



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

Refer to NMFS No: WCR-2018-10613

September 6, 2018

Michael Lidgard
NPDES Permit Unit
U.S. EPA, Region 10
1200 Sixth Avenue, Suite 155
Seattle, WA 98101-3140

Re: Endangered Species Act Section 7(a)(2) Concurrence Letter and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for a National Pollutant Discharge Elimination System (NPDES) permit for the Warm Springs National Fish Hatchery in Wasco County, Oregon; (5th Field Hydrologic Unit Code 1707030606, Warm Springs River).

Dear Mr. Lidgard:

On August 23, 2018, NOAA's National Marine Fisheries Service (NMFS) received your request for a written concurrence that the U.S. Environmental Protection Agency's (EPA) proposal to issue an NPDES permit addressing discharge effluent from the Warm Springs National Fish Hatchery under section 401 of the Clean Water Act, is not likely to adversely affect (NLAA) species listed as threatened or endangered or critical habitats designated under the Endangered Species Act (ESA). This response to your request was prepared by NMFS pursuant to section 7(a)(2) of the ESA, implementing regulations at 50 CFR 402, and agency guidance for preparation of letters of concurrence.

NMFS also reviewed the proposed action for potential effects on essential fish habitat (EFH) designated under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), including conservation measures and any determination you made regarding the potential effects of the action. This review was pursuant to section 305(b) of the MSA, implementing regulations at 50 CFR 600.920, and agency guidance for use of the ESA consultation process to complete EFH consultation. In this case, NMFS concluded the action would not adversely affect EFH. Thus, consultation under the MSA is not required for this action.

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 concurrence letter will be available through NMFS' [Public Consultation Tracking System](https://pcts.nmfs.noaa.gov) (<https://pcts.nmfs.noaa.gov>). A complete record of this consultation is on file at NMFS' Columbia Basin Branch in Ellensburg, Washington.

Proposed Action and Action Area

The EPA proposes to issue an NPDES general permit to establish conditions for discharge of pollutants in wastewater from Warm Springs National Fish Hatchery into Warm Springs River. This action is limited to the NPDES general permit, under the EPA's Clean Water Act, Section 402. The EPA has authority over wastewater discharge from permitted facilities, and issues related to in-stream flow, fish passage, and water withdrawal are not addressed. The hatchery is considered a concentrated aquatic animal production facility point source and is therefore subject to the NPDES permit program. Warm Springs Hatchery is operated by the U.S. Fish and Wildlife Service on land leased from the Confederated Tribes of the Warm Springs Reservation (CTWSR). It is operated year-round as a flow-through facility and discharges to the Warm Springs River, a tributary of the Deschutes River. The CTWSR have developed water quality standards with EPA approval. The NPDES permit will provide federal establishment and protection of those standards. We have not identified any interrelated or interdependent activities. Hatchery operations will continue as before under the permit.

The NPDES permit will allow hatchery discharge of pollutants from the facility, within limits and conditions set forth in the permit, to the Warm Springs River. However, the EPA provides an extensive list of items the Permittee is prohibited from discharging, including copper, copper compounds, Atlantic salmon, visible foam, or any substance that violates water quality standards. The discharge of any unintentional spills or pollutants not ordinarily present at the facility are not authorized. The Permittee is also prohibited from introducing accumulated solids to hatchery effluent in excess of allowable levels through removal of dam boards or cleaning of raceways. Wastes removed from settling basins must be disposed of in such a manner that they are not allowed to enter the channel. Containing fish within settling basins is also not permissible.

The Permittee must limit pollutant discharge from all outfalls according to Tables 1 and 2 below. All limits represent maximums, and the Permittee must comply with the applicable effluent limits at all times regardless of the frequency of monitoring or reporting.

Table 1. Effluent Limits for Discharges from the Fish Ladder (Outfall 001)

Pollutant	Average Monthly Limit	Maximum Daily Limit	Instantaneous Maximum
Net Total Suspended Solids	5 mg/L	---	15 mg/L
Net Settleable Solids	0.1 ml/L	---	---
Total Residual Chlorine – into fresh water	9.0 µg/L	18.0 µg/L	---

Discharge limits for the Off-Line Settling Basin (OLSB) apply to any discharge from the OLSB and raceways or pond systems during drawdown for fish release. The total residual chlorine

limits set forth in Table 1, above, still apply to raceways or pond systems during drawdown for fish release.

Table 2. Effluent Limits for Discharges from the Off-line Settling Basin (Outfall 002)

Pollutant	Maximum Daily Limit
Total Suspended Solids	100 mg/L
Settleable Solids	1.0 ml/L

When rearing vessels are disinfected with chlorine, the total residual chlorine effluent limits in Table 1, above, apply (unless they are allowed to dry completely).

Effluent Monitoring: The NPDES permit authorizes the Permittee to discharge only pollutants resulting from facility processes, waste streams, and operations identified in the permit application. Tables 3 and 4 outline effluent monitoring required to maintain compliance.

Table 3. Effluent Monitoring Requirements from the Rearing Ponds/Raceways (Outfall 001)

Parameter	Units	Sample Type	Sample Frequency	Sample Location
Effluent Flow	Gallons per day	Flow meter, calibrated weir, or other approved method	Monthly	Effluent
<u>Net</u> Total Suspended Solids	mg/L	Composite	Monthly	Influent & Effluent
<u>Net</u> Settleable Solids	ml/L	Grab	Monthly	Influent & Effluent
Total Residual Chlorine (including when Chloramine-T is in use)	µg/L	Grab	Monthly	Effluent

Discharges from the OLSB must be monitored as required in Table 4, below. All OLSB discharges must be monitored 12 months out of the year if there is a discharge, regardless of pounds of fish at the facility.

Table 4. Off-Line Settling Basin (OLSB) Effluent Monitoring Requirements (Outfall 002)

Parameter	Units	Sample Type	Sample Frequency	Sample Location
Effluent Flow	Gallons per day	Flow meter, calibrated weir, or other approved method	Monthly	Effluent
Total Suspended Solids	mg/L	Grab	Monthly	Effluent
Settleable Solids	ml/L	Grab	Monthly	Effluent
Ammonia	mg/L	Grab	Quarterly	Effluent
Temperature	° C	Meter	Weekly when OLSB is discharging	Effluent
pH	Standard Units	Meter	Quarterly	Effluent

Monitoring samples for rearing pond and raceway drawdowns for fish release must be collected regardless of the amount of fish in the facility. Grab samples for settleable solids (ml/L) and total suspended solids (mg/L) must be collected from rearing pond and raceway effluent once per drawdown event.

Rearing vessel disinfection water that has been treated with chlorine must be tested before it is discharged. Chlorine monitoring is not required if rearing vessels are allowed to dry completely and there is no discharge of chlorine. Grab samples from outfall (001) effluent stream will be taken prior to discharge into the Warm Springs River. Sampling is necessary only when chlorine is being used and does not need to occur more than once per quarter.

Surface water monitoring will be conducted according to the following protocols:

- The Permittee must conduct surface water monitoring quarterly for ammonia, pH, and temperature immediately upstream, outside the influence of the discharge.
- All surface water samples must be grab samples and must be collected at approximately the same time as the effluent samples.
- All samples must be analyzed for ammonia, pH, and temperature to achieve minimum levels (MLs) that are equivalent to or less than those listed in Table 5. The Permittee may request different MLs if its results have consistently been above the required MLs. Such a request must be in writing and must be approved by the EPA before the Permittee may use the revised MLs.
- All surface water monitoring results must be submitted to the EPA and to the CTWSR immediately following the month when the monitoring is conducted. The report must include a summary and evaluation of the analytical results and appropriate units for Ammonia Nitrogen as N (mg/L), pH (standard scale), and temperature (°C).

Table 5. Minimum Levels

Parameter	Minimum Level (ML)
Total Suspended Solids	5 mg/L
Ammonia Nitrogen as N	50 µg/L
pH	NA
Temperature	0.2 °C
Total Residue Chlorine	50 µg/L

The Permittee will develop and implement a Quality Assurance (QA) Plan for all required monitoring within 90 days of permit effectiveness. A list of the minimum requirements for details to be contained within the QA plan are outlined in the biological evaluation (BE). The Permittee will amend the QA plan if there is a modification in sampling procedure or analysis. The Permittee will also develop a best management practices (BMP) plan to assure compliance with water quality standards. The EPA provides an extensive list of BMPs including the following:

- Ensure proper storage of drugs and other chemicals.
- Implement procedures for dealing with spills.

- Routinely inspect and maintain rearing and holding units and waste collection and containment systems.
- Document feed amounts and numbers and weights of aquatic animals to calculate feed conversion ratios.
- Document the frequency of cleanings, inspections, maintenance, and repairs.
- Maintain records of all medicinal and therapeutic chemical usage for each treatment at the facility.
- Train personnel in spill prevention and structural inspection and maintenance.
- Fish feeding must be conducted in such a manner as to minimize the discharge of unconsumed food.
- Fish grading, harvesting, egg taking, cleaning, and other activities within ponds or raceways must be conducted in such a way as to minimize the discharge of accumulated solids and blood wastes.
- Dead fish must be removed and disposed of on a regular basis.
- Water used in the rearing and holding units or hauling trucks that is disinfected with chlorine or other chemicals must be treated before it is discharged to waters of the United States.
- Procedures must be implemented to prevent fish from entering quiescent zones and to minimize the release of diseased fish.
- All drugs and pesticides must be used in accordance with applicable label directions.
- Procedures must be identified and implemented to collect, store, and dispose of waste.
- Facilities must dispose of excess/unused disinfectants in a way that does not allow them to enter the channel.
- Facilities must implement procedures to eliminate the release of Polychlorinated Biphenyls.

The following chemicals are used at Warm Springs National Fish Hatchery and have the potential to be released to receiving waters containing Middle Columbia River (MCR) steelhead. All are disinfectants with the exception of Sodium chloride which is used as an anesthetic.

- Chlorine (not currently in use but could potentially be utilized in the event of disease outbreak)
- Chloramine-T
- Formalin (active ingredient: formaldehyde)
- Povidone-iodine
- Sodium chloride

The action area for this consultation encompasses the Warm Springs River for 300 feet downstream of the facility, and occupying a maximum of 25 percent of the width of the receiving water, where any effluent discharged will be reasonably certain to return to background levels.

Action Agency's Effects Determination

The EPA has determined that the proposed action “may affect” but is “not likely to adversely affect” MCR steelhead managed under NMFS authorities in Table 6 below, and their critical habitat.

Table 6. Federal Register notices for final rules that list threatened and endangered species, designated critical habitat, or apply protective regulations to listed species considered in this consultation

Species/Habitat	Listing Status	Critical Habitat	Protective Regulations
Middle Columbia River steelhead (<i>O. mykiss</i>)/Snake River Basin	T 5/26/16; 81 FR 33468	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160

Note: Listing status “T” means listed as threatened under the Endangered Species Act.

Consultation History

On July 25, 2018, the EPA contacted NMFS and began a series of communications to describe the proposed action. Information provided by the EPA included site photos, a PowerPoint presentation, and a BE from a similar action by the EPA. On August 23, 2018, we received the EPA’s request to initiate informal consultation on an NPDES permit for the Warm Springs National Fish Hatchery. Additional project details were obtained from the EPA and NMFS had sufficient information to proceed with consultation as of August 27, 2018.

ENDANGERED SPECIES ACT

Effects of the Action

Under the ESA, “effects of the action” means the direct and indirect effects of an action on the listed species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action (50 CFR 402.02). The applicable standard to find that a proposed action is NLAA listed species or critical habitat is that all of the effects of the action are expected to be discountable, insignificant, or completely beneficial. Beneficial effects are contemporaneous positive effects without any adverse effects to the species or critical habitat. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Discountable effects are those extremely unlikely to occur.

The issuance of an NPDES permit could potentially affect MCR steelhead through the discharge of pollutants to Warm Springs River. These pollutants could be attributed to: (1) feeds, directly or indirectly (feces); (2) residuals of drugs or chemicals used for maintenance or restoration of animal health; and (3) residuals of chemicals used for cleaning equipment or for maintaining or enhancing water quality conditions. Aquaculture facilities typically convey nutrients (nitrogen and phosphorus) and solids to receiving waters. These pollutants have the potential to contribute to a number of negative water quality impacts related to eutrophication—algal blooms, increased turbidity, low dissolved oxygen and associated stresses to stream biota, increased water treatment requirements for users downstream, changes in benthic fauna, and stimulation of harmful microbial activity. In the case of chlorine, exposure at high concentration may be toxic to invertebrates and salmonids of all life history stages.

Species Determination

It is highly unlikely that pollutant exposure will reach levels sufficient to have any significant effect on MCR steelhead. Injectable drugs, chemicals used for water testing, and medicated feeds do not represent a risk to listed species. Injected drugs are not released directly to the environment, are administered in small doses, and are largely metabolized by the recipient. Unmetabolized compounds released as feces have not been found to be harmful to stream biota. Medicated feeds are used sparingly in hatcheries and facilities are regularly cleansed of any unconsumed particles. Release of trace amounts of medicated feeds are expected to be episodic, transitory and therefore insignificant to MCR steelhead. Chemicals used to test water are not released to the stream and offer no exposure pathway or possibility of harm. Chemicals in use at Warm Springs Hatchery with the potential to be discharged (listed earlier) are also unlikely to have any adverse affect on salmonids or prey species.

The EPA determined that effects of hatchery release and subsequent potential exposure to chlorine, chloramine T, and formalin to be insignificant to aquatic species including rainbow trout. The EPA used the chronic no effect concentration (chronic NOEC) derived from rainbow trout to assess effects of exposure to MCR steelhead. The NOEC is defined as the highest concentration of a material in a standard laboratory toxicity test that has no statistically significant effect on the test organisms as compared with a control group. The EPA used standard procedures for estimating NOECs from other empirical data (such as acute LC50s, defined as the concentration necessary to kill 50 percent of exposed organisms). Evaluations were conducted under the worst case scenario—the lowest facility flow with maximum amount of chemical use and no dilution in receiving waters. Further, they assume chronic, long-term exposure for risk assessment when chemical use typically lasts for about 1 hour. The EPA also assessed risk with extended exposure of volatile chemicals which, in non-laboratory conditions, degrade rapidly when exposed to the environment. Even under these conservative assumptions, the estimated environmental concentration of chlorine, chloramine T, and formalin was found to be less than the calculated chronic NOEC for rainbow trout. In other words, MCR steelhead would not experience any adverse affects when exposed to hatchery effluent under permitted operations.

Povidone-iodine is the only chemical not used in water that flows through the hatchery raceways. Povidone-iodine is used to treat eggs after fertilization and, less commonly, to disinfect gear such as nets and boots. Egg treatment is infrequent (a few days per year) and uses small quantities of povidone-iodine. For gear treatment, containers of povidone-iodine solution are occasionally made available in certain areas of the hatchery and used as needed. This solution degrades over time as it is exposed to air. For both types of use, spent solution is often disposed of on land. Any povidone-iodine solution that enters surface waters is expected to have very low concentrations of potentially harmful chemicals (e.g., elemental iodine), and to become rapidly diluted near the point of discharge. For these reasons, effects to listed fish from exposure to povidone-iodine are expected to be insignificant.

Sodium chloride is used to calm fish and reduce stress during handling or transport, and/or to treat external parasites. This latter purpose mimics a natural behavior of salmonids, whereby fish

move between waters of differing salinities to rid themselves of external parasites. Hatchery use concentrations of sodium chloride are two to three times above naturally-occurring concentrations in freshwater. Fish dosed with these concentrations of sodium experience behavioral effects (reduced stress) but are not harmed by them. Discharges of sodium chloride will be diluted to an extent that they are undetectable outside of the action area. Effects to salmonids from exposure to sodium chloride are therefore insignificant.

Critical Habitat Determination

The designation(s) of critical habitat (for species) use(s) the term primary constituent element (PCE) or essential features. The new critical habitat regulations (81 FR 7414) replace this term with physical or biological features (PBFs). The shift in terminology does not change the approach used in conducting a “destruction or adverse modification” analysis, which is the same regardless of whether the original designation identified PCEs, PBFs, or essential features. In this opinion, we use the term PBF to mean PCE or essential feature, as appropriate for the specific critical habitat.

The action as proposed has the potential to affect the following PBFs: (1) Water Quality, and (2) Freshwater Rearing (Table 7). Any modification of these PBFs may affect rearing or migration in the action area. Proper function of these PBFs is necessary to support successful adult and juvenile migration, adult holding, and the growth and development of juvenile fish. All remaining PBFs would not be affected by the proposed action.

Table 7. Types of sites, essential physical and biological features (PBFs), and the species life stage each PBF supports.

Site	Essential Physical and Biological Features	Species Life Stage
Middle Columbia River (MCR) steelhead^a	--	--
Freshwater spawning	Water quality, water quantity, and substrate	Spawning, incubation, and larval development
Freshwater rearing	Water quantity and floodplain connectivity to form and maintain physical habitat conditions	Juvenile growth and mobility
Freshwater rearing	Water quality and forage ^b	Juvenile development
Freshwater rearing	Natural cover ^c	Juvenile mobility and survival
Freshwater migration	Free of artificial obstructions, water quality and quantity, and natural cover ^c	Juvenile and adult mobility and survival

^a Additional PBFs pertaining to estuarine, nearshore, and offshore marine areas have also been described for MCR steelhead. These PBFs will not be affected by the proposed action and have therefore not been described in this opinion.

^b Forage includes aquatic invertebrate and fish species that support growth and maturation.

^c Natural cover includes shade, large wood, log jams, beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.

^d Food applies to juvenile migration only.

The effects on water quality from effluent discharged from the hatchery facilities as discussed above, in relation to the species, are minor, and the introduction of rapidly-dispersed hatchery effluent into receiving water is of sufficiently low concentration that discharges will not impede

migration, degrade rearing habitat or alter any other physical or biological aspects of the habitat that serve fish in their migration corridors. Chemicals released to surface waters are disinfectants with short residence times in the environment, and are also unlikely to bioaccumulate into aquatic species serving as prey. Some invertebrates have a higher tolerance to chemical exposure than fish, particularly for the short term, and invertebrates were largely found not to be at risk from hatchery effluent. Given the ephemeral nature of exposure and the relatively benign character of the effluent constituents, plant life is also not expected to be adversely affected. Chemical release under the proposed BMPs is therefore not expected to reduce prey availability and forage opportunity.

Conclusion

Based on this analysis, NMFS concurs with the EPA that the proposed action is NLAA MCR steelhead and its designated critical habitat.

Reinitiation of Consultation

Reinitiation of consultation is required and shall be requested by EPA or by NMFS, where discretionary federal involvement or control over the action has been retained or is authorized by law, and (1) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered, (2) 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 this concurrence letter, or (3) if a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR 402.16). This concludes the ESA portion of this consultation.

“Section 7(a)(1) of the ESA directs federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of threatened and endangered species. The EPA also has the same responsibilities, and informal consultation offers action agencies an opportunity to address their conservation responsibilities under section 7(a)(1).” Please direct questions regarding this letter to Roman Pittman at the Columbia Basin Branch at (509) 962-8911 extension 804 or email at roman.pittman@noaa.gov.

Sincerely,



Barry A. Thom
Regional Administrator

cc: C. Gockel, EPA, Gockel.Catherine@epa.gov