



Fact Sheet

NPDES Permit Number: **WAG130000**

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The U.S. Environmental Protection Agency (EPA) Region 10

Proposes to Reissue a General Wastewater Discharge Permit
for Discharges from

**Federal Aquaculture Facilities and Aquaculture Facilities
Located in Indian Country within the Boundaries of Washington State**

EPA Proposes NPDES Permit Reissuance

The U.S. Environmental Protection Agency (EPA) proposes to reissue a National Pollutant Discharge Elimination System (NPDES) General Permit to establish conditions for the discharge of pollutants in wastewaters from federal fish hatcheries and from aquaculture facilities in Indian Country, as defined in 18 USC §1151, to waters of the United States within the boundaries of the State of Washington. In order to ensure protection of water quality and human health, the General Permit places limits on the types and amounts of pollutants that can be discharged and places other conditions on such activity. The General Permit does not provide coverage for net pen operations.

This Fact Sheet includes:

- information on public comment, public hearing, and appeal procedures;
- descriptions of the types of facilities and discharges covered under the General Permit;
- a listing of proposed effluent limitations and other conditions;
- a description of the specific facilities currently covered; and
- technical material supporting the conditions in the Permit.

Clean Water Act Section 401 Tribal and State Certification

Pursuant to Section 401 of the Clean Water Act (CWA), the EPA may not issue a final permit until the State or tribe (with Treatment as a State) where the discharge originates has granted or waived 401 certification. The State and tribes must either certify that the General Permit complies with State or tribal water quality standards, or waive certification before the final permit is reissued. The Washington tribes that EPA has approved for Treatment as State under the CWA are: Chehalis, Kalispel, Lummi, Makah, Port Gamble S'Klallam, Puyallup, Spokane, Swinomish, and Tulalip Tribes. As of the date of this Fact Sheet, no facilities covered by this General Permit discharge to waters of the Chehalis, Kalispel, Port Gamble S'Klallam, Puyallup, or Swinomish Tribes; however, since the permit covers all tribal waters in the State, the EPA is requesting Section 401 Certification for this General Permit from all Washington tribes with Treatment as a State under the CWA, as well as from the State of Washington Department of Ecology.

The EPA is requesting Section 401 Certification of the State of Washington Department of Ecology and of the Chehalis, Kalispel, Lummi, Makah, Port Gamble S'Klallam, Puyallup, Spokane, Swinomish, and Tulalip Tribes that the discharges will comply with the applicable water quality standards. The tribes and Ecology may, as a condition of final certification, require that the proposed permit include more stringent limitations or monitoring requirements needed to comply with the CWA or tribal or State law. The EPA is required to include any such limitation or requirement in the final permit.

The EPA will public notice the draft 401 certifications for this permit as part of this Fact Sheet during the public comment period. See Appendix D of this Fact Sheet for draft 401 certifications. Public comments may be submitted to these entities on their intent to certify the permit.

Comments regarding draft certifications should be directed to:

The applicable Tribes with Treatment as a State:

The Confederated Tribes of the Chehalis Reservation
Marla Conwell
P.O. Box 536
Oakville, WA 98568

Kalispel Indian Community of the Kalispel Reservation
Kenneth R. Merrill
Manager - Water Resources Program
Kalispel Tribe Natural Resources
PO Box 39, Usk, WA, 99180

Jeremy Freimund
Water Resources Manager
Lummi Natural Resources Department
2665 Kwina Road
Bellingham, WA 98226-9298

Aaron Parker
Makah Fisheries
150 Resort Drive
Neah Bay, WA 98357

Natural Resources Department
c/o Paul McCollum
Port Gamble S'Klallam Tribe
31912 Little Boston Road
Kingston, WA 98346

Puyallup Tribe
c/o Char Naylor (Environmental)
3009 E. Portland Ave
Tacoma, WA 98404

Spokane Tribe
Brian Crossley

Water & Fish Program
PO Box 480
Wellpinit WA 99040

Swinomish Indian Tribal Community
Department of Environmental Protection
c/o Todd Mitchell or Scott Andrews
11430 Moorage Way
LaConner, WA 98257

Kurt Nelson
Environmental Division Manager
Tulalip Tribes Natural and Cultural Resources Department
6406 Marine Dr.
Tulalip, WA 98271

Washington Department of Ecology:

Lori LeVander
Washington Department of Ecology
Northwest Regional Office
3190 – 160th Avenue SE
Bellevue, WA 98008-5452

Public Comment

Persons wishing to comment on, or request a Public Hearing for the draft General Permit may do so in writing by the expiration date of the Public Comment period. A request for a Public Hearing must state the nature of the issues to be raised as well as the requester's name, address and telephone number. All comments and requests for Public Hearings must be in writing and should be submitted to the EPA as described in the Public Comments Section of the Public Notice.

By the expiration date of the public comment period, all written comments and requests must be submitted to the attention of the EPA Regional Director, Office of Water and Watersheds at the following address:

U.S. EPA, Region 10, 1200 6th Avenue, Suite 900, OWW-191, Seattle, WA 98101

Alternatively, by the expiration date of the public comment period, comments may be submitted by facsimile to (206) 553-0165; or submitted via e-mail to Catherine Gockel at gockel.catherine@epa.gov.

Documents Are Available for Review.

The draft permit and fact sheet can be found on the EPA Region 10 website at <http://yosemite.epa.gov/R10/WATER.NSF/NPDES+Permits/General+NPDES+Permits>

The draft General Permit and Fact Sheet can also be reviewed at EPA's Regional Office in Seattle between 8:30 a.m. and 4:00 p.m., Monday through Friday at the address below:

U.S. Environmental Protection Agency Region 10
1200 Sixth Avenue
Seattle, Washington 98101
(206) 553-0523 or
Toll Free 1-800-424-4372 (within Alaska, Idaho, Oregon and Washington)

These materials are also available for public review and copying at the following state and tribal offices:

Washington State Department of Ecology
300 Desmond Drive
Lacey, WA 98503-1274

Northwest Indian Fisheries Commission
6730 Martin Way East
Olympia, WA 98516

For technical questions regarding the General Permit or fact sheet, contact Catherine Gockel at the phone number or e-mail address at the top of this fact sheet. Services can be made available to persons with disabilities by contacting Audrey Washington at (206) 553-0523.

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I. INTRODUCTION

A. Industry Description

At 40 CFR §122.24, the U.S. Environmental Protection Agency (EPA) defines concentrated aquatic animal production (CAAP) facilities as point sources subject to the National Pollutant Discharge Elimination System (NPDES) permit program and further defines such a facility as a hatchery, fish farm, or other facility that contains, grows, or holds:

Cold water fish species or other cold water aquatic animals in ponds, raceways, or other similar structures which discharge at least thirty days per year, but does not include:

- a. Facilities that produce less than 20,000 harvest weight pounds of aquatic animals per year, and
- b. Facilities that feed less than 5,000 pounds of food during the calendar month of maximum feeding.

Warm water fish species or other warm water aquatic animals in ponds, raceways, or other similar structures which discharge at least 30 days per year, but does not include:

- a. Closed ponds which discharge only during periods of excess runoff; or
- b. Facilities which produce less than 100,000 harvest weight pounds of aquatic animals per year.

Cold water aquatic animals include, but are not limited to, the Salmonidae family of fish, e.g. trout and salmon. Warm water aquatic animals include, but are not limited to, the Ameiuride, Centrarchidae and Cyprinidae families of fish, e.g., respectively, catfish, sunfish and minnows.

The draft General Permit will apply to facilities that meet the definition of CAAP facility that produce or hold *cold water species*. The permit will not authorize discharges from a CAAP facility that produces or holds warm water species.

The terms “aquaculture facility” and “hatchery” are used interchangeably to be synonymous with “CAAP facility.”

Aquaculture facilities may use one of several types of production systems, including ponds, flow-through systems, and recirculating systems. Infrequent discharges may occur as a result of a storm event or draining for harvest or repairs. Due to decomposition of biological material and settling of solids (feces, uneaten feed, and sediment), ponds are capable of treating and removing pollutants in the water; and when discharges occur, pollutant loads are often relatively low because of the settling that has taken place within the pond. Management practices to minimize the discharge of pollutants from pond systems focus on minimizing disturbance of sediments, reducing drainage frequency, managing water levels, minimizing erosion in and around pond banks, feed management, and the proper use and storage of

chemicals and therapeutic agents.

Flow-through production systems provide an environment that imitates the natural environment. In such systems, fresh water, diverted from streams and/or wells, enters continuously at the top of the system near the water source. Smaller, younger fish are typically held at the top of the system near the water source, which provides the highest quality water. As fish grow, they can tolerate lower quality water, and they are moved to downstream units. Some flow-through systems are full-flow, discharging a single combined effluent stream with large water volumes and dilute pollutant concentrations. Others have two or more discharge streams, with the primary discharge from the flow-through production units, and smaller discharges from off-line settling basins. The most significant pollutants discharged from flow-through systems are solids from uneaten feed and feces, which are primarily organic matter with high 5-day biochemical oxygen demand (BOD₅), if not properly treated, and organic nitrogen and phosphorus content.

Recirculating production systems utilize tanks with continuously flowing water and side stream treatment technologies, which continuously treat a portion of the flow and return it to the production system.

Net pen and open water systems take advantage of an existing water body's circulation to disperse wastes and bring fresh water to the animals. Net pens, which are used primarily to grow finfish to suitable size for release or harvest, are typically suspended from a floating structure and anchored to the sea or lake bottom, while allowing some movement with tides and currents. In such systems, uneaten feed and feces add solids, BOD₅, nutrients, and drugs or other chemicals that are applied to the fish directly to the water column. *Net pens are not covered under this General Permit.*

B. Characterization of Discharges

Aquaculture facilities may discharge a variety of pollutants 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 may generate and/or contribute significant amounts of 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 addition, the potential discharge of chemical and drug residuals raises concerns for deleterious effects on biota and on subsequent human consumers of fish or water.

In order to determine pollutants of concern for further analysis, EPA evaluated Permittee's Discharge Monitoring Reports (DMRs), annual reports, and NOIs submitted by the facilities. The EPA also reviewed the CAAP effluent limitation guidelines (ELGs), performed site visits to 18 of the facilities covered by the General Permit, and interviewed hatchery

managers and/or enhancement biologists at all 25 facilities to learn more about hatchery operations and discharged pollutants. Based on the EPA's analysis, the pollutants of concern for this General Permit are: BODs, total suspended solids, settleable solids, nutrients, ammonia, and chlorine.

The U.S. Food and Drug Administration (FDA) Center for Veterinary Medicine regulates animal drugs under the Federal Food, Drug, and Cosmetic Act (FFDCA). Extensive toxicity studies are required prior to drug approval from the FDA; however, limited data on potential environmental effects are available for some medications that are currently authorized for investigational use; and limited data are available characterizing the ecological significance of releases of drugs and chemicals at aquaculture facilities in the United States. The EPA recognizes, however, the general concerns with residual antibiotics and pesticides in the environment. Such residual materials may pollute receiving waters and immunize the organisms they are designed to control. These effects can be distributed well outside of the original areas of application. In addition, chemicals can harm aquatic organisms in receiving waters, depending on the rates applied and the rate of breakdown of the product or of the active ingredient. The EPA's Biological Evaluation for this General Permit includes an ecological risk assessment of the drugs and chemicals likely to be discharged from WAG130000 facilities.

Aquaculture facilities are not considered to be significant sources of pathogens that affect human health.

C. General Permits

Section 301(a) of the Clean Water Act (CWA), 33 USC § 1311(a), provides that the discharge of pollutants to waters of the U.S. is unlawful except in accordance with terms and conditions of an NPDES permit. The EPA's implementing regulations at 40 CFR 122.28, authorize the issuance of general permits to categories of discharges.

In accordance with 40 CFR 122.28, the Director is authorized to issue a general permit to numerous facilities when the facilities:

- Are located within the same geographic area;
- Involve the same or substantially similar types of operations;
- Discharge the same types of waste;
- Require the same effluent limits or operating conditions;
- Require the same or similar treatment technologies or monitoring requirements, and
- In the opinion of the EPA, are more appropriately controlled under a general permit rather than an individual permit.

The EPA is reissuing this draft General Permit for federal aquaculture facilities and aquaculture facilities discharging to tribal waters within the boundaries of the State of Washington pursuant to EPA's authority under CWA Section 402. The draft permit meets the criteria for general permits as follows:

Geographic area

The geographic area of coverage is within the outer boundaries of Washington State; numerous facilities are also in Indian Country. Many of the federal facilities that are included in this permit are located outside Indian Country within the State of Washington. EPA retains the authority to administer the NPDES program in Indian Country, as defined in 18 USC § 1151, and for federal facilities in Washington State.

Involves the Same or Substantially Similar Types of Operations

The facilities covered by this permit involve the same or substantially similar types of operations. See descriptions in section I.A., above.

Discharge the Same Types of Waste

The facilities covered by this permit discharge the same types of waste. See a characterization of the discharge in section I.B., above.

Same Effluent Limits or Operating Conditions

The draft general permit proposes the same effluent limits, monitoring requirements and other operating conditions for all aquaculture dischargers covered by the permit, except where a wasteload allocation is required.

Same or Similar Treatment Technologies or Monitoring Requirements

Although the draft General Permit does not propose the use of specific treatment technologies, upland aquaculture sites typically employ similar treatment technologies and waste management practices, such as settling basins, quiescent zones, and solids disposal. The draft permit's monitoring requirements are the same for all WAG130000 facilities.

Appropriateness

Because of the factors discussed above, the EPA has determined that the majority of the federal aquaculture facilities and aquaculture facilities that discharge to Indian Country within the boundaries of Washington are more appropriately controlled under a general permit than under individual NPDES permits. The similarity of the operations, the technologies used to manage wastes generated by these facilities, and the resulting discharge of similar waste types has prompted the EPA to reissue this General Permit. EPA has determined that upland aquaculture facilities involve similar enough facilities and discharges that they may be appropriately covered under a General Permit.

D. Permit History

The previous permit became effective on August 1, 2009 and expired on July 31, 2014. All of the facilities covered by the permit currently have an EPA administrative extension of coverage under the expired permit. The reissuance of this General Permit will replace the 2009 General Permit. The permit number will remain the same (i.e., WAG130000).

WAG130000 facilities are generally in compliance with permit limits, often by a comfortable margin. During the course of permit development, the EPA performed site visits at 18 of the 25 covered facilities and interviewed all 25 hatchery managers about their operations, waste management, and chemical use. In general, hatchery managers reported that the current permit was working well and that they were able to meet the permit requirements.

E. Summary of Major Changes from Previous Permit

The EPA proposes several changes in this draft General Permit. These changes are summarized below and further discussed in the referenced Permit and Fact Sheet sections.

Table 1. Summary of Major Changes Proposed in General Permit WAG130000

Permit Section	Fact Sheet Section	Draft Permit Conditions
Effluent Limitations	Proposed Effluent Limitations and Requirements	Temperature limit for the Skookum Creek Fish Hatchery based a wasteload allocation in the South Fork Nooksack River draft TMDL. If the TMDL is finalized and approved by the EPA prior to the reissuance of this General Permit, the final permit will include a temperature permit limit based on the wasteload allocation for the facility.
Monitoring Requirements	Monitoring Requirements and Reporting Requirements	Monthly total residual chlorine monitoring, including when Chloramine-T is in use. Continuous temperature monitoring for facilities that discharge into receiving waters impaired for temperature. PCB monitoring for facilities in the Spokane watershed (WRIAs 54 and 57).
Best Management Practices (BMP) Plan	Best Management Practices (BMP) Plan	A BMP requirement regarding excess/unused disinfectant disposal. A BMP requirement to implement procedures to eliminate the release of PCBs from known sources in the facility. A BMP requirement that facilities maintain records to determine the elapsed time from the application of an aquaculture chemical to its maximum effluent concentration.

Notice of Intent (NOI)	Notice of Intent (NOI)	Revised NOI fillable form.
Annual Report	Annual Report	Revised Annual Report fillable form.
Reporting of Monitoring Results	NA- See permit	A requirement for the use of NetDMR, which enables the electronic submission of monitoring data to the EPA.

II. APPLICABILITY AND COVERAGE

A. Facilities and Discharges Covered

The General Permit will apply to all federal aquaculture facilities that discharge to waters of the United States and all aquaculture facilities that are located in Indian Country within the boundaries of the State of Washington. A map and a list of facilities covered under this permit at the time of permit issuance are included in Appendix A of the draft permit.

The NPDES regulations define when a CAAP facility is a point source subject to the NPDES permit program. A facility is a CAAP if it grows or holds cold water aquatic animals in ponds, raceways, or other similar structures which discharge at least 30 days per year, but does not include: facilities which produce less than approximately 20,000 harvest weight pounds per year; and facilities which feed less than 5,000 pounds during the calendar month of maximum feeding. See 40 CFR 122.24.

Aquaculture facilities will be eligible for coverage under the General Permit regardless of the type of cold water species being reared, type of production system, or whether discharges are to fresh or marine waters provided that the facility operates for at least 30 days per year, holds at least 20,000 pounds of fish at their maximum, and feeds at least 5,000 pounds of feed in the maximum month of feeding. Acclimation ponds need permit coverage if they meet or exceed these thresholds.

Facilities that the EPA has designated as significant contributors of pollution will also be authorized to discharge under this General Permit. This General Permit applies only to cold water facilities.

B. Facilities and Discharges Excluded from Coverage

A facility with any of the following types of discharges *cannot* be covered under this permit and must apply for an individual NPDES permit:

1. Discharges from aquaculture facilities that hold less than 20,000 pounds of fish at their maximum or whose month of maximum feeding is less than 5,000 pounds, unless they are designated significant contributors of pollution by the EPA.

Facilities operating below the thresholds for permit coverage may submit production

information to request confirmation regarding the applicability of an NPDES permit. If the EPA receives such a letter requesting to be excluded from coverage, the EPA will then review the production data provided by that facility to determine whether it exceeds the thresholds for permit coverage. If appropriate, the EPA will send the facility a letter confirming that it does not need NPDES permit coverage at that time. If a facility operates below the CAAP threshold but even for a short time increases production, causing the facility to exceed the CAAP thresholds, the facility would be subject to the NPDES regulations. If the facility exceeds the thresholds and does not obtain permit coverage, it may be found liable under the CWA. The facility's owners/operators are responsible for determining whether the facility needs permit coverage. However, the EPA can designate an aquaculture facility as a significant contributor of pollution even if they are below the thresholds listed above.

2. Discharges that do not consist solely of effluent from aquaculture facilities. If a discharge from an aquaculture facility mixes with other wastewater (e.g., domestic wastewater) prior to being discharged, the combined discharge is not covered;

Discharges from facilities where an NPDES permit has been terminated or denied until the EPA expressly issues an authorization to discharge;

3. Discharges that contribute to, or may reasonably be expected to contribute to, a violation of an applicable water quality standard;

4. Discharges to impaired waters, designated as such pursuant to Section 303(d) of the CWA, which are water-quality limited for a pollutant of concern evaluated in the development of this permit (BOD5, total suspended solids, settleable solids, nutrients, ammonia, and chlorine), unless a wasteload allocation (WLA) has been given to the facility in a TMDL and is applied in this permit. There are no facilities discharging to waters impaired for pollutants of concern. In this draft permit, no such WLAs have been applied. However, the EPA has proposed temperature limits for one facility in accordance with a draft TMDL (see section V.D.1.d. of this Fact Sheet).

If a waterbody to which an existing Permittee discharges becomes impaired during the next permit cycle, the Permittee may submit information to the EPA that demonstrates that the discharge is not expected to cause or contribute to an exceedance of water quality standards. Then, the EPA will determine 1) whether the discharge would cause or contribute to an exceedance or impairment, and 2) whether the facility may remain covered under this General Permit in future permit cycles or if an individual permit is needed. New dischargers to impaired waterbodies are not eligible under this General Permit, and must seek permit coverage under an individual permit.

5. Discharges from processes not associated with fish hatcheries or farms;

6. Discharges from fish hatchery or farm processes where the General Permit does not adequately address the environmental concerns associated with the discharge, as

determined by the EPA at the time a discharger seeks coverage under the General Permit;

7. Discharges to land or to publicly owned treatment works;
8. Discharges to waters that constitute an outstanding national resource, such as waters of national and state parks and wildlife refuges and waters of exceptional recreational or ecological significance¹;
9. Discharges to waters that constitute special resource waters in Indian Country -- waters that comprise a special and/or a unique resource to the Reservation.

C. Permit Expiration and Continuation of Permit Coverage

In accordance with 40 CFR 122.46(a), NPDES permits must be effective for a fixed term not to exceed five (5) years. Therefore, this General Permit will expire five years from the effective date of the final permit. If the General Permit is not reissued prior to the expiration date, it may be eligible for an administrative extension of coverage in accordance with the Administrative Procedures Act (APA) and will remain in full force. However, the EPA cannot provide administrative extension of coverage under this General Permit to any Permittee who submits the NOI for administrative continuance of coverage to the EPA *after* the permit expiration date.

Therefore, prior to the expiration date, any Permittee granted coverage under this reissued General Permit, that submits a complete NOI for administrative continuance of coverage within the proper time frame, will remain covered by this General Permit until the earlier of:

- Authorization for coverage under the reissued General Permit;
- The Permittee's submittal of a Notice of Termination;
- The issuance of an individual NPDES permit; or,
- A formal permit decision by the Director not to reissue this General Permit, at which time the Permittee must seek coverage under an alternative general or individual permit (Part VIII.B. of the General Permit, "Duty to Reapply").

III. NOTICE OF INTENT (NOI) REQUIREMENTS

A. NOI Submittal

All of the facilities covered under the previous General Permit have already submitted the necessary information to be covered under this General Permit. These facilities are not required to reapply at this time. Once this permit has been reissued, the EPA will send these facilities a letter that authorizes them to discharge.

New dischargers seeking coverage under the General Permit must submit a written application

¹ As of the date of this permit, no outstanding national resource waters have been designated within the boundaries of Washington State.

(also referred to as a Notice of Intent, or NOI) to be covered by the General Permit. In accordance with 40 CFR 122.28(b)(2)(i), any discharger who fails to submit a timely and complete NOI in accordance with the terms of a general permit is not authorized to discharge under the General Permit. A complete and timely NOI fulfills the requirements of a permit application for purposes of 40 CFR 122.6 and 122.21.

The required contents of the NOI are specified in Appendix A of the General Permit. It requires submittal of information necessary for adequate permit administration and development, including the legal name and address of the owner or operator, the facility name and location, the type of facility or discharge, the receiving water body, and information about drugs and chemicals discharged by the facility. All NOIs must be signed in accordance with the certification requirements at 40 CFR §122.22.

The EPA has revised the NOI requirements and fillable form to include additional information required for the next permit issuance. The revised NOI requirements include information about the following: satellite facilities and operations that are part of the hatchery program, expansions or upgrades to the facility, water bodies to which fish are released, settling basins, and drug and chemical use. The EPA has made similar adjustments to the requirements and fillable form for the Annual Reports. Permittees are not required to use the EPA's fillable forms for the NOI and annual reports, but submittals will be deemed incomplete if any of the required information is missing.

B. Notification Requirements

When an aquaculture facility is owned by one person or entity, and is operated by another person or entity, it is the operator's responsibility to apply for and obtain permit coverage [40 CFR 122.21(b)]. For owners/operators of multiple CAAP facilities, a separate NOI must be completed for each facility.

C. Authorization to Discharge

Facilities seeking coverage will be authorized to discharge as of the date of the written notification that the EPA has granted coverage under the reissued General Permit. The state or tribal certification will be attached to the EPA's written authorization, as necessary.

D. Notice of Termination of Discharge

In accordance with 40 CFR 122.64, the EPA may terminate coverage or deny a renewal of coverage under the General Permit, for the following reasons:

- Noncompliance by the Permittee with any condition of the permit;
- The Permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the Permittee's misrepresentation of any relevant facts at any time;
- A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or

- A change in any condition that requires either a temporary or permanent reduction or elimination of any discharge or sludge use or disposal practice controlled by the permit (for example, plant closure or termination of discharge by connection to a POTW).

The Permittee may also request termination of coverage under the General Permit in accordance with 40 CFR 122.64 and 122.22(d). The request must include a certification that the Permittee is not subject to any pending State or Federal enforcement actions including citizen suits brought under State or Federal law. The notification must be in writing and signed in accordance with the signatory requirements identified in 40 CFR 122.22. The notification must include the date that the discharger ceased operation, and the permit number assigned by the EPA. In cases of temporary shutdowns, a facility should not submit a notice of discharge termination, as this action results in the termination of NPDES coverage.

Termination of permit coverage under the General Permit will become effective 30 days after the Permittee receives written notification from the EPA.

E. Individual Permits

Owners or operators meeting the criteria for coverage by the General Permit may request to be excluded from coverage by applying to the EPA Region 10 the Office of Water and Watersheds for an individual permit. This request must be made by submitting an NPDES permit application, together with supporting documentation, at least 180 days prior to expiration of an individual permit or at least 180 days prior to the commencement of operation of a new source or new discharge.

Under the provisions of 40 CFR §122.28(b)(3)(i), the EPA may require an owner or operator seeking authorization or authorized by the General Permit to apply for and obtain an individual permit in the following circumstances:

1. Whenever the discharger is not in compliance with the conditions of the General Permit;
2. Whenever a change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source;
3. If a water quality management plan containing requirements applicable to such point source is approved; or
4. If circumstances have changed since the time of request to be covered, so that the discharger is no longer appropriately controlled under the General Permit, or either a

temporary or permanent reduction or elimination of the authorized discharge is necessary; or

5. If the discharge is a significant contributor of pollutants, taking into account the location and size of the discharge and the quantity and nature of the pollutants.

IV. RECEIVING WATERS

Receiving waters for Permittees under this General Permit are Waters of the United States located in Indian Country and waters of the State of Washington (which are also Waters of the U.S.) where federal facilities discharge directly to state waters.

States, including eligible Indian Tribes, establish water quality standards for receiving waters within their jurisdictions. Water quality standards are composed of designated beneficial water uses to be achieved and protected, as well as water quality criteria necessary to protect designated uses. Under the provisions of 40 CFR §131.10, the EPA requires states and eligible Indian Tribes to specify appropriate water uses to be achieved and protected. In designating uses of a water body and the appropriate criteria for those uses, states and eligible Indian Tribes must take into consideration the water quality standards of downstream waters and must ensure that its water quality standards provide for attainment and maintenance of the water quality standards of downstream waters.

A. Tribal Water Quality Standards

A number of tribes within the State of Washington have developed water quality standards. The EPA has approved water quality standards for the Chehalis, Kalispel, Lummi, Makah, Port Gamble S'Klallam, Puyallup, and Spokane Tribes. The EPA has also promulgated standards for the Confederated Tribes of the Colville Reservation. These standards, applicable to waters within the respective reservations, describe use classifications and the applicable water quality criteria. In addition, the EPA has authorized the Swinomish Indians and the Tulalip Tribes to administer their own water quality standards program, though the EPA has not yet approved water quality standards for these tribes. The EPA has reviewed all of the EPA-approved tribal water quality standards within Washington State and believes that this General Permit will be protective of tribal waters. The EPA has also reviewed the Yakama Nation and Tulalip Tribes' tribally approved water quality standards and believes that the General Permit will also be protective of these waters. For the parameters that are pertinent to this General Permit, tribal water quality standards are either identical or very similar to those of Washington State, and do not require modification of permit conditions.

B. Washington State Water Quality Standards

In developing the General Permit, the EPA has also given consideration to water quality standards of the State of Washington, Chapter 173-201A of the Washington Administrative Code, because these standards are applicable to the receiving waters for most of the federal facilities or to waters downstream from many of the aquaculture facilities authorized to discharge under the General Permit.

Washington State standards at Washington Administrative Code (WAC) 173-201A-200 (fresh water) and WAC 173-201A-210 (marine water) establish aquatic life, recreation, water supply, shellfish harvesting, and miscellaneous uses, and those at WAC 173-201A-600 (fresh water) and WAC 173-201A-610 (marine water) designate uses for specific waters in the State. In accordance with WAC 173-201A-600, all fresh waters without specific use designations are to be protected for the designated uses of: salmonid spawning, rearing, and migration; primary contact recreation; domestic, industrial, and agricultural water supply; stock watering; wildlife habitat; harvesting; commerce and navigation; boating; and aesthetic values. The EPA has written this General Permit to be protective of these uses.

C. Total Maximum Daily Loads (TMDLs)

Section 303(d) of the CWA requires states and eligible Indian Tribes to identify specific water bodies where water quality standards are not met or not expected to be met after implementation of technology-based effluent limitations on point sources. For all 303(d)-listed water bodies and pollutants, the State or Tribe must develop and adopt Total Maximum Daily Loads (TMDLs) that will specify wasteload allocations (WLAs) for specific pollutants for point sources and load allocations for non-point sources of pollutants, as appropriate. WLAs are implemented through effluent limitations in NPDES permits. Effluent limitations for point sources must be consistent with applicable TMDL allocations.

The EPA has approved the State of Washington's December 21, 2012 303(d) list of impaired water bodies, which is available online at <http://www.ecy.wa.gov/programs/Wq/303d/currentassessmt.html>. Certain receiving waters in the State that do not fully support beneficial uses have been scheduled for TMDL development. The extensive 303(d) list is not presented in this Fact Sheet; however, it must be consulted by applicants discharging to State waters because information about the status of the water quality in the receiving stream and any assigned wasteload allocations (WLAs) must be included in the NOI. As of the date of this Fact Sheet, there are no applicable WLAs for facilities currently covered by this General Permit. There are no Washington tribes with 303(d) lists.

V. RATIONALE FOR EFFLUENT LIMITATIONS

A. General Approach to Determining Effluent Limitations

Section 301(a) of the CWA, 33 USC § 1311(a), prohibits the discharge of pollutants to waters of the U.S. unless the discharger is authorized pursuant to an NPDES permit. CWA § 402, 33 USC § 1342, authorize the EPA, or an approved state or tribal NPDES program, to issue an NPDES permit authorizing discharges subject to limitations and requirements imposed pursuant to CWA Sections 301, 304, 306, 401 and 403, 33 USC §§ 1311, 1314, 1316, 1341 and 1343.

In general, the CWA requires that the limits for a particular pollutant be the more stringent of either technology-based effluent limits (TBELs) or water quality-based effluent limits (WQBELs). TBELs are set according to the level of treatment that is achievable using available technology. WQBELs are designed to ensure that the state adopted, EPA approved, water quality standards of a waterbody are being met and they may be more stringent than TBELs.

The EPA first determines which TBELs apply to a discharge in accordance with applicable national effluent limitation guidelines (ELGs) and standards. The EPA further determines which WQBELs apply to a discharge based upon an assessment of the pollutants discharged and a review of state water quality standards. Monitoring requirements must also be included in the permit to determine compliance with effluent limitations. Effluent and ambient monitoring may also be required to gather data for future effluent limitations or to monitor effluent impacts on receiving water quality.

The EPA has evaluated possible discharges from aquaculture facilities with respect to these sections of the CWA and relevant NPDES implementing regulations to determine what conditions and requirements to include in the draft permit. The derivation of technology based and water quality based effluent limits for the proposed permit is described in detail in Appendix B of this Fact Sheet.

B. Evaluation of Technology-Based Limitations

Section 301(b) of the CWA requires industrial dischargers to meet technology-based effluent guidelines, established by the EPA, which are enforceable through their incorporation into NPDES permits. The intent of a technology-based effluent limitation (TBEL) is to require a minimum level of treatment for industrial point sources based on currently available treatment technologies while allowing a discharger to choose and use any available control technique to meet the limitations. Accordingly, every individual member of a discharge class or category is required to operate their water pollution control technologies according to industry-wide standards and accepted engineering practices.

The TBELs in the draft permit are identical to the 2009 General Permit. In developing the TBELs for the 2009 General Permit, EPA considered the following: the ELGs for CAAP facilities, the precedent set by the Upland Fin-fish Hatching and Rearing NPDES General Permit issued Ecology (see the most recent permit at http://www.ecy.wa.gov/programs/wq/permits/fin_fish/index.html) and Ecology's technology-based, minimum discharge standards for upland and marine finfish facilities at WAC 173-221A-100 and WAC 173-221A-110. Limitations and other requirements of these guidelines, standards, regulations, and permit are described below. In addition, the EPA considered the precedent set by the Idaho Aquaculture General Permits numbered IDG130000 and IDG131000 (issued by the EPA Region 10 on October 25, 2007, and effective December 1, 2007)².

In developing TBELs for the draft permit, the EPA reviewed DMRs from facilities covered by the 2009 General Permit, and feedback from personal communications with aquaculture operators covered by the 2009 General Permit. In general, facilities were in compliance with the limits the 2009 General Permit during the last permit cycle. The EPA has no new information

² See <http://yosemite.epa.gov/r10/water.nsf/npdes+permits/general+npdes+permits/#Aquaculture>.

that would justify different TBELs, and does not propose any revisions to the TBELs from the 2009 General Permit. See Appendix B of this Fact Sheet for a detailed discussion on the basis for effluent limitations for this General Permit.

I. Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category. 40 CFR Part 451.

On August 23, 2004, the EPA published in the Federal Register technology-based Effluent Limitations Guidelines (ELG) for the Concentrated Aquatic Animal Production Point Source Category. These regulations, codified at 40 CFR Part 451, became effective on September 23, 2004.

CAAP facilities are point sources and subject to NPDES permits. A hatchery, fish farm, or other facility is considered a CAAP facility if it grows, contains, or holds, aquatic animals in either of two categories: cold water species or warm water species. The cold water species category includes facilities where animals are produced in ponds, raceways, or other similar structures that discharge at least 30 days per year, but does not include facilities that produce less than approximately 9,090 harvest weight kg (approximately 20,000 lb) of aquatic animals per year. It also does not include facilities that feed less than 2,272 kg (approximately 5,000 lb) of food during the calendar month of maximum feeding.

Although the NPDES permit program applies to all discharges from CAAP facilities, as defined at 40 CFR §122.24, only those facilities that produce, hold, or contain 100,000 pounds or more of fish during any twelve month period are subject to the ELGs for the CAAP Point Source Category. The ELGs include narrative effluent limitations for flow-through and recirculating production facilities and for net pen production facilities, as well as general reporting requirements for all facilities subject to the rule. The ELGs do not include any numerical limitations for specific pollutants.

The requirements of these guidelines and standards were used in developing the technology-based limitations for the 2009 General Permit, even though the guidelines themselves do not apply to facilities producing less than 100,000 pounds of cold-water species per year. Since the ELGs apply best management practices and certain reporting practices in lieu of numeric standards, the EPA Region 10 determined under the provisions of best professional judgment (BPJ) that their implementation for smaller facilities is not overly burdensome and provides an important level of protection for the receiving waters.

ELGs

- a. Under the ELGs at 40 CFR §451.3, all dischargers that produce above 100,000 pounds annually must report the following events to the permitting authority:

(1) The use of an investigational new animal drug (INAD) or any extra-label drug, which may lead to the discharge of the drug to Waters of the United States. This

reporting is not required for an INAD or an extra-label drug that has been previously approved by the Food and Drug Administration (FDA) for a different species or disease, if it is used at or below the previously approved dose rate and involves similar conditions of use.

(2) Failure of or damage to a containment system that results in unanticipated discharges of pollutants to waters of the U.S.

(3) Spills of drugs, pesticides, or feed that result in discharges to waters of the U.S.

b. Under the ELGs at 40 CFR §§451.3(d) and 451.11(a) through (e), dischargers utilizing flow-through and recirculating systems must develop and maintain a BMP Plan, which addresses the following activities at the facility. These management practices represent the application of BPT, BAT, BCT, and NSPS for the industry.

(1) Solids control. The discharger must employ efficient feed management and feeding strategies; identify and implement procedures for routine cleaning of rearing units and off-line settling basins, and procedures to minimize any discharge of accumulated solids during the inventorying, grading, and harvesting of aquatic animals in the production system; and remove and dispose of aquatic animal mortalities on a regular basis.

(2) Materials storage. The discharger must properly store drugs, pesticides, and feed in a manner to prevent spills, and implement procedures for containing, cleaning, and disposing of any spilled material.

(3) Structural maintenance. The discharger must inspect, conduct regular maintenance of, and repair the production and wastewater treatment systems on a routine basis.

(4) Recordkeeping. The discharger must document feed amounts and numbers and weights of aquatic animals to calculate feed conversion ratios, and document the frequency of cleanings, inspections, maintenance, and repairs.

(5) Training. The discharger must train personnel in spill prevention and response and on the proper operation and cleaning of production and wastewater treatment systems.

In the process of developing the ELGs, the EPA did not include specific numeric limitations in the ELGs for any pollutants of concern, believing that BMPs would provide acceptable control of these pollutants. The EPA did conclude during the development of the ELGs that control of suspended solids would also effectively control concentrations of other pollutants of concern, such as BOD₅, because other pollutants are either bound to the solids or are incorporated into them. Although certain bacteria are found at high levels in effluents from settling basins, the EPA concluded that disinfection is not economically achievable.

2. State of Washington, Wastewater Discharge Standards and Effluent Limitations for Upland Finfish Facilities, Washington Administrative Code (WAC) §173-221A-100

The State of Washington requires wastes to be provided with all known, available, and reasonable treatment (AKART) methods of treatment prior to their discharge or entry into

waters of the State, regardless of the quality of water to which wastes are discharged or proposed for discharge, and regardless of the minimum water quality standards established for those waters (Wash. Rev. Code § 90.52.040). To implement this requirement, the Washington Department of Ecology (Ecology) established the following technology-based effluent limitations for the upland finfish industry (WAC 173-221A-100) and for marine finfish rearing facilities (WAC 173-221A-110).

- a. Ecology requires permits for upland finfish facilities (defined as facilities not located within waters of the State, where finfish are hatched, fed, nurtured, held, maintained, or reared to reach the size of release or for market sale), which:
 - (1) produce more than 20,000 pounds (net) per year, or
 - (2) feed more than 5,000 pounds of fish food during any calendar month, or
 - (3) are designated as a significant contributor of pollution by Ecology in accordance with 40 CFR §122.24.
- b. The limits in Tables 1 and 2 apply to upland finfish facilities under Ecology’s jurisdiction. Those in Table 1 apply to the total facility discharge from upland facilities except those addressed in Table 2, which covers separate discharges to surface water from off-line settling basins (OLSBs) and discharges from pond systems during harvest or fish release.

Table 2 Washington State Effluent Limitations for Discharges from Upland Facilities (Except Those Discharges with Limits in Table 3)		
Pollutant	Monthly Average	Instantaneous Maximum
Net Suspended Solids (mg/L)	5	15
Net Settleable Solids (ml/L)	0.1	-

Table 3 Washington State Effluent Limits for Off-line Settling Basins and for Pond System Discharges during Harvest or Fish Release		
Pollutant	Removal Efficiency¹	Instantaneous Maximum
Net Suspended Solids	85 %	100 mg/L
Net Settleable Solids	90 %	1.0 ml/L

¹ Applies only to off-line settling systems.

c. Ecology also requires the following general practices of all upland facilities.

- (1) *Sand, silt, mud, solids, sludges, filter backwash, debris, or other pollutants deposited or removed in the course of treatment must be disposed of in a manner to prevent such materials from entering waters of the State.*
- (2) *The discharge of untreated cleaning waste to waters of the State is prohibited.*
- (3) *The intentional discharge or sweeping of accumulated solids from raceways or ponds to waters of the State without treatment is prohibited.*
- (4) *Practices, such as removing dam boards in raceways or ponds, that allow accumulated solids to discharge to waters of the State, are prohibited.*
- (5) *Disease control chemicals and drugs*
 - (a) must be approved by the Food and Drug Administration and/or the EPA for hatchery use, and
 - (b) such materials must be used in conformance with label instructions unless they are used under the supervision of a veterinarian after advance approval of Ecology.
- (6) *Fish mortalities, kill spawning, processing wastes, and any leachate from these materials must be disposed of in a manner so as to prevent such materials from entering the waters of the State.*

3. State of Washington, Department of Ecology, Upland Finfish Hatching and Rearing General NPDES Permit (2010)

Since the General Permit issued by Ecology implements the state's technology-based requirements for the upland finfish industry, it includes the same numeric limitations for suspended and settleable solids as established the regulations at WAC 173-221A-100. It also includes a limitation of 0.019 mg/L total residual chlorine in discharges of rearing vessel disinfection water and contains reporting regarding the use of disease control drugs and chemicals. It also requires update and submittal of a Pollution Prevention Plan and development and submittal of site-specific Facility Sampling Plans and Solid Waste Management Plans. In addition, Ecology's General Permit prohibits the discharge of Atlantic salmon into surface waters without written permission from the Washington State Department of Fish and Wildlife. Although the Ecology's permit requirements are applicable only to those facilities that meet minimum threshold requirements (20,000 pounds production; 5,000 pounds of feed during the calendar month of greatest feeding; or designated as a significant contributor of pollution by Ecology in accordance with 40 CFR §122.24). All upland finfish facilities under Ecology's jurisdiction must still comply with the regulations at WAC 173-221A-100 (including effluent standards), regardless of size or whether they require a wastewater discharge permit.

In developing its General Permit, Ecology determined that limits for settleable and suspended solids would effectively control BOD₅ and nutrients in discharges from finfish facilities. Ecology also prohibited the discharge of disease control chemicals and drugs in

concentrations that exceeded federal or State water quality standards and found that BMPs to minimize concentrations of these chemicals in discharges would provide effective control.

C. Evaluation of Water Quality-Based Limitations

In addition to the technology-based limits discussed above, the EPA evaluates the facility discharges to determine compliance with Section 301(b)(1)(C) of the CWA, which requires all NPDES permits to contain limits that will ensure compliance with State water quality standards, including the State's antidegradation policy. NPDES permits must also implement conditions imposed by the State to protect its water quality standards as part of its certification of NPDES permits under CWA §401(d).

Section 301(b)(1)(C) of the CWA and its implementing regulations at 40 CFR §122.44(d) require permits to include limits for all pollutants or parameters which are or may be discharged at a level which will cause or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality. If such WQBELs are necessary, they must be stringent enough to ensure that water quality standards are met, and they must be consistent with any available waste load allocation. For pollutants with technology-based limits, the EPA must also determine whether the technology-based limits will be protective of the corresponding water quality criteria. (40 CFR §122.44(d)(1)(vii)(B)).

Many of the facilities covered under this permit are discharging to waters of the State of Washington or upstream of waters of the State. Therefore, discharges from the facilities covered under this General Permit must protect water quality based on Washington State water quality standards and requirements. In addition, the General Permit must be protective of water quality based on any applicable tribal water quality standards. The EPA also reviewed the EPA-approved tribal water quality standards³ and found that the tribal standards are similar or identical to the Washington State standards for the parameters relevant to this General Permit.

See Appendix B of this Fact Sheet for more information on WQBELs.

The draft General Permit includes WQBELs for total residual chlorine. For a discussion of how the EPA derived WQBELs for Total Residual Chlorine, see Appendix C of this Fact Sheet.

³ See <http://water.epa.gov/scitech/swguidance/standards/wqslibrary/tribes.cfm>

D. Proposed Effluent Limitations and Requirements

The proposed effluent limitations are identical to those of the previous General Permit, except for some clarifications about total residual chlorine limits.

Chlorine

The EPA is revising the expression of the total residual chlorine limits to be Maximum Daily Limits instead of Instantaneous Maximum Limits. This is consistent with the NPDES regulations at Section 122.45(d), which require that all permit limits be expressed, unless impracticable, as both average monthly and maximum daily values, and it is consistent with the EPA recommendations for expression of toxic pollutants (see Section 5.2.3 of the *Technical Support Document for water quality-based toxics control* (EPA 1991) (*TSD*). Thus, the EPA revising the expression of the effluent limits in this General Permit to be Maximum Daily Limits, not Instantaneous Maximum. The Maximum Daily Limit is the highest allowable daily discharge measured during a calendar day or 24-hour period. For pollutants with limits expressed in terms of mass, the daily discharge is the total mass discharged over the day. For limits expressed in other units, the daily discharge is the average measurement of the pollutant over the period of a day. The expression of the TBELs remains as Instantaneous Maximum, consistent with the previous permit. The EPA is also clarifying that the total residual chlorine limits apply when facilities use Chloramine-T. Chlorine monitoring is not necessary when chlorine is used at a facility, but is allowed to dry, such that no chlorine is discharged from the outfall.

1. Upland Fish Hatcheries.

- a. The limits in Table 4 are proposed for the **final effluent** from fish hatcheries. Derivation of these limits is explained in Appendices B and C.

Table 4				
Effluent Limitations for Hatchery Discharges¹				
Pollutant	Average Monthly Limit	Maximum Daily Limit	Instantaneous Maximum	Basis for Limit
Net Total Suspended Solids²	5 mg/L	---	15 mg/L	TBEL based on BPJ
Net Settleable Solids²	0.1 ml/L	---	---	TBEL based on BPJ
Total Residual Chlorine³ – into fresh water	9.0 µg/L	18.0 µg/L	---	WQBEL
Total Residual Chlorine³ – into marine water	6.1 µg/L	12.3 µg/L	---	WQBEL

¹ Excluding discharges from separate off-line settling basins (OLSBs) and from raceways or pond systems during drawdown; see Table 5 for limits on those discharges.

² Net concentration = effluent concentration – influent concentration. All influent and effluent samples and flow measurements must be taken on the same day.

³ Chlorine limits only apply when chlorine or Chloramine-T is being used. The Permittee will be in compliance with the effluent limits for total residual chlorine, provided the total residual chlorine residual levels are at or below the compliance evaluation level of 50 µg/L. Chlorine monitoring is not required if chlorine is allowed to dry at the location of use.

b. Discharges to Waters of the U.S. from Off-line Settling Basins (OLSBs) and Rearing Ponds and Raceways During Drawdown for Fish Release

These limits apply to only those OLSB effluents that discharge directly to waters of the U.S. The limits in Table 5 are proposed under BPJ and are consistent with those applied to other hatcheries in Washington State that are permitted by Ecology.

Table 5 Effluent Limits for Discharges from Off-line Settling Basins and from Raceways or Rearing Ponds during Drawdown for Fish Release	
Pollutant	Maximum Daily Limit
Total Suspended Solids	100 mg/L
Settleable Solids	1.0 ml/L

c. Rearing Vessel Disinfection Water

When rearing vessels are disinfected with chlorine, the limits for total residual chlorine in Table 4 apply. Chlorine monitoring is not required if rearing vessels are allowed to dry completely and there is no discharge of chlorine.

d. Wasteload Allocation Under the South Fork Nooksack River TMDL

Skookum Creek Fish Hatchery, which is owned and operated by the Lummi Tribe, is likely to be given a wasteload allocation for temperature as part of the South Fork Nooksack River TMDL, which is currently in progress. If the South Fork Nooksack River TMDL is finalized prior to the reissuance of this General Permit, Skookum Creek Fish Hatchery's wasteload allocation will be included in this General Permit as a permit limit. See Tables 6 and 7 for more detail on the draft wasteload allocation and temperature limits for this facility. Continuous temperature monitoring will be required for all facilities covered by this General Permit that discharge to waters impaired for temperature, including Skookum Creek Fish Hatchery.

If the South Fork Nooksack River TMDL is finalized prior to the reissuance of this General Permit, the EPA proposes to include a 10-year compliance schedule to allow Skookum Creek Fish Hatchery time to assess operations in order to comply with the new permit limits for temperature. Skookum Creek Fish Hatchery would be required to complete the tasks and reports described below:

(i) No later than December 31, 2018: complete an alternatives evaluation of methods the Permittee may use to achieve the final effluent limits in Table 7, below. The alternatives evaluation should consider facility improvements, shading, re-use of effluent, and possible trading mechanisms such as offsite mitigation, including wetland and habitat restoration. Starting

in 2016 and continuing through 2018, the Permittee must include an attachment to its Annual Report to the EPA that details the evaluation of each available option.

(ii) No later than December 31, 2020: provide a preliminary schedule of design upgrades and/or a preliminary construction schedule that will be used to achieve compliance with the final limits. By December 31 of each year thereafter, the Permittee must include information in its Annual Report to the EPA which details the progress made toward achieving the final effluent limitations, and the series of actions that will be taken in the coming year.

(iii) No later than 10 years from the effective date of the permit: the Permittee must be in compliance with the final effluent limits for temperature. The Permittee must notify the EPA in writing when the final effluent limits are achieved.

The EPA is accepting comments on the draft effluent limits and compliance schedule for Skookum Creek Fish Hatchery.

Table 6. Draft Wasteload Allocation for Skookum Creek Fish Hatchery

NPDES facility; permit #	7Q10 ^a (cfs)	Effluent Flow - Current ^b (cfs)	Water Quality Criteria (°C)	T _{NPDES} (°C)
Skookum Creek Fish Hatchery; WAG130017	91.1	10.2 (6.6 mgd)	16 (Jul 1 to Sept 1)	16.0 or influent temperature + 0.3 (Jul 1 to Sept 1)
			13 (Sept 1 to Jul 1)	13.0 or influent temperature + 0.3 (Sept 1 to Jul 1)

^a Hatchery discharges upstream from USGS station at Saxon Road. Value used for wasteload allocation is assumed to be the 7Q10 flow from USGS 12209000 at Wickersham plus from USGS 12209490 at Skookum.

^b Based on the highest average monthly summer flow for 2010 and 2011, which occurred in September.

Table 7 Additional Effluent Limitations for Skookum Creek Fish Hatchery		
Pollutant	7-day average of the daily maximum temperatures	Basis for Limit
Temperature (July 1 – Sept 1)	16.7 °C	WLA
Temperature (Sept 1 – July 1)	13.7 °C	WLA

Note: The 7-day average of the daily maximum temperatures (7-DADMax) is the average of seven consecutive measures of daily maximum temperatures. The 7-DADMax for any individual day is calculated by averaging that day's daily maximum temperature with the daily maximum temperatures of the three days prior and the three days after that date.

VI. MONITORING AND REPORTING REQUIREMENTS

A. Basis for Effluent and Surface Water Monitoring

Section 308 of the CWA and 40 CFR 122.44(i) require monitoring in permits to determine compliance with effluent limitations. Monitoring may also be required to gather effluent and surface water data to determine if additional effluent limitations are required and/or to monitor effluent impacts on receiving water quality. The Permittee is responsible for conducting the monitoring and for reporting results on DMRs, annual reports, or on the application for renewal, as appropriate, to the EPA. Permittees must analyze water samples using a sufficiently sensitive EPA approved analytical method.

B. Monitoring Location(s)

Discharges authorized by this permit must be monitored at each outfall identified in the NOI.

C. Monitoring Frequencies

Monitoring frequencies are based on the nature and effect of the pollutant, as well as a determination of the minimum sampling necessary to adequately monitor the facility's performance. Permittees have the option of taking more frequent samples than are required under the permit. These samples must be used for averaging if they are conducted using the EPA-approved test methods (generally found in 40 CFR 136) or as specified in the permit.

Routine effluent monitoring, as presented in Table 5, is required for all covered fish hatcheries. The EPA has determined that the proposed monitoring frequencies and sample types for these facilities represent the minimum sampling frequency required to adequately characterize effluent and to adequately monitor facility performance. If no discharge occurs during the reporting period, "no discharge" shall be reported on the DMR.

If OLSB combines with raceway flows, at least one quarter of the grab samples at the total facility discharge point that are included in a composite sample must be collected when the OLSB is discharging.

D. Monitoring Requirements

The EPA proposes the following revisions to the monitoring requirements of this General Permit. For a description of the EPA's process and analysis regarding whether to require monitoring for various therapeutic aquaculture chemicals, see Section XI.D. of this Fact Sheet, or the EPA's Biological Evaluation in compliance with Endangered Species Act requirements.

Total Residual Chlorine

The EPA adjusted the draft General Permit's minimum level for Total Residual Chlorine from 10 µg/L to 50 µg/L. 50 µg/L is also the Quantitation Level used by Ecology. Ecology's Quantitation Level is equivalent to EPA's Minimum Level (ML), which is defined in 40 CFR Part 136. The

50 µg/L minimum level for chlorine is based on the capabilities of laboratories in Washington State. Total residual chlorine is also an effective indicator of Chloramine-T levels in the effluent (in freshwater-reared salmonids, Chloramine-T is used for control of mortality due to bacterial gill disease).⁴

Temperature

The EPA proposes to require two years of continuous temperature monitoring for all facilities covered by this General Permit that discharge to receiving waters impaired for temperature in order to ensure that the Permittee is collecting adequate data to assess compliance with the temperature water quality standards. The data collected via continuous temperature monitoring may also be used for development of WLAs in an applicable TMDL, or for ESA consultation. Continuous temperature monitoring must begin within one year of the effective date of this Permit. Permittees must monitor their effluent, as well as the receiving water immediately upstream of the facility, in order to determine whether a facility is affecting the temperature of the receiving water. If a facility has more than one outfall, it must perform temperature monitoring on the outfall that is most representative of the facility's flow.

Four facilities covered by this General Permit discharge to water bodies impaired for temperature: Makah National Fish Hatchery (USFWS), Quilcene National Fish Hatchery (USFWS), House of Salmon (Lower Elwha Klallam Tribe), and Chief Joseph Hatchery on the Columbia (Confederated Tribes of the Colville Reservation). Facilities that do not discharge to waters impaired for temperature are not required to perform temperature monitoring (unless they have an offline settling basin that discharges directly to surface waters – see Table 4 in the General Permit).

Disinfectants and Anti-fouling Agents

The EPA proposes to remove quarterly hatchery effluent monitoring requirements for disinfectants (other than chlorine) and anti-fouling agents.⁵ The previous monitoring requirement was intended primarily for copper, but copper was prohibited in the final 2009 permit because of its toxicity to salmonids. Prior to 2009, copper was rarely used in facilities covered by the permit, if at all. Copper will remain prohibited in this next permit cycle.

The EPA proposes to include a new BMP in the draft General Permit to address the discharge of disinfectants: facilities must dispose of excess/unused disinfectants in a way that does not allow them to enter waters of the U.S. On July 22, 2014, the EPA met with tribal representatives and the Northwest Indian Fisheries Commission (37 participants in total). The EPA received positive feedback on its proposal to remove the monitoring requirement for disinfectants and anti-fouling agents, and to instead replace it with the BMP described above. The EPA believes that this BMP approach will be clearer to implement, as well as more protective of water quality, than the previous monitoring requirements.

⁴ http://www.wchemical.com/downloads/dl/file/id/94/halamid_aqua_label.pdf

⁵ Disinfectant products and anti-fouling paint products are registered by the EPA Office of Pesticide Programs.

Table 8 Hatchery Effluent Monitoring Requirements				
Parameter	Units	Sample Type	Sample Frequency	Sample Location
Effluent Flow ¹	Gallons per day	Flow meter, calibrated weir, or other approved method	Monthly ²	Effluent ^{3,4}
Net Total Suspended Solids ⁵	mg/L	Composite ⁶	Monthly ²	Influent ⁵ & Effluent ⁶
Net Settleable Solids ⁵	ml/L	Grab	Monthly ²	Influent ⁵ & Effluent ⁶
Total Residual Chlorine (including when Chloramine-T is in use) ⁷	µg/L	Grab	Monthly ²	Effluent ⁶
Temperature (facilities that discharge to waters impaired for temperature)	°C	Meter	Continuous	Upstream & Effluent ⁶

¹ All influent and effluent samples and flow measurements must be taken on the same day.

² Monthly monitoring must begin in the first full calendar month of permit coverage; quarterly monitoring must begin in the first full calendar quarter of permit coverage.

³ Effluent samples must be collected from the effluent stream after the last unit prior to discharge into the receiving waters or to subsequent mixing with other water flows. If off-line settling basin effluent combines with raceway flows, at least one quarter of the grab samples that go into a composite sample must be collected when the OLSB is discharging.

⁴ If the facility is operating in a steady state (no drawdown nor filling up), the flow may be monitored at the influent or the effluent.

⁵ Net concentration = effluent concentration – influent concentration. Net TSS and settleable solids determinations will require influent analysis in addition to effluent analysis unless the permittee chooses to assume that the pollutant concentration in the influent is zero. Influent samples must be collected prior to collection of effluent samples; and net TSS and settleable solids will be determined by subtracting the influent concentrations from the effluent concentrations: see Appendix B of the General Permit. The EPA may require additional sampling to prove substantial similarity between influent and effluent solids, where indicated.

⁶ Composite samples must consist of four or more discrete samples taken at one-half hour intervals or greater over a 24-hour period; for facilities that clean raceways periodically, at least one fourth of the samples must be taken during quiescent zone or raceway cleaning. Facilities with multiple effluent discharge points and/or influent points must composite samples from all points proportionally to their respective flows. Only the composite sample must be analyzed.

⁷ Total residual chlorine must be monitored only when being used, giving consideration to retention times in the facility. Monitoring must be conducted during each calendar quarter if the chemical used at any time during the quarter, but sampling does not need to occur more than once a quarter.

1. Off-line Settling Basin (OLSB) Monitoring

Discharges to waters of the U.S. from OLSBs must also be monitored as required in Table 9; this monitoring is in addition to that required in Table 8, above.

Table 9 Off-Line Settling Basin Effluent Monitoring Requirements¹				
Parameter	Units	Sample Type	Sample Frequency	Sample Location
Effluent Flow ²	Gallons per day	Flow meter, calibrated weir, or other approved method	Monthly ³	Effluent ⁴
Total Suspended Solids	mg/L	Grab ⁵	Monthly ³	Effluent ⁴
Settleable Solids	ml/L	Grab ⁵	Monthly ³	Effluent ⁴
Ammonia ⁶	mg/L	Grab ⁵	Quarterly ³	Effluent ⁴
Temperature ⁷	° C	Meter	Weekly when OLSB is discharging	Effluent ⁴
pH ⁸	Standard Units	Meter	Quarterly ³	Effluent ⁴

¹ Only direct discharges to waters of the U.S. need to be monitored; if the discharge combines with other process wastewaters, these additional OLSB monitoring requirements do not apply.

² All effluent samples and flow measurements must be taken on the same day.

³ Monthly monitoring must begin in the first full calendar month of permit coverage; quarterly monitoring must begin in the first full calendar quarter of permit coverage.

⁴ Effluent samples must be collected from the effluent stream after the last unit prior to discharge into the receiving waters or to subsequent mixing with other water flows.

⁵ Facilities with multiple effluent discharge points must composite grab samples from all points proportionally to their respective flows. Only the composite sample must be analyzed.

⁶ Ammonia monitoring is required only for those facilities with OLSBs discharging directly to receiving waters.

⁷ Temperature monitoring must be taken concurrently with each grab sample for the composite ammonia sample and the results averaged and reported on the discharge monitoring report (DMR).

⁸ pH monitoring must be taken concurrently with each grab sample for the composite ammonia sample and the range of results reported on the discharge monitoring report (DMR).

2. Monitoring during Rearing Pond and Raceway Drawdowns for Fish Release

In order to gather data to evaluate compliance with effluent limitations specific to rearing pond and raceway drawdowns, the Permittee must conduct the monitoring detailed in Table 10.

Table 10			
Monitoring Requirements for Discharges from Rearing Pond or Raceway Drawdowns for Fish Release			
Parameter	Sample Point	Sampling Frequency	Type of Sample
Settleable Solids (mL/L)	Effluent	1/Drawdown ¹	Grab
Total Suspended Solids (mg/L)	Effluent	1/Drawdown ¹	Grab

1 Drawdown samples must be collected during the last quarter of each drawdown event. If the drawdown is a continuous event that involves more than one rearing pond or raceway discharging directly to waters of the US, the Permittee may composite grab samples from each rearing pond or raceway proportionally to their respective flows, each taken in the last quarter of its drawdown; the combined sample may be analyzed instead of separately analyzing grab samples from each of the rearing ponds or raceways. If the discharge is to a settling pond, the facility must estimate when the final ¼ of the discharge is being released to the settling pond, delay the monitoring by the residence time calculated for the pond, and then monitor as the effluent discharges from the pond to the receiving water. If multiple drawdown events are sequential or on different days, a separate grab sample must be analyzed for each event.

3. Monitoring Discharges of Rearing Vessel Disinfection Water

Rearing vessel disinfection water that has been treated with chlorine must be tested before it may be discharged to waters of the United States.

Table 11			
Monitoring Requirements for Discharges of Rearing Vessel Disinfection Water			
Parameter	Sample Point	Sampling Frequency	Type of Sample
Total Residual Chlorine	Effluent	1/Discharge	Grab

Aside from the Total Residual Chlorine compliance level of 50 µg/L (discussed above), the EPA does not propose any changes to rearing vessel disinfection water monitoring currently required by the General Permit.

4. Surface Water Monitoring

All Permittees that have OLSBs that discharge directly to surface waters must conduct surface water monitoring quarterly for ammonia, pH, and temperature immediately upstream, outside the influence of the discharge.

The EPA does not propose any changes to the surface monitoring requirements currently required by the General Permit.

5. PCB Monitoring for Facilities in the Spokane Watershed

Several segments of the Spokane River and Lake Spokane are listed on the State of Washington's 2012 303(d) list of impaired waters due to high concentrations of PCBs in fish tissue. According to a court order (Sierra Club, et al. v. EPA, 11-CV-1759-BJR), the EPA must take steps to reduce PCB discharges to the Spokane River, including via NPDES permitting actions. Thus, in order to determine whether facilities covered by this General Permit are contributing to PCB loading and to assist with the future development of a TMDL for PCBs in the watershed, all facilities that discharge to waters in WRIA 54 (Lower Spokane) and WRIA 57 (Middle Spokane) are required to monitor their effluent for PCB congeners. As of the date of this Fact Sheet, two facilities covered by this General Permit discharge within these WRIs: Ford State Fish Hatchery and Spokane Tribal Hatchery.

In addition to the BMP requirements at section IV.G.5.e.(12) of the General Permit, Permittees in WRIs 54 and 57 must use any available product testing data to preferentially purchase paint and caulk with the lowest practicable total PCB concentrations.

Monitoring for PCB congeners, as opposed to aroclors (which are the mixtures of PCBs that were commercially manufactured) will aid in source fingerprinting (i.e., to determine of the source of PCBs is from paint, caulk, feed, or another material) and will allow the facilities to report the total concentration of the more toxic “dioxin-like” PCB congeners on DMRs, in addition to total PCBs. The complete congener analysis must be submitted as an attachment to the DMR. There are no EPA-approved methods for the analysis of PCB congeners (as distinct from aroclors) in 40 CFR Part 136. Therefore, the EPA must specify the methods to be used (40 CFR 122.44(i)(1)(iv)). The EPA is requiring the use of EPA Method 1668C, which is the most sensitive method available and can quantify nearly all of the 209 PCB congeners. Monitoring must take place annually, during the calendar quarter in which the facility is holding the maximum biomass of fish.

6. Minimum Levels

All samples must be analyzed to achieve minimum levels (MLs) that are equivalent to or less than those levels that the EPA has determined are achievable using EPA methods. If the results reported by the Permittee have consistently been well above the required MLs, it may request less stringent MLs. See Table 8 in the General Permit for MLs.

E. Submission of Discharge Monitoring Reports (DMRs)

Facilities covered by the General Permit will be required to submit DMRs to the EPA Region 10 and to the Lummi or Spokane Tribes, as indicated in the General Permit.

The draft permit requires that the Permittee submit DMR data electronically using NetDMR within six months of the effective date of the permit. NetDMR is a national web-based tool that allows DMR data to be submitted electronically via a secure Internet application. NetDMR allows participants to discontinue mailing in paper forms under 40 CFR 122.41 and 403.12. Under NetDMR, all reports required under the permit are submitted to EPA as an electronic attachment to the DMR. Once a Permittee begins submitting reports using NetDMR, it is no longer required to submit paper copies of DMRs or other reports to EPA.

The EPA currently conducts free training on the use of NetDMR. Further information about NetDMR, including upcoming trainings and contacts, is provided on the following website: <http://www.epa.gov/netdmr>. The Permittee may use NetDMR after requesting and receiving permission from EPA Region 10.

F. Required Submittals

All Permittees are required to submit an NOI to the EPA and to submit an Annual Report that describes the previous year's production, feed rates, use of aquaculture drugs and chemicals, and the facility's efforts to adhere to required operating practices. All Permittees are required to report certain events to the EPA before or when they happen, including the use of an Investigational New Animal Drug (INAD) or the extra-label use of an aquaculture drug, failures in containment systems that result in unanticipated releases of pollutants, and spills of drugs and pesticides that result in their release to receiving waters. The EPA has clarified the reporting requirements for INAD and extra-label drug use (See Section V. of the General Permit, and Chapter 6 of the EPA Compliance Guide for CAAP Facilities at

http://water.epa.gov/scitech/wastetech/guide/aquaculture/upload/2006_05_03_guide_aquaculture_guidance_full-final.pdf).

G. Quality Assurance Plan (QAP)

Federal regulations at 40 CFR 122.41(e) require Permittees to properly operate and maintain their facilities, including “adequate laboratory controls and appropriate quality assurance procedures.” In order to implement this requirement, the draft General Permit (Section IV.F.) requires that the Permittee develop or update a QAP that ensures that the monitoring data submitted to the EPA are complete, accurate, and representative of the environmental or effluent conditions. The federal regulation at 40 CFR 122.41(e) requires the Permittee to develop a Quality Assurance Plan (QAP) to ensure that the monitoring data submitted are accurate and to explain data anomalies if they occur.

The draft General Permit proposes that new dischargers provide written notification to the EPA and to the Lummi or Spokane Tribes (as appropriate) that the QA Plan has been developed and implemented within 90 days after receiving authorization to discharge under this Permit. Existing dischargers must modify the QAP as necessary and submit written notice to the EPA and to the Lummi or Spokane Tribes (as appropriate) that the Plan has been modified and implemented within 90 days of the effective date of this General Permit. The QA Plan must be kept on-site and made available to the EPA upon request.

The EPA does not propose any changes to the QAP requirements from the previous permit. The QAP must consist of standard operating procedures that the Permittee must follow for collecting, handling, storing and shipping samples, laboratory analysis, and data reporting. It must be available on-site for inspection at the request of the EPA. The Permittee is required to follow specific sampling procedures [i.e., the EPA approved quality assurance, quality control, and chain-of-custody procedures described in Requirements for Quality Assurance Project Plans (EPA/QA/R-5)]; and Guidance for Quality Assurance Project Plans (EPA/QA/G-5) throughout all sample collection and analysis activities in order to ensure that quality data are collected.

VII. BEST MANAGEMENT PRACTICES PLAN

The Clean Water Act authorizes and the EPA regulations at 40 CFR §122.44(k) provide for requirements to implement best management practices (BMPs) in NPDES permits to control or abate the discharge of pollutants whenever necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA. BMPs are important tools for waste minimization and pollution prevention.

The proposed General Permit requires all dischargers to adhere to specific operating limitations and BMPs and requires dischargers to develop and implement a BMP Plan within 90 days of becoming authorized to discharge under its terms. Dischargers must identify and assess potential impacts of pollutant discharges and identify specific management practices and operating

procedures to prevent or minimize the generation and discharge of pollutants including the specific operating limitations and BMPs listed in the General Permit.

The BMP Plan is an enforceable condition of the permit and must be amended whenever there is a change in the facility or its operation which materially increases the potential for discharges of pollutants.

A. Record Keeping

The EPA proposes to include a BMP requirement that facilities maintain records of all drug and chemical usage at the facility. These records should include the information required in the Aquaculture Drugs and Chemicals section of the Annual Report (see Appendix E of the General Permit). Records must provide detailed descriptions of how Permittees calculated the maximum effluent concentrations reported on their Annual Reports. Maintaining accurate records of drug and chemical use has always been necessary to accurately fulfill the annual reporting requirements of the General Permit; this BMP addition makes that requirement more explicit.

The EPA proposes to include an additional record keeping requirement to ensure that facilities are able to accurately calculate maximum peak effluent concentration after drug or chemical applications. In order to show how the maximum concentration of the drug or chemical in the discharge was derived, facilities must maintain records by outfall of the approach/analyses used to determine the elapsed time from its application to its maximum (peak) effluent concentration.. In addition, Permittees must provide the information required on page 7 of the revised Annual Report (see Appendix E of the General Permit) - either for each water-borne chemical treatment, or for a reasonable worst case/maximum effluent concentration scenario. This information includes the necessary data inputs for calculating water-borne treatment concentrations for static bath and flow-through treatments.

B. Disinfectants and Anti-Fouling Agents

The EPA proposes to add a BMP requirement that facilities must dispose of excess/unused disinfectants in a way that does not allow them to enter waters of the U.S. See Section IV.G.5.e(11) of the General Permit.

C. Polychlorinated Biphenyls (PCBs) in Hatcheries

Painted and Caulked Surfaces

Polychlorinated Biphenyls (PCBs) belong to a broad family of man-made organic chemicals known as chlorinated hydrocarbons. PCBs were domestically manufactured from 1929 until their manufacture was banned in 1979. Although no longer commercially produced in the United States, PCBs may be present in products and materials produced before the 1979 PCB ban. Products that may contain PCBs include caulking and oil-based paint. PCBs can be taken up into the bodies of small organisms and fish. As a result, people who ingest fish may be exposed to

PCBs that have bioaccumulated in the fish they are ingesting. See <http://www.epa.gov/epawaste/hazard/tsd/pcbs/about.htm> for more information.

The EPA has included a BMP requirement in this permit that aquaculture facilities implement procedures to eliminate the release of PCBs from any known sources in the facility- including paint, caulk, or feed. PCBs are inadvertently generated during pigment production, and yellow pigment contains PCB-11. The EPA's Persistence, Bioaccumulation and Toxicity Profiler defines the bioconcentration factor (BCF) for PCB-11 as 5,400 which exceeds the bioaccumulation criteria of 1,000 under Washington State's PBT Rule (WAC 173-333). Therefore, yellow paint or caulk should not be used in areas that will come into contact with water that will be discharged or come into contact with fish.

For facilities with pre-1979 paint or caulk that comes into contact with water that is discharged to waters of the US or water in which fish are present, as per 40 CFR §761.358, facilities should determine the PCB concentration of paint or caulk. Facilities should use either Method 3500B/3540C or Method 3500B/3550B from the EPA's SW-846, Test Methods for Evaluating Solid Waste, or a method validated under subpart Q of this part, for chemical extraction of PCBs from individual and composite samples of PCB bulk product waste. Use Method 8082 from SW-846, or a method validated under subpart Q of this part, to analyze these extracts for PCBs.

Facilities must remove any paint or caulk with PCB concentrations that exceed 50 ppm PCB (the allowable TSCA level). Paint or caulk with PCB concentrations of more than 50 ppm is considered a PCB bulk product, and is unauthorized for use. PCB bulk products and any PCB remediation waste must be removed and disposed of according to the regulations at 40 CFR Part 761. Care must be taken to minimize releases to the environment. Any release to the environment is an unauthorized disposal, enforceable under TSCA. The regulations further stipulate proper storage and record keeping requirements. If removing paint or caulk that was applied prior to 1980, refer to the EPA guidance (abatement steps 1-4) at <http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/caulk/guide/guide-sect4a.htm>.

Pre-1979 paint or caulk with a PCB concentration of less than 50 ppm is not considered a PCB bulk product under TSCA. However, facilities are strongly encouraged to remove it, given the proximity to fish and the risks associated with PCB consumption by the fish. Follow the EPA guidance to ensure safe removal; see <http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/caulk/guide/index.htm>. Please contact your EPA Region 10 PCB Coordinator for more information (see <http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/coordin.htm> for a list of PCB Coordinators).

Fish Feed

Like other persistent organic pollutants found in fish tissue, PCBs are ubiquitous environmental contaminants and may be found globally through atmospheric deposition, historical releases, or food-web cycling. More specifically, PCBs can be an issue in feeds used in aquaculture facilities

(Hites, et al. 2004).^f For example, in a 2006 study of persistent organic pollutants in feed and rainbow trout, Ecology found that most feed and fish tissue samples contained measurable concentrations of PCBs. Aroclor-1254 was the most commonly detected, followed by 1260, 1242, and 1248; none of the other Aroclors were detected (Ecology, 2006).^g

The USFWS and the USGS have also been investigating PCBs and other contaminants in fish feed. “Over the past several decades it has become increasingly evident that feeds used in aquaculture worldwide contain significant concentrations of contaminants (Mac et al. 1979; Hilton et al. 1983; Rappe et al. 1998; Hites et al. 2004; Maule et al. 2007). Contaminants can enter fish feeds from a variety of sources, but generally reflect global contaminant inputs into oceans and eventually into marine food webs, which are the main sources of fish oil and fish meal used in fish feed (Horst et al. 1998). Organisms at higher trophic levels typically have higher levels of organochlorines (OCs) [e.g., polychlorinated biphenyl (PCBs), dioxins and furans, and many pesticides] due to biomagnification through the food web (Muir et al. 1992; Gobas et al. 1999). Diets that contain a high percentage of pelagic ocean fish meal and oil will likely contain higher amounts of contaminants of global concern, such as PCB congeners... Hatchery-reared fish consuming feeds made from oils and meals derived from marine fish may accumulate these contaminants, thus placing some hatchery-reared fish at a higher trophic level than their wild counterparts that are consuming a natural diet. ... In a recent study (Maule et al. 2007), [USFWS and USGS] found that all of the feed samples (collected from October 2001 to October 2003) at 11 cold-water U.S. Fish and Wildlife Service National Fish Hatcheries (NFH) across four regions in the United States contained measurable concentrations of at least one dioxin, furan, PCB congener, or DDT metabolite, and most contained more than one. The most commonly detected contaminants were PCBs (Maule et al. 2007).”^h In general, contaminant levels in feed have been dropping- possibly because suppliers are screening ingredients or being more careful with source selection (Maule, et al., 2007).ⁱ

Results from a study of contaminant concentrations in juvenile fall Chinook salmon from Columbia River hatcheries suggest that the river is a more important source of contamination than are hatcheries (Johnson, et al., 2010).^j

At this time, the EPA is not aware of a feasible way to reduce PCBs in salmonid feed. However, the EPA has included a BMP requirement that facilities must implement procedures to eliminate

^f Hites, R. A., J. A. Foran, D. O. Carpenter, M. C. Hamilton, B. A. Knuth, S. J. Schwager. 2004. “Global Assessment of Organic Contaminants in Farmed Salmon.” *Science*. Vol. 303 no. 5655 pp. 226-229.

^g Serdar, D., K. Kinney, M. Mandjиков, and D. Montgomery. 2006. “Persistent Organic Pollutants in Feed and Rainbow Trout from Selected Trout Hatcheries.”

<https://fortress.wa.gov/ecy/publications/SummaryPages/0603017.html>

^h Excerpt from Davis, J. and A. Gannam. 2012. “WA - Investigation of Contaminants in Feeds and Fish at FWS Pacific Region National Fish Hatcheries and the Ramifications to Human and Ecological Health.” USFWS Report. DEC Project ID: 200710002.3. FFS #: 1F52.

ⁱ Maule, A.G., A.L. Gannam, and J.W. Davis. 2007. Chemical contaminants in fish feeds used in federal salmonid hatcheries in the USA. *Chemosphere* 67:1308-1315.

^j Lyndal L. Johnson, Maryjean L. Willis, O. Paul Olson, Ronald W. Pearce, Catherine A. Sloan & Gina M. Ylitalo (2010) Contaminant Concentrations in Juvenile Fall Chinook Salmon from Columbia River Hatcheries, North American Journal of Aquaculture, 72:1, 73-92, DOI: 10.1577/A08-068.1

the release of PCBs from any known sources in the facility- including feed. Thus, if a reduced PCB feed formulation becomes available during this next permit cycle, the EPA encourages hatchery managers to take all reasonable steps to reduce PCB exposure via feed.

VIII. CARCASS PLANTING

Pacific salmon are anadromous- they return to their natal streams to spawn, and die after spawning only once. Pacific salmon and steelhead contribute significant quantities of marine derived carbon, nitrogen, and phosphorus to freshwater ecosystems in the Pacific Northwest (Naiman, 2001). These nutrients are no longer available in historic amounts because fewer adult fish are returning to inland systems (Cederholm, et al., 1999; Gresh, et al., 2000; Hatchery Scientific Review Group, 2009; Kohler, et al., 2008). This represents a considerable loss of returning nutrients across a large spatial scale, and could establish a negative feedback loop affecting future generations of fish (Compton, et al., 2006; Larkin and Slaney, 1997).

To compensate for reduced nutrient load and resultant lowered stream productivity, recent mitigation efforts have focused on adding nutrients to freshwater systems (Hatchery Scientific Review Group, 2009). Distributing spawned salmonid carcasses from fish hatcheries is one method of artificially enhancing nutrient loads in oligotrophic (nutrient poor) systems. Salmon carcasses provide an ideal nutrient source because they contain a complex mix of macro and micronutrients, vitamins, and organic compounds (Ashley and Stockner, 2003; Wipfli, 2010). The Hatchery Scientific Review Group^k endorses nutrient enhancement via the distribution of adult hatchery carcasses or carcass analogs. Research suggests that the addition of marine derived nutrients to streams could increase the growth of juvenile salmonids, which may provide some over-winter survival advantage (Bilby, 1998; Cederholm, et al., 1999; Hatchery Scientific Review Group, 2009; Lang, et al., 2006). Carcass applications should strive to mimic the natural arrival of anadromous fish in terms of frequency, seasonality, and distribution throughout the watershed (Ashley and Stockner, 2003; Compton, et al., 2006).

The Washington Department of Fish & Wildlife actively promotes nutrient enhancement efforts: “Research over the past decade in Washington, British Columbia and Alaska has demonstrated the critical role salmon play in transporting nutrients from the Pacific Ocean to aquatic and terrestrial ecosystems of the Pacific Northwest. Over 83 wildlife species (mammals, birds,

^k The U.S. Congress funded the Hatchery Reform Project via annual appropriation to the US Fish and Wildlife Service beginning in fiscal year 2000 because it recognized that while hatcheries play a necessary role in meeting harvest and conservation goals for Pacific Northwest salmon and steelhead, the hatchery system was in need of comprehensive reform. With many species listed as threatened or endangered, conservation of salmon was a high priority and many hatchery programs—as currently operated—were contributing to the risks those stocks were facing. Central to the project was the creation of an independent scientific review panel called the Hatchery Scientific Review Group, which has reviewed all state, tribal and federal hatchery programs in Puget Sound and Coastal Washington. See http://www.hatcheryreform.us/hrp/welcome_show_action.

insects, fish, etc.) — including newly hatched juvenile salmon — rely on the flesh of dead spawned salmon to survive. Because of the decline of naturally-spawning salmon in many Washington rivers and streams, there are fewer salmon carcasses available to provide the nutrients necessary to support the young salmon. Nutrient enhancement projects increase juvenile salmon survival and play an important role in the recovery of salmon populations.”¹

The Washington Department of Fish & Wildlife, the Columbia River Hatchery Reform Project, the Fisheries Co-Managers of Washington State, and the scientific literature (for example, see Bilby 1998) extol the ecological benefits of nutrient enhancement using spawned carcasses.

Numerous WAG130000 Permittees engage in nutrient enhancement activities using spawned carcasses from their facilities. ***Nutrient enhancement activities are not regulated under this NPDES permit.*** However, if Permittees choose to conduct nutrient enhancement, the EPA recommends that they consider the recommendations below. In order to develop these recommendations, the EPA referred to the Salmonid Disease Control Policy of the Fisheries Co-Managers of Washington State (WDFW and NWIFC, 2006), as well as to the protocols and guidelines for distributing salmonid carcasses to enhance stream productivity in Washington State (Cramer, 2012). The EPA also held a meeting with interested tribes on July 22, 2014 and received considerable feedback on this topic (37 people attended the meeting, and many more weighed in afterwards).

Recommendations for nutrient enhancement via spawned carcasses:

- Any nutrient enhancement activities involving placing spawned carcasses into rivers or streams should be conducted in accordance with the Salmonid Disease Control Policy of the Fisheries Co-Managers of Washington State.
- Carcasses should be planted only within the historic range of the species being used for nutrient enhancement, with consideration given to current land use and water quality conditions.
- Nutrient enhancement activities are not recommended in water bodies that are impaired for (excess) nutrients (i.e., water bodies with a TMDL for nutrients or are on the 303(d) List for nutrients).
- Carcasses should not be deposited during high flow events or during poor water quality, such as low dissolved oxygen levels.
- Nutrient enhancement activities should not create a nuisance or objectionable condition in the receiving water or any condition that may impair designated beneficial uses in the receiving water or downstream waters.
- Carcass applications should mimic nature in terms of frequency, seasonality, and distribution throughout the watershed.
- If feasible, carcasses should be deposited over several dates.
- If feasible, carcasses should be marked so that surveyors do not mistake deposited carcasses for naturally spawned fish.

¹ <http://wdfw.wa.gov/hatcheries/overview.html>

- No carcasses should be placed within 2 km upstream from municipal water supplies.
- Approval should be obtained from landowners prior to accessing a property for carcass placement.

Carcass Planting/Nutrient Enhancement References

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IX. TRIBAL COORDINATION AND CONSULTATION

The majority of the facilities covered by this General Permit are located in Indian Country and many are owned and/or operated by tribal governments. Accordingly, the EPA made every effort to engage interested tribes in the permitting process. The EPA NPDES permits staff either visited and/or spoke with every Permittee about their respective operations, and solicited feedback on the permit during those conversations. On July 22, 2014, the EPA hosted a 3-hour meeting at the Northwest Indian Fisheries Commission to discuss proposed permit conditions and solicit feedback from the tribes. 37 people attended the meeting, including staff from non-Northwest Indian Fisheries Commission member tribes. The EPA has since responded to issues raised at that meeting, and has considered the feedback received. On July 9, 2015, the EPA met again with tribal representatives to discuss proposed permit conditions (23 participants in total). The EPA has made additional changes to the preliminary draft permit as a result of that feedback.

The Lummi Nation and the Lower Elwha Klallam Tribe each requested government-to-government consultation with the EPA about this permit. After a staff level meeting with the EPA, the Lummi Nation decided that a leadership meeting was not necessary. The EPA met with the Lower Elwha Klallam Tribe for government-to-government consultation on November 9, 2015.

During permit development, NPDES permits staff followed the EPA Region 10 Tribal Consultation and Coordination Procedures, available online at http://www.epa.gov/region10/pdf/tribal/consultation/r10_tribal_consultation_and_coordination_procedures.pdf. In addition, the EPA has invited all of the federally recognized tribes in

Washington to engage in government-to-government consultation. The EPA has also invited the Confederated Tribes of the Umatilla Indian Reservation of Oregon, the Confederated Tribes of the Warm Springs Indian Reservation of Oregon, the Grand Ronde Confederated Tribes, the Coeur d'Alene Tribe, the Kootenai Tribe, and the Nez Perce Tribe to engage in government-to-government consultation because these tribes' usual and accustomed areas and/or treaty rights have the potential to be affected by this General Permit.

X. ENVIRONMENTAL JUSTICE CONSIDERATIONS

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, directs each federal agency to “make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities.” The EPA strives to enhance the ability of overburdened communities to participate fully and meaningfully in the permitting process for EPA-issued permits, including NPDES permits. “Overburdened” communities can include minority, low-income, tribal, and indigenous populations or communities that potentially experience disproportionate environmental harms and risks. As part of an agency-wide effort, the EPA Region 10 has considered implementing enhanced public involvement opportunities for EPA-issued permits where facilities' discharge to waters in overburdened communities. For more information, please visit <http://www.epa.gov/compliance/ej/plan-ej/>.

As part of the General Permit development process, the EPA Region 10 conducted a screening analysis to determine whether this permit action could affect overburdened communities. The EPA used a nationally consistent geospatial tool that contains demographic and environmental data for the United States at the Census block group level. This tool is used to identify permits for which enhanced outreach may be warranted. As part of the screening process, it was determined that the nine of the 25 WAG130000 facilities are located near an overburdened community. Most of those facilities are located on tribal reservations.

Region 10 Environmental Justice and NPDES permits staff conducted a more in-depth review of those facilities, including such factors as fishing/shellfish/subsistence activities nearby, proximity to overly burdened communities, and whether the facility poses a threat to public health. In short, the EPA does not believe that these hatcheries present an environmental justice concern. WAG130000 facilities tend to be located in fairly remote areas, and far enough from neighboring communities that they would not pose a health threat. Hatcheries are not considered to be sources of pathogens that threaten human health. All therapeutic drugs and chemicals must be applied according to label instructions, or with permission of an INAD or veterinarian prescription. The facilities covered by this permit are not commercial enterprises; they are mitigation hatcheries aiming to recover endangered or threatened salmonids, or to supplement fish stocks so that tribal members and others can carry out fishing and subsistence activities. During a July 22, 2014 meeting, tribal hatchery managers wanted the EPA to be aware that hatcheries provide an environmental justice service to overburdened communities because they supply them with a healthy and high protein food source that is culturally significant.

Regardless of whether a facility is located near a potentially overburdened community, the EPA encourages Permittees to review (and to consider adopting, where appropriate) “Promising Practices for Permit Applicants Seeking EPA-Issued Permits: Ways to Engage Neighboring Communities” (see <https://www.federalregister.gov/articles/2013/05/09/2013-10945/epa-activities-to-promote-environmental-justice-in-the-permit-application-process#p-104>). Examples of promising practices include thinking ahead about community’s characteristics and the effects of the permit on the community, engaging the right community leaders, providing progress or status reports, inviting members of the community for tours of the facility, providing informational materials translated into different languages, setting up a hotline for community members to voice concerns or request information, follow up, and other activities.

XI. OTHER LEGAL REQUIREMENTS

A. Clean Water Act Antidegradation Requirements

The EPA is required under Section 301(b)(1)(C) of the Clean Water Act (CWA) and implementing regulations (40 CFR 122.4(d) and 122.44(d)) to establish conditions in NPDES permits that ensure compliance with state and tribal water quality standards, including antidegradation requirements. Since WAG130000 facilities either discharge to Washington waters or to Indian Country (with Washington as the downstream state), the EPA used Washington’s antidegradation implementation procedures as guidance. The EPA referred to Ecology’s 2011 Supplemental Guidance on Implementing Tier II Antidegradation, which is available at <http://www.ecy.wa.gov/biblio/1110073.html>. The EPA also referred to the relevant tribal antidegradation policies, which are part of those tribes’ EPA-approved water quality standards. See <http://water.epa.gov/scitech/swguidance/standards/wqslibrary/tribes.cfm#r10>.

Determining the Applicable Level of Protection

The State of Washington’s antidegradation policy follows the federal regulations in establishing three tiers of protection:

- Tier I ensures existing and designated uses are maintained and protected and applies to all waters and all sources of pollution.
- Tier II ensures that waters of a higher quality than the criteria assigned are not degraded unless such lowering of water quality is necessary to accommodate important economic or social development and is in the overriding public interest.
- Tier III prevents the degradation of waters identified as constituting an outstanding national or reservation resource and applies to all sources of pollution.

The receiving waters to which WAG130000 facilities discharge qualify for both Tier I and Tier II protection, as explained in more detail below.

Tier I Protection

A facility must first meet Tier I requirements. Existing and designated uses must be maintained and protected. No degradation may be allowed that would interfere with, or become injurious to, existing or designated uses, except as provided for in Chapter 173-201A WAC.

In order to protect and maintain designated and existing beneficial uses, a permitted discharge must comply with the narrative and numeric criteria of the State/Tribe's water quality standards, which address water quality limited waters. Water bodies not supporting existing or designated beneficial uses must be identified as water quality limited and a TMDL must be prepared for those pollutants causing the impairment. Discharge permits must contain limitations that are consistent with the WLAs in the EPA-approved TMDL. A permit with effluent limitations consistent with the WLA from an applicable TMDL will provide the level of water quality necessary to support existing and designated uses and therefore satisfies Tier 1 antidegradation requirements.

Since this is a general permit, the EPA referred to the applicable designated uses for waters of the State of Washington in this antidegradation analysis. The draft General Permit ensures a level of water quality necessary to protect the designated uses and, in compliance with 40 CFR 131.12(a)(1) and 131.35(e)(2)(i), also ensures that the level of water quality necessary so that existing uses are maintained and protected. The EPA developed permit conditions to protect the following uses: salmonid spawning, rearing, and migration; primary contact recreation; domestic, industrial, and agricultural water supply; stock watering; wildlife habitat; harvesting; commerce and navigation; boating; and aesthetic values.

Where technology-based limits are not protective enough to meet water quality standards, the EPA sets water quality-based effluent limits (WQBELs). If the EPA receives information during the public comment period demonstrating that there are additional existing uses for the waterbodies in this General Permit, the EPA will consider this information before issuing a final permit and will establish additional or more stringent permit conditions if necessary to ensure protection of existing uses.

The reissued General Permit will provide coverage to 25 existing facilities. None of these facilities discharge to waterbodies that are impaired for Pollutants of Concern for this General Permit. In addition, none of these facilities have been given WLAs as part of a TMDL. However, the Lummi Tribe's Skookum Creek Fish Hatchery will receive a WLA for temperature if the draft South Fork Nooksack River TMDL is finalized prior to the reissuance of this General Permit.

The effluent limits in the proposed draft General Permit are identical to those of the previous permit. The draft General Permit is requiring additional monitoring for temperature, and for PCBs in the Spokane River area. The limitations and requirements contained in the General Permit will ensure compliance with the narrative and numeric criteria in the water quality standards. Therefore, EPA has determined that the permit will protect and maintain existing and designated beneficial uses in compliance with the Tier 1 provisions.

Tier II Protection

A Tier II analysis consists of an evaluation of whether or not the proposed degradation of water quality that would be associated with a new or expanded action would be both necessary and in the overriding public interest. A Tier II analysis focuses on evaluating feasible alternatives that would eliminate or significantly reduce the level of degradation. The analysis also includes a review of the benefits and costs associated with the lowering of water quality. New discharges and facility expansions are prohibited from lowering water quality without providing overriding public benefits.

Nonetheless, with regards to the new discharges and facility expansions, EPA recognizes that the vast majority of the facilities currently covered by this permit have had NPDES permit coverage since at least 2009 and are classified as existing facilities. The following facilities have applied for and received WAG13000 permit coverage since the last permit issuance: the Lower Elwha Klallam Tribe's House of Salmon, the Confederated Tribes of the Colville Reservation's Chief Joseph Fish Hatchery and Omak Acclimation Pond, and Tacoma Power's Saltwater Park Sockeye Hatchery, which is located on the Skokomish Indian Reservation.

Under Ecology's antidegradation policy, individual facilities covered under general permits do not require a Tier II analysis. Instead, the Tier II evaluation focuses on whether the General Permit meets the Tier II requirements. Therefore, the EPA evaluated whether the General Permit meets the Tier II antidegradation requirements. The EPA determined that this General Permit meets the Tier II antidegradation requirements because the General Permit conditions are equally or more stringent than the existing permit. Under the provisions of Best Professional Judgment, the permit applies ELGs for even smaller facilities (less than 100,000 pounds per day). The EPA is also requiring numeric limits for Total Suspended Solids and for Settleable Solids.

Washington water quality standards define a measurable change to include:

- (a) Temperature increase of 0.3°C or greater;*
- (b) Dissolved oxygen decrease of 0.2 mg/L or greater;*
- (c) Bacteria level increase of 2 cfu/100 mL or greater;*
- (d) pH change of 0.1 units or greater;*
- (e) Turbidity increase of 0.5 NTU or greater; or*
- (f) Any detectable increase in the concentration of a toxic or radioactive substance.*

The EPA determined that a Tier II analysis is **not** required for any of the facilities because none of the discharges will cause measurable change to existing water quality at the point of compliance. An explanation of the EPA's Tier II eligibility analysis is below.

- (a) Temperature increase of 0.3°C or greater;*

This General Permit covers only cold-water aquaculture facilities that raise salmonids. Facility temperatures are closely monitored by hatchery staff to ensure optimum fish health. In addition, facilities that discharge to waters impaired for temperature must conduct continuous temperature

monitoring of their effluent, as well as upstream of the facility. Therefore, the discharges will not cause measurable change to existing water quality and this parameter does not trigger a Tier II antidegradation analysis.

(b) Dissolved oxygen decrease of 0.2 mg/L or greater;

Solids from uneaten feed and feces that settle to the bottom of the raceways are composed of organic matter including BOD, which is used to measure the amount of oxygen consumed by microorganisms when they decompose the organic matter in a waterbody. The greater the BOD, the greater the degree of pollution and the less oxygen available. In the process of developing the ELG for CAAP facilities, the EPA determined that control of suspended solids would provide sufficient treatment for the various pollutants of concern, including BOD, because it would remove uneaten feed and fish feces from the effluent since they are either bound to the solids or are incorporated into them (67 FR 57872). Ecology came to a similar conclusion in developing the Upland Finfish Hatching and Rearing General NPDES Permit (2010), i.e., that limits for settleable and suspended solids would effectively control BOD₅. This General Permit includes numeric limits for TSS and SS. In addition, various BMP Operational Requirements ensure that minimal solids will be discharged by the facilities. For example, raceways and ponds must be cleaned at such frequency and in such a manner that minimizes accumulated solids discharged to waters of the U.S. Similarly, fish feeding must be conducted so as to minimize the discharge of unconsumed food. Animal mortalities must be removed and disposed of on a regular basis. Most WAG130000 facilities have settling basins or are large earthen ponds that essentially act as large settling basins. Also, aquaculture facilities strive to maintain high dissolved oxygen levels to maintain fish health. Therefore, the discharges will not cause measurable change to existing water quality and this parameter does not trigger a Tier II antidegradation analysis.

(c) Bacteria level increase of 2 cfu/100 mL or greater;

Aquaculture facilities are not considered to be significant sources of pathogens. Therefore, the discharges will not cause measurable change to existing water quality and this parameter does not trigger a Tier II antidegradation analysis.

(d) pH change of 0.1 units or greater;

The General Permit includes a monitoring requirement for off-line settling basins that discharge directly to waters of the U.S. However, pH is not a pollutant of concern for WAG130000/CAAP facilities (69 FR 51899). Therefore, the discharges will not cause measurable change to existing water quality and this parameter does not trigger a Tier II antidegradation analysis.

(e) Turbidity increase of 0.5 NTU or greater; or

This General Permit includes numeric limits and monitoring requirements for TSS and SS. In addition, various BMP Operational Requirements ensure that minimal solids will be discharged by the facilities. For example, raceways and ponds must be cleaned at such frequency and in such a manner that minimizes accumulated solids discharged to waters of the U.S. Similarly, fish feeding must be conducted so as to minimize the discharge of unconsumed food. Most WAG130000 facilities have settling basins or the large earthen ponds act as large settling basins. Anecdotally, hatchery managers report that the water leaving their facilities is clearer than the

intake water because of the settling that occurs as part of normal hatchery operations. Therefore, the discharges will not cause measurable change to existing water quality and this parameter does not trigger a Tier II antidegradation analysis.

(f) Any detectable increase in the concentration of a toxic or radioactive substance.

Fish excrete small amounts of ammonia nitrogen which in high doses can be toxic to fish, depending on pH and temperature that controls the ionic species of the ammonia-ammonium complex. WAG130000 have a high degree of dilution and closely monitor the health of their fish so ammonia toxicity would be unlikely in the facilities, much less downstream of them. In addition, the GP includes an ammonia monitoring requirement for off-line settling basins that discharge directly to waters of the U.S.

Very few WAG130000 facilities disinfect with chlorine. Most disinfect their ponds or raceways between seasons by draining them, pressure washing, and/or allowing them to dry in the sun. Those facilities that do use chlorine tend to use it to disinfect effluent from “isolation buildings,” which are incubation buildings that house fish eggs from another watershed. Any facility that uses chlorine is subject to permit limits for Total Residual Chlorine, which are set at the Washington State water quality criteria for fresh and marine waters. Facilities are required to monitor for chlorine when the chemical is being used.

Various facilities apply therapeutic chemicals, including formalin, iodine, and Chloramine-T, to promote fish health. As per a BMP requirement in this permit, all drugs and pesticides must be used in accordance with applicable label instructions (FIFRA or FDA), except when part of an Investigational New Animal Drug Study or as an extralabel drug use as prescribed by a veterinarian.

Therefore, the discharges will not cause measurable change to existing water quality and therefore this parameter does not trigger a Tier II antidegradation analysis.

Summary

In the EPA’s opinion, facilities covered under the General Permit will not cause a measurable change in degradation to existing water quality at the edge of the chronic mixing zone. Therefore, a Tier II analysis is not necessary.

B. National Environmental Policy Act (NEPA)

At 42 U.S.C. § 4322, NEPA requires federal agencies to conduct an environmental review of their actions (including permitting activity) that may significantly affect the quality of the human environment. The EPA regulations which implement NEPA, at 40 CFR §122.29(c), clarify this requirement as it pertains to NPDES permitting actions as requiring NEPA environmental review for the issuance of an NPDES permit for new sources only.

A new source is defined at 40 CFR §122.2 as any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:

1. After promulgation of standards of performance under Section 306 of the CWA, which are applicable to such source, or
2. After proposal of standards of performance in accordance with Section 306 of the CWA, which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal.

Aquaculture facilities with an annual production of 100,000 pounds or more of aquatic organisms which discharge to waters of the U.S. are subject to the ELGs for the CAAP Facility Point Source Category. In addition, aquaculture facilities constructed after promulgation of these new source performance standards are considered new sources under 40 CFR 122.29. Because such standards of performance pursuant to Section 306 of the CWA, applicable to discharges concentrated aquatic animal production facilities, were promulgated on August 23, 2004, more than 120 days after proposal (September 12, 2002), "new sources" are those sources whose construction began after September 22, 2004. Before the EPA can issue an NPDES permit to an aquaculture facility that is a "new source," the agency must comply with NEPA.

NEPA Planning

As part of permit development, the EPA asked the USFWS, Northwest Indian Fisheries Commission, Bonneville Power Administration, and the Columbia River Inter-Tribal Fish Commission whether any new construction or expansions were planned that would trigger NEPA review (i.e., 100,000 pounds annual production). These entities were not aware of any plans for new or existing facilities to exceed 100,000 pounds of annual production. In addition, the EPA contacted WAG130000 hatchery managers to learn when their facility was constructed, the date of the most recent upgrade to the facility, and whether they planned to expand production to 100,000 pounds or more over the next 5-10 years. After reviewing the information provided by hatchery managers, the EPA determined that none of the existing facilities triggered a NEPA review. NEPA environmental review is not required for the General Permit but may be required for new sources before the EPA issues authorization to discharge.

Chief Joseph Fish Hatchery

The only new source facility covered under the General Permit is the Chief Joseph Fish Hatchery, owned and operated by the Confederated Tribes of the Colville Reservation. The Chief Joseph Fish hatchery was completed and received permit coverage in 2013. The Chief Joseph Hatchery Program includes a new Chinook fish hatchery on the Columbia River and five acclimation and release ponds on the Okanogan River and Omak Creek, located in Okanogan County, Washington on the Colville Reservation. The project intends to increase returns of adult Chinook salmon in the Okanogan River and Columbia River immediately below Chief Joseph Dam. The fish hatchery and the Omak Acclimation Pond are currently covered by this General Permit. The new hatchery facility on the Columbia River meets the production threshold to be considered a new source. As a new source, coverage of the new hatchery facility under the Washington General Permit was subject to NEPA review. The acclimation ponds on the

Okanogan River and Omak Creek do not meet the production threshold to be considered new sources and coverage of those facilities is not subject to NEPA review.

Pursuant to 40 CFR 1502.21, the EPA incorporated by reference the Chief Joseph Hatchery Program Final Environmental Impact Statement (FEIS) issued by the Bonneville Power Administration in November 2009 [DOE/EIS-0384, Nov 2009]. A copy of the FEIS is available online at the following website:

http://efw.bpa.gov/environmental_services/Document_Library/Chief_Joseph/.

After an independent review of the appropriate sections of the FEIS that address the EPA's action, public comments, response to comments, and Record of Decision (ROD), the EPA determined that the FEIS is complete and appropriate for incorporation by reference under 40 CFR 1502.21. Upon review of the FEIS, the EPA concluded that coverage of the Chief Joseph Hatchery under the Washington General Permit will not result in any significant impacts to the human environment. Based on these findings, the EPA developed an Environmental Assessment (EA)/Preliminary Finding of No Significant Impact (FONSI), which is hereby issued pursuant to the Council on Environmental Quality (CEQ) regulations at 40 CFR 1508.13 and the EPA's regulations for implementing the procedural provisions of NEPA at 40 CFR Part 6.206. See http://www.epa.gov/region10/pdf/permits/npdes/wa/chief_joseph_hatchery_prelim_FONSI.pdf to review the FONSI.

In accordance with Section 511(c)(1) of the CWA and the EPA's regulations for implementing the procedural provisions of NEPA at 40 CFR Part 6, issuance of NPDES permits for new sources are considered major federal actions subject to NEPA review. Renewal of an NPDES permit to a new source is an action subject to NEPA review. As a new source facility, coverage of the Chief Joseph Fish Hatchery under the new General Permit is subject to NEPA review. However, pursuant to 40 CFR Part 6.204(a)(1)(iv), reissuance of NPDES permits to new sources may be categorically excluded from NEPA review, "*providing the conclusions of the original NEPA document are still valid (including the appropriate mitigation), there will be no degradation of the receiving waters, and the permit conditions do not change or are more environmentally protective.*" The reissued General Permit will meet these requirements and, therefore, the EPA has determined the continued coverage of the Chief Joseph Hatchery under the reissued General Permit is eligible for categorical exclusion from further NEPA review. The conclusions of the original EA and FONSI are still valid, there will be no degradation of the receiving waters, and the permit conditions will not change or are more environmentally protective. Comments will not be accepted on the categorical exclusion determination.

C. State and Tribal Certification

Section 401 of the CWA, 33 USC 1341, requires the EPA to seek a certification from the state or tribe in which the discharge originates that the conditions of the General Permit are stringent enough to comply with applicable state and tribal water quality standards. The EPA may not issue the final permit until the state or tribe has granted or waived certification. Federal regulations at 40 CFR 124.53(e) allow for the state or tribe with treatment as a state to stipulate

more stringent conditions in the permit, if the certification cites the CWA or state law upon which that condition is based. The regulations also require a certification to include statements of the extent to which each condition of the permit can be made less stringent without violating the requirements of state law.

The EPA is requesting that Ecology and tribes with treatment as a state review the draft General Permit and provide a draft certification pursuant to 40 CFR 124.53.

After the public comments have been evaluated and addressed, a proposed final General Permit will be sent to the State to begin the final certification process. The final permit must incorporate requirements specified in the 401 certification under 40 CFR 124.53(e).

D. Endangered Species Act [16 USC § 1531 et al.]

Section 7 of the Endangered Species Act (ESA) requires Federal agencies to consult with NOAA Fisheries (NMFS) and the U.S. Fish and Wildlife Service (USFWS) (the Services) if their actions have the potential to either beneficially or adversely affect any threatened or endangered species. The EPA has prepared a Biological Evaluation for review by the Services. The Biological Evaluation is available on the EPA website at <http://yosemite.epa.gov/r10/water.nsf/npdes+permits/general+npdes+permits/#fedaqua>. The EPA is not taking comments on the Biological Evaluation.

Below is a description of the chemicals evaluated, whether they are likely to be discharged into receiving waters, and how the EPA proposes to address these chemicals via this General Permit.

Aquaculture Drugs and Chemicals

Aquaculture Chemicals Expected to be Discharged to Receiving Waters

One of the primary purposes of any NPDES permit is to regulate the discharge of pollutants from a facility to the receiving water. In order to evaluate pollutants discharged, the EPA must know the chemicals used at a facility, specifically those which potentially reach the receiving water. As required in the General Permit, facilities must report proposed/anticipated chemical use in the Notice of Intent (application), and must report actual chemical use in the annual report for that year. The EPA reviewed NOI and annual report information for each facility in order to determine which chemicals are discharged to receiving waters. The list of chemicals that merited the EPA's attention was further developed after conversations with at least one member of the staff, most often the hatchery manager, at each of the 25 hatcheries in Washington covered under this NPDES General Permit renewal. These discussions identified not only the chemicals used at hatcheries, but which chemicals were released to receiving waters from each hatchery, and which hatchery chemicals were not released to receiving waters.

The chemicals used at WAG130000 facilities that EPA believes have the potential to reach receiving waters are the following:

- Chloramine-T – permit limit and monitoring required
- Chlorine – permit limit and monitoring required
- Formalin (active ingredient: formaldehyde) – monitoring not required in the permit, but EPA is planning a study to address formaldehyde in hatchery effluent
- Hydrogen peroxide – monitoring not required
- Potassium permanganate – monitoring not required
- Povidone-iodine – monitoring not required
- Sodium chloride – monitoring not required

As part of its Biological Evaluation to comply with the ESA, the EPA conducted a risk assessment for these seven aquaculture chemicals. For each chemical, the EPA compared the estimated environmental concentration (i.e., the calculated concentration of a chemical in a receiving body of water after its release from a hatchery) with either the measured or calculated chronic (long-term) no effect concentration (NOEC) for a threatened or endangered species. In general, the chemicals released to surface waters by Washington hatcheries are disinfectants with short residence times in the environment, and are unlikely to bioaccumulate into aquatic species serving as prey for any avian or mammalian species

The EPA considered including monitoring requirements for all of the chemicals listed above, with the exception of sodium chloride. Sodium chloride monitoring is not necessary, as its use concentration at hatcheries is within 2 – 3 times its naturally occurring concentration in many freshwaters, and the use volumes are quite small compared to the total volume of water discharged by hatcheries.

Formalin

Formalin is a generic term that describes a solution of 37% formaldehyde gas dissolved in water. The Parasite-S formulation is administered in a bath treatment to control for external protozoa (*Chilodonella spp.*, *Costia spp.*, *Epistylis spp.*, *Ichthyophthirius spp.*, *Scyphidia spp.* and *Trichodina spp.*), and the monogenetic trematode parasites (*Cleidodiscus spp.*, *Dactylogyrus spp.*, and *Gyrodactylus spp.*) on all finfish. It is also used for the control of fungi of the family *Saprolegniaceae* on all finfish eggs (Western Chemical Label, no date)^m.

Formalin is administered to salmon and trout as a bath treatment for prolonged or short periods of time. The standard dosage recommended in the INAD #9013 Protocol to prevent or control fungus on fish and eggs is to administer formalin as a static-bath or flow-through treatment at 15 - 2000 µL/L (ppm) active drug. Eggs are treated daily or every other day until hatch. Fish are treated every other day to weeklyⁿ for 30 to 60 minutes, and then transferred to clean water. The formalin concentration is water temperature dependent and 50^oF is the cutoff for the two treatment concentrations. Salmon and trout are treated up to 170 µL/L at water temperatures above 50^oF and 250 µL/L at temperatures below 50^oF. All other finfish are treated up to 250 µL/L regardless of temperature. Treatment is not recommended to exceed 1.0 hour.

^m <http://www.wchemical.com/products/fish-egg-treatments/parasite-s-formalin/parasite-s.html>

ⁿ <http://www.fws.gov/fisheries/aadap/summaryHistoryFormalin.htm> accessed 8/12/2014

In the finding of no significant impact for Parasite-S, the FDA requires a 10-fold dilution of finfish treatment water and a 100-fold dilution of finfish egg treatment water, which should lead to a discharge concentration of no more than 25 ppm (equivalent to 25 µL/L).^o The FDA contended that additional in-stream dilution, infrequent use, and rapid degradation would render the discharged formalin below a level that causes significant environmental effects on aquatic animals (formaldehyde, the active ingredient in formalin, is oxidized in the aquatic environment into formic acid and ultimately into carbon dioxide and water; the estimated half-life of formaldehyde in water is approximately 36 hours). Directions for dilution of treatment water and additional environmental precautions are described on the labeling of the product. See http://www.wchemical.com/downloads/dl/file/id/45/parasite_s_package_insert.pdf for the product label.

As part of its Biological Evaluation in compliance with the Endangered Species Act, the EPA performed a risk assessment to determine whether formalin use at hatcheries has the potential to affect threatened or listed species or their critical habitat. The EPA's risk assessment likely resulted in unrealistically conservative assumptions, and did not account for in-stream dilution. Based on the available toxicological data for threatened and endangered salmonids, the EPA believes that the FDA's dilution requirement will be protective of aquatic life in Washington waters.

The EPA considered adding the following monitoring requirements to the General Permit: "In order to confirm that facilities are following the FDA formalin label use instructions (i.e., achieving an end-of-pipe concentration of 25 µL/L formalin), facilities must monitor for formaldehyde during the first four quarters in which formalin is used (not necessarily consecutive quarters). Formaldehyde monitoring may cease after the first four quarters in which formalin is used if all monitoring results are below 10 mg/L formaldehyde (Note: 25 µL/L formalin contains 10 mg/L of formaldehyde, which is the active ingredient in formalin)^p. Analytical chemistry laboratories report results for the formaldehyde concentration in a sample, not the formalin concentration in a sample.

Sampling for formaldehyde must be conducted only during formalin use. Sampling is not required if formalin is not used and "No Discharge" must be reported on the Discharge Monitoring Reports for that month. In order to capture the maximum concentration of formaldehyde, sampling for formaldehyde must occur as soon as possible after any application of formalin to the hatchery's culture water, after accounting for its detention time through the raceways, tanks and piping networks to the outfall. The detention time calculation must take into

^o http://water.epa.gov/scitech/wastetech/guide/aquaculture/upload/2005_09_01_guide_aquaculture_EEBA_EEBA-Chapter-7.pdf accessed 12/5/2014

^p To convert 25 µL formalin per 1 Liter of water to X milligrams formalin per Liter of water:
(25 µL formalin / L water) x (1.08 g / mL) x (0.001 mL / 1 µL) x (1000 mg / 1 g) = 27 mg formalin / L water
To account for the mass percent of formaldehyde in formalin (37%):
(27 mg formalin / L water) x (37 mg formaldehyde / 100 mg formalin) = 10 mg formaldehyde / L water

account dosage, injection point, facility flow (both velocity and volume), etc. where possible. Formaldehyde must be tested using EPA Method 8315A. Alternate analytical method(s) must be approved by the EPA at the Permittee's written request as long as the Permittee utilizes method(s) that obtain MLs that are equal to or less than 50 µg/l.

The EPA also proposes that facilities maintain detailed records of their formalin treatments, including how they calculate the maximum effluent concentration for formalin, as reported in their Annual Reports (see Appendix E of the draft General Permit)."

Field Study: Formalin in Aquaculture Effluent

Calculating the maximum concentration of water-borne treatments in hatchery effluent can be challenging. Formalin presents a particularly complicated case because many facilities send their formalin-treated water to a holding tank, from which it is slowly metered out and mixed with hatchery water that does not contain formaldehyde. The EPA does not currently have the data inputs to calculate the formalin concentration in the effluent for all facilities because we do not have complete information on holding tank size, flow and internal dilution rates, facility retention times, etc. for each treatment. Facilities will be required to maintain the necessary records to calculate maximum effluent concentrations in this next permit cycle.

The EPA is undertaking a study to ascertain the concentration of formaldehyde in Pacific Northwest aquaculture effluent. End of pipe samples will be collected from a representative subset of federal, tribal, state, and privately owned facilities in Washington and Idaho. This study will include facilities with NPDES permit coverage under the EPA's general aquaculture permits for Washington and Idaho, as well as Ecology's general permit for upland finfish hatcheries. The EPA will work with facilities to predict maximum effluent concentrations of the chemical, given individual facility retention times, and samples will capture peak formaldehyde concentrations. Within Washington State, the EPA is partnering with USFWS, tribes, and WDFW to select facilities that present a representative and/or reasonable worst case formalin use. The EPA plans to conduct effluent sampling to account for the three formalin use scenarios: egg stacks/hatch houses, juveniles, and returning adults. Sampling will be conducted during the summer and fall seasons, likely in 2016. The EPA Region 10 Laboratory will analyze the samples with a sufficiently sensitive method (e.g. EPA Method 8315).

Based on many discussions with permittees, USFWS, Ecology, USGS, and the Northwest Indian Fisheries Commission, the EPA expects that this study will confirm that formalin use in Northwest aquaculture facilities does not present ecological risk to listed species or the aquatic environment. If, however, the study results suggest that formaldehyde estimated environmental concentrations are unacceptably high, the EPA will take steps to work with permittees to adjust their formalin use (e.g., treat a smaller subset of the hatchery at a time, provide more internal dilution prior to discharge, route formalin-treated water to an offline settling basin, or hold treated water for a longer period of time to allow for degradation). However, if the results of this field study demonstrate that formaldehyde estimated environmental concentrations are higher

than allowed on the approved label or higher than acceptable levels to ESA listed species, formalin will be addressed in future NPDES aquaculture permits.

Hydrogen Peroxide

Hydrogen peroxide is classified as a low regulatory priority aquaculture drug by the FDA. It is used in hatcheries as a bath treatment to control fungal diseases in fish, as well as in fish eggs prior to hatch. The commercially available 35% hydrogen peroxide solution is diluted before use in disinfection. The diluted solution to which fish and fish eggs are exposed contains 50 – 1000 mg/L hydrogen peroxide. Exposure durations at hatcheries range between 15 – 60 minutes/day, with the higher concentrations used in conjunction with the shortest exposure durations. Depending on the specific fungal infection, treatments can be repeated on multiple days, or on alternating days up to a total of three treatments/fish.

The EPA performed a risk assessment for hydrogen peroxide. The estimated environmental concentrations of hydrogen peroxide were substantially lower than the lowest chronic NOEC levels for threatened and endangered species (see the Biological Evaluation for details), indicative of acceptable levels of ecological risk to the species under all hatchery discharge scenarios. The estimated environmental concentrations values are additionally conservative because they did not take into account the rapid degradation of environmental concentrations of hydrogen peroxide. Because the levels of hydrogen peroxide released by hatcheries are not chronically toxic, and because the chemical breaks down so quickly to innocuous components (i.e., water and oxygen), monitoring for hydrogen peroxide is not necessary.

Potassium Permanganate

Potassium permanganate is normally administered in a static bath to control external protozoan and metazoan parasites, and bacterial and fungal infections. Based on the permanganate demand of hatchery water, exposure concentrations range between 2 – 10 mg/L, applied in 2 mg/L increments until an effective concentration is found for the specific hatchery. Exposure durations at hatcheries range between 30 – 60 minutes/day. Although fish are normally exposed to only a single KMnO₄ exposure, treatments can be safely repeated on multiple days. Potassium permanganate is currently in a deferred regulatory status according to the FDA, meaning that it not a low regulatory priority chemical, however the FDA has deferred regulatory action pending further study.

A comparison of chronic NOECs and the estimated environmental concentration of potassium permanganate indicates acceptable levels of ecological risk to the species under all hatchery discharge scenarios (see the Biological Evaluation for details). The estimated environmental concentration values do not take into account the rapid degradation of environmental concentrations of potassium permanganate when it comes into contact with organic matter in surface waters. Thus, this analysis almost certainly overestimates potential ecological risks to threatened and endangered species.

The EPA considered adding the following monitoring requirements to the General Permit:
“Permanganate ion is the toxicologically active form of potassium permanganate. Manganese is an indicator of permanganate. Manganese must be tested using EPA Method 200.7. The ML for manganese is 0.5 µg/L. Since manganese can be naturally occurring, facilities must sample both the influent and effluent, and must report net manganese concentrations. Sampling for manganese must be conducted only during potassium permanganate use. Sampling is not required if the chemical is not used and “No Discharge” must be reported on the Discharge Monitoring Reports for that month. In order to capture the maximum concentration of manganese, sampling must occur as soon as possible (i.e., within 15 minutes) after any application of potassium permanganate to the hatchery’s culture water, after accounting for its detention time through the raceways, tanks and piping networks to the outfall. The detention time calculation must take into account dosage, injection point, facility flow (both velocity and volume), etc. where possible.” However, since the environmental risk from hatchery potassium permanganate is negligible, the EPA has decided not to require monitoring for the chemical.

Povidone-Iodine

In aquaculture, povidone-iodine is commonly used as a bath treatment to disinfect fish eggs prior to hatch. The commercially available 10% povidone-iodine solution is diluted before use in disinfecting fish eggs. The diluted solution to which fish eggs are exposed contains 50 – 100 mg/L iodine. Povidone-iodine is effective against many bacterial, fungal and viral infections. A secondary use is to disinfect boots and other small pieces of equipment.

The estimated environmental concentration of iodine is orders of magnitude lower than the Chronic NOEC levels under all hatchery discharge scenarios (see the Biological Evaluation for details). The EPA’s analysis overestimates the environmental risk because the estimated environmental concentration values do not take into account any degradation of environmental concentrations of povidone-iodine.

The EPA considered adding the following monitoring requirements to the General Permit:
“Sampling for iodine must be conducted only when iodine is present in process water that will be discharged to a receiving water. If iodine is not discharged to a receiving water (such as when iodine is used in footbaths or for equipment disinfection), monitoring is not necessary. Sampling is not required if the chemical is not used and “No Discharge” must be reported on the Discharge Monitoring Reports for that month. In order to capture the maximum concentration of iodine, sampling must occur as soon as possible (i.e., within 15 minutes) after any application of iodine to the hatchery’s culture water, after accounting for its detention time through the raceways, tanks and piping networks to the outfall. The detention time calculation must take into account dosage, injection point, facility flow (both velocity and volume), etc. where possible. Because of the volatility of the chemical, permittees must use a field test kit, and analyses must be performed as soon as possible after sampling. Any instrument or test kit must be able to detect as low as 0.07 mg/L. Permittees must test for iodine when chlorine and/or bromine are not present.” However, since the environmental risk from hatchery iodine discharges is negligible, the EPA has decided not to require monitoring for iodine.

Aquaculture Chemicals Not Expected to be Discharged to Receiving Waters

Based on a review of facility annual reports and the EPA's discussions with hatchery personnel, fish pathologists, and fish health experts with the USFWS, Tribes, and the U.S. Food and Drug Administration, the use patterns, use volumes, and disposal practices of a number of hatchery chemicals eliminates or severely limits discharge of some chemicals into the environment. Such chemicals do not have complete and significant exposure pathways receiving waters. Thus, there is no need to require monitoring for these hatchery chemicals.

Chemicals used but not released to the environment ranged from those used in laboratory testing procedures (e.g. pH buffers, conductivity standards); disinfectants; injectable chemicals (e.g. antibiotics such as azithromycin, where injected adult fish were subsequently disposed of in upland facilities, not released back to surface waters or used in nutrient enhancement of streams); medicated feeds, where fish feed is dosed with an antibiotic or parasite control chemical; and anesthetics (chemicals used to calm or immobilize fish). Finally, there is a small group of chemicals used by some hatcheries in Washington for various other purposes, such as a skin protectant and sodium thiosulfate used to neutralize chlorine or iodine.

The EPA does not propose to require monitoring for chemicals injected into adult fish at hatcheries because of the following reasons:

1. Targeted, very small doses are injected into adult fish only, not the younger life stages of fish that are eventually released from hatcheries.
2. The therapeutic doses of injected chemicals are not toxic to the injected fish, and would therefore not be toxic to aquatic life in the environment after any biotransformation, metabolism, depuration and dilution of the injected chemical before it is discharged to the environment.
3. Injected fish are not released to the environment for nutrient enhancement purposes, nor are they consumed by humans. Instead, the carcasses of injected fish are disposed in landfills after spawning is complete.
4. Injectable drugs are not used at very many Washington hatcheries. Injections are specific chemicals injected into adult fish at low concentrations and volumes to treat one of several specific diseases.
5. Treatment of a large number of adult fish with injectable drugs would be cost prohibitive, limiting the incentive for hatcheries to use large quantities of injectables.
6. Discussions with hatchery personnel and fish health professionals have confirmed to EPA that injected chemicals or their metabolic transformation products are either not released to the environment, or if released at all, are released in negligible quantities.

The EPA does not propose to require monitoring for medicated feeds because of the following reasons:

1. Feed is expensive, so hatchery managers have every incentive to waste as little as possible. Medicated feeds are even more expensive than non-medicated feeds.
2. Hatcheries frequently clean or vacuum their raceways after feeding. The cleaning frequency varies from weekly to daily, depending on the facility and conditions.
3. Settling basins allow uneaten food particles to settle out before hatchery water is discharged.
4. USFWS (and many tribally operated) hatchery settling ponds are of sufficient size that even the fine particles are settled out prior to reaching receiving waters.
5. Medicated feed concentrations used at hatcheries are not toxic to the fish in the hatchery. Medicated feed concentrations in receiving waters would be diluted from what is used in the hatchery.
6. In general, hatcheries covered by this General Permit are trying to slow fish growth, and therefor generate less feed waste since they are not trying to maximize fish growth.
7. Hatcheries try to avoid using medicated feed in the first place, since its use is for disease control. Normal hatchery operations attempt to prevent disease, not treat it.
8. During medicated feed treatments occurring during disease outbreaks, hatcheries remove excess feed even more frequently than normal to make the fish-raising environment as clean as possible.

Minimal use patterns and volumes, and lack of appreciable discharge into receiving waters is also the reason EPA is not requiring monitoring for the following chemicals:

1. MS-222. This anesthetic is used at 11 facilities covered by this General Permit, at an exposure concentration of 10 grams per 50 gallon tank (roughly 50 mg/L). These tanks are isolated from hatchery raceways, and their contents are not discharged into receiving waters after use.
2. PolyAqua[®]. A skin protectant for slime replacement used during fish handling at one hatchery. De minimus use and discharge.
3. Sodium thiosulfate. Used by two facilities to neutralize excess chlorine or iodine used during disinfection. As long as sodium thiosulfate is not used in stoichiometric excess, where such excess results in reduced oxygen concentrations in water, the reaction products of sodium thiosulfate with halides are non-toxic halide anions (i.e. chloride, iodide).

Preliminary ESA Determination

Based on its Biological Evaluation and risk assessments, the EPA has tentatively determined that this General Permit is *not likely to adversely affect threatened or endangered species or their critical habitat*.

E. Essential Fish Habitat (EFH)

Essential fish habitat (EFH) is the waters and substrate (sediments, etc.) necessary for fish to spawn, breed, feed, or grow to maturity. The Magnuson-Stevens Fishery Management and

Conservation Act (January 21, 1999) requires the EPA to consult with NOAA-NMFS when a proposed discharge has the potential to adversely affect EFH. The EFH regulations define an adverse effect as “any impact which reduces quality and/or quantity of EFH... [and] may include direct (e.g. contamination or physical disruption), indirect (e.g. loss of prey, reduction in species’ fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.” NMFS may recommend measures for attachment to the federal action to protect EFH; however, such recommendations are advisory, and not prescriptive in nature.

The EPA has tentatively determined that the reissuance of this draft General Permit is *not likely to affect essential fish habitat* (refer to Biological Evaluation or Section XI.D. of this Fact Sheet for further explanation). The EPA has determined that issuance of this permit is not likely to adversely affect EFH in the vicinity of the discharge. The EPA has provided NOAA Fisheries with copies of the draft permit and fact sheet during the public notice period. Any comments received from NOAA Fisheries regarding EFH will be considered prior to reissuance of this permit.

If, during the course of the permit or ESA process, it is determined that a discharge *may adversely affect* any listed threatened, endangered, or candidate species; and/or *may adversely affect or* “extensive conservation requirements are necessary to protect” EFH, the facility may need to apply for an individual permit (Part II.C of the General Permit).

F. Permit Expiration

This General Permit will expire five (5) years from the effective date.

G. Standard Permit Provisions

Specific regulatory management requirements for NPDES permits are contained in 40 CFR 122.41. These conditions are included in the Draft General Permit in Parts V-VII as standard regulatory language that must be included in all NPDES permits. The standard regulatory language covers requirements such as monitoring, recording, reporting requirements, compliance responsibilities, and other general requirements.

XII. DEFINITIONS AND ACRONYMS

The Act - The Clean Water Act, codified at 33 U.S.C. §1251 et seq.

Administrator - The Administrator of the United States Environmental Protection Agency, or an authorized representative (40 CFR §122.2).

Aquaculture facility - A hatchery, fish farm, or other facility which contains, grows, or holds fish for later harvest (or process) and sale or for release.

Average monthly limit - The maximum allowable average of “daily discharges” over a monitoring month, calculated as the sum of all “daily discharges” measured during a monitoring month divided by the number of “daily discharges” measured during that month. It may also be referred to as the "monthly average discharge"(40 CFR §122.2).

Background - The biological, physical, or chemical condition of waters measured at a point immediately upstream of the influence of the discharge.

BAT - Best available technology economically achievable.

BCT - Best conventional pollutant control technology.

Beneficial use - A desirable use of a water resource, such as recreation (fishing, boating, swimming) and water supply.

Best Management Practices (BMPs) - Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of Waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. (40 CFR §122.2)

BOD (Biochemical oxygen demand) - The measure of the oxygen required to break down organic materials in water. Higher organic loads require larger amounts of oxygen and may reduce the amount of oxygen available for fish and aquatic life below acceptable levels. Unless otherwise specified, this term means the 5-day BOD incubated at 20° C. (BOD₅)

BPJ - Best professional judgment.

BPT - Best practicable control technology currently available.

Bypass - The intentional diversion of waste streams from any portion of a treatment facility. (40 CFR §122.41 (m))

CAAP - Concentrated aquatic animal production; At 40 CFR §122.24, the EPA defines concentrated aquatic animal production (CAAP) facilities as point sources subject to the National Pollutant Discharge Elimination System (NPDES) permit program including those upland facilities that discharge for at least 30 days per year and contain, grow, or hold cold water fish

species or other cold water aquatic animals except in facilities which produce less than 9,0000 harvest weight kilograms (approximately 20,000 pounds) of aquatic animals per year and facilities which feed less than 2,272 kilograms (approximately 5,000 pounds) of food during the calendar month of maximum feeding.

CFR - Code of Federal Regulations, the body of federal regulations. Title 40 of the Code of Federal Regulations, Parts 1 - 1499 contains regulations of the Environmental Protection Agency.

cfs - Cubic feet per second.

Chemical - Any substance that is added to the facility to maintain or restore water quality for aquatic animal production and that may be discharged to Waters of the United States.

Clean Water Act - Formerly referred to as the Federal Water Pollution Control Act of 1972, codified at 33 U.S.C. §1251 et seq.

Cold water species - Cold water aquatic animals include, but are not limited to, the Salmonidae family of fish, e.g. trout and salmon.

Composite sample - A combination of four or more discrete samples taken at on-half hour intervals or greater over a 24-hour period; at least one fourth of the samples must be taken while cleaning. Facilities with multiple effluent discharge points and/or influent points must composite samples from all points proportionally to their respective flows.

Core rearing - A designated use of a water body where there is moderate to high density use by salmonid species, usually in the middle to upper reaches of a river system.

Critical Habitat - The geographical area occupied by a threatened or endangered species. See 16 U.S.C. §1532 (the Endangered Species Act of 1973) for a complete definition.

CWA - The Clean Water Act, 33 U.S.C. §1251 et seq.

DMR - Discharge monitoring report.

Director - The Director of the EPA Region 10 Office of Water and Watersheds.

Discharge of a pollutant-

(a) Any addition of any “pollutant” or combination of pollutants to “waters of the United States” from any “point source,” or (b) Any addition of any pollutant or combination of pollutants to the waters of the “contiguous zone” or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation.

This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by humans; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any “indirect discharger” (40 CFR §122.2).

Disinfectant - Any chemical used to reduce pathogenic or objectionable organisms, including but not limited to algicides, fungicides, and pesticides.

Ecology - The Washington Department of Ecology.

Effluent - Wastewater discharged from a point source, such as a pipe.

Effluent limitation - Any restriction imposed by the Director on quantities, discharge rates, and concentrations of “pollutants” which are “discharged” from “point sources” into “waters of the United States,” the waters of the “contiguous zone,” or the ocean (40 CFR §122.2).

ELGs (effluent limitations guidelines) - Regulations published by the Administrator under Section 304(b) of CWA to adopt or revise “effluent limitations.” (40 CFR §122.2).

EPA - The United States Environmental Protection Agency.

Extralabel Drug Use - A drug approved under the Federal Food, Drug, and Cosmetic Act that is not used in accordance with the approved label directions; see 21 CFR 530. (40 CFR §451.2(f))

FR (or Fed.Reg.) - The Federal Register, the official daily publication for rules, proposed rules, and notices of Federal agencies and organizations, as well as executive orders and other presidential documents.

Flow-through System - A system designed for continuous water flow to waters of the United States through chambers used to produce aquatic animals. Flow-through systems typically use either raceways or tank systems. Water is transported from nearby rivers or springs to raceways which are typically long, rectangular chambers at or below grade, constructed of earth, concrete, plastic, or metal. Tanks systems are similarly supplied with water and concentrate aquatic animals in circular or rectangular tanks above grade. The term “flow through system” does not include net pens.

General Permit - An NPDES permit issued in accordance with 40 CFR §122.28, authorizing a category of discharges under the CWA within a geographical area. (40 CFR §122.2)

Grab Samples - A discrete volume of water collected, by hand or machine, during one short sampling period (less than 15 minutes).

Hatchery - Culture or rearing unit such as a raceway, pond, tank, net or other structure used to contain, hold or produce aquatic animals. The containment system includes structures designed to hold sediments and other materials that are part of a wastewater treatment system. (40 CFR §451.2 (c))

Hazardous Substance - Any substance designated under 40 CFR part 116, pursuant to Section 311 of the CWA.

Impaired Waters - Waters identified by Ecology pursuant to Section 303(d) of the Clean Water Act for which effluent limitations guidelines are not stringent enough to implement all applicable water quality standards.

INAD - Investigational New Animal Drug, a drug for which there is a valid exemption in effect under section 512(j) of the Federal Food, Drug, and Cosmetic Act, 21 U.S.C.360b(j), to conduct experiments. (40 CFR §451.2(h))

Indian Country - “all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation, (b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state, and (c) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.” (18 USC §1151)

Influent - The water entering a facility or part of a facility.

Listed Endangered or Threatened Species - Species that are in danger of extinction throughout all or a significant portion of their range or that are likely to become endangered species within the foreseeable future. See 16 U.S.C. §1532 (the Endangered Species Act of 1973) for a complete definition.

mg/L - Milligrams of solute per liter of solution, equivalent to parts per million, assuming unit density.

Minimum level (ML) - The concentration at which the entire analytical system must give a recognizable signal and an acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes and processing steps have been followed (40 CFR §136).

Monthly average - The average of “daily discharges” over a monitoring month, calculated as the sum of all “daily discharges” measured during a monitoring month divided by the number of “daily discharges” measured during that month (40 CFR §122.2).

NPDES (National Pollutant Discharge Elimination System) - The national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of CWA (40 CFR §122.2).

Net - The difference between effluent concentration and influent concentration (or loads).

Net Pen - A stationary, suspended, or floating system of nets or screens in open marine, lake, or estuarine waters of the United States. Net pen systems are typically located along a shore or pier

or may be anchored and floating offshore. Net pens and cages rely on tides or currents to provide a continual supply of high quality water.

New Source - Any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:

- (a) After promulgation of standards of performance under Section 306 of the CWA, which are applicable to such source, or
- (b) After proposal of standards of performance in accordance with Section 306 of the CWA, which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal. (40 CFR §122.2)

NOI (Notice of Intent) - A written application form submitted to the permitting authority (i.e. EPA) seeking authorization to discharge under a General Permit.

NPDES - The National Pollutant Discharge Elimination System, the national program for issuing, modifying, revoking and reissuing, terminating, monitoring, and enforcing [wastewater discharge] permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318, and 405 of the CWA. (40 CFR §122.2)

Off-line Settling Basin - A constructed retention basin that receives wastewater from cleaning of aquaculture facility rearing or holding units and/or quiescent zones for the retention and treatment of the wastewater through settling of solids.

Outfall – A discrete point or outlet where the discharge is released to the receiving water.

Outstanding National Resource - A state park, game sanctuary or refuge; a national park, preserve, or monument; a national wildlife refuge; a national wilderness area; or a river designated as *wild* or *scenic* under the Wild and Scenic Rivers Act.

Permittee - An individual, association, partnership, corporation, municipality, Indian Tribe or authorized Indian tribal organization, State or Federal agency, or an agent or employee thereof, who is authorized by the EPA to discharge in accordance with the requirements of the General Permit.

Point Source - Any discernible, confined, and discrete conveyance from which pollutants are or may be discharged.

Pollutant - Chemical wastes, biological materials, ... industrial waste discharge into water. (40 CFR §122.2)

Production - The act of harvesting, processing or releasing fish, or the harvest weight of fish contained, grown, or held in a CAAP facility. (40 CFR §122, Appx. C)

Publicly Owned Treatment Works (POTW) - Devices and systems, owned by a state or municipality, used in storage, treatment, recycling, and reclamation of municipal sewage or liquid industrial wastes, including sewers that convey wastewater to a POTW treatment plant. (40 CFR §403.3)

QA - Quality assurance, an integrated system of management activities involving planning, implementation, documentation, assessment, reporting, and quality improvement to ensure that a process, item, or service is of the type and quality needed to meet the performance criteria.

Recirculating System - A system that filters and reuses water in which the aquatic animals are produced prior to discharge; recirculating systems typically use tanks, biological or mechanical filtration, and mechanical support equipment to maintain high quality water to produce aquatic animals.

Regional Administrator - The Administrator of Region 10 of the United States Environmental Protection Agency, or an authorized representative.

Severe property damage - Substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR § 122.41(m)(ii))

Special Resource Tribal Waters - Waters that comprise a special and/or a unique resource to the Tribe, as determined by the appropriate tribal authority at the time a discharger seeks coverage under this General Permit

TSS - Total Suspended Solids.

Tier II water - Waters of a higher quality than the criteria assigned that may not be degraded unless such lowering of water quality is necessary and in the overriding public interest.

Toxic pollutants - Those pollutants, or combinations of pollutants, including disease-causing agents, which, after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to the Administrator, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunctions in reproduction) or physical deformation in such organisms or their offspring. (CWA §502(13))

Toxic substances ... Substances that when discharged above natural background levels in waters of the state have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic toxicity to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the Department of Ecology.

TSD - *Technical Support Document for water quality-based toxics control* (EPA 1991).

TSS - Total suspended solids, of which the concentration in water is measured in mg/L.

Upland hatchery - A hatchery not located within the waters of the State (or, by extension, the U.S.) where fish are hatched, fed, nurtured, held, maintained, or reared to reach the size of release or for market sale. (WAC 173-221A-030)

Upset - An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by

operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation. (40 CFR §122.41(n)(1)).

WAC - Washington Administrative Code.

WQBEL (Water quality-based effluent limitation) - An effluent limitation that is applied to a discharger when technology-based limitations would cause violations of water quality standards.

WET (Whole effluent toxicity) - The aggregate toxic effect of an effluent measured directly by a toxicity test (40 CFR §122.2).

WLA - Wasteload allocation, the amount of pollutant assigned to a specific discharger in a TMDL or, in the absence of a TMDL, calculated by the permitting authority to comply with water quality standards in the receiving water.

Warm water species - Fish that include, but are not limited to, the *Ameiuride*, *Centrarchidae* and *Cyprinidae* families of fish, e.g., respectively, catfish, sunfish and minnows.

Waters of the United States (40 CFR §122.2) -

- (a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- (b) All interstate waters, including interstate wetlands;
- (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
 - (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes;
 - (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - (3) Which are or could be used for industrial purposes by industries in interstate commerce;
- (d) All impoundments of waters otherwise defined as Waters of the United States under this definition;
- (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition;
- (f) The territorial sea; and
- (g) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

XIII. REFERENCES

Final Rule, Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category, 69 *Fed. Reg.* 51892 (August 23, 2004).

USEPA (1991). Technical Support Document for Water Quality-Based Toxics Control. Office of Water, Washington, D.C. EPA/505/2-90-001 (March 1991).

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USEPA Region 10 (2007). Aquaculture Facilities in Idaho. NPDES Permit Nos. ID-G13-0000 and ID-G13-1000 and Fact Sheet.

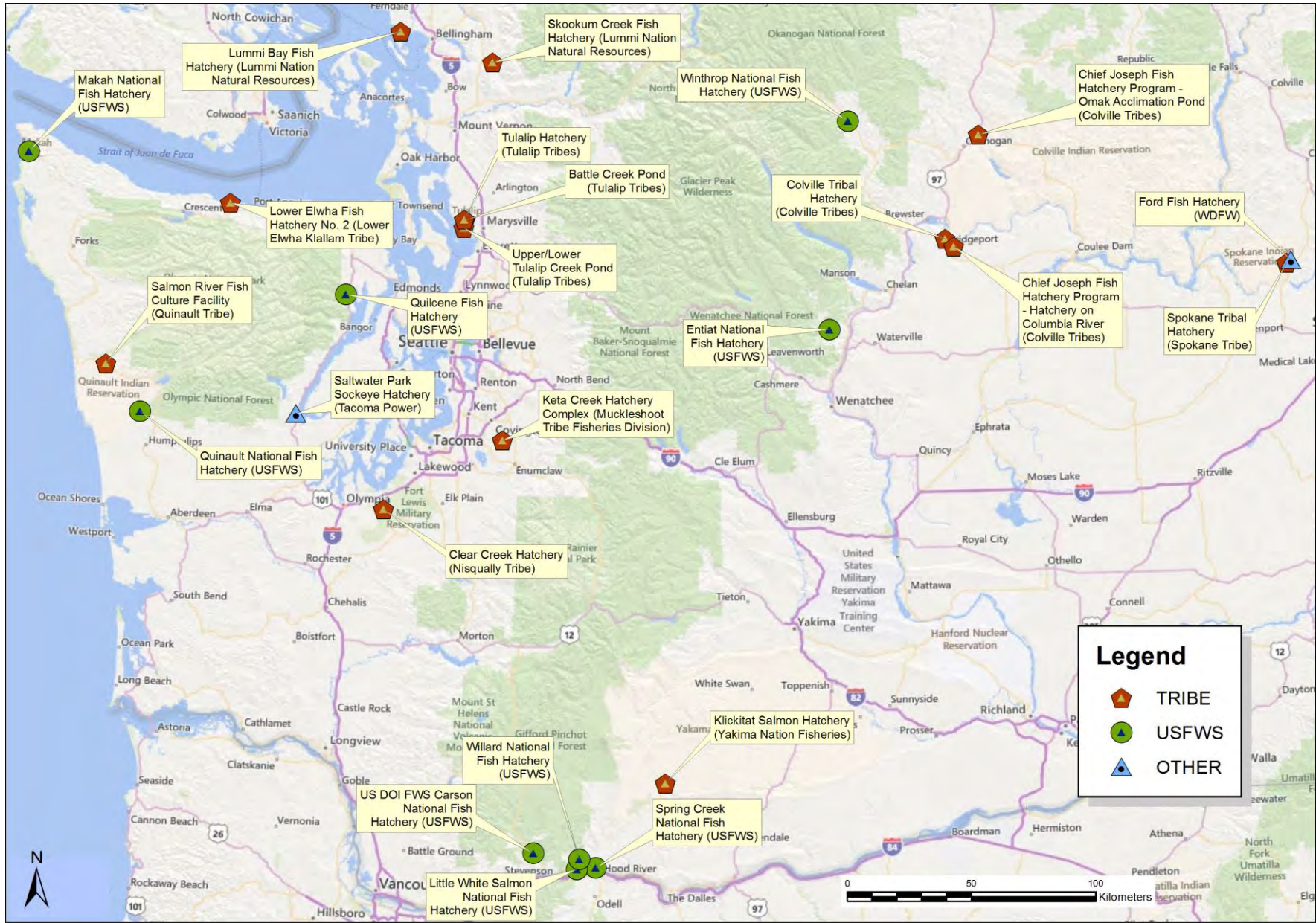
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Washington Dept. of Ecology (2002). Cypress Island, Inc. (Dana Passage – Hartstene Island), NPDES permit #WA0040401, March 20, 2002.

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Appendix A

Facilities Covered by the General Permit



**EPA General Permit – Washington – WAG-130000
Federal Aquaculture Facilities and Aquaculture Facilities in Indian Country**

PERMIT NO.	FACILITY NAME	AGENCY/TRIBE	RECEIVING WATER
WAG130001	Carson National Fish Hatchery	USFWS	Wind River
WAG130002	Entiat National Fish Hatchery	USFWS	Entiat River
WAG130003	Little White Salmon National Fish Hatchery	USFWS	Little White Salmon River
WAG130004	Makah National Fish Hatchery	USFWS	Sooes River
WAG130005	Quinault National Fish Hatchery	USFWS	Cook Creek
WAG130006	Spring Creek National Fish Hatchery	USFWS	Columbia River
WAG130007	Willard National Fish Hatchery	USFWS	Little White Salmon River
WAG130008	Winthrop National Fish Hatchery	USFWS	Methow River
WAG130009	Ford State Fish Hatchery	WDFW	Chamokane Creek
WAG130010	Salmon River Fish Culture Facility	Quinault Department of Fisheries	Salmon River
WAG130011	- terminated -		Elwha River
WAG130012	Tulalip Hatchery	Tulalip Tribes	Tulalip Creek
WAG130013	Upper & Lower Tulalip Creek Ponds	Tulalip Tribes	Tulalip Bay
WAG130014	Battle Creek Pond	Tulalip Tribes	Tulalip Creek, Tulalip Bay
WAG130015	Clear Creek Hatchery	Nisqually Indian Tribe	Nisqually River
WAG130016	Colville Tribal Hatchery	Confederated Tribes of the Colville Reservation	Columbia River
WAG130017	Skookum Creek Fish Hatchery	Lummi Nation Natural Resources	South Fork Nooksack River
WAG130018	Lummi Bay Fish Hatchery	Lummi Nation Natural Resources	Lummi Bay
WAG130019	Spokane Tribal Hatchery	Spokane Tribe of Indians	Metamootles/Galbraith Springs
WAG130020	Keta Creek Hatchery Complex	Muckleshoot Indian Tribe - Fisheries Division	Crisp Creek
WAG130021	Klickitat Salmon Hatchery	Yakama Nation Fisheries	Klickitat River
WAG130022	Quilcene National Fish Hatchery	USFWS	Big Quilcene River

WAG130023	House of Salmon	Lower Elwha Klallam Tribe	Elwha River
WAG130024	Chief Joseph Fish Hatchery Program - Omak Acclimation Pond	Confederated Tribes of the Colville Reservation	Okanogan River
WAG130025	Chief Joseph Fish Hatchery Program - Hatchery on Columbia River	Confederated Tribes of the Colville Reservation	Columbia River
WAG130026	Saltwater Park Sockeye Hatchery	Tacoma Power	So. Hood Canal

Appendix B — Basis for Effluent Limitations

A. Statutory and Regulatory Basis for Limits

Sections 101, 301(b), 304, 308, 401, 402, and 405 of the CWA provide the basis for effluent limitations and other conditions in the draft permit. The EPA evaluates the discharges with respect to these sections of the CWA and relevant NPDES regulations to determine which conditions to include in the draft permit.

In general, the EPA first determines which technology-based limits must be incorporated into the permit. The EPA then evaluates the effluent quality expected to result from these controls to see if water quality standards for the receiving waters may still be exceeded. If exceedances could occur, the EPA must include water quality based effluent limits (WQBELs) in the permit. The proposed permit limits will reflect whichever limits (technology-based or water quality-based) are more stringent.

B. Technology-Based Effluent Limits

Section 301(b) of the CWA, 33 USC § 1311(b), requires technology-based controls on effluents. All NPDES permits must contain effluent limitations which: (a) control toxic pollutants and nonconventional pollutants through the use of “best available technology economically achievable” (BAT), and (b) control conventional pollutants through the use of “best conventional pollutant control technology” (BCT). In no case may BAT or BCT be less stringent than the “best practical control technology currently achievable” (BPT), which is the minimum level of control required by Section 301(b)(1)(A) of the CWA, 33 USC § 1311(b)(1)(A).

The intent of a technology-based effluent limitation (TBEL) is to require a minimum level of treatment for industrial point sources based on currently available treatment technologies while allowing a discharger to choose and use any available control technique to meet the limitations. Accordingly, every individual member of a discharge class or category is required to operate their water pollution control technologies according to industry-wide standards and accepted engineering practices.

In many cases, BPT, BCT, and BAT limitations are based on effluent limitations guidelines (ELGs) developed by the EPA for specific industries. Where the EPA has not yet developed guidelines for a particular industry or a particular pollutant, technology-based effluent limits must be established using best professional judgment (BPJ) (40 CFR §§122.43, 122.44, and 125.3).

The ELG, which became effective on September 22, 2004, establishes narrative effluent limitations requiring implementation of effective operational and management practices rather than numeric limits. However, the NPDES regulations allow a permit writer to establish numeric limits for pollutants of concern, including in General Permits. The preamble of the final

regulation [69 FR 51899 (August 23, 2004)] recognizes that EPA already establishes numeric limits in CAAP permits under appropriate circumstances: “In fact, one of the bases for EPA’s decision not to establish uniform national TSS limits is the recognition that a number of states, particularly those with significant numbers of CAAP facilities, already have General Permits with numeric limits tailored to the specific production systems, species raised, and environmental conditions in the state and these permits seem to be working well to minimize discharges of suspended solids.” The EPA has used BPJ to develop the technology-based effluent limitations in the draft General Permit.

As described in Section D, below, technology-based limitations are proposed for suspended and settleable solids. The EPA does not propose to change the permit limits from the 2009 General Permit.

C. Water Quality-Based Evaluation

In addition to the technology-based limits discussed above, the EPA evaluated the potential discharges to determine compliance with Section 301(b)(1)(C) of the CWA and its implementing regulations at 40 CFR §122.44(d), which require permits to include limits for all pollutants or parameters which are or may be discharged at a level which will cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality. The limits must be stringent enough to ensure that water quality standards are met and must be consistent with any available waste load allocation. For pollutants with technology-based limits, the EPA must also determine if those limits are protective of the corresponding water quality criteria.

To determine a WQBEL, when necessary, the EPA uses the following approach.

1. Determine Appropriate Water Quality Criteria

Receiving waters on federal land in the State of Washington must meet water quality criteria established by the State of Washington in Chapter 173-201A of the Washington Administrative Code. If water quality criteria have been established by a Tribe and approved by the EPA, receiving waters in Indian Country must meet those applicable water quality criteria. For waters in Indian Country, where water quality criteria have not been approved by the EPA, the General Permit requires that receiving waters meet the quality criteria established by the State of Washington, as such criteria will, at a minimum, be protective of downstream uses in State waters in accordance with 40 CFR §131.10. The EPA has also considered relevant tribal water quality standards, and believes this permit will be protective of those criteria.

2. Develop Wasteload Allocations (WLAs)

A WLA may be developed to establish the allowable loading of each pollutant that may be discharged without causing or contributing to exceedances of water quality standards in receiving waters. WLAs can be established in three ways - mixing zone-based WLAs, TMDL-based WLAs, and end-of-pipe WLAs.

a. Mixing Zone-Based WLA

A mixing zone is an allocated impact zone where state water quality standards can be exceeded as long as acutely toxic conditions are prevented. It is a defined area or volume of the receiving water adjacent to or surrounding a wastewater discharge where the receiving water, as a result of the discharge, may not meet all applicable water quality criteria. Mixing zones should be as small as practicable. A mixing zone is considered a place where wastewater mixes with receiving water and is based upon the dilution available and the assimilative capacity of the receiving water.

When the State or a tribe authorizes a mixing zone for a discharge, the WLA is calculated based on the available dilution at the edge of the mixing zone, background concentrations of pollutants, and the water quality criteria. ***This General Permit does not allow for mixing zones***, therefore, mixing zone based WLAs are not appropriate.

b. TMDL-Based WLA

Where the receiving water quality does not meet applicable water quality standards, a WLA may be based on a total maximum daily load (TMDL) determination by the State or appropriate tribal authority. A TMDL is the determination of the maximum amount of a pollutant or pollutant property, from point, nonpoint, and background sources, including a margin of safety, that can be discharged to a receiving water without exceeding applicable water quality criteria. Section 303(d) of the CWA requires development of TMDLs for water bodies that will not meet water quality standards, after technology-based limitations are imposed, to ensure that these waters will come into compliance with water quality standards. Where discharges are to receiving waters listed as impaired, pursuant to CWA Section 303(d), such discharges must be authorized by NPDES permits. At this time, the EPA is not aware of any WLAs assigned to facilities expected to be covered under this General Permit; if such WLAs are brought to our attention during the public comment period or certification process, the EPA may include them in the permit. Otherwise, facilities discharging to receiving waters with TMDLs for pollutants of concern from fish hatcheries will not be authorized to discharge under the General Permit.

3. Derive Water Quality Based Permit Limitations

After WLAs have been developed, the EPA applies the statistical permit limit derivation approach described in Chapter 5 of the Technical Support Document (TSD) for Water Quality-Based Toxics Control, USEPA Office of Water (1991) (EPA/505/2-90-001) to establish maximum daily effluent limitations and average monthly effluent limitations. This approach takes into account effluent variability, sampling frequency, water quality standards, and the difference in time frames between the monthly average and the daily maximum limits.

As described in Section D, below, WQBELS for total residual chlorine are included in the proposed General Permit.

D. Proposed Effluent Limitations

This discussion includes a description of the basis for each of the technology-based or water quality-based effluent limitations in the proposed permit.

1. Size Threshold for Permit Coverage

In 1983, the EPA defined cold water concentrated aquatic animal production (CAAP) facilities subject to the NPDES permit program as facilities that produce 20,000 pounds per year or more or that feed 5,000 pounds per month or more during the calendar month of maximum feeding [48 Fed. Reg. 14153 (April 1, 1983), as codified at 40 CFR §122.24]. The State of Washington requires coverage under its Upland Finfish Hatching and Rearing NPDES Waste Discharge Permit for Aquaculture facilities that produce more than 20,000 pounds per year or that feed more than 5,000 pounds of fish food in any one calendar month; in addition, the State's technology based effluent limitations at WAC §173-221A-100 and WAC §173-221A-110 are applicable to all aquaculture facilities, regardless of size.

For this General Permit, the EPA Region 10 proposes to continue to require all the following dischargers to seek coverage under the General Permit: aquaculture facilities that hold at least 20,000 pounds of fish at their maximum in a year and that feed at least 5,000 pounds of food in the maximum calendar month of feeding in Indian Country or from federal facilities. The General Permit requires adherence to a set of operating limitations and best management practices and imposes effluent limitations and monitoring requirements that are detailed below. All facilities will also continue to be required to submit an Annual Production and Discharge Report, which will allow the EPA Region 10 to track activities at these facilities.

2. Transport Water

Fish hatcheries commonly transport fish in 500--1000 gallon, truck-mounted tanks for release to the wild. Because these fish, in theory, can be caught and eaten immediately following their release, the transport water cannot contain aquaculture drugs and/or chemicals for which FDA requires a withdrawal period prior to human consumption. Such tanks are typically equipped only to provide life support (oxygen) to the fish while they are in transit. The only chemical routinely added to the transport water is salt, at 0.8 percent, to provide an isotonic transport medium, which is comfortable for the fish. The General Permit does not address the discharge of transport water because it is a separate discharge at a remote location.

3. Total Suspended and Settleable Solids Limits

The final ELG for discharges from aquaculture facilities with greater than 100,000 pounds annual production were published in the Federal Register on August 23, 2004. It included no numeric effluent limitations for total suspended solids (TSS) and settleable solids. However, in development of the 2009 General Permit, the EPA Region 10 used its Best Professional Judgment (BPJ) in applying numeric limitations for TSS and settleable solids to upland hatcheries that are equivalent to the State of Washington's effluent

limitations for all upland aquaculture facilities. These limitations are incorporated into state regulations at WAC §173-221A-100 and into the State's general NPDES permit for upland finfish hatching and rearing facilities. This will protect the receiving waters of the State and of the tribes, which, in most cases, flow into State waters.

The proposed effluent limits for total suspended solids and settleable solids are net limits. WAC 173-221A-100(4)(a)(iv) states “Effluent limitations must apply as net values provided the criteria contained in 40 CFR 122.45 (net gross allowance) are met.” This permit requires that gross influent and effluent values be reported on the DMR form along with the calculated net values. The EPA may require additional sampling to prove substantial similarity between influent and effluent solids, where it determines that they are necessary. In such cases, the Permittee may continue to report net values until the comparability tests are completed.

The EPA proposes to maintain the same numeric limits for TSS and settleable solids in this next permit cycle. In general, facilities were able to meet these permit limits, and the EPA has no basis to revise these limits at this time.

4. Nutrients

In the ELG, the EPA did not propose numeric limits for nutrients because, as it reasoned in the background information in its proposal (67 FR 57891 (Sept. 12, 2002)), control of TSS also effectively controls such nutrients because other pollutants are either bound to the solids or are incorporated into them [67 FR 57872]. Region 10 concurs with this reasoning for not including nutrient limitations unless the receiving water is water quality limited for nutrients and believes that implementation of BMPs to minimize the discharge of excess feed will serve to limit nutrient residuals in discharges.

5. Drugs, Disinfectants and Other Chemicals

There are no applicable technology based limitations or effluent guidelines in place for most drugs, disinfectants, and other chemicals used within the aquaculture industry. The EPA Region 10 has also noted that State and tribal water quality criteria do not specifically limit residuals of these materials in discharges from aquaculture facilities. For other chemicals, state and tribal water quality criteria generally include narrative criteria, which prohibit levels of toxic substances in concentrations that impair beneficial uses of receiving waters.

1. Treatment in Effluent Guidelines Limitations (ELG) for the Confined Aquatic Animal Production (CAAP) Category

In the ELG for the CAAP industry at 40 CFR §451, the EPA did not include limitations for drugs, disinfectants, and other chemicals, citing the relative absence of data on their use. The ELG requires reporting on the use of drugs, disinfectants, and other chemicals in authorized discharges.

2. Treatment in this General Permit

In this General Permit, the EPA Region 10 is not including WQBELs for drugs, disinfectants, and other chemicals that are potentially applied within the facilities, except for chlorine. Facilities are required to provide information about (anticipated) chemical use in their NOIs, and (actual) chemical use in their Annual Reports. However, the EPA proposes to include additional monitoring requirements for aquaculture chemicals expected to be discharged to receiving waters (see Section VI.D of this Fact Sheet).

6. Total Residual Chlorine

For disinfection and cleaning of equipment, chlorine may be used at concentrations above the water quality criteria that apply in waters of the State of Washington.

a. Chlorine Standards

For the protection of aquatic life, the State of Washington and numerous tribes with treatment as a state for water quality standards have established the water quality criteria in Table B-1, below, for total residual chlorine.

Table B-1 Chlorine Water Quality Criteria				
	Fresh Water		Marine Water	
	Acute	Chronic	Acute	Chronic
Total Residual Chlorine (µg/L)	19	11	13	7.5

b. Chlorine Limits

The EPA believes there is reasonable potential for excursions above total residual chlorine criteria in receiving waters. Therefore, the General Permit includes the effluent limitations listed in Table B-2, below, for total residual chlorine. Appendix C of this Fact Sheet shows the derivation of the water quality based effluent limits for total residual chlorine that are presented below.

Table B-2		
Total Residual Chlorine Effluent Limitations		
Type of Water	MDEL ($\mu\text{g/L}$)	AMEL ($\mu\text{g/L}$)
Fresh Water	18.0	9.0
Marine Water	12.3	6.1

7. pH

There are no applicable technology-based effluent guidelines for pH from discharges from aquaculture facilities; however the most stringent criteria for pH in fresh waters from applicable state or tribal standards is 6.5 - 8.5, with no variation attributable to discharges allowed greater than 0.2 pH units.

pH is not a pollutant of concern in this General Permit. The EPA has determined that discharges from fish hatcheries do not have reasonable potential to cause or contribute to an exceedance of the water quality standard for pH, and therefore, no discharge limitation for pH is being proposed by the General Permit.

Appendix C — Derivation of Total Residual Chlorine Limits

I. Method of Calculating Water Quality Based Effluent Limits

In developing water quality-based effluent limits (WQBELs), the EPA relied on methods from the Technical Support Document for Water Quality Based Toxics Control (TSD) [EPA/505/2-90-001] to determine specific limits. The TSD requires the following steps to determine specific limitations.

A. Deriving a Wasteload Allocation (WLA) from the applicable water quality criterion.

The WLA takes into account variability in effluent quality and is expressed as a single level of effluent water quality necessary to provide protection against acute or chronic adverse effects in the receiving water. When no dilution is allowed, the WLA is set equal to the applicable water quality criterion. Such is the case in a General Permit such as this one, where a limit is being developed that is applied to many dischargers in different locations that must be protective enough for all situations.

B. Calculating long-term average concentration needed to meet the water quality criteria

The wasteload allocation (WLA) is set equal to the aquatic life criterion. The long-term average discharge concentration (LTA) necessary to protect the WLA is determined by multiplying the WLA by a factor (less than 1) to account for effluent variability. The LTA is a target level for treatment performance which provides a measure of safety that the criterion, or WLA, will be exceeded only infrequently (1% or 5% of the time, depending on the level chosen).

WLA multipliers are determined based on a coefficient of variation (CV) and on a specified probability of occurrence. The CV is a measure of the relative variability of a set of data; and in this case, because there is no data, the CV was set equal to 0.6 (the default value recommended by the TSD). From Table 5-1 of the TSD, at the 99th percentile probability basis, the acute WLA multiplier is 0.321 and the chronic WLA multiplier is 0.527.

C. Using the most limiting (the lowest) LTA, WQBELs are calculated.

Average monthly effluent limitations (AMLs) and maximum daily effluent limitations (MDLs) are calculated by multiplying the most limiting LTA times a multiplier that accounts for averaging periods and maximum exceedance frequencies of the effluent limitations, and the effluent monitoring frequency. The CV was set equal to 0.6 (CV = 0.6) and, in the case of the AML, the sampling frequency was set equal to 4 (n = 4). Both of these values are those recommended as default values in the TSD for situations where facility specific data is not

available. Following the EPA Region 10 permitting policy, a 99th percentile occurrence probability was used to determine the MDL multiplier and a 95th percentile occurrence probability was used to determine the AML multiplier. Given these assumptions and using Table 5-2 of the TSD, the MDL multiplier is determined to be 3.11, and the AML multiplier is 1.55.

II. Specific Calculations

A. Total Residual Chlorine

1. Deriving a Wasteload Allocation (WLA) from the applicable water quality criterion

The applicable water quality criteria for total residual chlorine in the waters of the State of Washington are established by the Washington Department of Ecology at WAC 173-201A-240 for the protection of aquatic life. As detailed above, the same criteria have been adopted by the Lummi, Makah, and Puyallup Tribes; and the Chehalis and Spokane tribes have adopted the fresh water standards. These criteria are presented in the following table:

Table C-1 Water Quality Criteria for Total Residual Chlorine for Protection of Aquatic Life					
Pollutant	Units	Fresh Water		Marine Water	
		Acute	Chronic	Acute	Chronic
Total residual chlorine	$\mu\text{g/L}$	19	11	13	7.5

2. Calculating long-term average concentration needed to meet the water quality criteria

Using factors set forth in § I.B, above, the EPA determined the WLA multipliers and calculated the LTAs for total residual chlorine, which are summarized below.

Table C-2			
Total Residual Chlorine Long Term Averages (LTAs)			
	WLA(µg/L)	WLA Multiplier	LTA (µg/L)
Fresh Water -- Acute	19	0.321	6.10
Chronic	11	0.527	5.80
Marine Water --Acute	13	0.321	4.17
Chronic	7.5	0.527	3.95

3. Water Quality based Effluent Limitations are calculated

Using the most limiting LTA (acute or chronic) from Table C-2, above, for each kind of receiving water, the limitations are calculated using multipliers discussed in §I.C, above.

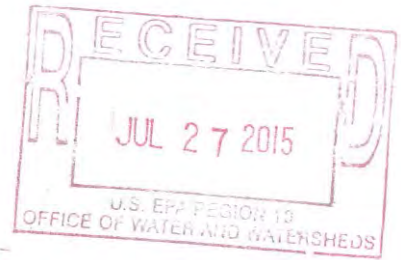
Table C-3					
Total Residual Chlorine Effluent Limitations					
Type of Water	Long-Term Average	MDL Multiplier	AML Multiplier	MDL (µg/L)	AML (µg/L)
Fresh Water	5.80	3.11	1.55	18.0	9.0
Marine Water	3.95	3.11	1.55	12.3	6.1



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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July 21, 2015

Mr. Michael J. Lidgard, Manager
NPDES Permit Unit
U.S. EPA, Region 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

RE: Preliminary certification of Draft EPA General Permit for Federal Aquaculture Facilities and Aquaculture Facilities Located in Indian Country

Dear Mr. Lidgard:

The Washington State Department of Ecology (Ecology) has reviewed the Environmental Protection Agency's (EPA's) draft National Pollutant Discharge Elimination System (NPDES) General Permit for Federal Aquaculture Facilities and Aquaculture Facilities Located in Indian Country Within the boundaries of the State of Washington (WAG-130000) (the draft permit). Ecology appreciates EPA's request for a preliminary section 401 Certification of the draft permit. This letter transmits our preliminary 401 Water Quality Certification on this draft permit.

Our staff has been in contact with the EPA permit writer and has had discussion about monitoring requirements and minor changes. Notwithstanding those comments, the draft permit as *currently written* complies with Washington State's water quality standards. This is a preliminary Section 401 water quality certification on the draft permit. Ecology is reserving formal section 401 certification until after the public comment period and Ecology can review the final permit prior to its issuance by EPA.

Thank you for the opportunity to comment. If you have any questions, please contact Bill Moore at bill.moore@ecy.wa.gov or (360) 407-6460; or Lori LeVander at lori.levander@ecy.wa.gov or (425) 649-7039.

Sincerely,

Heather R. Bartlett
Water Quality Program Manager

cc: Lori LeVander, NWRO
Bill Moore, Section Manager





September 9, 2015

Mr. Michael J. Lidgard, Manager
NPDES Permits Unit
EPA Region 10, OWW-130
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

SUBJECT: Lummi Nation Clean Water Act Section 401 Pre-Certification for the Reissuance of the NPDES General Permit for Federal Aquaculture Facilities and Aquaculture Facilities Located in Indian Country within the Boundaries of the State of Washington (Permit No. WAG-130000)

Dear Mr. Lidgard:

In response to your letter dated August 13, 2015 and Section 401 of the Clean Water Act (CWA), the Lummi Natural Resources Department hereby certifies that the proposed issuance of the draft National Pollutant Discharge Elimination System (NPDES) General Permit for Federal Aquaculture Facilities and Aquaculture Facilities Located in Indian Country within the Boundaries of the State of Washington (Permit No. WAG-130000) will comply with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the CWA and Title 17 of the Lummi Code of Laws, as amended provided that the conditions listed below are implemented.

General Conditions:

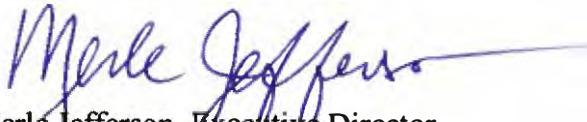
1. Pursuant to LCL Title 17, each operator of a facility that discharges to Lummi Nation Waters shall be responsible for achieving compliance with the Water Quality Standards for Surface Waters of the Lummi Indian Reservation (Lummi Administrative Regulations [LAR] 17 LAR 07.010 through 17 LAR 07.210).
2. Each operator of a facility that discharges to Lummi Nation Waters shall submit a copy of the Quality Assurance Plan (QA Plan) and Hatchery Best Management Practices Plan (BMP Plan) to the Lummi Water Resources Division for review and approval prior to submitting certification to the EPA that the plans have been developed and implemented.

3. Each operator of a facility that discharges to Lummi Nation Waters must immediately report to the Lummi Natural Resources Department Director at 360-410-1706 any spills of oil or hazardous materials to Lummi Nation Waters.
4. Each operator of a facility that discharges to Lummi Nation Waters shall submit a copy of the Notice of Intent (NOI), Surface Water Monitoring Report, QA Plan Certification, BMP Plan Certification, Annual Reports, Spill reports, and any Non-Compliance Reports to the Lummi Water Resources Division at the same time they are submitted to the Environmental Protection Agency (EPA).
5. The QA Plan, BMP Plan, NOI, Surface Water Monitoring Report, certifications, Annual Reports, Spill Reports, and any Non-Compliance Reports shall be submitted to:

Lummi Natural Resources Department
ATTN: Water Resources Manager
2665 Kwina Road
Bellingham, WA 98226

Please see the Lummi Nation website (www.lummi-nsn.gov) to review a copy of Title 17 of the Lummi Code of Laws and the references upon which the conditions identified above are based. For further coordination on this proposed issuance of the NPDES General Permit for Federal Aquaculture Facilities and Aquaculture Facilities Located in Indian Country within the Boundaries of the State of Washington, please contact Lummi Water Resources Manager Jeremy Freimund (360-312-2314).

Sincerely,



Merle Jefferson, Executive Director
Lummi Natural Resources Department

cc Linda Delgado, LIBC Hatchery Program Manager
Leroy Deardorff, LIBC Environmental Program Director
Jeremy Freimund, LIBC Water Resources Division Manager



MAKAH TRIBE

P.O. BOX 115 • NEAH BAY, WA 98357 • 360-645-2201



Michael Lidgard
Manager of NPDES Permits Unit
United States Environmental Protection Agency
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

RE: Preliminary Section 401 Water Quality Certification of NPDES Draft General Permit for Federal Aquaculture Facilities and Aquaculture Facilities Located in Indian Country within the Boundaries of the State of Washington

Dear Mr. Lidgard:

The Makah Fisheries Water Quality Department has reviewed the draft materials you have provided regarding the NPDES Draft General Permit (WAG130000) and your request for Section 401 Water Quality Certification, submitted August 13, 2015.

Based on the available information, the revisions, enhancements, and best management practices described, it is the judgment of this office that the proposed project will not cause a significant or lasting impact to quality of the affected waters or its fish habitat as defined by the Makah Water Quality Standard policy. Therefore the Makah Fisheries Water Quality Department does hereby grant preliminary Section 401 Water Quality Certification for the NPDES General Permit (WAG130000) under the condition that no significant changes will be made to the described project plan or execution without additional consultation. This certification is valid starting this day, September 15, 2015 and lasting until further revisions are made or finalized certification is requested.

Certification Valid

Starting: 9/15/2015

Ending: Until Further Notice or Changes are made

APPROVED BY:

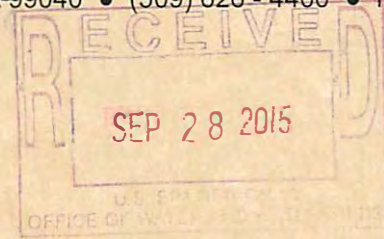
Aaron Parker

Makah Fisheries Water Quality Specialist



Spokane Tribal Natural Resources

P.O. Box 480 • Wellpinit, WA-99040 • (509) 626 - 4400 • fax 258 - 9600



September 16, 2015

Environmental Protection Agency
Dan Opalski, Director
Office of Water and Watersheds
1200 Sixth Avenue, Suite 900
Seattle WA 98101

RE: 401 Certification Action of General Hatchery Permit No. WAG130000

Dear Mr. Opalski

In accordance with Section 401 (a)(1) of the Clean Water Act of 1977 and provisions of the Spokane Tribal Water Quality Standards, the Spokane Tribal Interim Water Control Board hereby certifies the USEPA general *Authorization to Discharge under the National Pollutant Discharge Elimination System (NPDES); Federal Aquaculture Facilities And Aquaculture Facilities Located in Indian Country within the boundaries of the State of Washington* with the following conditions:

- 1) The owner/operator must also submit the information in Appendix A to the Spokane Tribe, WCB (Water Control Board), (pg 6, #1) and;
- 2) The permittee shall submit its QA Plan to the Spokane Tribe, WCB within 90-days of receiving authorization to discharge under this permit (pg 26) and;
- 3) The permittee shall submit its BMP Plan to the Spokane Tribe, WCB within 90-days of receiving authorization to discharge under this permit (pg 28) and;
- 4) The permittee shall notify the Spokane Tribe, WCB of any spills or hazardous material to waters of the Reservation (pg 33) and;
- 5) The permittee shall submit the annual report to the Spokane Tribe, WCB (pg 35) and;
- 6) The permittee shall submit DMR's annual reports, NOI, BMP plans, QA plans and any non-compliance reports to the Spokane Tribe, WCB (pg 35 and 38) and;

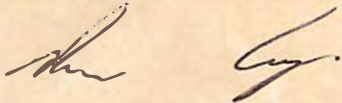
- 7) The permittee shall notify the Spokane Tribe, WCB of any INAD use, extra label drug use, or first use of low regulatory priority drugs or potassium permanganate (pg 35) and;
- 8) The permittee shall monitor their effluent for PCB congeners and report its findings to the Spokane Tribe, WCB (pg 35) and;
- 9) The permittee shall allow the Tribal Water Control Board or its designee to inspect and sample at the facility as needed (pg 45).

The correspondence address for the Spokane Tribe Water Control Board is:

Water Control Board
c/o Brian Crossley
PO Box 480
Wellpinit WA 99040
(509)626-4409

Please contact us at (509) 626-4409 if you have any questions about this certification.

Sincerely,



Brian Crossley
Interim Water Control Board
Spokane Tribe of Indians
Department of Natural Resources



THE TULALIP TRIBES

Board of Directors

Mel Sheldon Jr., Chairman
Glen Gobin ti cets, Vice-Chairman
Les Parks, Treasurer
Marie Zackuse, Secretary
Herman Williams Sr., Board Member
Bonnie Juneau, Board Member
Theresa Sheldon, Board Member
Misty Napeahi, General Manager

6406 Marine Dr.
Tulalip, WA 98271-9694
(360) 716-4000
FAX (360) 716-0628

The Tulalip Tribes are the successors in interest to the Snohomish, Snoqualmie, and Skykomish tribes and other tribes and band signatory to the Treaty of Point Elliott

September 15th, 2015

Dan Opalski
Director, Office of Water and Watersheds
USEPA Region 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101

RE: Preliminary Section 401 Certification of National Pollutant Discharge Elimination System Draft General Permit for Federal Aquaculture Facilities and Aquaculture Facilities in Indian Country within the Boundaries of the State of Washington

Dear Mr. Opalski,

In response to your letter dated August 13th 2015 the Tulalip Tribes (hereafter Tribes) has reviewed the Draft National Pollutant Discharge Elimination System (NPDES) General Permit for Federal Aquaculture Facilities and Aquaculture Facilities in Indian Country within the Boundaries of the State of Washington (WAG130000). The general permit covers wastewater discharges from certain aquaculture facilities, within the State of Washington, to natural waters. The Tribes Natural Resources Department preliminarily certifies that the draft permit, including the requirements and conditions in the permit and this certification, complies with requirements set forth in the Tulalip Tribes Water Quality Standards. This preliminary certification is contingent upon approval of the final (NPDES) permit. In addition to the conditions set forth in this Draft NPDES General Permit the Tribes require the following:

Owners and operators seeking coverage under this permit who intend to discharge to waters of the Tulalip Tribes must submit a copy of the Notice of Intent (NOI) to the Tulalip Tribes Natural Resources Department. Owners and operators seeking coverage under this permit must also submit or make available to the Tribes monitoring records, notices, QA and BMP plans and reports authorized by this permit.

Owners and operators must also report immediately to the Tribes (360-716-5911) any spills of drugs, pesticides, oil or hazardous materials to waters of the Tulalip Tribes. For further 401 Certification coordination with the Tulalip Tribes Natural Resources Department, please contact Mr. Kurt Nelson (360) 716-4617. Tribal Hatchery NPDES questions should be directed to the QA Program Manager Mike Crewson (360) 716- 4626, 6406 Marine Dr., Tulalip WA 98271.

Sincerely,

The Tulalip Tribes of Washington

Dave Walker Acting for Ray Fryberg

Ray Fryberg
Executive Director
Natural and Cultural Resources Director