the EIS scoping and review periods. Consequently, NMFS concludes Alternative 2 provides reasonable, practical, and

practicable means to avoid, minimize, or compensate for environmental harm from the action.



Barry A. Thom
Regional Administrator
West Coast Region
National Marine Fisheries Service

11/1/2017

Date

Attachment

NMFS responses to the public comments submitted on the FEIS.		
Commentor	Comment #	NMFS Response
Brian McLachan	1	Noted.
Brian McLachan	2	Disagree. The comments provided by Mr. McLachlan were thoroughly considered and discussed, with many changes to the FEIS as a result of his comments. We also provided an explanation to each comment in our responses. We fully considered the submitted comments on the DEIS to help inform the FEIS.
Brian McLachan	3	We considered and included all of the available information on pHOS for steelhead, including the information you provided from the 1990's.
Brian McLachan	4	The proportionate natural influence (PNI) metric is one of many metrics used to evaluate the impacts of hatcheries on the human environment in the EIS. PNI was calculated using <i>pHOS census</i> because data on <i>pHOS effective</i> is currently not available for any population along the Oregon Coast. Using pHOS census provides a more conservative, worst case scenario for the impacts of hatcheries compared to pHOS effective; and thus is useful for NEPA analyses. The PNI metric is very useful for evaluations for the Oregon Coast because the information is readily available. We agree with the commenter about using PNI when pNOB values are low, but in many cases pNOB will increase if and when ESA authorization for the programs occurs (e.g. direct take of wild coho salmon for hatchery broodstock purposes).
Brian McLachan	5	Noted. In table 7 (page 3-19), the pNOB goals are reported based upon where the broodstock are collected; not by where the smolts are released. In the case of the Wilson River, three different stocks are released: summer steelhead from broodstock collected in the Nestucca River, winter steelhead (stock 47) also from the Nestucca River, and stock 121 natural-origin steelhead collected from the Wilson River. NMFS found reporting pNOB in this fashion to be the most straightforward to assess impacts from pNOB on the respective natural steelhead population. The specific HGMPs describe all of the hatchery steelhead releases in the Wilson River.

Brian McLachan	6	Disagree. We responded to this comment in the FEIS response to comments document.
Brian McLachan	7	Noted. There are no direct estimates of pNOB and pHOS for the Trask and Necanicum fall Chinook salmon programs, which is why NMFS chooses to rely on its own estimate based on the best available information. The HGMP states unmarked Chinook salmon may be used for broodstock at a rate near hatchery mismark rate (0-5%). ODFW's pHOS goal for the program is <30%. For all of these scenarios, PNI is less than 0.50; indicating artificial selection is driving genetic influences in these populations.
Brian McLachan	8	Disagree. NMFS understands your comparison, and we have responded that genetic data is not available for Oregon Coast steelhead, like in Puget Sound. This paucity of data in Oregon does not allow more in-depth analyses to be conducted.
Brian McLachan	9	Noted.
Douglas County	1	Noted.
Environmental Protection Agency	1	Noted. EPA's involvement in this EIS process is part of the administrative record for this project.
Environmental Protection Agency	2	Noted. There are differences between Alternative 1 and Alternative 2, the proposed action, that reflect reforms made to reduce the impacts of hatchery operations on ESA-listed coho salmon. Alternative 2 would allow for the direct take of wild coho salmon for broodstock purposes under the ESA, among other things. Alternative 1 does not. We recognize EPA's desire to reduce impacts from the hatchery programs even further than the proposed action/preferred alternative. In the FEIS, NMFS included Alternative 5 to evaluate the potential benefits to the human environment from implementing actions described in section 1.16 (alternative actions considered for attaining program goals) of the HGMPs. There are risks and benefits from most of the section 1.16 actions. The actions may reduce hatchery effects, but at the cost of additional impacts to aquatic habitat. Therefore NMFS is not requiring implementation of section 1.16 actions as part of the 4(d) concurrence letter to ODFW.
Kalmiopsis Audobon Society	1	Noted.
Kalmiopsis Audobon Society	2	Noted.
Kalmiopsis Audobon Society	3	Noted.

Kalmiopsis Audobon Society	4	Noted. We agree ODFW's Coastal Multi-Species Management Plan states the Elk River fall Chinook salmon population is non-viable and the hatchery program is a primary limiting factor/threat. The effects of hatchery operations on Chinook salmon populations is addressed in the FEIS.
Kalmiopsis Audobon Society	5	Noted. See responses above.
Kalmiopsis Audobon Society	6	Noted. The causes of the temperature impairment listed on the 303(d) list by Department of Environmental Quality is upstream and downstream of the hatchery. Other factors such as topography, lack of riparian cover are the primary factors affecting the TMDL listings in the Elk River.
Kalmiopsis Audobon Society	7	Noted.
Kalmiopsis Audobon Society	8	Noted. The range of alternatives evaluated in the EIS looked at hatchery production reductions, elimination of the highest risk hatchery programs, and complete termination of all hatchery programs. These alternatives were fully evaluated, so we respectfully disagree with the notion the alternatives were not credible.
Kalmiopsis Audobon Society	9	Noted.
Native Fish Society	1	Noted.
Native Fish Society	2	Noted.
Native Fish Society	3	Noted. ODFW specifically updated all of the submitted HGMPs to make them aligned with their Coastal Multi-species Plan. NMFS will ensure the HGMPs met the criteria under the ESA before approving the plans under limit 5 of the 4(d) Rule. For pHOS, the FEIS included ODFW's pHOS goals for each program.
Native Fish Society	4	Noted.
Native Fish Society	5	In the FEIS NMFS relies on the VSP parameters (abundance, distribution, productivity, diversity) in assessing the impacts of hatcheries on natural-origin populations. ODFW's CMP provides the pHOS objectives for non-listed salmon and steelhead populations. For hatchery impacts to ESA-listed coho salmon populations, NMFS adopted <10% pHOS as the standard. Generally speaking, a pHOS standard of <10% is not supported by the best available science in all situations;

		each hatchery program and the effected populations must be considered individually to determine whether a standard of 10%, or a higher or lower number, is the appropriate goal.
Native Fish Society	6	NMFS evaluated the effects of the hatcheries' discharge effluent on the human environment. Our evaluation was not dependent upon the regulatory status of Clean Water Act NPDES permits administered by Oregon DEQ. To the extent they implicate the environment, the specific concerns raised in the permitting matter are among those factors considered in the FEIS.
Native Fish Society	7	Noted. Included citations. There are a variety of factors that can lead to high residualization rates in steelhead. Our assessment of these factors indicates residualization of hatchery steelhead along the Oregon Coast is low. See Haush and Melnychuk (2012) for further information.
Native Fish Society	8	Noted. The FEIS fully evaluates the water-quality risks posed from the hatchery facilities on the human environment. The current water-quality issues, as indicated by 303(d) listings, are not related at all to hatchery effluent discharges at any hatchery facility along the Oregon Coast.
Native Fish Society	9	Disagree. The EIS evaluates the potential benefits of marine derived nutrients (MDN) from naturally-spawning hatchery fish, but this is not an identified management objective for the hatchery programs. If hatchery fish are not collected at the hatchery and spawn naturally, there is a potential benefit from MDN to the human environment.
Native Fish Society	10	Noted.