

FACT SHEET

UPLAND FIN-FISH HATCHING AND REARING NPDES GENERAL PERMIT

December 16, 2015

PURPOSE of this Fact Sheet

The Department of Ecology (Ecology) is proposing to reissue the Upland Fin-fish Hatching and Rearing National Pollutant Discharge Elimination System (NPDES) General Permit. The permit will replace the permit that Ecology reissued on June 28, 2010, and that expires on August 1, 2015. This fact sheet explains the nature of the discharges covered by the general permit, Ecology's decisions on limiting the pollutants in the wastewater, and the regulatory and technical bases for those decisions.

This proposed general permit limits the discharge of pollutants to surface waters under the authority of the Federal Water Pollution Control Act (U.S.C.S. 1251) and limits the discharge of pollutants to surface and ground water under the authority of Chapter 90.48 RCW.

This fact sheet is a companion document to the draft NPDES General Permit for discharges associated with Upland Fin-fish Hatching and Rearing facilities. The general permit provides coverage for discharges from upland fin-fish hatching and rearing operations, and conditions the discharge of wastewater to waters of the state of Washington by the facilities covered under this permit. This permit authorizes operations covered under this permit to discharge wastewater to waters of the state of Washington subject to the conditions contained in the general permit.

This fact sheet explains the nature of authorized discharges, Ecology's decisions on limiting the pollutants in upland fin-fish hatching and rearing discharges, and the regulatory and technical bases for those decisions.

PUBLIC ROLE in the Permit

Ecology makes the draft permit and fact sheet available for public review and comment at least thirty (30) days before issuing the final general permit. Copies of the fact sheet and draft permit were available for public review and comment from August 19, 2015, until midnight October 5, 2015. For more details on preparing and filing comments about these documents, please see *Appendix A - Public Involvement Information*.

After the public comment period closes, Ecology will summarize substantive comments and its responses to them. Ecology will include its summary and responses to comments to this fact sheet as *Appendix F - Response to Comments*, and publish it when issuing the final NPDES permit. The full document will become part of the legal history contained in the facility's permit file.

The significant changes proposed for this reissuance of the permit include:

1. Added conditions for discharges to municipal wastewater treatment system.
2. Incorporated PCB discussion and BMPs to eliminate PCB discharges.
3. Addressed discharges to 303(d) listed Impaired Waterbodies and TMDL discussion.

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I. INTRODUCTION

The federal Clean Water Act (CWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. The NPDES permit program is one of the mechanisms for achieving the goals of the CWA. The NPDES Permit program is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the state of Washington on the basis of Chapter 90.48 RCW. Chapter 90.48 RCW defines Ecology's authority and obligations in administering the wastewater discharge permit program.

State regulations specify procedures for issuing general permits (Chapter 173-226 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 173-200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that Ecology issue a permit before allowing discharge of wastewater to waters of the state. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the draft permit. WAC 173-226-110 requires the preparation of a draft permit and an accompanying fact sheet before issuing a general permit under the NPDES permit program. The fact sheet and draft permit are available for review (see *Appendix A—Public Involvement* of the fact sheet for more detail on the Public Notice procedures).

After the public comment period has closed, Ecology will summarize the substantive comments and respond to each comment. The summary and response to comments will become part of the administrative record. Parties submitting comments will receive a copy of Ecology's response. Ecology will summarize comments and the resultant changes to the draft permit in *Appendix F—Response to Comments*.

PERMIT COVERAGE

Upland fin-fish hatching and rearing facilities are defined in Washington Administrative Code (WAC) Chapter 173-221A WAC as facilities in which fin-fish are hatched, fed, nurtured, held, maintained, or reared to reach the size of release or for market sale. This includes fish hatcheries, rearing ponds, spawning channels, and other similarly constructed or fabricated public, tribal, or private facilities. The WAC specifically states that a wastewater discharge permit is required for:

- i) All facilities which produce more than 20,000 net pounds of finfish a year; or
- (ii) Feeds more than 5,000 pounds of fish food during any calendar month; or
- (iii) Is designated as a significant contributor of pollution by the department in accordance with 40 CFR 122.24.

This permit includes technology-based effluent limits and other permit conditions that Ecology has determined meet both the state requirement for "all known, available, and reasonable treatment" (AKART) (RCW 90.48.010 and RCW 90.54.020) and the federal requirement for best conventional pollutant control technology (BCT).

Ecology will evaluate all applications for coverage under this general permit to ensure compliance with state water quality standards for surface water and ground water (Chapter 173-201A and 173-200 WAC) and state wastewater discharge standards and effluent limitations for these facilities (Chapter 173-221A). Facilities that require more stringent effluent limits or special conditions other than those contained in this general permit in order to meet state water quality standards may need to obtain coverage under an individual permit.

Ecology conditions general permits to provide coverage for a group of related facilities or operations of a specific industry type or group of industries. Ecology issues general permits when the discharge characteristics are similar and a standard set of permit requirements can effectively provide environmental protection and comply with water quality standards for discharges to surface water or ground water. Coverage under this general permit for discharges to surface water or discharges to ground water will be appropriate for most facilities with activities designated by the following NAICS (SIC) codes and which are subject to coverage:

112511 (0921) Fish Hatcheries and Preserves

II. BACKGROUND INFORMATION

DESCRIPTION OF THE INDUSTRY

The number of facilities covered by this general permit has remained relatively constant over the past twenty-five years, with 16 applications for coverage received from private, tribal or government facilities other than WDFW and 67 applications for coverage received for WDFW operated facilities this year (2015). The mission of these facilities can range from public or tribal enhancement facilities to private enterprises running grow-out operations.

Ecology issued the first general permit to facilities rearing fin-fish in upland areas in 1990. This is the sixth issuance of the Upland Fin-fish Hatching and Rearing General Permit. Since 1990, these permits covered facilities that discharged at least 30 days a calendar year and produced more than 20,000 pounds of fish per year, or fed more than 5,000 pounds of fish food during any calendar month. Ecology also covered any fish rearing facility it deemed a significant contributor to waters of the state. This permit does not cover fish rearing and hatching operations on federal or tribal lands.

Industrial Process

Upland fin-fish hatching and rearing facilities can have a wide variety of rearing pond configurations including lined or unlined ponds, raceways, and circular ponds in which fish are held for culturing purposes. On a daily basis, facility operators give the fish a predetermined ration of pelletized fish food by hand feeding and/or mechanical means to promote growth. Once the fish attain the targeted size, they are released, harvested, or kept as brood stock.

Washington State Department of Fish and Wildlife (WDFW), private aquaculture enterprises, and some tribal facilities raise and release fish for enhancement purposes. The facilities mainly use fish pumps, dip nets, and volitional release to remove the fish from the ponds. The hatching and rearing facilities initiate the volitional release method by removing the pond screen at the outfall of a rearing pond so the bulk of the fish can leave on their own. At the end of a volitional release, the operators use moveable screens or nets to move the remaining fish into the receiving water. The most common method of moving the fish to a release site is by trucking them in fish holding tanks or by allowing them access into piping which directs them to the adjacent receiving water.

Private facilities, in addition to raising fish for enhancement purposes, produce and sell eggs, fry, and/or market-sized fish. These facilities move the fish out of the rearing ponds by the use of fish pumps or dip nets for harvest or for live transport to other rearing facilities.

Ecology has classified the wastewater treatment processes for these facilities into three types: off-line settling basins, flow-through settling systems, and rearing pond culture (facilities with a minimum of two hours of hydraulic retention time).

The majority of the facilities requesting coverage under this draft permit use off-line settling basins for vacuumed and removed pond and raceway solids. About 35 percent rely on inline settling for solids removal.

Most facilities use suction (trash) water pumps or venturi pumps to convey the accumulated pond solids to an off-line settling basin. The least common method for removing the solids from the ponds is by sweeping the wastes off the pond bottom and letting the current carry the resuspended material into a bottom-drain system connected to the off-line settling basin.

Facilities that lack an off-line settling basin remove the accumulated solids for disposal onto adjacent fields or at a landfill by using pumps, front end loaders, and/or shovels. One facility vacuums the solids from the circular ponds and sends the wastewater to a Publically Owned Treatment Works (POTW).

Discharge

Fish hatching and rearing facilities generate the following wastes: fish fecal matter, uneaten fish food, fish mortalities, fish carcasses resulting from spawning operations, and medications and disease control chemicals used in the hatching and rearing of fish. Other wastes include sand, silt, and debris, which have settled out of the facilities source waters.

PREVIOUS PERMIT LIMITS AND CONDITIONS

Ecology issued the previous general permit for these facilities on June 28, 2010, with an effective date of August 1, 2010. The permit placed effluent limits on settleable solids and total suspended solids from general hatchery and rearing pond discharges, off-line settling basin discharges, and pond drawdown for fish release discharges. The following tables depict those limits and the monitoring frequencies.

Table 1. Raceways and Rearing Ponds			
	Monthly Average	Maximum Daily	Monitoring Frequency
Total Suspended Solids TSS (net mg/L)	5.0	15.0	1/month
Total Settleable Solids SS (net mL/L)	0.1	--	1/week

Table 2. Off-line Settling Basins			
	Monthly Average	Instantaneous Maximum	Monitoring Frequency
Total Suspended Solids (mg/L)	---	100	1/month
Total Settleable Solids (mL/L)	---	1.0	1/month

Table 3. Pond Drawdown for Fish Release Discharges		
	Instantaneous Maximum	Monitoring Frequency
Total Suspended Solids (mg/L)	100	1/drawdown
Total Settleable Solids (mL/L)	1.0	1/drawdown

Table 4. Rearing Vessel Disinfection Water		
	Instantaneous Maximum	Monitoring Frequency
Total Residual Chlorine (µg/L) ^a	(19.0) ^a	1/dischage

^a The chlorine limits 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 levels are at or below the compliance level of 50 µg/L. This limit is based on the Method Detection Level (MDL).

WAC173.201A-240 *Toxic substances*, Table 240(3) lists Chlorine (Total Residual) acute limits as 19.0 µg/L freshwater and 13.0 µg/L marine water. This is a 1-hour average concentration not to be exceeded more than once every three years on the average. Method detection level is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte. The MDL is 50 µg/L.

The permit limited the use of drugs, medications, and chemicals (disease control chemicals) to those approved for aquaculture use by the United States Food and Drug Administration (FDA) or the US Environmental Protection Agency (EPA). The permit required the facilities to report their use of drugs, medications, or chemicals annually on a form provided by Ecology. The facilities were also required to record the disposal of all spent chemical dip treatment solutions in the Operational Log maintained on-site.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

Ecology assessed compliance with the previous general permit based on review of the Discharge Monitoring Reports (DMRs) received and on the results of site inspections. Most facilities complied with their permit conditions.

The most common permit violation by the hatching and rearing facilities was late submittals of DMRs. This usually was 1-3 days after the 30th of the month following the reporting period. Of the 66 numeric effluent limit violations, most were total suspended solids limit exceedances. During extremely high water events, facilities exceeded effluent solids permit limits usually because high flow volumes flushed influent solids through the system without allowing them to settle or resuspended settled solids from the ponds.

Of the permit limit violations, 30 were for Settleable Solids exceedances, 35 were for Total Suspended Solids exceedances, and 1 for Total Residual Chlorine. During the same 5-year time period, Ecology issued the following 3 formal enforcement actions: 2 Notices of Violation and 1 Order (to do temperature monitoring). Fifty-six Warning Letters were issued over the past permit cycle, and numerous technical assistance calls for permit compliance issues. Ecology has inspected nearly all of the facilities covered under this general permit at least once during the permit term and provided technical assistance to help them comply with the permit terms and conditions.

WASTEWATER CHARACTERIZATION

Two related but separate sources at these facilities generate the wastewater discharge: the rearing portion of the facility (rearing ponds and raceways) and the off-line settling basin.

Rearing Pond and Raceway Discharges

Rearing pond and raceway wastewater contains some organic solid wastes consisting of uneaten food and fecal material. The quantity of these wastes depends upon the volume of fish food added, the pounds of fish produced, pond design, and the amount of waste that settles out of the water prior to its discharge.

Off-line Settling Basin Discharges

The off-line settling basin wastewater contains resuspended organic solids generated when facilities clean the bottom of the rearing ponds using a vacuum system or by sweeping to a bottom-drain system. The organic solids consist of fish food, fecal material, and other debris settled out from the facility's water source.

Pollutants of Concern

The primary pollutants of concern in hatchery and rearing pond wastewater are the waste food and feces. The main chemical constituents of concern in the waste food and feces are primarily nitrogen and phosphorus. The pollutant loading in the effluent is characterized with monthly total suspended solids (TSS) and weekly settleable solids (SS) monitoring.

The above-mentioned pollutants are present in the discharge from the raceways and rearing ponds at hatcheries and acclimation ponds in low concentrations, but in higher concentrations in the smaller volume discharges from the waste settling basins. Ecology determined that when facilities adequately remove solids, hatchery discharges pose a low risk of causing water quality violations.

Polychlorinated biphenyls (PCBs) have been found in fish feed and in fish tissue. Because of their widespread industrial application, PCBs have become a persistent and ubiquitous contaminant in the environment. Fish hatcheries are a potential source of PCBs to receiving waters. As quoted in 21 CFR Ch. 1 Subpart B – *Tolerances for Unavoidable Poisonous or Deleterious Substances* §509.30 **Temporary tolerances for PCB's**, . . . *certain foods and animal feeds, principally those of animal and marine origin, contain PCB's as unavoidable, environmental contaminants.* This permit required a best management approach first to assess and remove possible sources of PCB contamination in the hatchery facility. Permittees are required to evaluate and choose the lowest level of PCB contamination in fish feed, when feasible. Ecology is also conducting a PCB evaluation at the Spokane Hatchery to gain more information on PCB discharges from hatcheries, and potential hatchery contributions to PCB listings in the Spokane River watershed.

Ecology will review the conclusions of that study, in addition to ongoing PCB studies, and determine next steps for sampling, PCB removal, and permitting.

Disease Control Chemicals:

Ecology also considers the disease control chemicals used at these facilities as pollutants of concern. Fish hatching and rearing facilities use these chemicals to treat both internal and external fish diseases and to prevent the spread of disease at or between facilities. The draft permit limits the use of these chemicals to only those approved for hatchery use by the U.S. Food and Drug Administration (USFDA) or by USEPA. Permittees may use USFDA approved Investigational New Animal Drugs (INADs) provided it meets the conditions detailed in a facility's INAD permit application and it reports the use on the Disease Control Chemical Use Form.

All disease control chemicals must be used in accordance with label instructions. The draft permit also prohibits the discharge of these chemicals in concentrations that would exceed federal or state water quality standards and requires facilities to use BMPs to minimize the concentration of these chemicals in the discharge. These chemicals include the following:

Internal Control	External Control	Disinfectants/Other
Amoxicillin	Acetic Acid	Chlorine
Terramycin (OTC)	Buffered Iodophor	
Epsom Salts	Chloramine-T	MS-222
Erythromycin	Formalin	Quaternary Ammonia
Romet 30	Hydrogen Peroxide	Sodium Thiosulfate
Florfenicol	Potassium Permanganate	Aquashade
Penicillin	Sodium Chloride (Salt)	LLMO
Lincomycin	Diquat	Chlorhexidine
Albuterol	Citric Acid	Lime Type-S
Clindamycin	Copper Sulfate	Carbon Dioxide (gas)
Vibrio Vaccine		Ozone (gas)
Trimethoprim-sulfadiazine		
Chlortetracycline		
Tylosin		
Fumagillin		
Cephalexin		
Benzocaine		
Sulfamethoxazole (Albon)		
GnRH=gonadotropin releasing hormone		
Isoeugenol (Aqui-S)		
Calcein		
BKD Vaccine		
Flavobacterium Columnare B Vaccine		

Fish hatching and rearing facilities administer disease control chemicals at known concentrations for their therapeutic or disease prevention effect. WDFW is the legal authority for aquaculture disease and the regulation of fish pathogens, in Washington State. Chapters 220-76 and 77, Washington Administrative Code (WAC) delegate this authority to WDFW.

This draft permit requires a facility to maintain a Chemical Operational Log, including chemical, dosage, duration, method of application, amount used, type of treatment (static bath or flow) estimated concentration at discharge and method of disposal information (Appendix D). Calculations for determining concentration of chemicals used in the treatment and effluent can be determined through calculation.

SEPA COMPLIANCE

The coverage of existing facilities under this proposed general permit is exempt from the procedures mandated under the State Environmental Policy Act (WAC 197-11-855). The exemption does not apply to any *new source* or *new discharger*. A new source or new discharger must complete the SEPA process prior to application for coverage under the proposed general permit. A new source is any new discharge from a fin-fish hatching or rearing operation that meets the state threshold of greater than 20,000 pounds of fish on station or feeds more than 5,000 pounds of feed in any calendar month.

Any existing facility planning a significant change or increase in production must submit a new application for coverage to modify their site-specific fact sheet and demonstrate that the proposed change has complied with SEPA review.

Facilities must notify their Ecology permit manager of any planned change that has the potential to impact their wastewater discharge.

PROPOSED PERMIT LIMITS AND CONDITIONS

Federal and state regulations require that effluent limits in an NPDES permit must be either technology- or water quality-based.

- Technology-based limits are based upon the treatment methods available to treat specific pollutants. Technology-based limits are set by the EPA and published as a regulation, or Ecology develops the limit on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC).
- Water quality-based limits are calculated so that the effluent will comply with the surface water quality standards (Chapter 173-201A WAC), ground water standards (Chapter 173-200 WAC), sediment quality standards (Chapter 173-204 WAC) or the National Toxics Rule (40 CFR 131.36).

Ecology does not develop effluent limits for all reported pollutants. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, and do not have a reasonable potential to cause a water quality violation.

Nor does Ecology usually develop permit limits for pollutants not reported in the permit application but that may be present in the discharge. The permit does not authorize discharge of the non-reported pollutants. During the five-year permit term, a facility's effluent discharge conditions may change from those conditions reported in the permit application. The facility must notify Ecology, as described in 40 CFR 122.42(a), if significant changes occur in any constituent.

Background

In 1974, EPA released a "Draft Development Document for Effluent Limitations Guidelines for Fish Hatcheries and Farms," for public review. In 1984, EPA Region 10 contracted with JRB Associates for a study of Idaho trout facilities. The study recommended effluent limits, which would represent best conventional pollutant control technology (BCT).

Ecology based individual NPDES permits for upland fin-fish hatching and rearing facilities issued in Washington before 1984 primarily on the EPA draft development document released in 1974. Permits issued after 1984 in Washington generally followed the effluent recommendations in the 1984 EPA/JRB Idaho fish hatchery study.

Subsequent studies demonstrated that fish feeds contain significant concentrations of contaminants, many of which can bioaccumulate in fish. The Spokane River has been listed on the Section 303(d) list for PCBs, based on fish tissue samples. As a result, the Spokane River Regional Toxics Task Force was organized to address toxics in the Spokane River and to develop a plan to reduce PCBs and other toxins in the Spokane River system.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

In 1990, Ecology established all known, available, and reasonable methods of treatment (AKART) for upland fin-fish facilities when it adopted Chapter 173-221A WAC, Wastewater Discharge Standards and Effluent Limitations. Ecology amended the regulation in October 1995 primarily to acknowledge the widespread and commonly accepted extra-label use of drugs and chemicals.

This regulation contains both wastewater discharge standards and design criteria for wastewater treatment systems. This permit contains the effluent limits identified in Chapter 173-221A WAC. Design criteria for wastewater treatment systems are not in the permit but are contained

in the regulation covering this industry. Listed below are the wastewater discharge performance standards:

<u>Rearing Pond Discharges</u>	<u>Limit</u>
Instantaneous Maximum Total Suspended Solids	15 mg/L
Average Monthly Total Suspended Solids Concentration	5 mg/L
Average Monthly Settleable Solids Concentration	0.1 mL/L
<u>Off-line Settling Basin and Rearing Pond Drawdown for Fish Release Discharges</u>	
Instantaneous Maximum Total Suspended Solids	100 mg/L
Instantaneous Maximum Settleable Solids	1.0 mL/L

The implementation of the Pollution Prevention Plan and the Solid Waste Management Plan during past permit cycles provided further reductions in the amount of solids discharged, protected groundwater quality, prevented spills, and required facilities to develop procedures for spill response. The site-specific Facility Sampling Plan required each facility to identify influent and effluent sampling points and outline procedures for composite sampling. This permit requirement has resulted in more representative sampling of the discharges from the fish hatching and rearing facilities.

This permit requires Permittees to assess and remove potential sources of PCB contamination to the receiving waters and sediments. Permittees are required to implement the listed BMPs, that include fish feed evaluation for low PCB content, and removal of any suspected PCB-contaminated paint that comes in contact with water, as a first step in reducing PCB discharges. Ecology will evaluate the pending results of the Spokane Fish Hatchery Case Study or Hatchery Operations as a Source of PCBs to the Spokane River System, and will then determine future actions for PCB reduction from fish hatchery operations, if indicated.

The draft permit continues the prohibition on the discharge of Atlantic salmon (*Salmo salar*) into freshwater surface waters of the state, without written permission from WDFW. Ecology based this prohibition in part on the May 1997 Pollution Control Hearings Board ruling declaring Atlantic salmon a biological pollutant.

Ecology believes that a precautionary stance in regards to the inadvertent release of Atlantic salmon is a reasonable step to prevent their escapement to state waters. This requirement only affects a few permitted facilities statewide. WAC 232-12-271 also prohibits the release of exotic species into the state without a permit from the WDFW.

Facilities that Ecology determines do not need to apply for and receive an Upland Fin-Fish Hatching and Rearing NPDES General Permit must still meet the practices and effluent standards of WAC 173-221A-100.

Disease Control Chemicals

Fish hatching and rearing facilities use disease control chemicals:

- For the internal and external control of fish diseases.
- To disinfect facility tools, rearing ponds, or source waters to prevent the spread of these diseases.

The discharge concentration of these chemicals should not cause receiving water toxicity if the use is consistent with product labels, FDA regulations, and the permit requirement mandating BMPs. Ecology has determined that the use of BMPs will meet AKART for disease control chemicals.

The proposed permit required a more thorough accounting for the use of formalin, with required reporting of dosage, method of application, amount used, flow, water temp, estimated concentration in the discharge, method of disposal and location of discharge. The Permittee must follow all label directions.

Disease control chemicals must be used in accordance with label instructions, and approved by USFDA or USEPA or under an INAD. WDFW has jurisdiction over fish pathogens, treatment, and aquaculture disease control.

Designated Uses and Surface Water Quality

The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) were designed to protect existing water quality and preserve the beneficial uses of Washington's surface waters. Waste discharge permits must include conditions that ensure the discharge will meet established surface water quality standards (WAC 173-201A-510). When drafting a general permit Ecology must consider the typical discharge conditions and cannot readily accommodate site-specific variables. Ecology may base water quality-based effluent limits on an individual waste load allocation or on a waste load allocation developed during a basin wide total maximum daily loading study (TMDL). Ecology determined that surface water discharges for this industry group are most likely to freshwater (WAC 173-201A-200).

Numerical Criteria for the Protection of Aquatic

Numerical water quality criteria are published in the Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in receiving water to protect aquatic life and recreation in and on the water. Ecology uses numerical criteria along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limits, the discharge must meet the water quality-based limits.

Numerical Criteria for the Protection of Human Health

The U.S. EPA has published 91 numeric water quality criteria for the protection of human health that are applicable to dischargers in Washington State (40 CFR 131.36). These criteria are designed to protect humans from exposure to pollutants linked to cancer and other diseases, based on consuming fish and shellfish and drinking contaminated surface waters.

Narrative Criteria

Narrative water quality criteria (e.g., WAC 173-201A-240(1); 2006) limit the toxic, radioactive, or other deleterious material concentrations that the facility may discharge to levels below those which have the potential to:

- Adversely affect designated water uses.
- Cause acute or chronic toxicity to biota.
- Impair aesthetic values.
- Adversely affect human health.

Narrative criteria are also established to condition the application of the numeric criteria and to provide regulatory responsibility to protect the specific designated uses of all fresh waters (WAC 173-201A-200, 2006) and of all marine waters (WAC 173-201A-210; 2006) in the state of Washington.

Antidegradation

The purpose of Washington's Antidegradation Policy (WAC 173-201A-300-330) is to:

- Restore and maintain the highest possible quality of the surface waters of Washington.
- Describe situations under which water quality may be lowered from its current condition.
- Apply to human activities that are likely to have an impact on the water quality of surface water.
- Ensure that all human activities likely to contribute to a lowering of water quality, at a minimum, apply all known, available, and reasonable methods of prevention, control, and treatment (AKART).
- Apply three tiers of protection (described below) for surface waters of the state.

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 dischargers do not degrade waters of a higher quality than the criteria assigned unless such lowering of water quality is necessary and in the overriding public interest. Tier II applies only to a specific list of polluting activities. Tier III prevents the degradation of waters formally listed as “outstanding resource waters” and applies to all sources of pollution.

WAC 173-201A-320(6) describes how Ecology implements Tiers I and II antidegradation in general permits. All Permittees covered under the general permit must comply with the provisions of Tier I. Ecology determined that the permit does not cover discharges to Tier III waters.

The water quality standards at WAC 173-201A-320(6) describe how Ecology should conduct an antidegradation Tier II analysis when it reissues NPDES general permits. This section of the rule requires Ecology to:

- Use the information collected, from implementation of the permit, to revise permit or program requirements.
- Review and refine management and control programs in cycles not to exceed five years or the period of permit reissuance.
- Include a plan that describes how Ecology will obtain and use information to ensure full compliance with water quality standards. Ecology must develop and document the plan in advance of permit or program approval.

Ecology has an internal technical workgroup that meets regularly to discuss and evaluate data received from general hatchery Permittees, emerging wastewater treatment technology, and evaluate the efficacy of the general hatchery permit in protecting water quality. To comply with the antidegradation requirements, Ecology has reviewed the requirements of the general permit and evaluated its effectiveness in protecting water quality.

Ecology is not aware of any new control technologies that have been developed or generally implemented during the past 5 years that reduce pollution from hatcheries that are reasonable and economically achievable. Inspections at each facility with emphasis on BMPs and compliance with existing permit limits meets water quality standards. The draft permit has been revised to include BMPs for PCB reduction, where PCBs come in contact with water.

To date, facilities that have submitted application for coverage under this general permit are all existing facilities that have previously been public noticed, giving the general public an opportunity to question or comment on individual actions.

Although the antidegradation regulations for general permits state that individual actions covered under a general permit do not need to go through independent Tier II reviews, Ecology considers it important that the public have the opportunity to weigh in on whether individual actions are in the overriding public interest. The antidegradation rule establishes a refutable presumption that they do, but only through a public notice of intent to provide coverage and expected compliance with antidegradation does the general public have an opportunity to question individual actions. Thus, Ecology will solicit public comments for new requests for coverage under this permit, through public notification in a local paper and on Ecology's webpage.

This fact sheet describes how the permit and control program meets the antidegradation requirement.

EVALUATION OF SURFACE WATER QUALITY-BASED EFFLUENT LIMITS FOR NUMERIC CRITERIA

Temperature and Dissolved Oxygen

The pollutants of potential concern in the first version of this permit were temperature and constituents that impacted dissolved oxygen in the receiving water. The concern was raised in a 1988 study by Ecology on the "Quality and Fate of Fish Hatchery Effluents During the Summer Low Flow Season". The facilities monitored these parameters during their first year of permit coverage. The results of this monitoring showed that these facilities do not have a reasonable potential to exceed these parameters. Based upon this information, Ecology determined that it would not require further monitoring of temperature and dissolved oxygen in subsequent permits for every facility.

Because of a change in the water quality standards and 303(d) listings for temperature in a few of the receiving waters, this permit requires monitoring for temperature in the effluent and receiving water for those facilities discharging to temperature listed waterbodies. Additional temperature or dissolved oxygen monitoring can be required for individual facilities through an Administrative Order if there is probability or concern that an individual facility is impacting the receiving water.

If a Total Maximum Daily Load assessment is ongoing or proposed for a receiving water, Ecology will wait for TMDL completion, with an assigned WLA before requiring dissolved oxygen (or constituents that impact d.o. levels in the receiving water, such as phosphorous, nutrients, and BOD₅) monitoring. If a facility is part of a TMDL assessment, then they will most likely be assigned monitoring for the parameters of concern, including possibly oxygen, nutrients, and phosphorous. If a WLA is already assigned, the Permittee must comply with the monitoring and limits specifically assigned in the WLA. Ecology can require additional monitoring through an Order on a case-by-case basis.

This permit includes BMPs for reducing temperature from pollution abatement pond discharges. This includes facilities discharging to impaired or 303(d) listed waterbodies (Appendix E). Appendix E was generated from a query of the Permittees that have submitted applications for coverage under this permit and 303(d) listed waterbodies within 1 mile of their location. There are facilities that do not discharge at all during critical times of the year. Ecology permit managers will evaluate the facility discharges in their regions as to their potential to meet water quality standards for the waterbody and parameters on the 303(d) list approved at the time this permit is issued.

PCBs are a pollutant of concern covered under this general permit. This permit requires facilities that discharge to a PCB listed waterbody, complete a facility assessment and PCB removal plan. Facilities are also required to preferentially purchase feed and products that are free of PCBs to the greatest extent feasibly and economically feasible.

Toxic Pollutants

Federal regulations (40 CFR 122.44) require NPDES permits to contain effluent limits for toxic chemicals in an effluent whenever there is a reasonable potential for those chemicals to exceed the water quality criteria. Ecology does not exempt facilities with technology-based effluent limits from meeting the water quality standards.

PCBs are potential toxic pollutants that could be released from a hatchery and result in violation of state water quality standards. Currently, EPA has approved NPDES permit sample methods that are not sensitive enough to adequately characterize PCB discharge concentrations in hatchery wastewater. At the time of permit issuance, Ecology is conducting a study “Little Spokane River PCBs – Screening Survey of Fish Tissue, Sediment, and Water (in draft, proposed for early 2016 issuance).

This permit requires a PCB assessment and removal for those facilities that discharge to PCB listed waterbodies. Ecology will follow-up with all facilities after the conclusion of the Spokane Fish Hatchery Case Study, and take the necessary actions if indicated in the conclusions of the study.

Some of the disease control chemicals used at these facilities classify as toxic pollutants. Washington has not adopted numeric water quality standards for most of these compounds. Ecology has determined that when facilities use these chemicals according to FDA requirements, follow product label requirements, and follow BMPs to dilute the treatment concentrations with other hatchery flows, these chemicals pose no reasonable potential to violate federal or state water quality standards.

Emergency Extra-Label Drug and Chemical Use

The document entitled, “Approval of Disease Control Chemical Use Under the Department of Ecology’s General Permit for Upland Fin-fish Hatching and Rearing Facilities” (1990) authorized the use of non-emergency and emergency extra-label drug and chemical use without the prior approval of Ecology. In October 1995, Ecology amended Chapter 173-221A WAC to specifically allow the extra-label use of disease control drugs and chemicals if the drugs and chemicals are administered by or under the supervision of a licensed veterinarian and approved in advance by Ecology.

The previous permits adopted the document conditions and incorporated them into S6.B. Ecology recognizes that there are many situations where extra-label disease control drug and chemical use could occur with little reasonable potential to impact water quality. Ecology also recognizes that an epizootic disease outbreak may require extraordinary measures to save the fish. Epizootic disease outbreaks may require the extra-label use of a drug or chemical or the use of a drug or chemical that is not approved by the United States Food and Drug Administration or United States EPA. Ecology requires 24-hour prior notification for emergency drug and chemical use and a detailed account of quantity of disposed disease control drugs and chemicals, in the facility's operational log.

WDFW has regulations and the legal authority over Aquaculture Disease Control (Chapter 220-77 WAC, Chapter 220-76 WAC, and *The Salmonid Disease Control Policy of the Fisheries Co-Managers of Washington State*, July 2006).

Discharges to 303(d) Listed Impaired Waterbodies

The current permit stipulates that facilities discharging a pollutant named as a pollutant causing a water quality standards violation at a location identified on the current (at the time permit coverage is granted) EPA-approved 303(d) list for Washington State are not authorized to discharge that pollutant at a concentration above the surface water quality standards (Chapter 173-201A WAC). Considering the pollutants associated with fish hatching and rearing facilities, Ecology has determined that facilities discharging to waterbodies listed for fine sediment or temperature must comply with:

- TMDLs, including applicable wasteload allocations, completed prior to the date Ecology issues permit coverage.
- An effluent limit that is equal to the applicable surface water quality standard (WAC173-201A) at the point of discharge if it discharges to an impaired water body that does not have a completed TMDL.

The current permit specifies that Permittees that exceed the effluent limit for a discharge to a 303(d) listed waterbody constitute a violation of the general permit. Condition S1.B.1 of the current permit states that Ecology will not provide coverage under the general permit to facilities that discharge to a waterbody listed pursuant to Section 303(d) of the Clean Water Act unless it is not causing or contributing to the impairment of the receiving water. The proposed permit adds language that allows the Permittee to continue coverage under the general permit if a limit or monitoring requirement is included either in this permit or in a companion letter or order.

Ecology's *Permit Writers' Manual* (page 196) discusses existing discharges to Category 5, 303(d) listed water bodies that have no TMDL completed. If the pollutant is a far-field pollutant, is present in the discharge, and is subject of a TMDL in progress, the permit writer may defer any water quality-based limits on the pollutant until the TMDL is completed and a WLA is assigned.

Ecology is requiring BMPs to minimize solids discharges and will reevaluate effluent limits for nutrients, phosphorous, and other oxygen-depleting parameters once the TMDLs are completed. Data will be collected for a TMDL when appropriate and determined by Ecology.

Appendix E was generated from a query of the Permittees that have submitted applications for coverage under this permit and 303(d) listed waterbodies within 1 mile of their location. There were facilities that do not discharge to the listed waterbody, do not discharge parameters that are listed, or do not discharge at all during critical times of the year. Ecology permit managers will evaluate the facility discharges in their regions as to their potential to meet water quality standards for the waterbody and parameters on the 303(d) list approved at the time this permit is issued.

EPA has the lead in a temperature TMDL for the Columbia and Snake Rivers that is underway (2015 draft 303(d) list, listing 11169). The 1-D maximum is the water quality standard for the waterbody, not a 7-day max. Temperature standards list how facilities must take samples. There are obvious problems with sampling a small discharge that discharges to the Columbia River. Receiving water samples in the Columbia River that meet the criteria of “a well-mixed portion of the river and not from shallow back waters.” Facilities that discharge to the Columbia River do not need to sample the receiving water until results from the 2017-2018 are analyzed.

Six facilities listed in Appendix E discharge to or near PCB listed waterbodies. Ecology recently conducted the *Little Spokane River PCBs – Screening Survey of Fish Tissue, Sediment and Water* (November 2015 draft). The study objective was to verify the current levels of PCBs in fish tissue in the Little Spokane River. The last sampling conducted in 1997 produced category 5, 303(d) listings for PCBs. The intermediate results were that the PCB concentrations were not high enough to separate from the background noise. The final results are not completed yet but the conclusions in the draft report is that, compared to statewide data, fish tissue PCB concentrations are within the range of background levels established during Ecology’s 2010 study (Johnson et al., 2010). PCB levels in Little Spokane River water were too low to reliably quantify. Concentrations of PCBs in sediment were much lower than the sediment cleanup objective (110 µg/kg) described in WAC 173-204, and concentrations in water were estimated to be well below chronic and acute aquatic life criteria.

The draft permit takes the first step in requiring hatchery managers to evaluate their facility for possible PCB sources, including paint and caulk that might come in contact with water (Section S6.C). Facilities discharging to PCB listed waterbodies must conduct a complete facility assessment for paint or caulk manufactured prior to 1980, submit a plan for removal, and complete the plan by December 31, 2017. The permit requires facilities to develop and implement a plan to reduce PCBs in fish feed through preferential purchasing, feeding practices that minimize the discharge of unconsumed feed, and reduce/remove accumulated solids so they don’t enter surface waters.

Human Health

Washington’s water quality standards include 91 numeric human health-based criteria that Ecology must consider when writing NPDES permits. These criteria were established in 1992 by EPA in its National Toxics Rule (40 CFR 131.36). Ecology has determined that the discharge from this industry group is unlikely to contain chemicals regulated for human health. However, the proposed permit requires Permittees that discharge to PCB listed waterbodies evaluate possible sources of Polychlorinated Biphenyls (PCBs) in the hatchery. See PCB evaluation section below.

Whole Effluent Toxicity

The water quality standards for surface waters forbid discharge of effluent that causes toxic effects in the receiving waters. Many toxic pollutants cannot be measured by commonly available detection methods. However, laboratory tests can measure toxicity directly by exposing living organisms to the wastewater and measuring their responses. These tests measure the aggregate toxicity of the whole effluent, so this approach is called whole effluent toxicity (WET) testing. Some WET tests measure acute toxicity and other WET tests measure chronic toxicity.

Using the screening criteria in WAC 173-205-040, Ecology determined that whole effluent toxic effects caused by unidentified pollutants in the effluent are unlikely. Therefore, this permit does not require WET testing. Ecology may require WET testing in the future, if it receives information indicating that toxicity may be present in this effluent.

Sediment Quality

The aquatic sediment standards (WAC 173-204) protect aquatic biota and human health. Under these standards, Ecology may require a facility to evaluate the potential for its discharge to cause a violation of sediment standards (WAC 173-204-400). You can obtain additional information about sediments at the Aquatic Lands Cleanup Unit website.

<http://www.ecy.wa.gov/programs/tcp/smu/sediment.html>

Ecology has determined through a review of fish hatching and rearing facility wastewater characteristics that this discharge has no reasonable potential to violate the sediment management standards. Ecology will review the results of the ongoing PCB studies from fish hatcheries in the Spokane River watershed and determine if further sampling is justified.

Ground Water Quality

The ground water quality standards (Chapter 173-200 WAC) protect beneficial uses of ground water. Permits issued by Ecology must not allow violations of those standards (WAC 173-200-100). Ecology has determined that a properly operated upland fin-fish hatching and rearing facility poses little potential to impact state ground water standards. This permit does not authorize a violation of these standards. Ecology may require facilities with the potential to violate these standards to obtain coverage under an individual permit and/or require additional sampling and groundwater monitoring, and/or require these facilities to line rearing and pollution abatement ponds if necessary.

COMPARISON OF EFFLUENT LIMITS WITH THE PREVIOUS PERMIT

The effluent limits for total suspended solids and settleable solids in the draft permit are the same as those in the permit issued in 2010. WAC 173-221A-100(4)(a)(iv) states “Effluent limitations shall apply as net values provided the criteria contained in 40 CFR 122.45 (net gross allowance) are met.” The 2010 permit required fish hatching and rearing facilities to report influent and effluent values on the DMR form along with their net value calculations. Ecology evaluated this data to assess whether additional sampling was necessary to prove substantial similarity between influent and effluent solids. The majority of sampling data indicate that only a few facilities reported high influent and effluent solids values.

The draft permit requires seasonal monitoring for temperature for those facilities that discharge to 303(d) Category 5 listed waterbodies for temperature, if applicable. Some of the listed facilities do not discharge during the critical temperature period.

MONITORING AND REPORTING

Ecology requires monitoring, recording, and reporting (WAC 173-226-090 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and that the discharge complies with the permit’s effluent limits.

Since facilities designed the off-line settling basins to meet the removal efficiency and hydraulic retention standards, Ecology believes it is more important to monitor the quality of the effluent leaving the settling basins than percent removal. The previous permit required sampling of the off-line settling basin every month the settling basin discharged, regardless of pounds of fish on hand or food fed per month. Monthly sampling for total suspended solids remains in this permit. Ecology feels this sampling frequency is justified because the solids entering the receiving water

from the off-line settling basins is the most important indicator of a hatchery's environmental performance.

The previous permit allowed facilities to use the DPD colorimetric field test for chlorine as an acceptable alternative to constant bioassay. It also required facilities to neutralize residual chlorine prior to discharge to less than 19 µg/L, which is the acute toxicity criterion promulgated in the Washington State surface water quality standards (Chapter 173-201A WAC). The method detection limit for total residual chlorine is 50 µg/L (0.05 mg/L). 50 µg/L is equivalent to EPA's Minimum Level (ML), which is defined in 40 CFR Part 136. Total residual chlorine is also an effective indicator of Chloramine-T levels in the effluent. The Permittee is in compliance with this permit for chlorine if they meet the 50 µg/L ML.

CALCULATING NET VALUES

The draft permit continues the use of net values when submitting results for TSS and settleable solids. If the facility chooses to calculate net discharge values for solids, it must report both the influent and effluent values on the DMR form. It must take a sample of the "raw" water which represents the influent sample. The net calculation is applicable when the material (solids) in the influent is substantially similar in character as the solids in the effluent. Ecology may require additional sampling for Total Volatile Suspended Solids (TVSS) or BOD₅, to determine the organic proportion of solids in the influent and effluent, if it has concerns.

The monitoring and testing schedule is detailed in the permit under Conditions S4 and S5. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

OTHER PERMIT CONDITIONS

Reporting and Record Keeping

Ecology based Special Condition S5, Reporting and Record Keeping Requirements, on its authority to specify any appropriate reporting and record keeping requirements to prevent and control waste discharges (WAC 173-226-090).

Various permit conditions require facilities to notify Ecology in writing (for example, notification of change in permit status). The permit does not specify any special mailing instructions. It is the facility's responsibility to assure that Ecology receives notification in a timely fashion as required by the permit. It may be in the facility's best interest to use certified mail or other documented delivery service whenever notifying Ecology is required by the permit.

Facility Sampling Plan

A Facility Sampling Plan is required under Condition S5.C to delineate the sampling locations and procedures for each facility. The facility must sample in accordance with this plan along with any revisions directed by Ecology. The Permittee must keep a copy of the Plan on site and available to staff and Ecology upon request.

Operational Log

The Permittee is required to keep records on disease control chemicals used at the facility, including who administered the chemicals, date of application, trade name, where used (specific pond, raceway, troughs, etc.), estimated concentration during application and at discharge, duration of use, reason for use, and disposal methods. WDFW developed a form during the last permit cycle that Ecology is incorporating into this permit (Chemical Operational Log – Appendix D). The purpose of the Operational Log is to verify chemical concentration calculations and amounts. The collection and recording of meaningful information to determine chemical concentration in the effluent is necessary to verify permit and water quality standards compliance.

The Operational Log must also include hatchery fish loadings and total amount of food fed for each calendar month. The log must be kept on-site and available to Ecology employees upon request.

Reporting of Spills of Oil or Hazardous Materials

Hatcheries store and use chemicals that have the potential to cause water pollution or groundwater contamination. Ecology can require a facility to develop Best Management Plans to prevent this accidental release (Section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080).

S5.I requires the Permittee to report spills of oil or hazardous materials in accordance with RCW 90.56.280 and Chapter 173-303-145 WAC. S9 requires the development of a Spill Prevention Plan, which can be combined with the Pollution Prevention Plan.

Polychlorinated Biphenyls (PCBs) Evaluation

Polychlorinated Biphenyls (PCBs) 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. PCBs do not readily break down in the environment and therefore may remain for long periods of time cycling between air, water, and soil. 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. (EPA www.epa.gov/epawaste/hazard/tsd/pcbs/index.htm). Data indicates that PCBs are a potential contaminant that can be present in hatchery effluent and fish tissue. Section S6.C of this permit includes a BMP requirement that facilities that discharge to PCB 303(d) listed waterbodies evaluate possible sources of PCBs in the hatchery, including paint, caulk, and fish feed, that come in contact with water. The permit contains the requirement that Permittees assess their facilities for the presence of pre-1980 paint and caulk, which comes in contact with discharge water, and develop a plan for their removal. Facilities have the option of not removing pre-1980 paint or caulk if tests show it does not contain 50 ppm or greater PCBs (TSCA level), but Ecology expects most facilities will opt for removal of all pre-1980 paint and caulk that comes in contact with water, without testing to avoid expensive sampling costs.

Section S6.C also contains a requirement that facilities develop and implement a plan to reduce PCBs from fish feed when economically achievable. The USFWS and the USGS have been investigating PCBs and other contaminants in fish feed. EPA and Ecology are not aware of a feasible way to reduce PCBs in fish feed for hatcheries, since there are only a few fish feed distributors they can choose from. There are only a few sources for purchasing fish feed for hatchery use. If a reduced PCB feed formulation becomes available during this permit cycle, Ecology encourages the Permittee

to use fish food that contains the lowest amount of PCBs practically and economically feasible and employ methods for minimizing the discharge of unconsumed food.

Solid Waste Management Plan

Ecology has determined that these facilities can prevent groundwater contamination and minimize the release of pollutants through the development and use of a Solid Waste Management Plan. The plan must address floating, suspended, and settled solids and describe how it plans to remove collected solids. Facilities must operate in accordance with this plan along with any revisions directed by Ecology to prevent pollution.

The Permittee is required to prepare or update the Solid Waste Management Plan and submit to Ecology for review, and review and update the plan as necessary.

Carcass Placement: Carcasses are considered solid waste unless they are reintroduced into the ecosystem as replacement for marine-derived nutrients (MDN). Anadromous salmon carcasses contribute MDN 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 (Hatchery Scientific Review Group, 2009; Kholer, et al., 2008). To compensate for reduced nutrient load mitigation efforts have focused on addition of nutrients to freshwater systems. Distributing spawned salmonid carcasses from fish hatcheries is one method of artificially enhancing nutrient loads in oligotrophic (nutrient poor) systems.

WDFW actively promotes nutrient enhancement efforts. At the time of this draft permit, Ecology is working on developing a Nutrient Enhancement Policy to ensure that carcass placement activities are done with the receiving waters in mind, with focus on oligotrophic systems and not exasperating water quality problems.

Carcass placement and nutrient enhancement activities are not specifically regulated under this NPDES permit.

Pollution Prevention Plan

Ecology has determined that fish hatching and rearing facilities can prevent or minimize the release of pollutants through the development and use of a Pollution Prevention Plan (S8). Facilities must operate in accordance with this plan along with any revisions directed by Ecology to prevent an accidental release of pollutants under the authority of 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080. Facilities must review the Pollution Prevention Plan each permit cycle and update it as necessary, and ensure that staff are aware of and trained in implementing the Plan.

The Permittee must include temperature reduction BMPs, disease control chemical BMPs, spill prevention, and ongoing PCB reduction activities including preferential purchasing of supplies, construction and operating materials and fish feed that has low or no PCB content (Permit Condition S6.C).

Engineering Documents

Facilities must notify Ecology and submit an engineering report for review and approval prior to constructing or modifying any wastewater control facilities (including any pollution abatement structures) in accordance with Chapter 173-240 WAC. An engineering report and detailed plans

and specifications must be submitted to Ecology for approval. Engineering reports, plans, and specifications must be submitted at least 180 days prior to the planned start of construction unless a shorter time is approved by Ecology. Fish hatching and rearing facilities must construct and operate wastewater control units in accordance with the approved plans.

Facilities must give notice to Ecology of planned physical alterations or additions, production increases, or process modifications.

GENERAL CONDITIONS

Ecology bases the General Conditions on state and federal law and regulations. They are included in all discharge permits issued by Ecology.

SMALL BUSINESS ECONOMIC IMPACT STATEMENT

A Small Business Economic Impact Statement (SBEIS) was prepared for this industry to meet the Upland Fin-fish Facility Rule (WAC 173-221A-100) adoption requirements. The first version of this general permit was in effect prior to the adoption of the rule. The rule adopted the substantive requirements of the first version of the general permit. Ecology determined that the SBEIS prepared for the rule (WAC 173-221A-100) also met the general permit SBEIS requirements (WAC 173-226-120) for the subsequent version of this permit. The draft permit has few differences with the previous version of the permit.

PERMIT MODIFICATIONS

Ecology may modify this permit to impose numerical limits, if necessary, to comply with water quality standards for surface waters, with sediment quality standards, or with water quality standards for ground waters, after obtaining new information from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

Ecology may also modify this permit to comply with new or amended state or federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

The draft permit meets all statutory requirements for authorizing a wastewater discharge. It includes those limits and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the state of Washington. Ecology proposes to issue this general permit for a term of five (5) years.

REFERENCES FOR TEXT

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- 2015. *Permit Writer's Manual*. Publication Number 92-109. January 2015 revision.
- 2015, November 16 (Draft). Little Spokane River PCBs – Screening Survey of Fish Tissue, Sediment, and Water.

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- 1974. Development document for proposed effluent limitations, guidelines, and new source performance standards for the fish hatcheries and farms point source category. Internal draft report. National Field Investigations Center, Denver, CO. 237 pp.
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- 1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.
- 2015. General Wastewater Discharge NPDES Permit for Discharges from Federal Aquaculture Facilities and Aquaculture Facilities Located in Indian Country, preliminary draft permit and fact sheet. Permit No. WAG-13000, Gockel, Catherine.
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- 2015, June. Draft NPDES Permit and Fact Sheet 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.

EPA Guidance Document.

<http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/caulk/guide/guide-sect4.a.htm>

Center for Veterinary Medicine. Program Policy and Procedures Manual 1240.4200 Enforcement Priorities for Drug Use in Aquaculture. 08/09/02; 04/26/07 minor revisions <http://www.fda.gov/downloads/AnimalVeterinary/GuidanceComplianceEnforcement/PoliciesProcedures/UCM046931.pdf>

JRB Associates.

- 1984. Development of effluent limitations for Idaho fish hatcheries. Report to U.S. Environmental Agency. JBL Associates, Bellevue, WA. 119+ pp.
- Maule, et al, 2007. Chemical contaminants in fish feeds used in federal salmonid hatcheries in the USA. *Chemosphere* 67:1308-1315.
- Naiman, R.J., R.E. Bilby, D.E. Schindler, and J.M. Helfield, 2002. Pacific Salmon, Nutrients, and the Dynamics of Freshwater and Riparian Ecosystems, *Ecosystems* (2002) 5:399-417.

APPENDIX A – PUBLIC INVOLVEMENT INFORMATION

Ecology proposes to reissue the Upland Fin-fish Hatching and Rearing General Permit to provide NPDES coverage to facilities engaged in aquaculture activities that are identified in Special Condition S1, Permit Coverage. The permit prescribes operating conditions and wastewater discharge limits. The fact sheet describes the facility and Ecology's reasons for requiring permit conditions.

In writing this permit, Ecology evaluated past permit compliance and any comments received. The draft permit contains the same effluent limits included in the previous permits. Ecology only made minor changes to the permit.

On August 19, 2015, Ecology filed a Public Notice of Draft (PNOD) with the Code Revisers Office to inform the public that the revised draft permit and fact sheet were available for review and comment; and specify the date and location of the public workshop and hearing on the proposed permit. Ecology published the announcement in the *Washington State Register* (WSR 15-16-111) on August 19, 2015. It also published the public notice on Ecology's website to inform the public that a draft of the proposed permit and fact sheet was available for review. Ecology also notified interested parties by direct mailings and e-mails.

Ecology invited you to submit written comments regarding the draft permit and fact sheet. The draft permit and fact sheet was available on-line at http://www.ecy.wa.gov/programs/wq/permits/fin_fish/index.html.

The draft permit, fact sheet, and related documents were also available for inspection and copying between the hours of 8:00 am and 4:30 pm weekdays, by appointment, at the following Ecology Regional Offices:

Northwest Regional Office

(425) 649-7000
Department of Ecology
3190 - 160th Avenue SE
Bellevue, WA 98008-5452
*For: King, Whatcom, Skagit, Snohomish,
San Juan, Kitsap, and Island Counties*

Southwest Regional Office

(360) 407-6300
Department of Ecology
P.O. Box 47775
Olympia, WA 98504-7775
*For: Thurston, Clallam, Jefferson, Grays
Harbor, Mason, Pierce, Lewis, Skamania,
Wahkiakum, Cowlitz, Clark, and Pacific Counties.*

Central Regional Office

(509) 575-2490
Department of Ecology
1250 W. Alder Street
Union Gap, WA 98903-0009
*For: Yakima, Benton, Klickitat, Chelan,
Douglas, Kittitas, and Okanogan
Counties*

Eastern Regional Office

(509) 329-3400
Department of Ecology
4601 N. Monroe Street
Spokane, WA 99205-1295
*For: Spokane, Grant, Adams, Whitman,
Ferry, Franklin, Stevens, Pend Oreille,
Garfield, Columbia, Asotin, Lincoln, and
Walla Walla Counties.*

Any interested party could have commented on the draft permit and attended the public workshop and hearing. Ecology preferred comments be submitted by email to llev461@ecy.wa.gov. Written comments must have been postmarked or received via email no later than October 5, 2015.

Written comments were mailed to:

Lori LeVander
Water Quality Program
Department of Ecology
3190 – 160th Ave SE
Bellevue, WA 98008-5452

The email address for comments was: llev461@ecy.wa.gov

Public Workshop/Hearing: The public workshop and hearing on the proposed permit was held **on Monday, September 28, 2015. The purpose of the workshop was to explain** the general permit, answer questions, and facilitate meaningful testimony during the hearing. The purpose of the hearing was to provide interested parties an opportunity to give formal oral testimony and comments on the proposed general permit. Ecology held the workshop and hearing at the following location:

Washington State Department of Ecology
Main Auditorium
300 Desmond Drive
Lacey, WA 98503

The public workshop and hearing began at 2:00 PM. and concluded as soon as public testimony was completed.

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

Ecology considered all comments in formulating a final determination to issue, revise, or reconsider the proposed permit. Ecology's responses to all significant comments will be available upon request and it will mail a copy directly to people expressing an interest in this permit.

You may obtain further information from Ecology by telephone at (425) 649-7039, by writing to the address listed above, or by visiting Ecology's General Hatchery Permit web page: http://www.ecy.wa.gov/programs/wq/permits/fin_fish/index.html

Small Business Economic Impact Statement: Ecology has made a determination that the Small Business Economic Impact Statement (SBEIS) prepared to meet the Upland Fin-fish Facility Rule (WAC 173-221A-100), adopted in July 1990, satisfies the SBEIS requirements for this general permit. The proposed permit does not differ substantively from the expiring permit or the standards established for this industry in state regulation (WAC 173-221A-100 Upland Fin-fish Facilities).

How to Request Copies of the Proposed Permit: You can request a copy of the proposed permit and fact sheet, by contacting Lori LeVander through the email or address noted below or by telephoning her at (425) 649-7039.

Where to Submit Written Comments: If you wish to comment on the proposed permit you may send your written comments to:

Lori LeVander
Water Quality Program
Washington Department of Ecology
Northwest Regional Office
3190 – 160th Ave SE
Bellevue, WA 98008-5452
E-mail: llev461@ecy.wa.gov

Written comments must be postmarked on or before October 5, 2015, to be considered. The Public Comment period was extended to October 19, 2015 by request.

Final Determination: Ecology will not make a final determination to issue this permit until it evaluates all public testimony and written comments received pursuant to this notice. If Ecology issues the general permit, it will send a copy of the final determination and the responsiveness summary to all persons who submitted written comment or gave public testimony.

Ecology is an equal opportunity agency. If you have special accommodation needs or require this document in an alternative format, please contact Lori LeVander at (425) 649-7039. If you are a person with a speech or hearing impairment, call 711 or 1-800-833-6388 for TTY.

APPENDIX B – DEFINITIONS

Acute Toxicity--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

AKART--The acronym for “all known, available, and reasonable methods of prevention, control and treatment”. AKART represents the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants and controlling pollution associated with a discharge, which can be reasonably installed or used at a reasonable cost.

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in waste water. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect waste water.

Applicable TMD--Any TMDL which has been completed either before the issuance date of this permit or the date the Permittee first obtains coverage under this permit, whichever is later.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the state. BMPs include treatment systems, operating procedures, and practices to control spillage or leaks, sludge or waste disposal, discharge of pollutants.

BOD₅--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of a treatment facility.

CAAP--Concentrated aquatic animal production.

Chlorine--Chlorine is used to disinfect waste waters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Chronic Toxicity--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction, or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

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

Composite Sample--A flow-proportional mixture of not less than six discrete aliquots. Each aliquot shall be a grab sample of not less than 100 ml and shall be collected and stored in accordance with procedures prescribed in the most recent edition of *Standard Methods for the Examination of Water and Wastewater*.

Critical Condition--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low; thus, its ability to dilute effluent is reduced.

Daily Discharge--is the amount of a pollutant discharged during a calendar day or any 24-hour period that reasonably represents a calendar day. For pollutants with limits expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged during the day. For pollutants with limits expressed in other units of measurement, the daily discharge is calculated as the arithmetic average of all the measurements of the pollutant throughout the day, except for pH.

Director--The Director of the Washington State Department of Ecology or his/her authorized representative.

Ecology--The Washington State Department of Ecology.

Epizootic--means the occurrence of a disease event that is a sharp increase in the incidence rate of disease beyond normal background rate. This can be a few cases of a rare disease or many cases of a common disease.

FWPCA--stands for the Federal Water Pollution Control Act (The Clean Water Act), Title 33 United States Code, Section 1251 *et seq.*

40 CFR--Title 40 of the Code of Federal Regulations. The Code of Federal Regulations is the codification of the general and permanent rules published in the *Federal Register* by the executive departments and agencies of the federal government.

GPD--gallons per day

Grab Sample--An individual discrete water sample.

Instantaneous Maximum--The maximum allowable concentration of a pollutant determined from the analysis of any discrete or composite sample collected, independent of the flow rate and the duration of the sampling event.

Lined Pond--Asphalt, concrete, plastic membrane, or similarly lined ponds. Ponds lined with gravel or soil are considered unlined.

Maximum Daily--The highest allowable sample value from a daily discharge taken during a calendar month.

MDL--The method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte.

[40 CFR Part 136, Appendix B to Part 136](#)

MGD--Million gallons per day

mg/L--Milligrams per liter ("Net mg/L" = mg/L in Hatchery Effluent minus mg/L in Hatchery Influent)

mL/L--Milliliters per liter ("Net mL/L" = mL/L in Hatchery Effluent minus mL/L in Hatchery Influent)

Monthly Average--Calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

National Pollutant Discharge Elimination System (NPDES)--The NPDES (Section 402 of the Clean Water Act) is the federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the state of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/state permits issued under both state and federal laws.

Off-line Settling Basin--shall mean those pond cleaning waste treatment systems which have a hydraulic detention time of 24 hours and a designed removal efficiency of at least 85% for total suspended solids and 90% for settleable solids.

Production--Production, per the 2010 permit, was defined as net gain of weight at the facility. The regulation is clear that facilities that produce more than 20,000 net pounds of finfish a year is required to obtain a permit.

Rearing Ponds or Raceways--means ponds, raceways, circular ponds, or any other method used to keep fin-fish captive for culture purposes at an upland fin-fish rearing facility.

Rearing Vessel--means all rearing ponds, raceways, and fish hauling tanks.

Representative Sample--means multiple outfalls with similar waste streams can be sampled and combined into one sample for one analysis. The sample volume from each outfall shall be apportioned according to the volume of flow at the time of sampling. These apportioned samples can then be combined into one representative sample for analysis.

Settleable Solids--means those solids in surface waters or waste waters which are measured volumetrically in accordance with procedures prescribed in the most recent edition of *Standard Methods for the Examination of Water and Wastewater*.

Section 303(d) List--is a part of the federal Clean Water Act that requires states to identify waterbodies that are water quality limited or do not meet the water quality standards specified in Chapter 173-201A WAC based on the Washington State Water Quality Assessment. (i.e. waterbodies that do not meet, or are not expected to meet, applicable water quality standards after sources have undergone technology-based controls). The Washington State Department of Ecology prepares and the U.S. Environmental Protection Agency approves this list every 2 years.

Surface Waters--include lakes, rivers, ponds, streams, inland waters, salt waters, and all other surface waters and water courses within the jurisdiction of the state of Washington. For the purposes of this permit, surface waters do not include hatchery ponds, raceways, pollution abatement ponds, and wetlands constructed solely for wastewater treatment.

Total Maximum Daily Load (TMDL)--is the sum of all waste load allocations (WLAs) and load allocations (LAs) (non-point source and background) and a safety margin. The TMDL is a mechanism for establishing water quality-based controls on all point and nonpoint sources of pollutants within a water quality-limited basin, sub-basin, or hydrographic segment.

Waters of the State--include those waters defined as "waters of the United States" in 40 CFR 122.2 within the geographic boundaries of Washington State and "waters of the state" as defined in Chapter RCW 90.48 RCW which include lakes, rivers, ponds, streams, waters, underground waters, salt waters, and all other surface water and water courses including wetlands within the jurisdiction of the state of Washington.

Water Quality Standards--means the water quality standards for ground waters of the state of Washington (Chapter 173-200 WAC), the water quality standards for surface waters of the state of Washington (Chapter 173-201A WAC), and the sediment management standards of the state of Washington (Chapter 173-204 WAC).

APPENDIX C – 2015 APPLICANTS

PERMIT #	FACILITY	FISH POUNDAGE- max month	RECEIVING WATER
WAG133009	ARLINGTON HATCHERY	56,000	McGovern Ck to Stillaguamish River
WAG131027	BEAVER CREEK HATCHERY	20,800	Beaver Creek
WAG994275	BELLINGHAM HATCHERY	16,400	Whatcom Creek
WAG131022	BINGHAM CREEK HATCHERY	34,200	E. Fork Satsop River
WAG131051	BOGACHIEL HATCHERY	40,000	Bogachiel R, Calawah River
WAG135013	CARLTON ACCLIMATION POND	14,000	Methow River
WAG131029	CASCADE AQUA FARMS-Cinebar	40,000	Cinebar Creek
WAG131050	CASCADE AQUA TILTON RIVER	200,000	Tilton River
WAG131055	CHAMBERS CREEK HATCHERY	12,000	Chambers Creek
WAG137019	CHELAN FALLS REARING FACILITY-Eastbank	35,000	Columbia River
WAG135006	CHELAN HATCHERY	40,000	Columbia River
WAG137022	CHIEF JO HATCHERY (Riverside Acc. Pond)	40,000	Okanogan River
WAG135015	CHIWAWA PONDS	33,560	Chiwawa R., Wenatchee R.
WAG133017	BOXLEY SPRINGS HATCHERY	60,000	Christmas Ck (Boxley Ck)
WAG135016	CLE ELUM RESEARCH & SUPPLEMENTATION	28,200	Yakima River
WAG137010	COLUMBIA BASIN HATCHERY	23,560	Rocky Coulee Wasteway and Crab Creek
WAG137005	COTTONWOOD ACCLIMATION POND	43,000	Grande Ronde River
WAG131012	COULTER CREEK HATCHERY	37,500	Coulter Creek
WAG131021	COWLITZ SALMON HATCHERY	290,000	Cowlitz River
WAG131034	COWLITZ TROUT HATCHERY	226,000	Cowlitz River, Blue Ck.
WAG13-7018	CURL LAKE ACCLIMATION POND	18,000	Tucannon River
WAG135014	DRYDEN PONDS	50,600	Wenatchee River
WAG131037	DUNGENESS HATCHERY	35,000	Dungeness River
WAG135011	EASTBANK HATCHERY	66,400	Columbia River
WAG131047	EELLS SPRINGS HATCHERY	122,400	Hunter Creek
WAG131043	ELWHA CHANNEL	29,500	Elway River
WAG131053	FALLERT CK (Lower Kalama)	70,000	Kalama River
WAG131049	FORKS CREEK HATCHERY	47,000	Forks Creek
WAG131018	GARRISON SPRINGS HATCHERY	19,500	Garrison Springs
WAG131019	GEORGE ADAMS HATCHERY	53,400	Purdy Creek
WAG135001	GOLDENDALE HATCHERY	42,850	Spring Creek
WAG131015	GRAYS RIVER HATCHERY	35,000	Grays River
WAG131011	HOODSPORT HATCHERY	47,400	Finch Ck, Hood Canal
WAG131048	HUMPTULIPS HATCHERY	54,300	Stevens Creek
WAG133013	ICY CREEK	34,500	Icy Creek
WAG133010	ISSAQUAH HATCHERY	55,000	Issaquah Creek
WAG131039	KALAMA FALLS HATCHERY	65,000	Kalama River
WAG133007	KENDALL CREEK HATCHERY	52,400	Kendall Creek, N. Fork Nooksack River
WAG131033	LAKE ABERDEEN HATCHERY	42,900	VanWinkle Creek
WAG131040	LEWIS RIVER HATCHERY	256,000	N. Fork Lewis River
WAG137006	LYONS FERRY HATCHERY	160,400	Snake River
WAG133015	MARBLEMOUNT HATCHERY	25,400	Clark Creek
WAG131036	MCKERNAN STATE HATCHERY	23,100	Weaver Creek
WAG131052	MERWIN TROUT HATCHERY	63,000	Lewis River
WAG135000	METHOW HATCHERY	25,000	Methow River
WAG131024	MINTER CREEK HATCHERY	44,000	Minter Creek

PERMIT #	FACILITY	FISH POUNDAGE- max month	RECEIVING WATER
WAG131057	MORSE CREEK ACCLIMATION PONDS (inact)	18,130	Morse Creek
WAG131013	MOSSYROCK HATCHERY	48,000	Mayfield Lake
WAG135003	NACHES HATCHERY	27,000	Nachel River
WAG131020	NASELLE HATCHERY	99,000	Naselle River
WAG131025	NEMAH HATCHERY	28,500	N. Nemah River
WAG131002	NISQUALLY TROUT FARM #2	40,000	Woodland Creek
WAG131061	N FORK SKOKOMISH RIVER HATCHERY	9,745	N. Fork Skokomish River
WAG131010	NORTH TOUTLE HATCHERY	30,000	Green River
WAG131062	PACIFIC AQUACULTURE-SHELTON	32,156	Skokomish River
WAG133002	PALMER PONDS-inactive 6/2009	30,500	Green River
WAG137013	PRIEST RAPIDS HATCHERY (Grant Co/WDFW)	157,000	Columbia River
WAG135017	PROSSER HATCHERY-YAKAMA NATION	23,620	Yakima River
WAG133005	REITER PONDS	62,500	Skykomish River
WAG137009	RINGOLD SPRINGS HATCHERY	55,500	Ringold Hatchery Creek, Ringold Wasteway Canal
WAG133011	SAMISH HATCHERY	35,000	Friday Creek, Samish River
WAG131023	SATSOP SPRINGS HATCHERY	45,000	E. Fork Satsop River
WAG131007	SCATTER CREEK	409,000	Scatter Creek
WAG135007	SIMILKAMEEN RIVER REARING	9,600	Similkameen River
WAG131026	SKAMANIA HATCHERY	58,900	N. Fork Washougal River
WAG131042	SKOOKUMCHUCK REARING PONDS	63,350	Skookumchuck River
WAG131045	SOLDUC HATCHERY	75,000	Spring Ck to Solduc River
WAG133014	SOOS CREEK HATCHERY	50,300	Big Soos Creek
WAG131030	SOUTH TACOMA HATCHERY (LAKEWOOD)	36,000	Chambers Creek
WAG131041	SPEELYAI HATCHERY	56,300	Speelyai Creek
WAG137007	SPOKANE HATCHERY	68,100	Hatchery Creek
WAG133004	TOKUL CREEK HATCHERY	32,000	Tokul Creek
WAG137001	TROUTLODGE ELM#1 (Soap Lake)	192,000	Rocky Ford Creek
WAG137002	TROUTLODGE ELM#2 (Soap Lake)	188,300	Rocky Ford Creek
WAG131003	TROUTLODGE HOODSPORT	84,000	Hill Creek
WAG131059	TROUTLODGE ROCHESTER	28,655	Black River
WAG137021	TROUTLODGE WINCHESTER	36,200	Irrigation Wastewater Ditch
WAG137017	TUCANNON HATCHERY	50,350	Tucannon River
WAG131032	VANCOUVER HATCHERY	28,800	Love Lake to Columbia River
WAG133006	WALLACE RIVER HATCHERY	66,800	Wallace River, May Creek
WAG131044	WASHOUGAL HATCHERY	160,500	Washougal River
WAG135009	WELLS HATCHERY AND SPAWNING	125,516	Columbia River
WAG133008	WHITEHORSE PONDS	50,000	Whitehorse Creek (trib. To N. Fork Stillaguamish)

APPENDIX E – EXISTING DISCHARGERS TO IMPAIRED WATERS

The following list contains Permittees that have submitted applications for this general permit (2015) that are located within one mile of a water body listed as impaired (Category 5) on the Clean Water Act Section 303(d) list that was approved by EPA in 2012. This list has been edited to delete listed waterbodies that the hatchery does not discharge to, and parameters not expected to be discharged from a hatchery. A few of the facilities listed below do not discharge during critical times of the year so the listing does not apply to them. A new 303(d) list using water-based segments may be finalized and approved by EPA before this permit is finalized.

Facility	Permit No.	Listed Waterbody	Listing Parameter
BEAVER CREEK HATCHERY	WAG131027	Beaver Creek	Temperature
BOGACHIEL HATCHERY	WAG131051	Bogachiel River	Temperature
EASTBANK HATCHERY	WAG135011	Columbia River *	PCB, Temperature
PRIEST RAPIDS HATCHERY	WAG137013	Columbia River *	Temperature
TROUTLODGE 1	WAG137001	Rocky Ford Creek	Dissolved Oxygen
TROUTLODGE 2	WAG137002	Rocky Ford Creek	Dissolved Oxygen
BELLINGHAM HATCHERY	WAG994275	Whatcom Creek	Dissolved Oxygen & Temperature
CHELAN HATCHERY	WAG135006	Columbia River (Lake Entiat)	PCB
COLUMBIA BASIN HATCHERY	WAG137010	Crab Creek	Temperature
ELWAH REARING CHANNEL	WAG131043	Elwha River	Temperature
GRAYS RIVER SALMON HATCHERY	WAG131015	Grays River, W.F.	Temperature
ISSAQUAH HATCHERY	WAG133010	Issaquah Creek	Dissolved Oxygen
KENDALL CREEK HATCHERY	WAG133007	Kendall Creek	Temperature
MOSSYROCK FISH HATCHERY	WAG131013	Mayfield Lake	PCB
PALMER PONDS	WAG133002	Green River	Dissolved Oxygen
SAMISH HATCHERY	WAG133011	Samish River	Dissolved Oxygen & Turbidity
SIMILKAMEEN HATCHERY	WAG135007	Okanogan River	Temperature
SPEELYAI HATCHERY	WAG131041	Merwin Lake	PCB
SPOKANE HATCHERY	WAG137007	Griffith Spring	*PCB (Griffith Spring is not listed for PCBs but the Spokane River, downstream is listed)
WALLACE RIVER HATCHERY	WAG133006	Wallace River	Temperature
WELLS HATCHERY & SPAWNING	WAG135009	Columbia River (Lake Entiat) *	Temperature, PCB
DRYDEN PONDS	WAG13-5014	Lower Wenatchee River	(Phosphorous – Limits assigned through a WLA, effective 2019.) Specific limit

* Do not need to sample receiving water if discharges to the Columbia River, unless hatchery effluent is greater than 20° C as a one-day maximum (WAC 173-201A, Table 602).

APPENDIX F – RESPONSE TO COMMENTS

The purpose of the public comment period and formal hearing was to give the public an opportunity to comment on Ecology's draft of the renewed Upland Fin-fish Hatching and Rearing General Permit. The purpose of this Responsiveness Summary is to provide Ecology's formal response to those comments.

Ecology has attempted to clearly and directly respond to the written comments received on the draft permit. If a response is not clear, or if more information is desired, please contact or Michael Hepp at 509-329-3536 or mhep461@ecy.wa.gov or Gerry Shervey at 425-649-7293 or gshe461@ecy.wa.gov.

Ecology received many comments that can be responded to in a few general categories. We have listed the main comments below in Response to General Comments and will refer to them in the specific comment letters.

RESPONSE TO GENERAL COMMENTS

General Comment A:

Hatcheries and hatchery fish are significant sources of PCB loading. The permit should require effluent and receiving water monitoring for PCBs.

Response to General Comment A:

The NOAA Fisheries (2014) Draft EIS on Two Joint Tribal Resource Management Plans for Puget Sound Salmon and Steelhead Hatchery Programs, acknowledges the concentrations of PCBs in hatchery fish associated with contaminated fish feed and PCBs in paint and caulks used within hatcheries. Numerous citations, including *Persistent Organic Pollutants in Feed and Rainbow Trout from Selected Trout Hatcheries* (Ecology 2006) and *Chemical Contaminants in Fish Feeds Used in Federal Salmonid Hatcheries in the USA* (Maule, A.G. et al 2007) (feed samples collected 2001 to 2003), also acknowledge this.

Past documentation of high levels of PCB concentrations in fish tissue are from samples taken 15 to 20 years ago. Ecology recently conducted the *Little Spokane River PCBs – Screening Survey of Fish Tissue, Sediment and Water* (January 2016 draft). The study objective was to verify the current levels of PCBs in fish tissue in the Little Spokane River. The last sampling conducted in 1997 produced Category 5, 303(d) listings for PCBs. The intermediate results were that the PCB concentrations were not high enough to separate from the background noise. The final results are not completed yet but the conclusions in the draft report is that, compared to statewide data, fish tissue PCB concentrations are within the range of background levels established during Ecology's 2010 study (Johnson et al., 2010). PCB levels in Little Spokane River water were too low to reliably quantify. Concentrations of PCBs in sediment were much lower than the sediment cleanup objective (110 µg/kg) described in WAC 173-204, and concentrations in water were estimated to be well below chronic and acute aquatic life criteria.

The draft permit takes the first step in requiring hatchery managers to evaluate their facility for possible PCB sources, including paint and caulk that might come in contact with water (Section S6.C). Facilities discharging to PCB listed waterbodies must conduct a complete

facility assessment for paint or caulk manufactured prior to 1980, submit a plan for removal, and complete the plan by December 31, 2017. The permit requires facilities to develop and implement a plan to reduce PCBs in fish feed through preferential purchasing, feeding practices that minimize the discharge of unconsumed feed, and reduce/remove accumulated solids so they don't enter surface waters.

Ecology has commenced a Case Study of the Little Spokane River which would “*follow the life cycle of a “batch” of hatchery fish, collecting and measuring levels of PCB congeners in the hatchery source water, fish food, hatchery discharge effluent, and fish tissue samples. This study will provide answers about the impact of hatchery discharge, and provide insight into the relationship between PCB uptake by fish from food and the water column.*” (Ecology Environmental Assessment Program Case Study Scope, 2015.)

The study will look at the question of stocked fish in the Spokane River system from other hatcheries by summarizing data regarding where stocked fish are being introduced to the system, the hatchery source of the fish, and the potential PCB loading to the system due to stocking.

Ecology is not requiring effluent and receiving water monitoring for PCBs in this general permit but rather, will wait for the outcome of this study. If the study indicates that individual facility monitoring is warranted, then those hatcheries in the Spokane watershed can either be required to monitor through an Administrative Order, or be required to gain coverage under an individual NPDES permit, that will list specific monitoring requirements and/or limits.

General Comment B:

The permit should require monitoring of effluents for PCB congeners using EPA Method 1668C at a frequency adequate to assess sources of PCBs within the facility.

Response to General Comment B:

Ecology is relying on removal and source control as the first step in PCB reduction. Sampling hatchery effluent alone will not identify the source of PCBs in the facility. Sampling will not change the quality of the discharge. Monitoring, using EPA method 1668C, at \$800-\$1,000 per sample, is not necessarily practical as a first step, given the large volume of water that flows through a hatchery. Sampling intakes and discharges from a hatchery still does not necessarily indicate where the PCB contamination originated. Ecology believes that by requiring facility evaluation and potential paint and caulk containing PCBs removal first, then reviewing the results of the Spokane Fish Hatchery Case study in conjunction with the results from the “Little Spokane River PCBs – Screening Survey of Fish Tissue, Sediment and Water”, is the correct sequence of PCB control for fish hatchery effluent and discharges in a general permit.

The EAP study will validate PCB sources in hatchery operations, and if found, at what levels. The study will let Ecology know the efficacy of sampling for PCBs at fish hatcheries, and will guide further PCB control actions.

General Comment C:

All facilities covered by the permit should be required to implement procedures to reduce PCB releases from paint, caulk, and feed – whether or not they discharge to water bodies on the 303(d) list for PCBs.

Response to General Comment C:

The permit requires all facilities that discharge to a 303(d) listed water to implement the PCB reduction procedures. Ecology agrees that all facilities should implement the reduction procedures but it is not realistic for WDFW, one permittee with 68 facilities covered under this general permit, to plan and implement these requirements at the same time. Ecology has placed a priority on those facilities that discharge to 303(d) listed waterbodies first, then will use a tiered approach, based on what we learn from the Spokane Fish Hatchery Case Study, to require the other facilities to create and implement a PCB reduction plan.

General Comment D:

Preferential Purchasing Policy. Ecology should require the permits for hatcheries to adopt preferential purchasing policies for feed, construction materials including paint and caulk, electrical equipment, and commercial products including ink, dyes, lubricants, soaps and cleaners. To the extent the hatcheries are operated by a state agency, the permits should require compliance with RCW 39.26.280(2) that prohibits a state agency of knowingly purchasing products containing PCB above quantitation levels unless it is not cost effective or feasible to do so.

Response to General Comment D:

Section S6.C.2., Fish Food requires the Permittee to develop and implement a plan to reduce PCBs in the facility discharge, as a result of fish feed and feeding activities. The plan must include purchasing procedures that give preference for low PCB fish food when economically and practically feasible. Ecology will reference RCW 39.26.280(2) with respect to other purchases. Ecology will also add a requirement for Permittees to send electronic documentation that they have evaluated food choices and basis for purchasing choices.

Ecology notes that the references for PCBs in fish feed are 12-18 years old. PCB levels in fish feed are assumedly dropping because of the 1979 ban on PCB production and changes in fish feed formulations. However, they are persistent in the environment and bioaccumulate. “Although PCBs were the most commonly detected contaminant in our study, concentrations (range: 0.07–10.46 ng g⁻¹ wet weight) were low compared to those reported previously. In general, we also found lower levels of OCs than reported previously in fish feed.” (Maule A.G., A.L. Gannam, J.W.Davis, 2007).

The ongoing Spokane Fish Hatchery Case Study will update PCB discharge information from the Spokane Fish Hatchery. Ecology added the requirement for Permittees to request and include PCB content information from the fish food suppliers and include that information in the PCB Reduction BMP Plan.

General Comment E:

For those hatcheries discharging to a waterbody listed for dissolved oxygen, please also require monitoring for constituents that have a reasonable potential to affect dissolved oxygen levels such as Total Phosphorus.

Response to General Comment E:

Appendix E of the Fact Sheet lists six facilities as discharging to 303(d) listed water bodies for dissolved oxygen. Two facilities are inactive (Bellingham Hatchery and Palmer Ponds). Issaquah Hatchery, Samish Hatchery, and two Rocky Ford Troutlodge facilities are the other facilities that discharge to waterbodies listed on the 303(d) list for oxygen.

Ecology's *Permit Writers' Manual* (page 196) discusses existing discharges to Category 5, 303(d) listed water bodies that have no TMDL. If the pollutant is a far-field pollutant, is present in the discharge, and is subject of a TMDL in progress, the permit writer may defer any water quality-based limits on the pollutant until the TMDL is completed and a WLA is assigned.

If a Total Maximum Daily Load assessment is ongoing or proposed for a receiving water, Ecology will wait for TMDL completion, with an assigned WLA before requiring dissolved oxygen (or constituents that impact d.o. levels in the receiving water, such as phosphorous, nutrients, and BOD₅) monitoring. If a facility is part of a TMDL assessment, then they will most likely be assigned monitoring for the parameters of concern, including possibly oxygen, nutrients, and phosphorous. If a WLA is already assigned, the Permittee must comply with the monitoring and limits specifically assigned in the WLA. Ecology can require additional monitoring through an Order on a case-by-case basis.

Ecology is requiring BMPs to minimize solids discharges and will reevaluate effluent limits for nutrients, phosphorous, and other oxygen-depleting parameters once the TMDLs are completed. Data will be collected for a TMDL when appropriate and determined by Ecology. Additional monitoring for dissolved oxygen or other constituents can be required by Ecology on a case-by-case basis through an Order.

Oral Commentors (Public Hearing September 28, 2015)

1. Mr. Lincoln Loehr, Citizen

Comment 1:

I am very concerned with the issues of Arsenic and PCBs in EPA's proposal. The Arsenic Human Health Criteria that EPA is proposing is 0.0049 ppb. The drinking water standard is 10 ppb. No dilution is allowed when ambient water doesn't meet the standard.

I'm asking WDOE require monitoring of wastewater and ambient waters, in this permit for all permittees, for inorganic arsenic using methods 1632 and for PCBs using method 1668C, both for informational purposes.

Streams that receive carcass placement should be sampled for PCBs with method 1668C. The purpose is to gather information, made necessary by EPA's proposed Human Health Water Quality Criteria Rule for Washington, in order to see if water quality based effluent limits will be necessary in the next permit cycle.

WDOE should impose similar requirements in 401 certification of any federally issued NPDES Permits, many of which are for hatcheries.

Response to Comment 1:

This permit does not specifically address carcass placement (Section S7.D. and Fact Sheet discussion "*Carcass placement and nutrient enhancement activities are not specifically regulated under this NPDES permit*" (Page 20).

This permit does not condition 401 Certifications.

Arsenic: Arsenic is not known to be associated with any hatchery processes. Hatchery facilities draw surface water or groundwater as intake water, it flows through their facilities, and discharges back to the receiving water. If arsenic is naturally occurring in the specific groundwater or surface water intake, the hatchery operations do not contribute to any naturally occurring background arsenic.

Ecology does not require monitoring for “informational purposes” unless we are collecting data for use in an ongoing Total Maximum Daily Load (TMDL) study or Waste Load Allocation (WLA). We also have to recognize the costs of monitoring while deciding what and how much is necessary for an adequate characterization. We must also consider the objective of monitoring; to characterize the specific discharge from the facility and its impact on receiving water. The permit writer also needs to assess the value of the data, cost, applicability to the facility, and to assess compliance with permit limits.

Pollutants and parameters to be monitored in effluent are based on application data, history of the facility discharge, pollutants discharged from similar facilities, and any applicable EPA development documents.

Background monitoring for informational purposes is not the purpose of this permit. Ecology’s Environmental Assessment Program (EAP) conducts water quality studies for informational purposes and this question or request is more appropriately directed towards their work. Based on this, arsenic monitoring won’t be required in this permit.

PCBs: Ecology is conducting a study that will answer these questions for the Spokane hatchery in a scientific manner. The EAP study will evaluate water quality from the hatchery and provide information about PCB discharges. The study results will allow us to evaluate the need for further monitoring at Spokane watershed and other hatcheries. Follow-up monitoring, limits, and best management practices can be required in an Order or individual, site specific permit if indicated by the study results.

See General Response A and B.

Follow-up Written Comments by Mr. Loehr:

Effluent monitoring should be sufficient if done twice, once to be when the max percentage of flow was from groundwater, and once when the highest feeding rates were employed. The ambient monitoring should match the timing of the effluent monitoring. The requirement should be dropped if EPA allows the state human health criteria for PCBs (170 pg/L) and arsenic (10 ug/L) rather than what EPA is proposing in their draft Washington Toxics Rule.

Response to Comment Letter:

See responses above.

Written Comments

Written Comments were received from;

1. Washington State Department of Fish and Wildlife
Mr. Eric Kinne, Hatchery Systems Manager
2. Spokane River Regional Toxics Task Force (SRRTTF)
3. Inland Empire Paper Company
Spokane, WA
4. City of Coeur d'Alene, Idaho
Wastewater Utility Department
5. Mr. Phelps Freeborn, Citizen
6. Environmental Protection Agency Region 10

-
1. Washington State Department of Fish and Wildlife
Mr. Eric Kinne, Hatchery Systems Manager
600 Capitol Way N.
Olympia, WA 98501-1091

Comment 1:

Of concern are changes to the definition of "production". Previously it meant net gain in weight of fish at the facility. The draft (permit) definition defines Production as the act of harvesting, processing or releasing fish in a hatchery or the harvest weight of fish contained, grown, or held in a CAAP facility in a year.

Response to Comment 1:

Production is defined in the Federal Code of Regulations (CFRs) as "the act of harvesting, processing or releasing fish in a hatchery or the harvest weight of fish contained, grown, or held in a CAAP facility in a year. 40 CFR §122 Appx.C. The 2010 Upland Fin-fish Hatching and Rearing General Permit defined Production as net gain in weight of fish at the facility.

WAC 173-221A-100(1)(a)(i) states all facilities which produce more than 20,000 net pounds of finfish a year must obtain a permit. Ecology has required permit coverage for any facility with more than 20,000 pounds of fish on station at any time during the year. The criteria was not based on net gain of weight in the year. The WAC does not reference net gain while on site, it states "produce more that 20,000 net pounds". Lacking a specific definition of "produce" in regulation, Ecology has defined "net pounds" as pounds of fish on station.

Ecology's decision is based on the specific wording in the WAC. Ecology will use the WAC wording and our interpretation that 20,000 pounds of fish on station at any one time requires a permit.

Comment 2:

Discharges to Impaired Waters - Temperature; WDFW requests four facilities that discharge to the Columbia River be considered for exemption from additional monitoring; Eastbank, Priest Rapids, Chelan and Wells Hatcheries. This is based on the volume of discharge from the hatchery being insignificant compared to the receiving waterbody.

Response to Comment 2:

Temperature monitoring from the Chelan Hatchery has been removed based on a closer evaluation of the discharge location from the hatchery and the temperature listing location. Temperature monitoring in the receiving water is not required for Columbia River discharges because continuous background sampling at the point of discharge is not feasible.

Comment 3:

Regarding PCB Reduction Activities and BMPs; The guidance provided by EPA relates to paint and caulk in contact with the air. WDFW is uncertain we have the tools to assess the presence of PCBs in paint and caulk that are in contact with water and may seek additional guidance from Ecology.

Response to Comment 3:

The guidance listed in the permit relates to disposal of ALL PCB paint and caulk. The portion of the guidance that references air is a worker safety issue for removal, irrespective of the source of the paint or caulk. The guidance in itself is still valuable, with techniques for removal focusing on worker safety, third parties, and the environment. This prevents contamination of the immediate surroundings and keeps the spread of PCBs down, during clean-up activities.

Part 1 of the guidance is strategy, Part 2 is abatement, and Part 3 is disposal, which applies to everyone. The handling, storage and waste requirements for removing PCBs still apply. Ecology will provide additional guidance if requested.

Comment 4:

There are so few facilities that discharge to impaired waters, WDFW requests any additional analysis for parameters under the 303(d) list be conducted and reported separately from the General Permit, and temperature and d.o. monitoring, if required, occur during the months of July-September.

Response to Comment 4:

There are 21 facilities listed in Appendix E that discharge to Category 5 - 303(d) listed waterbodies. The goal of a general permit is to cover as many like dischargers under one general permit, with conditions that apply to all the facilities. By including the monitoring requirements for those listings in this permit, Ecology does not have to write individual permits or Orders for each of those dischargers. The general permit can accomplish that by including monitoring for temperature.

Ecology agrees to seasonal monitoring for temperature will accomplish the goal of determining if hatchery discharges have an impact on receiving water for temperature. Ecology will expand the requested window from May through October. Also, Ecology is requiring continuous monitoring to better assess temperature for facilities discharging to impaired waterbodies. The temperature monitoring for facilities discharging to 303(d) listed waterbodies will begin in May 2017.

Comment 5:

Inactive Status; WDFW requests the permit language allow annual reporting for inactive status and suggest; “The Permittee must submit a yearly DMR each January indicating no monitoring for the previous year, and notification whether the facility will remain inactive for the next fiscal year.”

Response to Comment 5:

With electronic monitoring, the quarterly submittal for an inactive facility should be much easier. The new electronic DMR forms have a specific box to check for inactive facilities. Ecology denies this request, the permit requirements will remain the same.

Comment 6:

WDFW has very few facilities that use chlorine or chloramine-T. Any disinfection water treated with chlorine is neutralized with sodium thiosulfate. And the treated water is either put on the ground or allowed to dry out in the pond, where feasible. WDFW requests the amount of Chlorine and Chloramine-T used continue to be reported on the Annual Disease Control Chemical Report, but the requirement to monitor be removed from the permit.

Response to Comment 6:

WDFW does not need to monitor chlorine or Chloramine-T if the discharge is put on the ground or allowed to dry out in the pond, and does not discharge to surface water. Monitoring for Chlorine or Chloramine-T is only required if the wastewater containing these chemicals is discharged to surface water. The requirement for sampling the discharge for Chlorine or Chloramine-T in the discharge remains in the permit.

Comment 7:

Minor edits and suggestions.

- *include electronic records as acceptable for Onsite Documentation.*
- *WDFW requests “original sampling records can be maintained at accredited lab, if applicable”.*
- *change flow to MGD from GPD, similar to the current permit. Requesting facility flow sampling frequency weekly, not daily.*
- *Off-line settling; flow should be GPD, not gallons and sampling frequency was 1/week, not per discharge. WDFW would like 1/week sampling, not per discharge.*
- *The link to USFWS Treatment Calculator tool not working*
- *Conflicting due date for the Solid Waste Management Plan, which is due by January 30, 2017. Suggest removal of sentence; “The Permittee must submit the Solid Waste Management Plan to Ecology within 60 days of permit coverage.”*

Response to Comment 7:

- Ecology will clarify that electronic records are acceptable for Onsite Documentation of required documents.
- Copies of sampling records must be kept at each facility and available to Ecology inspectors during an on-site inspection. Will clarify permit to say *copy of sampling records*.

- Flow will change to MGD for Rearing Pond or Raceway Discharges. Ecology records show that flow reporting for WDFW hatchery facilities vary between regions. There are some facilities that report in GPD, and some report daily flow in MGD. Ecology regional permit managers will discuss accurate flow reporting with WDFW. The new permit requires daily calculated flow, but the reporting is for a monthly-daily summary. This means the reporting party will enter flow for the minimum day/maximum day/and average day in the summary section of the DMR form.
- Off-line settling: Ecology stands behind the draft permit language as written. The Pollution Abatement or Off-line Settling Ponds should be sampled when they discharge, even if it is more than once a week. The discharge should be calculated as gallons, with a daily total of gallons discharged entered on the DMR sheet. Ecology will clarify the permit language to indicate that sampling will not be required more than once a day, if there are more than one discharge from the off-line settling pond in a calendar day.
- Ecology has contacted USFWS about the Treatment Calculator. They no longer support the calculator so the link will be removed from the permit.
- The Solid Waste Management Plan update is due January 30, 2017 for all Permittees. New applicants to the Upland Fin-fish Hatching and Rearing General Permit, *must submit the Solid Waste Management Plan to Ecology within 60 days of permit coverage*. Ecology will clarify this in the permit.

Comment 8:

WDFW respectfully advocates the permit be administered consistently across Ecology Regions within the State of Washington.

Response to Comment 8:

Comment noted.

2. Spokane River Regional Toxics Task Force (SRRTTF)
(Letter Attached)

Comment 1:

The permit and fact sheet should recognize that fish hatcheries are potential sources of PCBs to receiving waters and sediments, and that the hatchery fish themselves can be a source of PCBs in waters of the state. Page 8 of the Fact Sheet should list PCBs as pollutants of concern.

Response to Comment 1:

Ecology will add a discussion in the fact sheet about recent studies and add the report, *Persistent Organic Pollutants in Feed and Rainbow Trout from Selected Trout Hatcheries* (Ecology 2006) to the references, page 21.

Ecology will add PCBs as a pollutant of concern to page 8, to be addressed through Special Condition S6.C in the permit. See Response to General Comment A.

Comment 2:

There is no mention of PCBs on page 10 of the Fact Sheet, Proposed Permit Limits and Conditions.

Response to Comment 2:

The permit is initially addressing potential PCBs in hatchery discharges through evaluation and elimination, Section S6.C. Ecology will reference S6.C on page 10 of the Fact Sheet and also discuss the Spokane Fish Hatchery Case Study. This study will update information on hatchery discharges and PCBs in hatchery effluent.

See Response to General Comments A and B.

Comment 3:

Fact Sheet Page 15 – Please clarify the second paragraph on page 15, as it currently can be interpreted that Ecology does not feel any toxics discharging from state hatcheries have the potential to violate state water quality standards. Please specifically acknowledge that PCBs are potential toxic pollutants that could be released from the hatchery and result in violation of state water quality standards.

Response to Comment 3:

“PCBs are potential toxic pollutants that could be released from the hatchery and result in violation of state water quality standards.” has been added to page 15 of the Fact Sheet.

Comment 4:

There is no mention of PCBs in the Whole Effluent Toxicity section, page 16 of the Fact Sheet. Please clarify the statement that “Ecology determined that toxic effects caused by unidentified pollutants in the effluent are unlikely”. It is unclear whether this is referring to WET test measures of acute toxicity or ALL potential toxic effects from chemicals such as PCBs in effluent and in fish tissue of hatchery fish.

Response to Comment 4:

This section is about Whole Effluent Toxicity only. WET testing does not evaluate human health impacts or fish tissue bioaccumulation, it evaluates the total toxic effect of an effluent measured directly with a toxicity test so that the interaction of all toxicants present in the effluent are assessed. None of the WET tests will respond to PCBs at even high concentrations. Standard WET testing will not find PCB toxicity.

Ecology is referring to WET testing measures.

Comment 5:

Page 19 of the Fact Sheet: Please acknowledge the data that indicate that PCBs are a potential contaminant that can be present in hatchery effluent and in fish tissue and carcasses.

Response to Comment 5:

Suggested references have been added to Page 19.
See Response to General Comment A.

Comment 6:

*Page 20 – Please specifically address PCBs in your description under Sections titled: **Solid Waste Management Plan** (specifically the section on carcass placement) and **Pollution Prevention Plan**.*

Response to Comment 6:

Carcass placement and nutrient enhancement activities are not covered in this permit. Additionally, the waterbodies listed in Appendix E with 303(d) listings for PCBs are not proposed for carcass placement.

Ecology has added PCBs reduction requirements in the Pollution Prevention Plan section.

Comment 7:

Page 26 – S6.C, 2nd paragraph. “PCP listed waters”, change to PCB

Response to Comment 7:

The typo has been corrected.

Comment 8:

The permit should require that hatcheries monitor effluent for all constituents with a reasonable potential to contribute to a water quality impairment in segments of a receiving waterbody with a 303(d) listing, including PCBs in cases where a hatchery discharges to a PCB listed waterbody.

Response to Comment 8:

See Response to General Comments A and B.

Comment 9:

Please add the requirement to the permit to monitor for dissolved oxygen and include Total Phosphorous which is known to cause d.o.. related impairments.

Response to Comment 9:

See Response to General Comment E.

Comment 10:

*Page 15 of the Fact Sheet explicitly mentions only fine sediment and temperature compliance in the section **Discharges to 303(d) Listed Impaired Waterbodies**. Please acknowledge the potential for hatcheries to discharge other 303(d) listed constituents including PCBs, DO, Total Phosphorous and other nutrients impacting DO levels.*

Response to Comment 10:

Language has been added to Page 15.

See Response to General Comment E.

Comment 11:

Page 6 – Condition S1.A.1c (i)-(iii). We request the permit require routine PCB monitoring of effluent discharge and hatchery fish tissue for all hatcheries located on a waterbody with a 303(d) listing for PCB. We request routine monitoring for other 303(d) listed chemicals for hatcheries discharging to a 303(d) listed waterbody. For those listed for dissolved oxygen, also require monitoring for constituents that have a reasonable potential to affect dissolved oxygen such as phosphorous.

Response to Comment 11:

See Response to General Comment A and B
Seen General Response E.

Comment 12:

Add a condition “must not violate the state water quality and ground water standards (Chapter 173-200 and 201A).

Response to Comment 12:

Added reference to S1.D. (173-200). This reference is already covered in S3.G.

Comment 13:

Page 6, Eligibility-Section S1.B.1. Please include a condition in the permit under S1.B that requires monitoring for 303(d) listed chemicals for hatcheries discharging to a 303(d) listed waterbody.

Response to Comment 13:

There is a monitoring section for dischargers to 303(d) listed waterbodies. See Section S4 for the Testing Schedule. Special Condition S1.B.1 relates to eligibility for coverage under this general permit. A new facility may have to monitor to fulfill S1.B.1.or, as stated in S1.B.2, provide data or documentation to support permit coverage.
No change to the permit.

See Responses to General Comments A, B, and E.

Comment 14:

Page 7 – Section S1.C.1 (ii) – Explicitly require routine monitoring indicating concentrations of the 303(d) listed parameters as documentation.

Response to Comment 14:

This is a general comment regarding facilities excluded from coverage under this general permit. Some water bodies are listed for parameters not expected to be present in a hatchery discharge. The applicant must submit documentation to Ecology providing justification as to why the facility does not discharge the parameter responsible for the impairment. Ecology will evaluate and work with each applicant individually. Explicit routine monitoring is not always justified.

See Responses to General Comments A, B, and E.

No changes to the permit.

Comment 15:

Page 11 Section 3 – Discharge Limits. Limits appear to be defined for settleable solids and total suspended solids and total residual chlorine. Please add language that recognizes limits for any 303(d) listed parameter, where applicable.

Response to Comment 15:

Temperature limits are listed in S3.H. Ecology will add Dissolved Oxygen monitoring requirement in Table 1.

See Response to General Comments A, B and E.

Comment 16:

Page 13 Section S3.H. Discharges to Impaired Waters. In Table 1 please list all other 303(d) listed parameters indicated in the Fact Sheet Appendix E, including Temperature, PCBs, D.O. and Turbidity. For those discharging to a water body listed for dissolved oxygen, please also require monitoring for constituents that can affect D.O., such as Total Phosphorous.

Response to Comment 16:

Settleable and suspended solids is a surrogate for turbidity so added monitoring will not be required.

For PCB monitoring and limits, see Response to General Comment A and B.

See Response to General Comment E.

Comment 17:

Page 26 Section S6.C. PCB Reduction Activities and BMPs

Please add language that requires annual monitoring of hatchery discharge for PCBs for all facilities listed on the 303(d) list for PCBs.

Response to Comment 17:

See Response to General Comments A and B.

Comment 18:

The permit should require sampling of fish food and require implementation of BMPs, in accordance with sampling results, to reduce sources of PCBs in fish meal for all fish life stages.

Response to Comment 18:

There are no concentration requirements for fish feed and there are only a few fish feed producers. Permittees are required to evaluate their sources for fish feed and choose the lowest PCB content feed that is economical and feasible for their use. Ecology and EPA acknowledged that there are only a few fish feed processors so the choices for purchasing fish feed for rearing facilities are limited. The Permittee must evaluate and choose the lowest PCB content feed when achievable, based on available knowledge. The Permittee is responsible for obtaining feed PCB content information for the fish feed manufacturers.

See Response to General Comments C and D.

Ecology will clarify the Fact Sheet regarding the statement about few choices of fish feed.

Comment 19:

Page 26, Section S6.C.1 – Please remove the last 2 paragraphs that reference the TSCA allowance of 50 ppm. Paints and/or caulk at the “allowable” TSCA level of 50 ppm have the potential to further impair 303(d) listed receiving waters.

Response to Comment 19:

Ecology agrees. This reference will be removed.

3. Inland Empire Paper Company

3320 N. Argonne

Spokane, WA 99212-2099

(Letter Attached)

Comment 1:

IEP requests that its (the permits) proposed PCB conditions be extended to any hatchery covered under the permit that is a source of fish stocked within the watershed of the Spokane River.

Response to Comment 1:

See Response to General Comments A and C.

Comment 2:

The permit should require a procurement preference for low or non-PCB containing products including feed. The WDFW should be required under the permit, for all of its hatcheries including the Spokane Hatchery, to prepare an assessment of alternative feed sources that do not contain PCBs or have reduced PCB levels.

Response to Comment 2:

See Response to General Comments C and D.

Comment 3:

The permit should require a PCB Source Identification Study at the Spokane Hatchery. The study should include

Response to Comment 3:

See Response to General Comment A.

Comment 4:

The permit should require a PCB BMP Plan for the Spokane Hatchery.

Response to Comment 4:

BMP requirements for PCBs reduction at all facilities that discharge to PCB listed waterbodies is included in this permit.

See Response to General Comments A, B, and C.

Comment 5:

The permit should require the WDFW to participate in the Spokane River Regional Toxics Task Force on the same terms of every individual NPDES permitted facility on the Spokane River in Washington and Idaho.

Response to Comment 5:

This is a General Permit and cannot require facilities participate in task forces or organizations. While Ecology encourages WDFWs involvement in the Task Force and goals of reducing PCBs in all hatchery operations, the General Permit will not require their participation. The permit manager for the facilities that discharge to the Spokane River may require conditions outside of this General Permit through an Order, if necessary.

Comment 6:

The permit should require intake and effluent PCB monitoring for the Little Spokane River using EPA Test Method 1668C.

Response to Comment 6:

See Response to General Comments A and B.

Comment 7:

Nutrient Loading: Ecology should condition the Spokane Hatchery coverage under the permit to ensure that it is not causing or contributing to a violation of water quality criteria for dissolved oxygen in Lake Spokane. The permit should require careful monitoring of total phosphorus, ammonia and CBOD-5 concentration in effluent and the volume of effluent.

Response to Comment 7:

Ecology can issue an Administrative Order to the Spokane Hatchery for added monitoring outside of the General Permit. If indicated either through a TMDL and WLAs, or the results of the Spokane Case Study, the Spokane Hatchery can be issued an individual NPDES Permit requiring more in-depth monitoring.

See Response to General Comment E.

4. City of Coeur d'Alene
Wastewater Utility Department-City Hall
710 E. Mullan
Coeur d'Alene, Idaho 83814-3958
(Letter Attached)

Comment 1:

Hatcheries and hatchery fish are significant sources of PCB loading. The City of Coeur d'Alene requests that Ecology carefully consider the impact of hatchery operations on the Spokane River.

The permit should require effluent and receiving water monitoring for PCBs.

Response to Comment 1:

See Responses to General Comments A and B.

Comment 2:

The permit should require sediment monitoring.

Response to Comment 2:

Ecology will wait for the results of the Spokane Fish Hatchery Case Study before assigning PCB monitoring for sediments in this general permit.

See Response to General Comments A and B.

Comment 3:

The permit should require hatcheries to develop pollution prevention plans to assess sources of PCBs from caulk, paint and feed.

More robust PCB management conditions should be included so that hatcheries are more in parity with NPDES permit requirements for PCB management plans, such as Toxics Management Plans (TMP) that addresses source control and elimination of PCBs.

Response to Comment 3:

The permit, section S6.C. titled “PCB Pollution Reduction Activities and BMPs” requires the facilities that discharge to PCB listed waterbodies evaluate their facility for possible PCB sources, including paint and caulk. They must conduct a complete facility assessment for paint or caulk manufactured prior to 1980, submit a plan for removal, and complete the plan.

The permit requires facilities to develop and implement a plan to reduce PCBs in fish feed through preferential purchasing, feeding practices that minimize the discharge of unconsumed feed, and reduce/remove accumulated solids so they don’t enter surface waters.

Ecology believes that for this industry, the source control measures required in this general permit are sufficient, until the results from the Spokane Fish Hatchery Case Study is final. BMPs will be amended to include PCB reduction measures.

Comment 4:

Preferential Purchasing Policy. Ecology should require the permits for hatcheries to adopt preferential purchasing policies for feed, construction materials including paint and caulk, electrical equipment, and commercial products including ink, dyes, lubricants, soaps and cleaners. To the extent the hatcheries are operated by a state agency, the permits should require compliance with RCW 39.26.280(2) that prohibits a state agency of knowingly purchasing products containing PCB above quantitation levels unless it is not cost effective or feasible to do so.

Response to Comment 4:

Section S6.C., Fish Food requires this. Ecology will add this general requirement to include other purchases made for the hatcheries.

See Response to General Comment D.

Comment 5:

Hatcheries on the Spokane River and Little Spokane River as well as hatcheries that are the source of fish stocked in the Spokane River watershed should be required to develop a public education program regarding the PCB concentrations in hatchery fish and the proper disposal of fish and fish waste such as heads and entrails.

Response to Comment 5:

Ecology will wait for the conclusion of the Spokane Fish Hatchery Case Study to determine the information and requirements for hatcheries in the Spokane Watershed. This is a General Permit specific to hatchery operations. Any site-specific requirements for public education programs will be addressed outside of this General Permit, through an Order or agreement between Ecology and the Permittee.

Comment 6:

The permit should require participation in the SRRTTF (Spokane River Regional Toxics Task Force). It is essential for hatcheries to take a significant role in identifying and reducing sources of PCBs in the watershed.

Response to Comment 6:

This is a General Permit. Conditions, limits, or monitoring specific to one or two facilities should be addressed individually and at the regional level. Participation in the SRRTTF for hatcheries on the Spokane and Little Spokane Rivers, and for those who are a source of fish for the Spokane Watershed, should be a decision made through discussion with WDFW.

The Ecology-sponsored “Spokane Fish Hatchery Case Study or Hatchery Operations as a Source of PCBs to the Spokane River System” study will help determine what roles the hatcheries play in PCB contamination in the Spokane watershed and to assist in the decision process for steps forward to reduce and eliminate PCB discharges from hatcheries.

5. Phelps Freeborn
123 Lone Pine Road
Port Angeles, WA 98363
(Letter Attached)

This letter contained many statements but few questions for response. The comments are noted and the specific questions are noted below.

Comment 1:

The list of Acronyms does not include PCB (Pollution Control ??) or MDR (Materials Data Report) and MDR is used in place of the more common MDN (marine derived nutrients)...

Response to Comment:

PCBs are first defined on Page 26, Section S6.C. The definition has been added to Appendix B.

Page 20, under solid waste, lists MDR as Marine Derived Nutrients. This is a typographical error. The Fact Sheet will be corrected to MDN. This permit does not specifically permit carcass placement or nutrient enhancement.

Comment 2:

Appendix E lists Prosser Hatchery with the Columbia River (Lake Pateros). They are not within one mile of one another. The Prosser Hatchery discharges to the lower Yakima River, which is impacted by excessive nutrients.

Why weren't (other documents) used to identify facilities that discharge to waters of special concern?

Response to Comment 2:

Ecology used the EPA current, approved 303(d) list to identify Category 5 impaired receiving waters.

The correction has been made regarding the Prosser Hatchery receiving water.

Comment 3:

Facilities that fall below the threshold for coverage are not monitored for providing treatment of cleaning wastes and for not following the intent of the regulation. Knowing the location and scale of all fish feeding facilities will be of use as nutrient driven TMDLs are being prepared.

Response to Comment 3:

Ecology's TMDL teams are including fish rearing operations in their TMDL evaluations. S1.A.1.A.-Ecology may also require permit coverage for any facility on a case-by-case basis in order to protect waters of the state.

Comment 4:

The statements about no reports of dissolved oxygen below the WQ standards in the effluent from hatcheries requires better documentation.

Response to Comment 4:

See Response to General Comment E.

Comment 5:

Ecology should require MDN model for justifying using streams in lieu of raceways for enhancing salmon.

Response to Comment 5:

This permit does not regulate or specifically condition nutrient enhancement or carcass placement.

There will be no change to the permit.

Comment 6:

The proposed permit does not meet the standards for an NPDES permit as specified in 40 CFR 122.45.

- *Effluent limits are to be based upon production*
- *Effluent limits are to be mass limits, except for pH and temperature*
- *There is no flow limit in the permit, leaving the potential for flows in excess of the minimum required for providing oxygen to the fish.*

Response to Comment 6:

Ecology disagrees with your interpretation of the Federal Regulations. 40 CFR § 122.45 (b)(2)(i) states “*Except in the case of POTWs or as provided in paragraph (b)(2)(ii) of this section, calculation of any permit limitations, standards, or prohibitions **which are** (emphasis added) based on production (or other measure of operation) shall be based not upon the designed production capacity but rather upon a reasonable measure of actual production of the facility.*”

Permit limits are not required to be based on production. Effluent limits are not necessarily set as mass limits, and often a mass limit would be less restrictive than a technology- or water-quality based limit.

Further, 40 CFR § 122.45 (d) states, “*For continuous discharges, all permit effluent limitations, standards and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as (1) Maximum daily and average monthly discharge limitations.*”

EPA developed Effluent Limit Guidelines for Concentrated Aquatic Animal Production facilities (CAAP) and listed best management practices and record keeping rather than developing specific numerical limits.

Ecology does not limit flow in hatchery permits. Flow is not considered a pollutant. General Condition G7 of this permit requires compliance with other applicable federal, state, or local statutes, ordinances or regulation. This includes water rights and water laws.

Comment 7:

The permit should require facilities which are discharging to impaired waters (or rivers and streams which include reaches characterized as impaired with regard to d.o. or pH) to characterize their effluent for nutrients and d.o. and the receiving water.

Response to Comment 7:

Appendix E of the permit accompanying Fact Sheet lists the 303(d) Category 5 listed water bodies that are relevant to the specific hatchery discharges.

See Response to General Comment E.

Comment 8:

Permit conditions S3B and G plus S4A should be amended to require facilities which release cleaning wastes directly to the receiving water without passing through a settling basin, to sample that discharge directly (the limits in S3B should apply), not diluted with other effluent flows at the facility.

Response to Comment 8:

Most fish rearing facilities have either off-line settling ponds for removed solids, or in-line settling where solids from normal hatchery operations settle out (in the end of raceway or pond). Facilities that do not have off-line settling facilities are held to tighter limits listed in S1.A. The difference between settling pond TSS limits and rearing pond flow through limits instantaneous maximum is 100 vs 15 mg/L.

No change to the permit.

Comment 9:

Discharges of cleaning wastes onto the ground or into unlined pits should be required to obtain explicit authorization from Ecology for that practice.

Response to Comment 9:

Every facility is required in the permit to develop and submit a Solid Waste Management Plan. Ecology reviews these plans and has the opportunity to request changes from the Permittee if deemed appropriate. This submittal and Ecology review of the Solid Waste Management Plan authorizes the Permittee to follow their Solid Waste Management Plan. The regional facility managers can require more information and stricter requirements if they feel groundwater or surface water is impacted.

Comment 10:

Permit S7D does not address the issue of using "mort pits". If any are still being used they should be prohibited due to the impact of decaying fish and the lime typically used to control odors and insects on groundwater.

Response to Comment 10:

Permit Condition S7.D. relates to carcass placement and nutrient enhancement. This refers to placing fish carcasses back into receiving waters to mimic historical conditions and replace marine derived nutrients in otherwise nutrient deprived waters. Mort pits are not the same as nutrient enhancement.

See response to Comment 5 above. No changes to the permit.

6. US Environmental Protection Agency

Region 10

1200 6th Avenue, Suite 900

Seattle, WA 98101-3140

(Letter Attached)

Comment 1:

Ecology should require additional record keeping in order to determine whether facilities are discharging disease treatment chemicals in concentrations that could have adverse environmental impacts. EPA also supports additional requirements for temperature and PCB monitoring.

In addition to the requirements on the Chemical Operational Log (Appendix E of the draft permit), Ecology should require facilities to maintain the following records for drug or chemical treatments expected to be discharged from permitted facilities;

- *Total quantity of formulated product per treatment*
- *total quantity of formulated product used in a calendar year*
- *number of treatments in the calendar year*
- *maximum daily volume of treated water*
- *minimum volume of total (treated + untreated) water discharged from the facility per day*
- *target treatment concentration*
- *whether the estimated concentration in the discharge reflects solution or active ingredient, and*
- *location of treatment in the facility (raceways, incubation bldg., ponds, etc)*

For all water-borne treatments (including, but not limited to formalin), Ecology should require permittees to maintain records that show how the max concentration of these chemicals in their effluent were calculated. Those records should be available to Ecology upon request. The permittee should specify whether the treatment is static bath or flow-through. Facilities should maintain records on the amount of chemical added initially, as well as the amount added during treatment and the desired concentration of solution or active ingredient in the effluent. Ecology has partially addressed this on page 25 of the draft permit, but should extend these requirements to all water-borne treatments, including formalin, Chloramine-T, hydrogen peroxide, potassium permanganate, and iodine.

Response to Comment 1:

Ecology believes that the necessary information is available to the permit managers by requiring chemical name, dosage, duration, amount used, flow, and estimated concentration in discharge. Ecology can calculate number of treatments per year, treatment days per year, and quantity of formulated product used per year can be calculated from the log sheets as they are now.

Location of treatment is not relevant to Ecology beyond the two columns “pond or raceway” and “location of discharge”. WDFW pathologists are responsible for fish health and are the state agency statutorily responsible for fish health (Chapter 220-77 WAC). Ecology does not need to know the target treatment concentration.

Method of Application is included in the log, which includes static bath or flow through.

Spreadsheet column “Pond/Raceway” has added “other” to include hatchery troughs or stacks if necessary.

Special Condition S5.D. Operational Log, contains language that includes “all disease control chemicals”. Ecology believes this section, in addition to the requirements of S6.B cover all the disease control chemicals.

Comment 2:

Temperature monitoring should be continuous, not weekly grab, for facilities discharging to waterbodies impaired for temperature. The Permit should require permittees to monitor their effluent, as well as the receiving water immediately upstream of the facility, in order to determine whether a facility is affecting the water temperature of the receiving water.

Response to Comment 2:

Ecology agrees and will require continuous monitoring for temperature. The permit will be changed to seasonally require continuous monitoring for temperature between the months of May through October, for Permittees that discharge to temperature limited waterbodies, as listed on the 303(d) list (Category 5).

Comment 3:

All facilities should be required to do PCBs reduction, not just those who discharge to PCB listed waterbodies.

Response to Comment 3:

See Response to General Comments A and B.

Comment 4:

EPA recommends the following for facilities in the Spokane River Watershed;

- *require monitoring of effluents for PCB congeners using EPA method 1668C at a frequency adequate to assess sources of PCBs*
- *require reporting of total concentration of “dioxin-like” PCB congeners on DMRs*
- *require complete congener analysis submitted as attachment to DMR*

Response to Comment 4:

To quote EPA’s response to comments on the Draft NPDES Permits for the City of Coeur d’Alene, City of Post Falls, and the Hayden Area Regional Sewer Board, “EPA has chosen to require BMPs to reduce or eliminate the three subject POTWSs’ discharge of PCBs (if any). BMPs are defined as “schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of ‘waters of the United States’.”

Ecology is requiring a BMP, PCB reduction plan for those facilities that discharge to 303(d) listed waterbodies first, then will evaluate the conclusions of the Spokane River Case Study to evaluate further actions.

See Response to General Comments A and B.

Comment 5:

The permit should require the pollution prevention plans or BMP plans address

- *PCBs from caulk, paint, and feed*
- *the permit should require removal of paint or caulk that contacts process water and that was applied prior to January 1, 1980*
- *during removal, implement PCB abatement and disposal consistent with EPA guidance.*
- *use BMPs to prevent removed PCB-containing paint or caulk from reaching waters of the US and to ensure that disposal is in compliance with applicable. state, federal and local laws.*

Response to Comment 5:

Permit section S6.C. requires the Permittee to submit a site assessment on possible PCB sources in the facility that come in contact with water, including paint and caulk. A paint or caulk removal

plan is required to be submitted and completed, consistent with EPA's PCB removal guidance. Special Condition S8. Pollution Prevention, includes BMPs to reduce PCB discharges.

Ecology believe the permit already covers PCB identification and removal.

Comment 6:

The permit should require the permittee to use any available product testing data to preferentially purchase paint and caulk with the lowest practicable total PCB concentrations.

Response to Comment 6:

The requested language has been added to S.6.C.

LeVander, Lori (ECY)

From: Lincoln Loehr <lcloehr@yahoo.com>
Sent: Monday, September 28, 2015 8:43 PM
To: LeVander, Lori (ECY)
Subject: Comments re Upland Fin-Fish Hatchery General Permit

Lori,

My comments today at the hearing about adding a requirement for some effluent and ambient monitoring for inorganic arsenic using Method 1632, and PCBs using Method 1668 need to be slightly qualified. The effluent monitoring should be sufficient if done twice, once to be when the maximum percentage of flow was from groundwater, and once when the highest feeding rates were employed. The ambient monitoring should match the timing of the effluent monitoring. The requirement should be dropped if EPA allows the state human health criteria for PCBs (170 pg/l) and arsenic (10 ug/l) rather than what EPA is proposing in their draft Washington Toxics Rule.

The state should require the same PCB and arsenic monitoring conditions in the 401 certifications of all federally issued NPDES permit in our state (many of which are for hatcheries. The monitoring information gained would refute the EPA's assertions that only industrial and municipal permittees would be affected by their proposed rule.

Thanks for hearing my comments today.

Lincoln Loehr
425 760-3562 (cell)



State of Washington
DEPARTMENT OF FISH AND WILDLIFE

Mailing Address: 600 Capitol Way N, Olympia, WA 98501-1091 • (360) 902-2200 • TDD (360) 902-2207
Main Office Location: Natural Resources Building, 1111 Washington Street SE, Olympia, WA

October 14, 2015

Lori LeVander
Water Quality Program
Washington Department of Ecology-
Northwest Regional Office
3190 – 160th Ave SE
Bellevue, Washington 98008-5452

RE: Upland Fin-fish Hatching and Rearing National Pollutant Discharge Elimination System (NPDES) General Permit- Draft Provision Comments

Dear Ms. LeVander:

Thank you for the opportunity to comment on the draft Upland Fin–Fish Hatching and Rearing National Pollutant Discharge Elimination System (NPDES) General Permit. This is the sixth issuance of the General Permit and throughout that history we appreciate the process and administration has been fair, cooperative, and mutually respectful. As natural resource agencies, it is our responsibility to make sure the outcome meets our shared interests and management goals.

Washington Department of Fish and Wildlife (WDFW) applied for coverage for sixty-eight facilities. While this issuance does not contain substantial differences, there are subjects of concern, and requirements under the proposed permit for which we seek clarification to ensure consistent administrative and operational fulfillment of permitted activities and reporting.

Of concern are changes to the definition of “production”, and the inclusion of additional monitoring for facilities discharging to impaired waterbodies, particularly PCB evaluation. We are also seeking clarification or changes to reporting requirements under “inactive status”, and reporting requirements for facilities that use chloramine-T.

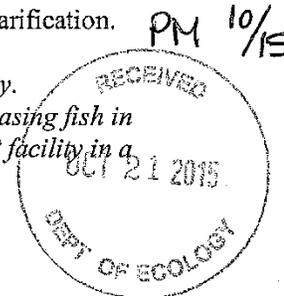
Additionally we found minor typographical errors, and/or sections where we have suggestions or possible edits.

Definition of Production

The definition in the draft permit has been modified and raises concerns, or needs clarification.

Previous definition: *Production means net gain in weight of fish at the facility.*

Draft definition: *Production--means the act of harvesting, processing or releasing fish in a hatchery or the harvest weight of fish contained, grown, or held in a CAAP facility in a*



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year. 40 CFR §122 Appx. C.

According to the Fact Sheet, page 4 under Permit Coverage:

The WAC specifically states that a wastewater discharge permit is required for:

- i) All facilities which produce more than 20,000 net pounds of finfish a year; or*
- (ii) Feeds more than 5,000 pounds of fish food during any calendar month; or*
- (iii) Is designated as a significant contributor of pollution by the department in accordance with 40 CFR 122.24*

The criterion for requiring coverage has been partially based on production calculated using net gain. If the definition of harvest weight is net gain in weight, the definition is acceptable. If the definition does not include net gain, WDFW has concerns for unpermitted facilities that were previously exempt. Under EPA definition of Concentrated Aquatic Animal Production (CAAP)

Concentrated Aquatic Animal Production Facilities (CAAP) - CAAP means a "hatchery, fish farm, or other facility" which is designated by EPA per 40 CFR 122.24, or which satisfies the following criteria, found in 40 CFR 122 Appendix C:

- a. Facilities raising cold water fish species or other cold water aquatic animals in ponds, raceways, or other similar structures which discharge at least 30 days per year, but does not include:*
 - 1. Facilities which produce less 9,090 harvest weight kilograms (20,000 pounds) of aquatic animals per year; and*
 - 2. Facilities which feed less than 2,272 kilograms (5,000 pounds) of food during the calendar month of maximum feeding.*

WDFW requests clarification of the definition of "production" and "produce" to include net gain in weight of fish.

Discharges to Impaired Waters

In Appendix E of the Fact Sheet – Existing Dischargers to Impaired Waters, there are 303(d) listing parameters for facilities that may discharge within one mile of an impaired waterbody. WDFW facilities in the appendix include six for the parameter PCB, twelve for temperature, four for dissolved oxygen, and one for turbidity.

WDFW respectfully requests four facilities that discharge to the Columbia River be considered for exemption from additional monitoring; Eastbank Hatchery, Priest Rapids Hatchery, Chelan Hatchery, and Wells Hatchery. This is based on the volume of discharge from the hatchery being insignificant compared to the receiving waterbody.

Regarding PCB Reduction Activities and BMPs- of the six WDFW facilities that discharge into waterbodies impaired for PCB's, three discharge to the Columbia River (Eastbank, Chelan, and Wells) and three to other waterbodies (Mossyrock, Speelyai, and Spokane). The guidance provided by EPA relates to paint and caulk in contact with the air. WDFW is uncertain we have

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the tools to assess the presence of PCBs in paint and caulk that are in contact with water and may seek additional guidance from Ecology.

Because there are so few facilities that discharge to impaired waters, WDFW requests any additional analysis for parameters under the 303(d) list be conducted and reported separately from the General Permit, and temperature and DO monitoring, if required, occur during the months of July-September.

Inactive Status

Facilities are inactive if there are no fish on station for at least one fiscal year (July 1-June 30), or the facility has less than 20,000 pounds of fish on station and feeds less than 5,000 pounds of feed in any calendar month for the duration of at least one fiscal year. There is no monitoring required, with the exception of offline settling basin or fish release discharges, while on inactive status.

WDFW currently has three inactive status facilities: Carlton Pond, Morse Creek Hatchery, and Bellingham Hatchery.

The draft permit includes this statement on page 8: *“The Permittee must still submit DMRs indicating that the facility is inactive.”*

And on page 27: *“The Permittee must still submit signed quarterly DMR forms, with the comment section filled out to indicate extended production below 20,000 pounds”*

WDFW requests the permit language allow annual reporting for inactive status and suggest: *“The Permittee must submit a yearly DMR each January indicating no monitoring for the previous year, and notification whether the facility will remain inactive for the next fiscal year.”*

All facilities, including those on inactive status, report disease control chemical use annually. An annual DMR report for inactive status facilities allows the opportunity for review and determination of inactive status, and allows sufficient time to notify Ecology Fiscal Office of any changes that affect annual Wastewater Permit invoices.

Rearing Vessel Disinfection Water- Chlorine and Chloramine-T monitoring

WDFW has very few facilities that use these chemicals. Any disinfection water treated with chlorine is neutralized with sodium thiosulfate. And the treated water is either put on the ground or allowed to dry out in the pond, where feasible.

The discharge limit of 19 µg/L is well below the method detection limit of 50 µg/L. While Ecology will consider that the permittee is in compliance with the permit for chlorine if they meet the 50 µg/L method limit (ML), it's not clear this is practical and necessary to monitor.

WDFW requests the amount of Chlorine and Chloramine-T used continue to be reported on the annual disease control chemical report, but the requirement to monitor be removed from the permit.

Minor edits and suggestions:

Page 4

- P. 5 Under "Summary of Required Onsite Documentation", we request the inclusion that "onsite can include electronic records" and "original sampling records can be maintained at accredited lab, if applicable". This allows hatcheries to reduce paper records, while maintaining records onsite and eliminates need for lab to return original records.
- P. 14 Under Testing Schedule for Rearing Pond or Raceway Discharges; Flow has historically been measured in million gallons per day (MGD), not gallons per day (GPD). And sampling frequency was 1/week, not daily. WDFW believes this rate and frequency are acceptable for reporting flow accurately.
- P. 15 Under Testing Schedule for Offline Settling Basin Discharges; Flow has historically been measured in GPD, not Gallons, and sampling frequency was 1/week, not per discharge. WDFW believes this rate and frequency are acceptable for reporting flow accurately.
- P. 25 The link to the USFWS Treatment Calculator Tool is currently not working.
- P. 26 Typographical error, PCP should be PCB- "*Existing facilities that discharge to PCP listed waters must meet the following requirements and timelines.*"
- P. 28 There's a conflicting due date for the Solid Waste Management Plan, which is due- by January 30, 2017. Suggest removal of sentence: "*The Permittee must submit the Solid Waste Management Plan to Ecology within 60 days of permit coverage.*"
- P. 32 There's a typographical error under G2. B.1; remove word "the" before Ecology: "*The authorization is made in writing by a person described above and submitted to the Ecology.*"

WDFW has applied for renewal of coverage for sixty-eight facilities under this permit. Eight facilities are within the Eastern Region of Ecology, eleven in the Central Region, fourteen in the Northwest Region, and thirty-five in the Southwest Region. WDFW respectfully advocates the permit be administered consistently across Ecology Regions within the state of Washington.

Again, thanks for the opportunity to comment on the draft permit. If you have any questions regarding these comments, please contact me at (360) 902-2418 or by email at Eric.Kinne@dfw.wa.gov

Sincerely,



Eric Kinne
Hatchery Systems Manager

cc: Guy Norman (Acting Fish Program Assistant Director)
Kelly Cunningham, Deputy Assistant Director
Regional Fish Program Managers
Hatchery Complex Managers
Regional Hatchery Operations Managers
Catie Mains
Ann West

SPOKANE RIVER
REGIONAL TOXICS TASK FORCE



COLLABORATION  INNOVATION  PROGRESS

October 7, 2015

Lori LeVander
Water Quality Program
Washington Department of Ecology
Northwest Regional Office
3190 – 160th Ave SE
Bellevue, WA 98008-5452
E-mail: llev461@ecy.wa.gov



RE: COMMENTS ON UPLAND FIN-FISH HATCHING AND REARING GENERAL PERMIT AND ASSOCIATED FACT SHEET

The following comments on the draft Upland Fin-fish Hatching and Rearing General NPDES Permit and associated Fact Sheet issued by the Washington Department of Ecology are being submitted on behalf of the Spokane River Regional Toxics Task Force (Task Force).

The Task Force is an organization of diverse stakeholders working to address toxics in the Spokane River. Ecology, the U.S. EPA, NPDES permittees, the Department of Health, and local conservation groups have formed the Task Force to develop an efficient and effective plan to reduce PCBs and other toxics in the Spokane River system.

The purpose of the Task Force is to “work collaboratively to characterize the sources of toxics in the Spokane River and identify and implement appropriate actions needed to made measurable progress towards meeting applicable water quality standards for the State of Washington, State of Idaho, and The Spokane Tribe of Indians and in the interests of public and environmental health.” This is a complex and multifaceted issue with no simple solution, but the Task Force is dedicated to a collaborative process that will result in a reduction of toxics to the Spokane River.

The Upland Fin-fish Hatching and Rearing General Permit conditions are very relevant to the overall objectives of the Task Force. Thank you for the opportunity to provide comment. Please feel free to contact members of our organization if you have questions or require clarification.

Comments

- 1. The permit and associated fact sheet should recognize that fish hatcheries are potential sources of PCBs to receiving waters and sediments, and that the hatchery fish themselves can be a source of PCBs in waters of the state.**

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The proposed permit requires permittees that discharge to PCB listed waterbodies evaluate possible sources of Polychlorinated Biphenyls (PCBs) in the hatchery. We support this requirement, but request that you also acknowledge the known potential for hatchery effluent and hatchery fish to be a significant source of PCBs to receiving waters and sediments.

Rationale

Numerous studies¹ support the assertion that PCBs are found in measurable quantities in hatchery fish and paint and caulk used in the construction and maintenance of hatcheries. The levels at which PCBs have been found in hatchery fish tissue and the potential levels in hatchery effluent have the ability to impair the state's waterbodies. Currently, neither the draft permit nor the associated fact sheet acknowledge the potential impact on public health to state's waterbodies from the release of hatchery effluent and fish with fish tissue levels that exceed current extrapolated state human health water quality criteria (HHWQC) of 170 picograms per liter. These fish can be exposed to levels of PCBs in the hatchery that result in fish tissue levels above the WDOH advisory levels for fish consumption.

After testing fish feed and hatchery raised rainbow trout, Ecology (2006) concludes, "One of the implications of these results, particularly from the practical standpoint of a regulatory agency, is that waterbodies may be included on the 303(d) list due to contamination stemming from hatcheries. Taken further, 303(d) listed waters often require a TMDL to assess contaminant sources. Sources considered for TMDLs are typically point sources (e.g., piped effluent) and nonpoint sources (e.g., agricultural and urban runoff, atmospheric deposition) which normally occur in the vicinity of the impaired waterbody. However, no known TMDLs in Washington have included hatchery fish as a contaminant source. For PCBs, and to a lesser extent dieldrin, hatchery fish may contribute to impairment and, in some cases, may cause the bulk of impairment. Therefore, TMDL investigators may want to consider including hatchery fish as contaminant sources among other sources." ²

Specific Comments

Fact Sheet

- a) Page 21 – **References.** Fact sheet does not reference some of the most recent science from Ecology presented in a report entitled, *Persistent Organic Pollutants in Feed and Rainbow Trout from Selected Trout Hatcheries* (Ecology 2006). Please consider this recent reference in your permitting process.
- b) Page 8 – **Wastewater Characterization** - There is no mention of PCBs under "Pollutants of Concern", there is only mention of TSS and SS and disease control chemicals (also referred to as toxics).
- c) Page 10 – **Proposed Permit Limits and Conditions** - There is no mention of PCBs in the Section.

¹ Davis and Gannon. 2012., Debruyne, et al. 2004., Johnson, LL et. al. 2009., Maule, A.G., A.L. Gannam, and J.W. Davis. 2007., Wa. Department of Ecology (Ecology). 2006., Montana DEQ (2005).

² Please note that this reference (Ecology 2006) is not included in the Ecology generated fact sheet for the permit.

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- d) Page 15 –**Toxic Pollutants**: The fact sheet mentions only disease control chemicals and states they pose no reasonable potential to violate federal or state water quality standards. This is misleading in that it may be interpreted that Ecology does not feel any toxics discharging from state hatcheries have the potential to violate state water quality standards. Please (1) clarify the second paragraph on page 15, and (2) specifically acknowledge that PCBs are potential toxic pollutants that could be released from the hatchery and result in violation of state water quality standards.
 - e) Page 16 – **Whole Effluent Toxicity** – There is no mention of PCBs in this section. There is a statement that “Ecology determined that toxic effects caused by unidentified pollutants in the effluent are unlikely.” It is unclear whether this is referring to WET test measures of acute toxicity or ALL potential toxic effects from chemicals such as PCBs in effluent and in fish tissue of hatchery fish. It is not accurate if referring to all toxic compounds. Please clarify the statement.
 - f) Page 19 – **Polychlorinated Biphenyls Evaluation** – Please acknowledge the data that indicate that PCBs are a potential contaminant that can be present in hatchery effluent and in fish tissue and carcasses.
 - g) Page 20 – Please specifically address PCBs in your description under Sections titled: **Solid Waste Management Plan** (specifically the section on carcass placement) and **Pollution Prevention Plan**.
- General Permit**
- h) Page 26 – S6.C, 2nd paragraph. ‘PCP listed waters’ – Should this read ‘PCB listed waters’?

2. The permit should require that hatcheries monitor effluent for all constituents with a reasonable potential to contribute to a water quality impairment in segments of a receiving waterbody with a 303(d) listing, including PCBs in cases where a hatchery discharges to a PCB listed waterbody.

Rationale

The Task Force requests additional language in the permit that requires monitoring for PCBs and all other 303(d) listed constituents in ALL hatchery effluent that discharges into a 303(d) listed waterbody. This requirement should extend to any constituents that could potentially contribute to an existing 303(d) listing (eg., Total Phosphorus on a waterway listed for dissolved oxygen).

The Washington State Department of Ecology § 401 Certification for the Leavenworth National Fish Hatchery (Ecology, 2010) requires sampling within the hatchery for PCBs. The permit states that the permittee is prohibited to discharge “Solids, including sludge and grit that accumulate in raceways or ponds, in off-line or full-flow settling basins, or in other components of the production facility in excess of the applicable limits in this permit” and “Toxic substances, including drugs, pesticides, or other chemicals, in toxic amounts that have the potential to impair designated uses or violate water quality standards” (USEPA, 2006; Ecology, 2010). Furthermore, the facility must achieve compliance with the final phosphorus limitations.

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In compliance with the Montana Water Quality Act and the Clean Water Act, applicants issued an authorization letter for the Montana Concentrated Aquatic Animal Production General Permit are permitted to discharge wastewater effluent from fish farms and hatcheries to state waters in accordance with effluent limitations, monitoring requirements and other conditions. The permit states specific effluent limitations for PCBs; "There shall be no discharge of polychlorinated biphenyls (PCBs) in excess of 0.00065 µg/L in any sample" (Montana DEQ, 2005).

Ecology has the authority under the NPDES permit program to require that a permittee sample and test its effluent for suspected pollutants. Ecology routinely includes such requirements for PCBs and other toxics in both individual and general permits. Monitoring to characterize pollutants in an effluent can be the most effective method of identification and assists Ecology in determining how to include conditions in a permit to reduce or eliminate them.

Section S6.C (page 26 of 49 of the current draft) requires existing facilities discharging to waterbodies on the Clean Water Act 303(d) list for PCBs to implement "procedures to eliminate, to the maximum extent possible, the release of PCBs from any known sources in the facility; including paint, caulk, or feed, that come in contact with water". However, the permit language does not require monitoring of hatchery effluent or fish tissue for PCBs. Without monitoring there is no way to determine whether the PCB reduction plans and the "procedures to eliminate" PCBs are effective.

In a recent document filed with the federal court, EPA Region 10 recommended that Ecology include PCB monitoring requirements for hatcheries located in the Spokane River study area including the Spokane Hatchery covered by the state's general permit (USEPA, 2015.) As mentioned above, the current draft permit does not include any effluent monitoring requirements for the Spokane hatchery or for other hatcheries that discharge to PCB (or other 303(d) listed) impaired waterbodies as identified in Appendix E to the draft fact sheet.

Specific Comments

Fact Sheet

- a) Page 14 – **Evaluation of Surface Water Quality-Based Effluent Limits for Numeric Criteria** – The fact sheet requires temperature monitoring for hatcheries discharging to streams with 303(d) listed segments. Although the title of the subsection is "Temperature and Dissolved Oxygen", neither the fact sheet (nor the permit) requires monitoring for DO or any constituents that could impact DO for hatcheries located on DO listed waterbodies. Please add this requirement to the permit and include Total Phosphorus which is known to cause DO-related impairments.
- b) Page 15 – **Discharges to 303(d) Listed Impaired Water Bodies** – Appendix E cites five state hatcheries that are located on/or discharge to waterbodies that are 303(d) listed for PCBs. However, this section explicitly mentions only fine sediment and temperature compliance.

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Please acknowledge the potential for hatcheries to discharge other 303(d) listed constituents including PCBs, DO, Total Phosphorus and other nutrients impacting DO levels.

General Permit

- a) Page 6 – **Condition S1.A.1c (i) – (iii)** – Ecology may require permit coverage for any facility on a case by case basis in order to protect waters of the state. It is unclear how Ecology will determine whether existing hatcheries are posing a risk to water quality when there is no requirement to monitor for toxics. We request the permit require routine PCB monitoring of effluent discharge and hatchery fish-tissue for all hatcheries located on a waterbody with a 303(d) listing for PCB. Similarly, we request that the permit require routine monitoring of effluent for other 303(d) listed chemicals for hatcheries discharging to a 303(d) listed waterbody. For those hatcheries discharging to a waterbody listed for dissolved oxygen, please also require monitoring for constituents that have a reasonable potential to affect dissolved oxygen levels such as Total Phosphorus.
- b) We refer to Appendix E of the fact sheet for a list of hatcheries and those that discharge to 303(d) listed waterbodies.
- c) Add a condition for the general permit (versus permit requiring special conditions or individual permit) – “must not violate the state water quality and ground water standards (Chapters 173-200 and 201A) “
- d) Page 6 – **Eligibility - Section S1.B.1** It does not appear there is a monitoring requirement for 303(d) listed chemicals in the permit, nor is there a clear requirement to monitor for PCBs (in effluent or fish) for hatcheries that discharge to PCB 303(d) listed waterbodies. Please include a condition in the permit under Section S1.B that requires monitoring for 303(d) listed chemicals for hatcheries discharging to a 303(d) listed waterbody.
- e) Page 7 – **Section S1.C.1 (ii) – Explicitly require routine monitoring indicating concentrations of the 303(d) listed parameters as documentation.**
- f) Page 11 – **Section S3 – Discharge Limits** – Limits appear to be defined for settleable solids and total suspended solids and total residual chlorine. Please add language that recognizes limits for any 303(d) listed parameter, where applicable.
- g) Page 13 – **Section S3.H – Discharges to Impaired Waters** – This section requires permittees that discharge to an impaired water body to evaluate their discharge for the listed parameters. There is a reference to Table 1 for sampling requirements and limits, but those requirements and effluent limits are provided only for Temperature. Please list all other 303(d) listed parameters indicated in the fact sheet Appendix E identifying existing discharges to impaired waters to Table 1. These include: Temperature, PCBs, Dissolved Oxygen, and Turbidity. For those hatcheries discharging to a waterbody listed for dissolved oxygen, please also require monitoring for constituents that have a reasonable potential to affect dissolved oxygen levels such as Total Phosphorus.
- h) Page 26 – **Section S6.C – PCB Reduction Activities and BMPs** – As discussed in the rationale above, this section of the permit requires existing facilities discharging to waterbodies on the Clean Water Act 303(d) list for PCBs to implement “procedures to eliminate, to the maximum extent possible, the release of PCBs from any known sources in the facility; including paint,

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caulk, or feed, that come in contact with water". However, the permit language does not require monitoring of hatchery effluent or fish tissue for PCBs. Without monitoring there is no way to determine whether the PCB reduction plans and the "procedures to eliminate" PCBs are effective. **Please add language that requires annual monitoring of hatchery discharge for PCBs for all facilities listed on the 303(d) list for PCBs (as indicated in Appendix E of the fact sheet).** Monitoring PCB concentrations in effluent can be used as an indicator to determine whether additional PCB reduction activities should be undertaken. We recommend that the following sampling and analytical methods be specified in the permit: Total PCBs (picograms (pg)/L), 4 times per year, 24-hour Composite, and use EPA method 1668 with a reporting limit or quantitation limit of 10 pg/L per congener.

3. The permit should require sampling of fish food and require implementation of BMPs (Best Management Practices), in accordance with sampling results, to reduce sources of PCBs in fish meal for all fish life stages.

Rationale

Davis and Gannon (2012) report that over the past several decades it has become increasingly evident that 'feeds used in aquaculture worldwide contain significant concentrations of contaminants, including PCBs (Mac et al. 1979; Hilton et al. 1983; Hites et al. 2004; Maule et al. 2007)'. Johnson et al. (2009) found measureable concentrations of DDT, PCBs and PAHs in feed from all eight Columbia River hatcheries they tested.

Furthermore, Davis and Gannon (2012) have recommended that, based on their study of fish feed in three Pacific Region National Fish Hatcheries (NFH), ***"The USFWS should work with the contracted manufacturers of the fish feed supplied to the Pacific Region NFHs to reduce or eliminate contaminant sources in fish feed. By selecting the least contaminated feeds, NFHs will also reduce the amount of contaminants released into the aquatic environment from sources like excess food, effluent and fish carcasses."*** The most prevalent chemicals detected in feed from these hatcheries were PCB congeners and DDT metabolites, which were detected in all tissues from some fish in each hatchery. Maule et al. (2007) also found PCBs in all 46 samples of fish feed sampled in their study.

Based on the results of an Ecology (2006) study on feed and rainbow trout in Washington State, Ecology (2006) recommends ***"that fish feed and trout fillet tissue sampling be expanded to include all 26 WDFW hatcheries raising catchable trout. . . . Water in hatcheries should also be sampled where contaminant levels in fish are exceptionally high. . . . A review of the current 303(d) list should be conducted to identify cases where tissue data used to assess impairment may have come from WDFW catchable trout plants. TMDL project managers should consider the implications of hatchery fish as a possible source of contaminants to waterbodies being assessed."***

Recent studies have demonstrated that fish feeds contain significant concentrations of contaminants, many of which can bioaccumulate and bioconcentrate in fish (Maule et al. 2007). Concentration of

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REGIONAL TOXICS TASK FORCE



COLLABORATION INNOVATION PROGRESS

PCB's in fish meal fed to hatchery fish is limited to 2 ppm as regulated by the FDA under Title 21 CFR 509.30 Code of Federal Regulations. The allowable concentration in fish meal (2 ppm) is approximately 11,764,000 times higher than the Washington Water Quality Standard for PCBs (170 ppq).

The Task Force recommends a fish meal testing program that specifies how and where testing will be done on fish meal to ensure concentration requirements are met. This testing program should recognize that studies have shown that the types and concentrations of chemicals in feeds can vary substantially from lot to lot (Johnson et. al. 2009) because 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). The U.S. Fish and Wildlife Service currently performs chemical testing on feeds used in national fish hatcheries (e.g., Maule et al. 2007), and the procedure should be encouraged for hatcheries managed by other agencies (Johnson et. al. 2009). The testing programs that have been implemented to date appear to have led to improvements in feed quality (Maule et al. 2007), and continued efforts will help to minimize any risks to fish, wildlife, and human health (Johnson et. al. 2009).

Furthermore, Section S6.C.2 contains a requirement that facilities listed on the 303(d) list for PCBs must develop and implement a plan to reduce PCBs in the facility discharge from fish feeding activities and that the plan should contain purchasing procedures that give preference for fish food that contains the lowest amount of PCBs that is "economically and practically feasible". The draft Fact Sheet states that "EPA and Ecology are not aware of a feasible way to reduce PCBs in fish feed." These two statements appear inconsistent.

Specific Comment – General Permit

- a) Page 27 - **Section S6.C.2 – Fish Food** – Add language to Section 2a to clarify "economically and practically feasible" given the inconsistency noted above between the fact sheet and the draft general permit.
- b) Specifically require a fish meal testing program that specifies how and where testing will be done on fish meal to ensure concentration requirements are met.

-
4. The permit requires a paint and caulk removal plan that allows a Toxic Substances Control Act (TSCA) exception for paints or caulk that are known to be less than 50 ppm. Please remove the reference to the TSCA allowance and the 50 ppm. Paints and/or caulk at the "allowable" TSCA level of 50 ppm have the potential to further impair 303(d) listed receiving waters.

Specific Comment – General Permit

- a) Page 26 – **Section S6.C.1** – Remove the last two paragraphs.

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COLLABORATION  INNOVATION  PROGRESS

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COLLABORATION  INNOVATION  PROGRESS

Wa. Department of Ecology (Ecology) 2010. Order No 7192. Certification of the Leavenworth National Fish Hatchery (NPDES Permit No. WA-000-190-2) on Icicle Creek, Chelan County, WA. Ecology Section 401 Water Quality Certification and Chapter 90.48 RCW Order for Leavenworth National Fish Hatchery. January 7, 2010.

Wa. Department of Ecology (Ecology). 2006. Publication Number 06-03-017. Persistent Organic Pollutants in Feed and Rainbow Trout from Selected Trout Hatcheries
www.ecy.wa.gov/biblio/0603017.html



INLAND EMPIRE PAPER COMPANY

3320 N. ARGONNE
SPOKANE, WASHINGTON 99212-2099

PHONE 509/924-1911
FAX 509/927-8461

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October 7, 2015

Via E-mail (llev461@ecy.wa.gov)

Ms. Lori LeVander
Water Quality Program
Washington Department of Ecology
Northwest Regional Office
3190 – 160th Ave SE
Bellevue, WA 98008-5452

Re: Draft Upland Fin-Fish Hatching and Rearing General Permit

Dear Ms. LeVander:

Inland Empire Paper Company (IEP) appreciates this opportunity to comment on the draft general hatchery permit. The conditions of the draft permit as applied to the Washington Department of Fisheries and Wildlife Spokane Hatchery, WAG137007, are important to the work of IEP and others to reduce toxic loading to the Spokane River. With respect to toxic loading to the Spokane River, these comments extend to any and all hatcheries covered under the permit that are located within the Spokane River watershed and to those that may be the source of fish stocked in the Spokane River watershed. In particular, IEP requests that its proposed PCB conditions be extended to any hatchery covered under the permit that is a source of fish stocked within the watershed of the Spokane River.

Ecology has identified hatcheries as a significant source of PCB loading to waters of the state. Ecology has, for example, estimated that as much as ten percent of annual PCB loading to Puget Sound is attributable to returning salmon. Ecology, *Control of Toxic Chemicals in Puget Sound: Assessment of Selected Toxic Chemicals in Puget Sound 2007-2011*, Ecology Pub. 11-03055, at 93 (2011). Ecology has also acknowledged that PCB contaminated hatchery fish play a significant role in section 303(d) listings for polychlorinated biphenyls (PCBs). The Ecology report, *Persistent Organic Pollutants in Feed and Rainbow Trout from Selected Trout Hatcheries*, Ecology Pub. No. 06-03-017 (April, 2006), documents the elevated levels of PCBs in hatchery fish. Based on this data the report concludes that hatchery fish “may contribute to impairment and, in some cases, may cause the bulk of impairment.” *Id.*, at 30.

Consistent with these conclusions in the 2006 report, many of the section 303(d) listings on the Spokane River may be attributable to hatchery fish. The Washington Department of Fish

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and Wildlife and Avista actively plant hatchery fish throughout the watershed. A 2012 fish population study prepared for Avista suggests that most rainbow trout above Upper River Dam are non-native and thus non-resident within the meaning of the Ecology WQP 1-11. *See C. Lee and L. King, Middle Spokane River Fish Population Assessment (January 2013)*. The fish tissue data throughout these reaches, Assessment Units 17010305000010, 17010305000011 and 1701035000012, cited as a basis for Category 5 303(d) listings for PCBs are based in part on fish tissue samples from rainbow trout.

The Ecology Environmental Assessment Program has recently confirmed the PCB 303(d) listing for the Little Spokane River. This listing was based on fish tissue samples collected above and below the Little Spokane River Fish Hatchery (Spokane Hatchery) and included hatchery trout collected from receiving waters. This study was presented to the Spokane River Regional Toxics Task Force (SRRTTF.org) on September 23, 2015.

IEP is additionally concerned about the role of the Spokane Hatchery in achieving the Dissolved Oxygen TMDL for Lake Spokane and the Spokane River. The hatchery is upstream of Lake Spokane and is a potential source of nutrient loading that could adversely impact downstream dissolved oxygen levels.

Based on these concerns, IEP offers the following comments on the draft permit:

1. The permit should require a procurement preference for low or non-PCB containing products including feed.

WDFW is required to eliminate the use of PCB containing products including fish feed unless it is "not cost effective or technically feasible to do so." RCW 39.26.280(2). This statute applies to all state agencies and prohibits the knowing purchase of products containing PCBs above the practical quantification limit absent such documentation. Numerous studies have documented high concentrations of PCBs in fish feed. Regardless of whether the Food and Drug Administration (FDA) authorizes these concentrations, the use of such feed should be prohibited in the permit unless WDFW can document the basis for not doing so under the statute.

IEP is sensitive to the challenge hatcheries may have in finding a substitute to fish feed that does not contain PCBs. As with the hatcheries, where FDA regulations allow a PCB concentration in fish feed up to 2 ppm, 40 C.F.R. § 109.30(6), recycling operations at IEP are impacted by dyes and inks on recycled paper stock with PCB concentrations that are allowable under EPA regulations up to 50 ppm, 40 C.F.R. § 761.20(a)(3).

IEP has addressed this concern by working with national, state and local parties to push for reform of the EPA regulations under the federal Toxics Substance Control Act (TSCA). IEP has also worked on state legislation and Washington State's PCB Chemical Action Plan (CAP) to address PCB issues. The WDFW should be required under the permit, for all of its hatcheries including the Spokane Hatchery, to prepare an assessment of alternative feed sources that do not contain PCBs or have reduced PCB levels.

2. The permit should require a PCB Source Identification Study

The Spokane Hatchery should be required to develop a scope of work for a PCB Source Identification Study within two to three years of permit issuance that includes a list of raw

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materials used at the facility which may contain PCBs, a review of the facility identifying where PCB containing equipment was or may have been used, a sampling plan with proposed sampling locations, quality control protocols, sampling protocols, and PCB test methods. The PCB test method for its source identification study should have a target detection limit of 50 pg/L, similar to that required for all NPDES permitted discharges to the Spokane River. The permit should provide a deadline within the term of the permit for submission of the study once the scope of work is approved by Ecology.

This condition is roughly the same as the PCB source identification study provision in IEP's NPDES permit. All NPDES permitted facilities that have the potential to impact Lake Spokane and the Spokane River for PCBs should be subject to parallel conditions. If Ecology deems this to be important work for IEP, it is as equally important for the Spokane Hatchery and any hatcheries that are a source of fish stocked within the watershed.

3. The permit should require a PCB BMP Plan

As with the IEP permit, the Spokane Hatchery permit coverage should require preparation and submission of a PCB Best Management Practices Plan within the term of the permit that includes the following elements:

- a. A list of members of a cross-functional team responsible for developing the BMP plan including the name of the designated leader.
- b. A description of current and past source identification, source control, pollution prevention, and pollutant loading reduction efforts.
- c. Preparation of a technical/economical evaluation of new BMPs. BMPs should include, but are not limited to: modification of equipment, facilities, technology, processes, and procedures; source control; remediation of any contaminated areas.
- d. A schedule for implementing economically feasible BMPs.
- e. Methods used for measuring progress towards the BMP goals and updating the BMP plan.
- f. Results from testing of any waste streams, including all effluent from the hatchery, taken in support of the BMP plan and PCB Source Identification Plan.
- g. Annual reports to Ecology after submission of the BMP plan.

4. Spokane River Regional Toxics Task Force

The permit should require WDFW to participate in the Spokane River Regional Toxics Task Force on the same terms of every individual NPDES permitted facility on the Spokane River in Washington and Idaho. As long as the hatchery is knowingly using feed that contains PCBs, PCB-laden hatchery fish are being stocked in the Spokane River watershed, and Ecology is using fish tissue for 303(d) listings, it is essential that the state agency work closely with everyone on the task force to monitor, document and reduce PCB loadings.

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5. PCB monitoring

The permit should require intake and effluent monitoring for the Little Spokane River on the same terms as all other NPDES permits on the Spokane River. The permit should also require PCB monitoring of the effluent using EPA test method 1668C.

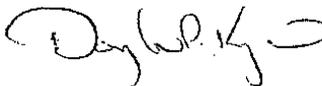
Hatcheries discharging or stocking fish in the Spokane River watershed should have an additional obligation to document the PCB levels in the fish feed used to rear the fish, PCB levels in the fish being stocked and the locations where the fish are being stocked. This information will be important to the work of the SRRTTF in determining the loadings and sources of PCBs to the river.

6. Nutrient loading

Ecology should also condition the Spokane Hatchery coverage under the permit to ensure that it is not causing or contributing to a violation of water quality criteria for dissolved oxygen in Lake Spokane. As such, the permit should require careful monitoring of total phosphorus, ammonia and CBOD-5 concentration in effluent and the volume of effluent. This information will be critical to implementation of the Lake Spokane and Spokane River Dissolved Oxygen TMDL.

I appreciate your consideration of these comments and your efforts in drafting the general hatchery permit.

Sincerely,



Douglas P. Krapas
Environmental Manager



CITY OF COEUR D'ALENE

WASTEWATER UTILITY DEPARTMENT
OFFICE OF THE SUPERINTENDENT

CITY HALL, 710 E. MULLAN
COEUR D'ALENE, IDAHO 83814-3958
208/769-2277 – FAX 208/769-2338
E-mail: sidf@cdaid.org

October 7, 2015

Via E-mail (llev461@ecy.wa.gov)

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

Re: Draft Upland Fin-Fish Hatching and Rearing General Permit

Dear Ms. LeVander:

Please accept these comments on behalf of the City of Coeur d'Alene. Coeur d'Alene operates a wastewater treatment plant that discharges to the Spokane River upstream from the Idaho-Washington state line. Coeur d'Alene has a long standing working relationship with all dischargers on the Spokane River to improve and enhance water quality in the river. This includes efforts to reduce toxic loading of polychlorinated biphenyls (PCBs) through the conditions in our NPDES permit and through the work of the Spokane River Regional Toxics Task Force (SRRTTF). These comments are directed to ensure that the general permit for hatcheries adequately addresses the role of hatcheries in contributing PCBs to the river.

Hatcheries and Hatchery Fish are Significant Sources of PCB Loading

Ecology has documented PCB concentrations in hatchery raised fish. A 2006 Ecology report, *Persistent Organic Pollutants in Feed and Rainbow Trout from Selected Trout Hatcheries*, Ecology Pub. No. 06-03-017 (April, 2006)(WDOE 2006), analyzed skin-on fillets of pre-release rainbow trout from 11 hatcheries and found PCBs ranging from <2.3 to 67 ng/g (wet weight) with an average of 13.0 ng/g (wet weight) PCBs. Assuming that fillet concentrations reflect whole-body concentrations, these concentrations corresponded to <103 to 9700 ng total PCBs per fish (using hatchery-specific average fish weights, which ranged from 83 to 678g).

Several studies have also documented PCB concentrations in hatchery fish in: Johnson, L.L., Ylitalo, G.M., Arkoosh, M.R., Kagley, A.N., Stafford, C., Bolton, J.L., Buzitis, J., Anulacion, B.F., Collier, T.K., *Contaminant Exposure in Outmigrant Juvenile Salmon from Pacific Northwest Estuaries of the United States*, Environ. Monit. Assess., 124:167-194 (2007), found between 39 and 59 ng/g (wet weight) total PCB in whole-body juvenile Chinook from six west coast hatcheries (all hatcheries on coastal streams). The paper notes that "...contaminated salmon may be a significant source of toxicants in the environment and in the food chain...".

Kelly, B.C., Fernandez, M.P., Ikonomou, M.G., Knapp, W., *Persistent Organic Pollutants in Aquafeed and Pacific Salmon Smolts from Hatcheries in British Columbia, Canada*. Aquaculture, 285:224-233 (2008) found, on average, 25.5 and 48.5 ng/g (wet weight) PCBs in

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Chinook smolts from two hatcheries in British Columbia and 34.9 ng/g (wet weight) in coho smolts from a third B.C. hatchery.

Johnson, L.L., Willis, M.L., Olson, O.P., Pearce, R.W., Sloan, C.A., Ylitalo, G.M. 2010. Contaminant concentrations in juvenile fall Chinook salmon from Columbia River hatcheries. *N. Americ. J. Aquaculture*. 72:73-92 – Analyzed pre-release juvenile Chinook from 8 hatcheries feeding the Columbia River and found whole body concentrations of PCBs ranging from 6.9 to 61 ng/g (wet weight), corresponding to 22 to 323 ng per fish (individual hatchery-specific average weights from 3.2 to 6.2 g).

Meador, J.P., Ylitalo, G.M., Sommers, F.C., Biyd, D.T., *Bioaccumulation of Polychlorinated Biphenyls in Juvenile Chinook Salmon (Oncorhynchus tshawytscha) Outmigrating through a Contaminated Urban Estuary: Dynamics and Application*, *Ecotoxicology*, 19:141-152 (2010), analyzed pre-release juvenile Chinook salmon from the Soos Creek hatchery in Puget Sound). Over a three year period, the study found total PCB concentrations ranging from 10 to 50 ng/g (wet weight), corresponding to 90 to 125 ng PCB per fish (fish weight ranged from 2.5-9.4 g).

NOAA Fisheries (2014), Draft Environmental Impact Statement on Two Joint Tribal Resource Management Plans for Puget Sound Salmon and Steelhead Hatchery Programs, Appendix K. – at K-7, acknowledges the concentrations of PCBs in hatchery fish associated with contaminated fish feed and PCBs in paint and caulks used within hatcheries.

Ecology has concluded that section 303(d) listings for PCBs may be the result in part or mostly from hatchery operations. This was set forth in the following statement from the 2006 Ecology report:

One of the implications of these results, particularly from the practical standpoint of a regulatory agency, is that waterbodies may be included on the 303(d) list due to contamination stemming from hatcheries. Taken further, 303(d) listed waters often require a TMDL to assess contaminant sources. Sources considered for TMDLs are typically point sources (e.g., piped effluent, stormwater outfalls) and nonpoint sources (e.g., agricultural and urban runoff, atmospheric deposition) which normally occur in the vicinity of the impaired waterbody. However, no known TMDLs in Washington have included hatchery fish as a contaminant source. **For PCBs, and to a lesser extent dieldrin, hatchery fish may contribute to impairment and, in some cases, may cause the bulk of impairment.** Therefore, TMDL investigators may want to consider including hatchery fish as contaminant sources among other sources.

Ecology 2006, at 30 (emphasis added).

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There is no doubt that hatchery fish are present in the Spokane River and that the presence of hatchery fish has resulted in several segments of the river being listed as impaired in the state section 303(d) listings for PCBs. The Washington Department of Fish and Wildlife and Avista actively plant hatchery fish throughout the watershed. A 2012 fish population study prepared for Avista suggests that most rainbow trout above Upper River Dam are non-native and thus non-resident within the meaning of the Ecology WQP 1-11. See C. Lee and L. King, *Middle Spokane River Fish Population Assessment* (January 2013). The fish tissue data throughout these reaches, Assessment Units 17010305000010, 17010305000011 and 1701035000012, are all listed as Category 5 in the state 303(d) list for PCBs based in part on fish tissue samples from rainbow trout.

Specific Comments

The City of Coeur d'Alene requests that Ecology carefully consider the impact of hatchery operations on the Spokane River. Coeur d'Alene, together with other dischargers and interested parties, is working to identify and reduce PCB loading throughout the watershed. These efforts will be potentially undermined if hatcheries are allowed to continue to use PCB containing feed, fail to engage in appropriate PCB management efforts, fail to monitor effluent, sediments and fail to document the extent of PCBs introduced to the river through fish stocking. With these concerns in mind, Coeur d'Alene offers the following comments:

1. The permit should require effluent and receiving water monitoring for PCBs.

The permit should require monitoring for PCBs in the effluent and in the sediments potentially impacted by hatchery operations on the Spokane River or Little Spokane River. PCBs are a chemical of concern from hatcheries as documented above. Ecology should follow the submission by EPA to the federal court in *Sierra Club v. EPA*, Case No. 2-11-cv-01759. EPA recommended in that submission that hatchery permits on the Spokane and Little Spokane River: (1) require monitoring of effluent for PCB congeners using EPA test method 1668C at a frequency adequate to assess sources of PCBs within the facility; (2) require reporting of the total concentrations of "dioxin-like" PCB congeners on DMRs; and (3) require the complete congener analysis to be submitted as an attachment to the facility DMR.

At a minimum the hatcheries should be required to sample effluent once a quarter, intake water once every two months and receiving water, above the hatchery intake and below the hatchery outfall, twice a year as required in the Coeur d'Alene NPDES permit.

2. The permit should require sediment sampling.

Ecology should also require sediment monitoring based on the same conditions for sediment sampling set forth in the Ecology section 401 certification for the 2010 Leavenworth National Fish Hatchery, Ecology Order No. 7192 (January 1, 2010). The 401 Certification requires annual monitoring of sediments within the hatchery and in receiving water, above the hatchery intake and below the hatchery outfall, for toxics including PCBs.

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3. The permit should require hatcheries to develop pollution prevention plans to assess sources of PCBs from caulk, paint and feed.

The EPA submission cited above recommends that hatcheries be required to remove paint and caulk that contact process water that was applied prior to January 1, 1980. EPA specified that hatcheries should implement PCB abatement and disposal measures consistent with EPA guidelines and prevent removed PCB-containing material from reaching receiving waters.

Ecology should include these and more robust PCB management conditions so that hatcheries on the Spokane River and Little Spokane River are in parity with NPDES permit requirements for PCB management plans. The Coeur d'Alene permit requires the submission of a Toxics Management Plan (TMP) within the permit term. The TMP must address source control and elimination of PCBs from:

- (a) Contaminated soils, sediments, stormwater, ground water entering the [facility];

...

- (d) By means of eliminating existing sources that are within the direct control of the permittee including but not limited to:

- i. Machinery manufactured prior to May 31, 1979.
- ii. Electrical equipment and components containing insulating or dielectric oil manufactured prior to May 31, 1979, including but not limited to transformers, capacitors, regulators, reactors, circuit breakers, switch gear and fluorescent lighting ballasts.
- iii. Construction material including but not limited to paints and caulking.
- iv. Commercial materials including but not limited to ink, dyes and lubricants.

Ecology should require hatcheries on the Spokane River and Little Spokane River to adhere to toxic management plan requirements in parity with NPDES permits in the watershed.

4. Preferential Purchasing Policy.

Ecology should require the permits for hatcheries to adopt preferential purchasing policies for feed, construction materials including paint and caulk, electrical equipment, and commercial products including ink, dyes, lubricants, soaps and cleaners. This is consistent with the Coeur d'Alene NPDES permit and the recommended conditions in the EPA submission to the federal court. To the extent the hatcheries are operated by a state agency, the permits should require compliance with RCW 39.26.280(2) that prohibits a state agency of knowingly purchasing products containing PCB above quantitation levels unless it is not cost effective or feasible to do so.

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5. Education Program.

The NPDES permit for Coeur d'Alene requires a public education program regarding PCB containing products and the proper disposal of waste products that may contain PCBs. Hatcheries on the Spokane River and Little Spokane River as well as hatcheries that are the source of fish stocked in the Spokane River watershed should similarly be required to develop a public education program regarding the PCB concentrations in hatchery fish and the proper disposal of fish and fish waste such as heads and entrails.

6. The permit should require participation in the SRRTTF.

All individual NPDES permits on the Spokane River in Washington and Idaho require the participation in the SRRTTF as a permit condition. The same obligation should be imposed on the hatcheries on the Spokane River and Little Spokane River as well as any hatchery that is covered under the permit and is a source of fish stocked in the Spokane River watershed. As long as the rivers are listed under section 303(d) for concentrations of PCBs in fish tissue it will be essential for the hatcheries to take a significant role in identifying and reducing sources of PCBs in the watershed.

I appreciate your consideration of these comments.

Sincerely,



H. Sid Fredrickson
Wastewater Superintendent

5 October 2015

Lori LeVander
Department of Ecology - Water Quality Program
NWRO Office
3190 - 160th Avenue SE
Bellevue, WA 98008-5452

Dear Ms. LeVander:

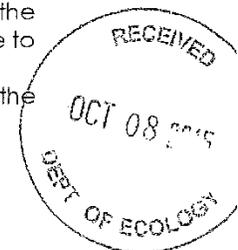
I am writing with my comments about the proposed renewal of the Upland Fin-Fish Hatching and Rearing General Permit.

Fact Sheet

The list of acronyms does not include PCB (Pollution Control ??) or MDR (Materials Data Report?) and MDR is used in place of the more common MDN (marine derived nutrients, which it follows where it is first used).

Appendix E links the Prosser Hatchery with the Columbia River (Lake Pateros), they are not within one mile of one another; the Prosser Hatchery does discharge to the lower Yakima River which is severely impacted by excess nutrient concentrations, crews have been pulling out the rooted aquatic plants (Yakima Herald-Republic, 18 August 2015; http://www.yakimaherald.com/news/local/crews-weed-yakima-river-to-clear-stargrass-help-salmon-find/article_c46f6cac-45bd-11e5-ba19-e7e0b32c798d.html) which are impairing salmon migration and spawning along with causing wide swings in d.o. and pH (outside of the Water Quality Standards) (summary table, <http://pubs.usgs.gov/sir/2009/5078/table9.html>); I cannot find the link to the continuous monitoring data collected about a decade ago at Kiona, why the lower Yakima River does not appear to be on the 303(d) list for d.o. and pH leaves me puzzled. The use of a one mile range is inappropriate when the monitoring sites are much more widely spaced than that and the listed reaches are roughly a mile long. Why weren't Ecology's document "Waters Requiring Supplemental Spawning and Incubation Protection for Salmonid Species" and the EPA's list/map of nutrient impaired water bodies (I could only find the map on the USGS's site (http://water.usgs.gov/GIS/browse/NutrientImpaired303d_streams_MRB7.gif)) also used for identifying facilities discharging to waters of special concern. The Ecology document is specifically concerned about temperature, but dissolved oxygen concentrations are critical for those same waters (the water quality criteria are to protect incubating eggs in the gravels, not fish swimming in the river or stream). Streams identified as impaired by nutrients typically evidence this by not meeting the water quality criteria for dissolved oxygen or pH or both (this is the only way they appear on the 303(d) list). Using this map, it appears that the Naches Hatchery discharges to nutrient impacted waters, because of the scale of the map and my familiarity with the streams I could not determine which hatcheries in the northern part of CRO also discharge to nutrient impacted water bodies.

The fact sheet (and permit) note that facilities which do not meet the thresholds for amount of food fed or fish grown are eligible for exemption from permit coverage but are still required to meet the technical standards in WAC 173-221A for freshwater facilities. Without any reporting requirements for facilities which believe they qualify for the exemptions, Ecology has left the interpretation up to the facilities if they qualify. There are two issues here: first is the failure to provide treatment facilities for cleaning wastes or to demonstrate compliance with the discharge limits and the second is that facilities will manipulate operations to stay below the



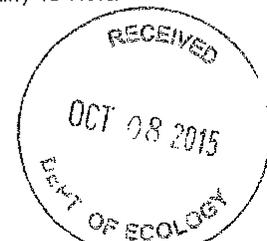
threshold, for example releasing enough fish when the monthly feeding rate approaches 5000 pounds so that they can continue to feed the remaining fish while remaining below the threshold, staying within the letter but not the intent of the regulation. Knowing the location and scale of all fish feeding facilities will be of use as nutrient driven TMDLs are being prepared. The Yakama Nation operates several acclimation sites in the Yakima, Wenatchee and Methow River systems, at least some are supplied from the Prosser Hatchery. Another approach would be to include satellite facilities on the same permit as the parent hatchery, as was done for the Cle Elum hatchery and its three acclimation sites.

The potential impacts of hatcheries on the receiving water include: low dissolved oxygen in the discharge (d.o.), dismissed by I remain skeptical until I have seen the data supporting the claim (see below), organic matter which will result in consumption of oxygen (includes classic BOD as measured on waste food and feces plus dissolved nitrogen and living fish when released; an even more challenging issue is when fish are released with little hope that a large fraction will survive until caught or enter saltwater) and disease (concentrated aquatic animal production facilities are comparable to large scale poultry facilities which are scrutinized for amplifying diseases). Total suspended solids and total settleable solids are basic process control measures for evaluating the effectiveness of settling facilities used for waste treatment but only proxies for BOD and then only for particulate forms. There has been no comprehensive assessment of the impact of hatcheries since the study in the late 1980's which immediately preceded the development of the general permit, it is time for a follow up study. Have the treatment facilities for waste solids, many of which operate as facultative lagoons, significantly reduced the release of nitrogen and phosphorus or just converted particulate forms to soluble?

Discharge of cleaning wastes to ground (allowing the flow from the pump to spread across the ground adjacent to the pond or raceway or into a pit) is relatively common (5 that I can recall in CRO). The statement on p 17 "little potential to impact state ground water standards" is not supported by any analysis of the impact of these discharges. Further discussion or action is required. The Fact Sheet should list those facilities which do not meet the standards for waste treatment facilities, for example, the 2012 facilities description for the Chelan Hatchery notes that only some of the raceways discharge cleaning wastes to the offline settling pond, the circular ponds and a plastic raceway discharge cleaning wastes along with ordinary effluent. The Dryden rearing pond discharges cleaning wastes to an unlined pit near the river bank (I could not access the reports for other facilities which did not provide appropriate treatment in the past).

The EastBank Hatchery sent (still sends?) spawning wastes to the wastewater lagoons at the adjoining State Park for treatment.

The statements about there being no reports of dissolved oxygen below the WQ standards in the effluent from hatcheries requires better documentation – it is too easy to sample at times other than when low dissolved oxygen concentrations are expected, e.g., for an in-line settling basin with abundant algae or aquatic plants, the dissolved oxygen would be expected to be low between sunset and sunrise in the summer. Likewise the statement that there have been no improvements in facilities design in the last five years leaves open the possibility that older (and ignored) improvements are available, and my reading of the literature and talking to one (retired) hatchery manager suggests that recirculating systems are available and useful. For facilities which have to aerate the water before first use, aeration in or between raceways should be cost competitive and expand the facility capacity while improving the ability to hold solids in the raceway when vacuuming solids.



Ecology should require that the MDN (as it is usually referred to) model for justifying using streams in lieu of raceways for enhancing salmon be fully developed and several potential tests which could falsify the model be performed before allowing WDFW to move forward. The model is grossly incomplete, it does not specify how or when spawning carcasses or components of the carcasses move downstream and how this relates to improving salmon runs. It also ignores the large differences in freshwater life histories of the several species and runs of salmon and generally refers to salmon, Pacific Salmon or *Onchyrhynchus*, unless reporting a study on a single species.

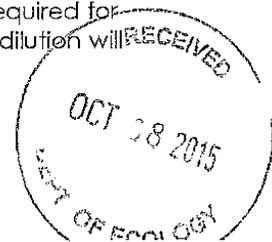
The fact that streams salmon use for spawning are still oligotrophic and not grossly different from streams without spawning salmon indicates that there is little or no net addition over the long term, the question to be answered is do the carcasses remain long enough to benefit the juvenile salmon. If the bulk of the carcass material is washed out during winter and spring high flows and floods, there is little opportunity for the juvenile salmon to benefit (they are relatively inactive due to low temperatures after spawning), there seems to have been little effort expended on determining what fraction remains after spawning and winter and spring floods. A large increase in juvenile size in the weeks after spawning or just before emigration would be consistent with such a benefit but not proof, I have not encountered such a study. Measuring the nitrogen isotopic composition of smolts would provide an estimate of the relative significance of freshwater and marine sources of food, that is, is the hypothesis that the adults provide a significant source for the growth of juveniles supported by the data. Further, data on the isotopic composition of smolts from streams with reduced spawning runs would indicate whether added nutrients are needed to boost the rebound of salmon (or whether other causes are more likely the problem) – smolts with low levels of marine source nitrogen and better than average size and vigor (as seems to have been the case, although not based on isotopic data) for Chinook in the Snake River (Scheuerll, et al., 2005), would support an alternative model of the productivity of the watershed is sufficient to support modest salmon runs if it supports resident trout and supplementation is not needed or justified. It is only when there are strong spawning runs and the number of juveniles exceeds the capacity of the freshwater habitat (and this appears to be accompanied by reduced juvenile fitness despite the contribution of the adults) that the supplement from adult carcasses becomes important. The studies have not examined what happens when a stream receives more salmon carcasses than from the spawners, does it support resident species, which could be competitors or predators on the juvenile salmon, in greater abundance?

PERMIT

The first item is that the proposed permit does not meet the standards for an NPDES permit as specified in 40CFR122.45 (unfortunately, EPA did not take the opportunity to establish such effluent limits when 40CFR451 was issued):

Effluent limits are to be based upon production - the limits (such as they are) in the existing permit are strictly concentration based without reference to production, hatcheries are distinctly production units with straightforward production based performances, at least in principal.

Effluent limits are to be mass limits, except for parameters which cannot be expressed as masses (e.g., pH and temperature) - the only limits in the permit are concentrations and there is no flow limit; with the potential for flows in excess of the minimum required for providing oxygen to the fish (especially for gravity flow based operations), dilution will assist in meeting the effluent limits



"The lack of evidence is not evidence of lack" is a widely used phrase which describes well the situation with regard to hatcheries and water quality. The permit should require facilities which are discharging to impaired waters (or rivers and streams which include reaches characterized as impaired with regard to d.o. or pH) to characterize their effluent for nutrients and d.o. and the receiving water (WAC 173-221A allows for requiring facilities with limited dilution of their effluent to be required to characterize the receiving water and their potential impact).

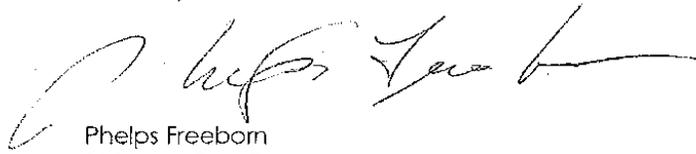
Permit conditions S3B and G plus S4A should be amended to require facilities which release cleaning wastes directly to the receiving water without passing through a settling basin, to sample that discharge directly (the limits in S3B should apply), not diluted with other effluent flows at the facility.

Discharges of cleaning wastes onto the ground or into unlined pits should be required to obtain explicit authorization from Ecology for that practice.

Permit S7D does not address the issue of using "mort pits", if any are still being used they should be prohibited due to the impact of decaying fish and the lime typically used to control odors and insects on groundwater.

Thank you for the opportunity to submit these comments.

Sincerely,



Phelps Freeborn
123 Lone Pine Road
Port Angeles, Washington 98363
(509) 454-0871





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
WATER AND
WATERSHEDS

October 19, 2015

Re: United States Environmental Protection Agency Comments on
Draft National Pollutant Discharge Elimination System (NPDES) Permit and Fact Sheet
Upland Fin-Fish Hatching & Rearing General Permit, Permit No. WAG13-xxxx

Dear Department of Ecology,

The U.S. Environmental Protection Agency reviewed the above-referenced draft National Pollutant Discharge Elimination System (NPDES) permit pursuant to the *NPDES Memorandum of Agreement between the Washington Department of Ecology and United States Environmental Protection Agency Region 10 (MOA)*¹ and the EPA's obligation to oversee implementation of the NPDES programs administered by delegated states. The EPA reviewed the draft permit for consistency with the Clean Water Act (CWA), NPDES implementing regulations, Department of Ecology's (Ecology) regulations, and permit writing guidance.

Ecology proposes to reissue the NPDES general permit for upland fin-fish hatching and rearing facilities. The permit will replace the permit that Ecology reissued on June 28, 2010, and that expired on August 1, 2015. In general, EPA commends Ecology on the proposed improvements to this permit. However, it is EPA's position that some of these improvements do not go far enough. Ecology should require additional record keeping in order to determine whether facilities are discharging disease treatment chemicals in concentrations that could have adverse environmental impacts. EPA also supports additional requirements for temperature and PCB monitoring.

Record Keeping Requirements for Aquaculture Drugs and Chemicals

In addition to the requirements on the Chemical Operational Log (Appendix E of the draft permit), Ecology should require facilities to maintain the following records for drug or chemical treatments expected to be discharged from permitted facilities:

1. Total quantity of formulated product per treatment,
2. Total quantity of formulated product used in the calendar year,
3. Number of treatments in the calendar year,
4. Maximum daily volume of treated water,
5. Minimum volume of total (treated + untreated) water discharged from the facility per day,
6. Target treatment concentration,
7. Whether the estimated concentration in the discharge reflects solution or active ingredient, and

¹ National Pollutant Discharge Elimination System - Memorandum of Agreement - Between the Washington Department of Ecology and United States Environmental Protection Agency Region 10, signed by EPA January 9, 1990. <<http://www.epa.gov/compliance/resources/policies/state/moa/wa-moa-npdes.pdf>>

8. The location of treatment in the facility (i.e., raceways, incubation building, ponds, etc.).

For all water-borne treatments (including, but not limited to formalin), Ecology should require permittees to maintain records that show how the maximum concentration of these chemicals in their effluent were calculated. Those records should be available to Ecology upon request. For instance, the permittee should specify whether the treatment is static bath or flow-through. For flow-through treatments, facilities should maintain records on the amount of chemical added initially, as well as the amount added during treatment and the desired concentration of solution or active ingredient in the effluent. Ecology has partially addressed this on page 25 of the draft permit, but should extend these requirements to all water-borne treatments, including formalin, Chloramine-T, hydrogen peroxide, potassium permanganate, and iodine.

Temperature Monitoring

Permittees that discharge to water bodies impaired for temperature should be required to monitor for temperature, and the EPA supports the addition of temperature monitoring to the proposed permit. However, the draft permit requirement for weekly grab sampling will provide data that are insufficient to assess compliance with the temperature water quality standards. Facilities that discharge to waters impaired for temperature should be required to monitor continuously for temperature. The data collected via continuous temperature monitoring may also be used for development of applicable TMDLs. Ecology should require permittees to 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.

PCBs

The EPA supports the PCB reduction activities and BMPs that Ecology has proposed in the draft permit. However, these activities and BMPs only apply to facilities that discharge to waters impaired for PCBs. All facilities covered by the permit should be required to implement procedures to reduce PCB releases from paint, caulk, and feed – whether or not they discharge to water bodies on the 303(d) list for PCBs.

In addition, Ecology should adhere to the EPA's Permitting Recommendations for the Spokane River Watershed, which the EPA compiled in response to the U.S. District Court order in *Sierra Club et al. v. McLerran*, No. 11-CV-1759-BJR.

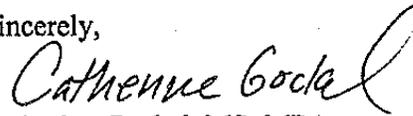
The EPA recommends the following for facilities in the Spokane River Watershed:

1. The permit should require monitoring of effluents for PCB congeners using EPA Method 1668C at a frequency adequate to assess sources of PCBs within the facility.
2. The permit should require reporting of the total concentration of "dioxin-like" PCB congeners on DMRs.
3. The permit should require the complete congener analysis to be submitted as an attachment to the DMR.
4. The permit should require that the facilities' pollution prevention plans or BMP plans address
 - a. PCBs from caulk, paint, and feed.
 - b. The permit should require removal of paint or caulk that contacts process water and that was applied prior to January 1, 1980.

- i. During removal, permittees should implement PCB abatement and disposal consistent with EPA guidance.
 - ii. Permits should require BMPs to prevent removed PCB-containing paint or caulk from reaching waters of the United States and to ensure that disposal of such materials is performed in compliance with applicable state, federal, and local laws.
5. The permit should require the permittee to use any available product testing data to preferentially purchase paint and caulk with the lowest practicable total PCB concentrations.

If you have any questions about this letter or related matters, you may contact me at (206) 553-0325 or gockel.catherine@epa.gov. The EPA thanks Lori LeVander for her diligent work on this permit.

Sincerely,



Catherine Gockel MS, MPA
Office of Water & Watersheds
EPA Region 10