FACT SHEET

UPLAND FIN–FISH HATCHING AND REARING NPDES GENERAL PERMIT

August 14, 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/discharge

[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

Pollutants of concern in hatchery and rearing pond wastewater are the waste food and feces. The 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.

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	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. For assistance with these calculations, Permittees may refer to the USFWS treatment calculator tool at:
http://www.fws.gov/fisheries/aadap/AFS-FCS%20documents/GUIDE_TRT_CALC_FEB_2011.xlsx

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 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.

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:

Rearing Pond Discharges	Limit
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
Off-line Settling Basin and Rearing Pond Drawdown for Fish Release Discharges	
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.

The draft permit continues the prohibition on the discharge of Atlantic salmon 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 dissolved oxygen. 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.

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.

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.

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.

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. The list is all comprehensive and has not been edited. There are 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.

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 PCP 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 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.

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.

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 BOD_5, 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 (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. For assistance with these calculations, Permittees may refer to the USFWS treatment calculator tool at: http://www.fws.gov/fisheries/aadap/AFS-FCS%20documents/GUIDE_TRT_CALC_FEB_2011.xlsx

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)

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. 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 (MDR). Anadromous salmon carcasses contribute MDR 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 exascerbating 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.

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

State of Washington, Department of Fisheries, Hatchery Division.
1979. Wood, James W., Diseases of Pacific Salmon Their Prevention and Treatment.

Washington State Department of Ecology (Ecology)

1989. Quality and Fate of Fish Hatchery Effluents During the Summer Low Flow Season. Publication No. 89-17.

2014, December 3. Industrial Stormwater General Permit.

2010, July 28. Upland Fin-fish Hatching and Rearing NPDES General Permit.

2015. *Permit Writer's Manual*. Publication Number 92-109. January 2015 revision.

Environmental Protection Agency (EPA)

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.

1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.

1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.

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.

2015, July 13. Lidgard, Michael J., USEPA Letter to Mr. Jim Bellatty, NPDES Permitting Recommendations for the Spokane River Watershed.

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.

JRB Associates.

1984. Development of effluent limitations for Idaho fish hatcheries. Report to U.S. Environmental Agency. JBL Associates, Bellevue, WA. 119+ pp.

Center for Veterinary Medicine. Progaram 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/PoliciesProceduresManual/UCM046931.pdf

Maule, et al, 2007. Chemical contaminants in fish feeds used in federal salmonid hatcheries in the USA. Chemosphere 67:1308-1315

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

The draft permit, fact sheet, and related documents are also available for inspection and copying between the hours of 8:00 am and 4:30 pm weekdays, by appointment, at any of 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 may comment on the draft permit and attend the public workshop and hearing. Ecology prefers comments be submitted by email to llev461@ecy.wa.gov . Written comments must be postmarked or received via email no later than October 5, 2015.
You should mail written comments to:

Lori LeVander, Water Quality Program
Department of Ecology
3190 – 160th Ave SE
Bellevue, WA 98008-5452
The email address for comments is:
llev461@ecy.wa.gov

Public Workshop/Hearing: The public workshop and hearing on the proposed permit will be held **on Monday, September 28, 2015. The purpose of the workshop is to explain** the general permit, answer questions, and facilitate meaningful testimony during the hearing. The purpose of the hearing is to provide interested parties an opportunity to give formal oral testimony and comments on the proposed general permit. Ecology will hold 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 will begin 2:00 PM. and conclude as soon as public testimony is 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 will consider 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.

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.

BOD_5--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 BOD_5 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--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 year. 40 CFR §122 Appx.C.

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.

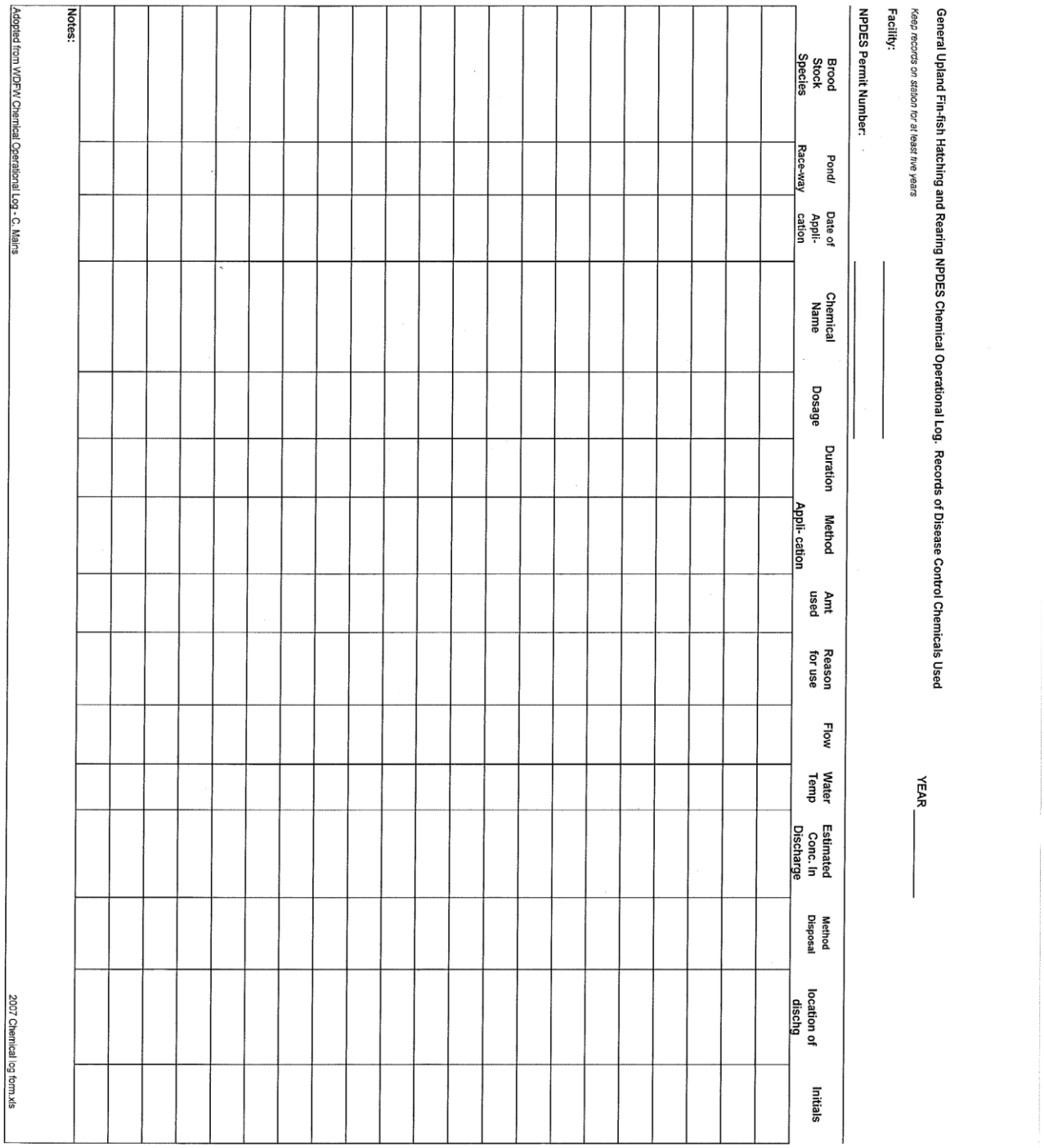
Water Quality Standards--means the water quality standards for ground waters of the state of Washington (Chapter 173-200 WAC), the water quality standards for surface waters of the state of Washington (Chapter 173-201A WAC), and the sediment management standards of the state of Washington (Chapter 173-204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

PERMIT #	FACILITY	FISH POUNDAGE-max month	RECEIVING WATER
WAG131024	MINTER CREEK HATCHERY	44,000	Minter Creek
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 HATCH*ERY*	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 D – CHEMICAL OPERATIONAL LOG



General Upland Fin-fish Hatching and Rearing NPDES Chemical Operational Log. Records of Disease Control Chemicals Used YEAR_____

Keep records on station for at least five years

Facility: _____

NPDES Permit Number: _____

Brood Stock Species	Pond/ Race-way	Date of Appli-cation	Chemical Name	Dosage	Duration	Method Appli- cation	Amt used	Reason for use	Flow	Water Temp	Estimated Conc. In Discharge	Method Disposal	location of dischg	Initials

Notes:

Adopted from WDFW Chemical Operational Log - C. Mains

2007 Chemical log form.xls

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
YAKAMA NATION PROSSER HATCHERY	WAG135017	Columbia River (Lake Pateros)	Dissolved Oxygen

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 hatchery 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 Lori LeVander, at 425-649-7039 or llev461@ecy.wa.gov.

Oral Commentors (Public Hearing September 28, 2015)

1. Name, organization

   Comment:

Written Commentors

Name and contact info

1. *Comment:*

   Response: