FACT SHEET

June 14, 2006

NPDES Permit Numbers: **IDG-130000**
IDG-131000
IDG-132000
ID-002826-6

Public Notice Start Date: June 19, 2006
Public Notice Expiration Date: August 3, 2006

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The United States Environmental Protection Agency (EPA)
Region 10

Proposes to Issue Three General Wastewater Discharge Permits,

Two of them for

Aquaculture Facilities in Idaho,

One of them for

Fish Processors associated with Aquaculture Facilities in Idaho

and an individual permit for

Epicenter Aquaculture

EPA Proposes NPDES Permit Reissuance

EPA proposes to issue three National Pollutant Discharge Elimination System (NPDES) general permits (GP) and one individual permit. One GP will cover rearing facilities discharging under wasteload allocations (WLAs); one will cover cold-water rearing facilities not subject to WLAs; and one will cover fish processors associated with rearing facilities. EPA will also issue an individual permit for the sole warm-water facility that is not subject to a WLA, Epicenter Aquaculture (ID002826-6).

These permits replace the one NPDES GP in 1999 which previously authorized discharges from most of the Idaho aquaculture facilities. These general permits also will cover facilities currently operating under individual permits, thereby terminating the authorization to discharge under the individual permits. The draft permits set conditions on the discharge of pollutants from these facilities to waters of the U.S. in Idaho. In order to ensure protection of water quality and human health, the permits place limits on the types and amounts of pollutants that can be discharged and impose other requirements to minimize the discharge of pollutants.

This Fact Sheet includes:

1. information on public comment, public hearing, and appeal procedures;
2. a general description of the current discharges;
3. a listing of proposed effluent limitations and other conditions;
4. background information supporting the conditions in the draft permit.

The State of Idaho Certification of the Permits

The Idaho Department of Environmental Quality (IDEQ) provided considerable input in the preparation of these permits. Before the permits are finalized, IDEQ will have the opportunity to certify (approve) the NPDES permits for Idaho aquaculture facilities and associated fish processors under provisions of Section 401 of the CWA, 33 U.S.C. § 1341. IDEQ may, as a condition of final certification, require that the proposed permits include more stringent limitations or monitoring requirements needed to comply with the CWA or State law. EPA is required to include any such limitation or requirement in the final permits.

Public Comments to EPA on the Draft Permits

If you wish to comment on the proposed requirements in the draft permits, you must do so before the end of the public comment period at the top of this notice. Comments will be most effective if they address specific permit requirements and include the justification for your recommendation. You must submit all comments to EPA as described in the Public Comments section of the attached public notice.

EPA will hold an open house and public meeting on Thursday, June 29, 2006, at 6:00 – 9:00 p.m. at

the Idaho Department of Health & Welfare Conference Room, 601 Pole Line Road, Twin Falls, Idaho. Additional information is provided in the attached public notice. If a public hearing is requested, it will take place at a date and location to be announced.

If you wish to request a public hearing, you must state the nature of the issues to be raised as they relate to the permits, as well as your name, address, e-mail address (if applicable), and telephone number. You must submit your request for public hearing to EPA as described in the Public Comments section of the attached public notice. In considering whether to request a public hearing, where oral comments are submitted, please note that written comments submitted during the public comment period carry the same weight as oral comments entered at a public hearing.

If comments are submitted, EPA will prepare a response to comments, and, if necessary, will make changes to the proposed permits. After making any necessary changes, EPA will issue the permits with a response to comments unless issuance of new proposed permits is warranted pursuant to 40 CFR §124.14. If no substantive comments are received during the public comment period, the proposed conditions in the draft permits will be included in the final permits.

The proposed general permits will become effective thirty (30) days after the publication of the final permits in the *Federal Register*, unless an appeal is filed in the United States Circuit Court of Appeals and the Court issues a stay, in accordance with Section 509(b)(1) of the Clean Water Act (CWA). If there are no substantive comments received regarding the individual permit for Epicenter Aquaculture, this permit will become effective upon issuance. Otherwise, it will become effective no less than 30 days after the issuance date, unless a timely review is initiated under 40 CFR §124.19.

You may appeal one or more of the general permits to the Federal Court of Appeals, in accordance with Section 509(b)(1) of the Clean Water Act and 40 CFR §23.2. You may challenge the Epicenter Aquaculture permit as provided in 40 CFR §124.19.

Documents are Available for Review

The draft permits and fact sheets are posted on the Region 10 website at http://yosemite.epa.gov/r10/WATER.NSF/NPDES+Permits/DraftPermitsID.

Copies may be requested by writing to EPA at the Seattle address below, by e-mailing washington.audrey@epa.gov, or by calling Audrey Washington at 206-553-0523 or (800) 424-4372 ext 0523 (within Alaska, Idaho, Oregon, & Washington). Copies may also be inspected and copied at the following federal and State offices any time between 8:30 a.m. and 4:00 P.M., Monday through Friday, except federal or State holidays.

U.S. Environmental Protection Agency Region 10
NPDES Permits Unit
1200 Sixth Avenue, OWW-130
Seattle, Washington 98101

U.S. Environmental Protection Agency Region 10
Idaho Operations Office
1435 North Orchard Street,
Boise, Idaho 83706
(208) 378-5746

Idaho Department of Environmental Quality
Twin Falls Regional Office
1363 Fillmore Avenue
Twin Falls, Idaho 83301
208-736-2190

Idaho Department of Environmental Quality
Pocatello Regional Office
444 Hospital Way, Suite 300
Pocatello, Idaho 83204
208-236-6160

Idaho Department of Environmental Quality
Coeur d'Alene Regional Office
2110 Ironwood Pkwy
Coeur d'Alene, Idaho 83814
208-769-1422

Twin Falls Public Library
201 4th Ave East
Twin Falls, ID 83301
208-733-2964

Buhl Public Library
215 Broadway North
Buhl, ID 83316
208-543-6500

Boise Public Library
715 S. Capitol Blvd.
Boise, ID 83702
208-384-4076

For technical questions regarding the permits or fact sheet, contact Carla Fromm or Sharon Wilson at the phone numbers or e-mail addresses at the top of this fact sheet. Those with impaired hearing or speech may contact a TDD operator at 1-800-833-6384 and ask to be connected to the appropriate phone number. Additional services can be made available to a person with disabilities by contacting Carla Fromm or Sharon Wilson.

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I. Facilities Covered By the Permits

A. Which Facilities Are Authorized to Discharge under these Permits?

EPA is proposing to issue two general NPDES permits (GPs) for aquaculture facilities, also known as concentrated aquatic animal production facilities (see 40 CFR §122.24 and §122 Appendix C). The first is for facilities with wasteload allocations (WLAs) (the "WLA Permit"); the second is for cold water facilities without WLAs (the "Cold Water Permit"). EPA proposes to issue a third GP for fish processing facilities associated with aquaculture facilities in Idaho (the "Fish Processor Permit"). In addition, EPA is proposing to issue an individual NPDES permit for Epicenter Aquaculture, a warm water aquaculture facility without a WLA.

Facilities believed to be eligible to be covered under the proposed general permits are listed in Appendix A of this fact sheet and in Appendix B of each permit. Additional facilities may apply for coverage under the Cold Water and Fish Processor Permits, as appropriate. Comments and corrections to the lists are invited during the public comment period.

The two aquaculture general permits will authorize discharges from facilities that grow, contain, or hold fish in earthen or concrete ponds, raceways and other similar structures. In order to be covered by these permits, an aquaculture facility must discharge pollutants to surface waters of the United States during at least thirty (30) days per year and must meet one of the following criteria for production or feeding:

- for cold water fish, the facility must produce 20,000 pounds or more of cold water fish per year and feed at least 5,000 pounds of food in any one calendar month;

or

- for warm water fish, the facility must produce more than 100,000 pounds of warm water fish per year.

In addition, if an aquaculture facility does not meet the above-stated criteria, EPA may require a facility to obtain permit coverage if EPA determines that the facility is a significant contributor of pollution to waters of the U.S. *See* 40 CFR §122.24. In making such a designation, the EPA will consider the following factors:

- location and quality of the receiving water;
- holding, feeding and production capacities of the facility;
- quantity and nature of the pollutants discharged; and
- other relevant factors, such as total maximum daily load (TMDL) determinations for the watershed and State of Idaho stipulations in its §401 certification of the permits (40 CFR §122.24(c)).

The Cold Water Permit only covers cold water aquaculture facilities that have not been assigned wasteload allocations. The WLA Permit covers both cold water and warm water aquaculture facilities that have been assigned wasteload allocations.

"New Sources" are defined as any facility that discharges pollutants where construction commenced after promulgation of effluent limitation guidelines (ELGs). See 40 C.F.R. §122.2. Thus, new aquaculture facilities that are constructed after September 22, 2004, and fish processing facilities added after December 1, 1975, that process catfish, are "new sources." See 40 CFR §122.29(b) and (c). Before EPA can issue an NPDES permit to an aquaculture facility that is a "new source", the agency must comply with the National Environmental Policy Act (NEPA). See 40 CFR §122.29(c).

In order for EPA to comply with NEPA, the new source facility must prepare and submit an Environmental Information Document (EID) to EPA. Using the EID, EPA will prepare an environmental assessment (EA). This assessment needs to evaluate the potential environmental effects of the new source discharge to the receiving environment, including an evaluation of compliance with any wasteload allocations provided by IDEQ. If a significant impact is identified, EPA must prepare an Environmental Impact Statement (EIS). If the EA does not identify any significant impacts in the EA, or if potential impacts could be minimized through mitigation measures, EPA will make a finding of no significant impact (FONSI) prior to issuing new source coverage under any of the permits. A FONSI will become effective only after the public has had notice of and an opportunity to comment on the FONSI, including either the accompanying EA or a summary of it, and the EPA has fully considered all public comments submitted, pursuant to 40 CFR §6.400(d). New sources may be required to apply for an individual permit.

B. Which Facilities Are Not Authorized to Discharge under these Permits?

None of these permits authorize discharges from facilities that produce less than 20,000 pounds of cold water fish per year and feed less than 5,000 pounds of food in the calendar month of maximum feeding, or that produce less than 100,000 pounds of warm water fish per year (unless such a facility has been designated a significant contributor of pollution by the EPA). The permits do not authorize discharges from holding facilities used solely for the acclimation of fish prior to release to a water body or those from facilities used solely for fee fishing, unless they meet the criteria above. The permits do not authorize discharges from cleaning facilities used by recreational fishermen.

II. Obtaining Coverage Under One Of The General Permits

Dischargers seeking coverage under a general NPDES permit must submit to EPA a written Notice of Intent (NOI) to be covered by the general NPDES permit. In accordance with 40 CFR §122.28(b)(2)(i), a discharger who fails to submit a timely and complete NOI in accordance with the terms of a general permit is not authorized to discharge under its terms, unless the Director notifies a discharger that it is covered by the general permit in accordance with 40 CFR §122.28(b)(2)(vi). A complete and timely submittal of a NOI fulfills the requirements for permit

applications in 40 CFR §§122.6, 122.21 and 122.26. EPA intends to cover under these permits facilities currently operating under individual permits, regardless of whether or not an NOI is submitted (pursuant to 40 CFR §122.28(b)(2)(vi)). The issuance of these permits to such facilities will terminate their authorization to discharge under the existing individual permits (pursuant to 40 CFR §§122.6).

Most permittees currently discharging under the 1999 permit submitted NOIs in 2004, and are not required to resubmit. Depending on the status of permittees or the facility, each proposed general permit sets forth deadlines for submitting an NOI: deadlines for existing permittees covered by individual NPDES permits, for new dischargers and, for permittees who wish to continue discharging beyond the proposed permits' expiration dates.

A. Notice of Intent (NOI) Requirements

The required contents of the NOI are specified in appendices of the general permits and include information necessary for EPA to adequately implement the NPDES program. The NOI must include the legal name and address of the owner and operator of a facility, the facility name, address and location, the nature and size of the facility, the nature and amount of production at the facility, the location, type and amounts of the effluent discharges, the name(s) of receiving stream(s), and information on any federal or state permits or licenses pertaining to the use of water or rearing of fish. All NOIs shall be signed by an authorized representative of the facility as defined in 40 CFR §122.22.

B. Requiring an Individual NPDES Permit

In accordance with 40 CFR §122.28(b)(3)(iii), any owner or operator authorized by a general permit may request to be excluded from the coverage of the general permit by applying for an individual NPDES permit. In such cases, the owner or operator must submit EPA Application Forms 1 and 2B, with justification supporting its request for an individual NPDES permit, to EPA Region 10 no later than 60 days after the publication of the general NPDES permit in the Federal Register. EPA will process the request in accordance with the procedures set forth in 40 CFR §124. EPA will issue an individual permit, if the reasons cited by the owner or operator are adequate to support the request, and if the application is deemed to be timely and complete.

EPA may elect to issue an individual permit instead of authorizing a facility to discharge under one of the general permits. EPA will require that such a discharger submit EPA Application Forms 1 and 2B. At this time, EPA proposes to issue an individual permit to a warm water facility (Epicenter Aquaculture) because the facility does not qualify to be covered under one of the general permits, i.e. it does not have a WLA, it is not a fish processing facility, and it is not a cold water aquaculture facility.

C. Termination of Permit Coverage

EPA may terminate coverage under an NPDES permit for the reasons, and using the procedures, provided in 40 CFR §122.64. These reasons include:

1. Noncompliance;
2. Failure to fully disclose all relevant facts;
3. Determination that the permitted activity endangers human health or the environment;
4. Change in a condition that requires reduction or elimination of any discharge or disposal practice.

Also, an aquaculture facility may request termination of the permit coverage by providing written notice to EPA within thirty (30) days of the cessation of discharges to waters of the U.S. or permanent change in operation of the facility that reduces production to below 20,000 pounds of fish or reduces the amount of feed to 5,000 pounds during a calendar month for cold water production or to below 100,000 pounds of fish per year for warm water production. In addition, authorization to discharge may be inactivated by providing written notice to EPA within thirty (30) days of a temporary cessation of discharges to waters of the U.S. or temporary change in operation of the facility that reduces production (or feed for cold water facilities) to below these levels. Copies of such notifications to EPA should also be submitted to the appropriate regional office of IDEQ.

III. Pollutants Covered by the Permits

A. Which Pollutants Are Limited by the Permits? The following pollutants, substances, or parameters are limited by the permits, as detailed below:

Aquaculture rearing facilities:

- Oxygen-demanding materials, measured as biochemical oxygen demand (BOD_5);
- Biological wastes (e.g., dead fish);
- Floating, suspended, or submerged matter of any kind;
- Nutrients, including phosphorus;
- Disinfectants, including chlorine;
- Disease control drugs, pesticides and other chemicals;
- Feed and nutritional supplements;
- Total suspended solids; and
- Toxic substances;

Processing facilities:

- Oxygen-demanding materials, measured as biochemical oxygen demand (BOD_5);
- Biological wastes (e.g., dead fish);
- Floating, suspended, or submerged matter of any kind;
- Nutrients, including phosphorus;
- Disinfectants, including chlorine;
- Oil and grease;

- pH; and
- Total suspended solids.

B. What Pollutants Are Not Allowed by the Permits?

The permits do not authorize the discharge of any effluents or pollutants which are not expressly authorized in the permits. Pollutants which are specifically prohibited include:

- Floating solids or visible foam;
- Hazardous materials;
- Sludge;
- Grit;
- Solid residues accumulating during aquaculture and fish processing operations;
- Untreated cleaning wastewater;
- Floating, suspended or submerged matter, including dead fish, in amounts causing nuisance or objectionable condition or that may impair designated beneficial uses in the receiving water;
- Toxic substances, including drugs, pesticides, or other chemicals, in concentrations that impair designated uses in the receiving water.

IV. Description of the Industry and Universe of Facilities

A. Aquaculture Rearing Facilities

1. Characteristics of Operations

As of October 2005, there were approximately 100 aquaculture facilities permitted under the NPDES program to discharge pollutants to waters of the U.S. in Idaho. Idaho aquaculture facilities include both cold water facilities, which raise trout, steelhead, salmon, and sturgeon, and warm water facilities, which raise catfish and tilapia.

The facilities consist of either a single rearing pond or a series of rearing ponds which are either earthen or concrete in construction. A series of ponds is called a raceway. (Some refer to a single rearing pond as a raceway.) Facilities are operated to rear fish on either a batch or continuous basis.

Table 1 shows the range in annual production among Idaho facilities.

Table 2 shows the wide range in discharge flows among Idaho facilities.

Additional information on the nature of the aquaculture industry is provided in *The Upper Snake Rock Watershed Management Plan* (IDEQ 1999), *The Middle Snake River Watershed Management Plan, Phase 1 TMDL, Total Phosphorus* (IDHW-DEQ 1997), and *Billingsley*

Creek TMDL (IDHW-DEQ 1992). These reports were generated when total maximum daily loads (TMDLs) were developed for the Upper Snake Rock and Billingsley Creek watersheds.

Table 1
Production Levels at Aquaculture Facilities

Fish Production	Per Cent of Facilities
> 1,000,000 pounds per year	15
500,000 – 1,000,000 pounds per year	5
100,000 – 500,000 pounds per year	39
20,000 – 100,000 pounds per year	41

Table 2
Discharge Flow of Aquaculture Facilities

Facility Flow	Per Cent of Facilities
> 100 cubic feet per second (CFS)	9
40 – 100 CFS	12
20 – 40 CFS	22
< 20 CFS	57

2. Discharge of Pollutants

   a. Pollutants of Concern

Discharges from aquaculture operations typically contain organic and inorganic solids, chemicals used to treat disease, and nutrients, all of which can impact water quality in the receiving stream. Solids in the discharge may be either soluble or insoluble. The majority of the solids result from fecal matter and waste food particles, with additional solids introduced by influent water in some cases. Associated with these solids are nutrients, such as phosphorus and nitrogen. Abundant nutrients foster excessive growth of aquatic plants and bacteria, which may lead to oxygen deficits in the receiving stream as organic matter builds up and then decays. The quantity of pollutants in discharges

range widely, largely because of the production and flow differences as well as differences in wastewater treatment facilities, with the facilities producing more fish per flow unit (cfs) usually producing more phosphorus.

Recent news reports have indicated that polychlorinated biphenyls (PCBs) have been traced to aquaculture facilities in Montana and Washington State[1]. In both cases, investigations revealed that the source was paint on raceways[2]. Others are investigating the role of PCBs in fish feed in contributing to added PCB loading in the environment.[3] Idaho Department of Fish and Game has found that a few of their facilities have painted surfaces that most likely contain PCBs. Based on inspector's observations, EPA believes that few, if any, commercial facilities in Idaho have painted rearing or hatch house ponds. Idaho fish feed manufacturers routinely test ingredients for PCBs and have never found them to be above detection levels of 100 µg/kg.

b. Control of discharge of pollutants

Aquaculturists have been aware of the deleterious effects of pollutants in the effluent at least since the beginning of the last century (Boyd, 1991). Pollution control by Idaho's aquaculture industry historically has included removal of solids from rearing pond water using settling basins and/or quiescent zones in the rearing ponds. Quiescent zones are set up within 10-20 feet of the effluent weir in each rearing pond to exclude resident fish (JRB, 1984). Solids settle out of the water column in these areas, allowing the facility to reduce levels to meet TSS limits on raceway discharges. Settled solids are removed either by mechanical or siphon vacuuming or by draining through opened standpipes in the quiescent zone. Collected solids are sent to off-line settling basins for further treatment. Improved feed conversions, feeds with lower levels of phosphorus, and improvements in the bio-availability of the phosphorus in feeds reduced phosphorus discharges by the industry during the 1990s.

B. Fish Processing Facilities

Several aquaculture facilities have fish processing facilities, which butcher fish for market. Production output of these facilities ranges from tens of thousands to millions of pounds of trout, catfish or tilapia per year. Pollutant discharges consist of rinse and wash-down water and entrained blood and gut remnants, oxygen-demanding materials which increase levels of biochemical oxygen demand (measured as BOD_5), total suspended solids (TSS), oil and grease, nutrients, including ammonia, and pH. Disinfectants (e.g., chlorine-containing products) also are used and discharged after volatilization and dilution in facility rearing, settling basin, or wastewater treatment unit water.

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[1] *The Seattle Times*, October 3, 2004, and May 10, 2005
[2] Letter from Robert E. Roberts, Regional Administrator, EPA Region 8, to Chris Hunter, Administrator, Fisheries Division, Montana Fish, Wildlife, & Parks, January 19, 2005.
[3] Dave Serdar, Washington Dept. of Ecology, May 13, 2005, *personal communication*.

C. Epicenter Aquaculture

Epicenter Aquaculture acquires source water from a canal which diverts water from a naturally hot water spring, the headwaters of Warm Springs Creek. Pollutants generated at the facility are the same as those described above for other rearing facilities, i.e. solids, nutrients, drug and other chemical residuals. The majority of the facility's effluent is discharged back into the canal (6 cfs), which joins another canal after water flows through a hydroelectric generator. All 13--16 cfs of canal water is used for irrigation in the Warm Spring Creek Valley from May through September or October. During those months, little, if any, water is left to flow into the Salmon River, approximately 15 miles downstream of Epicenter Aquaculture. During the rest of the year, all of the canal water, including the Epicenter discharge, reaches the Salmon River. The remaining effluent from the facility (1 cfs) flows into Warm Springs Creek to deliver a water right downstream. Warm Springs Creek has no defined streambed or channel within a mile of the Salmon River; therefore, it is unlikely that any facility discharge to Warm Springs Creek enters the Salmon River.

V. Permit History

The first NPDES permit issued to aquaculture facilities in Idaho became effective in May 1975. Subsequent permits were issued to the facilities in October 1984, October 1990, and September 1999.

A. Effluent limitations of the 1999 General Permit

The general permit for aquaculture facilities issued in 1999 contained technology-based limitations on total phosphorus, total suspended solids, and settleable solids; and water quality-based limitations on total phosphorus based on the WLAs assigned to the largest facilities discharging in the Upper Snake Rock watershed. Derivation of these limits was included in the fact sheet for that permit. The permit required that solids, sludge, filter backwash, and other pollutants removed in the treatment of wastewaters be disposed of in a manner so as to prevent any pollutant from such materials from entering the waters of the United States. The limits, disposal requirements, and discharge prohibitions collectively reduced discharges of oxygen-demanding materials, residual feed, and floating, suspended, and submerged matter, including dead fish. The water-quality based total phosphorus limits had a compliance deadline of September 10, 2004.

B. Monitoring history

Monitoring requirements of past NPDES permits issued to aquaculture facilities and fish processors have included effluent compliance monitoring and effluent characterization monitoring. Effluent compliance monitoring required sampling the discharge and analyzing for pollutant parameters which were limited in the permit: TSS, Total Phosphorus (TP), and settleable solids. Effluent characterization monitoring in the 1999 permit included analysis for

the following pollutant parameters to determine if they should be limited in subsequent permits: nitrogen parameters, temperature and dissolved oxygen.

The range of parameter values measured for the effluent characterization monitoring can be summarized as follows:

Table 3
Effluent Characterization Monitoring Results

Parameter	Range of Values	Average Value
Net Nitrate + nitrite nitrogen (mg/l)	-0.69 – 7.46	0.12
Net Total ammonia nitrogen (mg/l)	-0.20 – 1.25	0.18
Net Total Kjeldahl nitrogen (mg/l)	-2.29 – 12.15	0.44
Dissolved oxygen (mg/l)	3.90 – 14.20	7.7
Temperature (°Celsius) --Cold Water facilities --Warm water facilities	 5.3 – 23.1 21.0 – 29.4	 14.1 26.0

C. Compliance History

Compliance with the 1999 general permit has been very good generally. Effluent limits have been met 100 per cent of the time by about 90 per cent of the facilities. Between 2000 and 2002, the percentage of facilities exceeding the average monthly concentration limits for TSS was about 2 per cent and for TP about 6 per cent. During that same period, maximum daily concentration limits were exceeded for TSS and TP one per cent of the time.

Warm water facilities were covered for the first time under the 1999 permit. During 2000 – 2002, they were out of compliance with the average monthly TP limit 44 percent of the time and out of compliance with the maximum daily limit 14 percent of the time, with one facility (Catfish Farm) reporting 85 percent of the average monthly violations and all of the maximum daily ones. For TSS, the warm water facilities were out of compliance with the average monthly limit about 20 percent of the time and about 11 percent of the time with the maximum daily limit. The majority of the few facilities with multiple violations achieved compliance by using lower phosphorus feeds, adjusting feed rates, or applying best management practices (BMPs) to control discharge of solids. Some permittees have not complied with record keeping and reporting requirements. When EPA has sent warning letters, the permittees have generally rectified these violations.

VI. Proposed Effluent Limitations

A. General approach to determining effluent limitations

EPA followed the CWA, state and federal regulations, and EPA's 1991 *Technical Support Document for Water Quality-Based Toxics Control* (TSD) to develop the effluent limits in the draft permits. In general, the CWA requires that the effluent limit for a particular pollutant be the more stringent of either the technology-based limit or water quality-based limit.

EPA sets technology-based limits based on the effluent quality that is achievable using readily available technology. Then, the Agency evaluates the technology-based limits to determine whether they are adequate to ensure that water quality standards will be met in the receiving water. If the technology-based limits are not adequate to protect water quality, EPA must develop more stringent water quality-based limits. These are designed to prevent exceedances of the Idaho water quality standards in the receiving waters.

EPA may apply narrative prohibitions in addition to numeric limits. The following conditions included in the permits are derived from narrative Idaho state water quality standards and from requirements in the federal effluent guidelines for concentrated aquatic animal production facilities:

1. Discharges from aquaculture facilities must not cause or contribute to a violation of Idaho State Water Quality Standards.
2. The permittee must not discharge:

    a. Any floating solids or visible foam in other than trace amounts on the surface of the receiving water;

    b. Any hazardous materials;

    c. Any sludge, grit and accumulated solid residues;

    d. Any untreated cleaning wastewater (e.g., obtained from a vacuum or standpipe bottom drain system or rearing/holding unit disinfection); or

    e. Any floating, suspended or submerged matter, including dead fish, in amounts causing nuisance or objectionable condition or that may impair designated beneficial uses in the receiving water.

    f. Any toxic substances, including drugs, pesticides, or other chemicals, in concentrations that impair designated uses.

3. The following practices are prohibited:

   a. Practices (e.g., the removal of dam boards in raceways or ponds) which allow accumulated solids to be discharged to waters of the United States.

   b. Sweeping, raking, or otherwise intentionally discharging accumulated solids from raceways, ponds, or settling basins to waters of the United States.

   c. Containing, growing or holding fish within an offline or full-flow settling basin.

Some water bodies are not currently meeting the State's water quality standards. Under Section 303(d) of the CWA, states must identify and list those water bodies that do not meet or are not expected to meet water quality standards. Section 303(d) requires States to develop a TMDL management plan for impaired water bodies on the list. A TMDL is a mechanism for estimating the assimilative capacity of a water body and allocating that capacity between point and nonpoint pollution sources. The assimilative capacity is the loading of pollutant that a water body can receive without causing or contributing to a violation of water quality standards. The assimilative capacity is based on the river flow rate and the state water quality standards, and background conditions. The TMDL allocations for point sources are "wasteload allocations" (WLAs) and are implemented through limits incorporated in NPDES permits.

Table 4 lists the watersheds that receive discharges from aquaculture facilities for which TMDLs have been or are being developed.

Table 4
Applicable TMDLs Approved by EPA

River or Watershed	Number of Facilities	Pollutants	Date Approved by EPA
American Falls Reservoir	1	Phosphorus, nitrogen	pending
Bear River	3	Phosphorus, sediment	pending
Big Lost River	2	Sediment[1]	August 2004
Bruneau River	2	Phosphorus, sediment	March 2001
Lake Walcott	2	Phosphorus, sediment	June 2000
Portneuf River	2	Phosphorus, sediment, nitrogen	April 2001
Upper Snake Rock Watershed	71	Phosphorus, sediment	September 2005

See note on next page.

[1] Facilities must come into compliance as soon as possible, but no later than August 3, 2007.

B. Pollutant Trading Option

In the Upper Snake Rock Subbasin, also known more colloquially as the Mid-Snake, stakeholders, including aquaculture and fish processing facilities, municipalities, the State of Idaho, and EPA, have developed a trading scheme for buying and selling of total phosphorus credits among the dischargers. This scheme allows some dischargers to increase their average monthly discharge of total phosphorus above the average monthly limit in the permit. However, the overall effect of implementing the TMDL for total phosphorus is a net benefit because it reduces the loading of this pollutant to the watershed. Pollutant trading allows this to be accomplished more economically than might otherwise be the case.

The ability to participate in trading is limited by several factors, which are listed below. For a more detailed discussion, see §VII.F, below, and Appendix D.

1. A buyer must be downstream of the seller on the same stream.

2. Only average monthly discharges for total phosphorus are eligible to be modified by trades; maximum daily discharges are not.

3. A buyer cannot increase its average monthly discharge of total phosphorus above the applicable technology-based limit for its facility.

   a. For four rearing facilities (FBI Catfish Farm, College of Southern Idaho, Gary Wright Ponds, and Rainbow Trout Farms) and three fish processing facilities (Clear Lakes Trout, Clear Springs Foods, and SeaPac of Idaho) the average monthly limit has been set at the technology-based limit; therefore, these facilities will not be eligible to buy credits to increase their average monthly discharge above their average monthly limit in the permit.

   b. For all other facilities buying credits, the upper limit of the allowable average monthly discharge allowed by the buying of credits will be the technology-based limits listed in Table 5, below.

Table 5
Upper Limit
for Buyers of Total Phosphorus Credits

Type of Facility	Average Monthly Limitation
Cold Water Facility	0.10 mg/l
Warm Water Facility	0.20 mg/l
Rainbow Trout Fish Processing	2.7 lbs/day

C. Proposed Limits for Rearing Facilities

Each of the proposed permits have both technology-based limits and water quality-based prohibitions and/or limits. Appendix B describes in detail how the effluent limits were developed for each permit.

In September 2004, EPA promulgated final effluent limitation guidelines (ELGs) for cold water and warm water aquaculture facilities producing at least 100,000 lbs. of fish/year. The ELGs set forth practices that these facilities must implement. The 1999 permit included numeric technology-based limits for TSS and TP, based on BPJ, that were more stringent than the solids practices in the 2004 rule. EPA Region 10 has retained those more stringent requirements in the Cold Water Permit for all dischargers, and in the WLA Permit for OLSB discharges, as required by the anti-backsliding provision in CWA § 402(o). Where the practices in the 2004 rule do not correspond to a more stringent requirement in the 1999 permit, EPA Region 10 has incorporated them into these permits. For facilities that produce less than 100,000 lbs. of fish/year, using BPJ, EPA Region 10 is applying the same combination of requirements from the 1999 permit and the 2004 rule, in part, to maintain equity among the Idaho facilities and with facilities nationwide. Application of solids limits and the national ELGs will provide a significant measure of pollution prevention aimed at protecting endangered and threatened species and the aquatic environment across the state. Details about the ELGs are provided in Appendix B.

The proposed Cold Water Permit and the individual warm water permit for Epicenter Aquaculture include technology-based limits for TSS and TP and water quality-based prohibitions. The proposed WLA Permit includes water quality-based limits for TSS, and TP based upon the WLAs in the TMDL for the receiving waterbodies, with exceptions where the technology-based limits were more stringent, as well as the same water-quality based prohibitions and technology-based limits for pollutants not limited by WLAs. In addition, in the Portneuf, limits for total inorganic nitrogen (TIN) (total ammonia plus nitrate and nitrite) and in American Falls Reservoir, limits for total nitrogen (total Kjeldahl nitrogen plus nitrate and nitrite) are applied based on WLAs in the respective TMDLs. The proposed Fish Processor Permit includes technology-based limits for BOD_5, oil and grease, and pH, mostly technology-based limits for TSS and TP with exceptions where WLAs are lower, and water quality-based limits for total residual chlorine and prohibitions that are water-quality based. IDEQ is working on TMDLs in the Bruneau River, Lake Walcott, and Portneuf River watersheds; if IDEQ adopts and EPA approves the WLAs in these watersheds, they will be included as the average monthly limits (AMLs) in the WLA permit, if they are below the applicable technology-based limit (TBL).

For the Cold Water Permit, the 1999 permit effluent limits for the raceway and full-flow settling basins and for offline settling basin discharges were modified to reflect more current effluent quality data for the industry. The TSS limits in the 1999 permit produced an effluent quality that resulted in settleable solids concentration that was consistently much lower than the permit limits for settleable solids, usually at or below the detection level of 0.05 ml/L.

Therefore, EPA determined in its best professional judgment that the control technology in place at the facilities was providing a high level of removal for this pollutant and that a separate settleable solids limit was no longer necessary. The proposed effluent limits in the draft Cold Water Permit are provided in Tables 6 and 7. For comparison, the effluent limits in the 1999 permit are included also.

Three warm-water facilities (FBI Catfish Farm, First Ascent, and Canyon Springs) discharge at temperatures averaging 26 degrees Celsius into the Upper Snake Rock watershed in the vicinity of known populations of endangered or threatened snails, which require water temperatures no greater than 18 degrees Celsius to survive. Therefore, EPA is considering setting a temperature limit for these facilities. Alternatively, we may wait until IDEQ develops its temperature TMDL (by 2008), require the implementation of best management practices, require the conduct of temperature and/or snail studies, and/or require the reporting of technology alternatives for cooling the effluent. Any selected option would need the concurrence of the US Fish and Wildlife Service. EPA is inviting public comment and input of information including available technology to reduce the temperature of warm water discharges.

Two warm water facilities discharge to Jacks Creek in the Bruneau River watershed. These facilities utilize water from warm water wells drilled for supplying irrigation for farmers. Because the temperature of the water in the stream is elevated already and because the water used in the facility is cooled by evaporation and conductivity in the process, the facility is actually a heat sink and discharges cooler water than would otherwise be discharged to the stream for irrigation. Therefore, EPA is not proposing to limit temperature from these facilities. However, we are inviting comment on this issue and submittal of information regarding the technology available to reduce the temperature of the discharges.

For Epicenter Aquaculture, the lone warm-water facility with an individual permit, we determined that the previously applied technology-based effluent limits TSS and TP for warm-water raceway and full-flow settling basins were fully protective of the water quality in the receiving stream, Warm Springs Hydro Canal; therefore, those limits were proposed for this permit; they are provided in Table 8.

The limits in Table 9 are those proposed in the WLA permit for most of the facilities that are subject to WLAs in the Upper Snake Rock watershed. As explained in Appendix B, EPA determined that technology-based limits were more stringent than the WLAs for four of the aquaculture facilities and three of the fish processors in this watershed; therefore, those lower limits are footnoted in Table 8 and in the respective permits.

The proposed limits for those facilities with seasonally variable limits are listed in Table 10. For two of the facilities in this table, FBI Catfish Farm and Smith Farm Ponds, the State has informed EPA that the WLAs in the approved TMDL had some errors. We have used the

WLAs in the approved TMDL, but will change them in the final permit to those in parentheses, if the TMDL is corrected and approved by EPA before that time.

Table 11 lists limits for Billingsley Creek facilities, including tiered limits based on discharge flows. Permitted facilities in the Upper Snake Rock watershed may be eligible to trade phosphorus credits. See §VII.F, below, and Appendix D.

Table 12 lists limits for Bear River facilities based on 2006 proposed WLAs. Table 13 lists the limits for the Bruneau River facilities based on the approved 2001 TMDL; Table 14 lists those for the Big Lost River facilities based on the August 2004 TMDL. IDEQ provided a compliance period which allows the Big Lost River facilities until August 3, 2007, to come into compliance with the WLAs. In the meantime, EPA is proposing to apply technology-based limits for TSS. See Appendix D for interim requirements. Table 15 lists those for the Portneuf River facilities based on the proposed 2006 TMDL. Table 16 lists those for the American Falls Reservoir facility, based on the proposed 2006 TMDL. Table 17 lists those for the Fall Creek facilities, based on a proposed 2006 modification of the Lake Walcott TMDL.

1. Limitations on Raceway, Pond and Associated Full-flow Settling Basin Discharges from non-WLA permittees; see Table 6.

Table 6
Limitations on Raceway, Pond and Associated Full-flow Settling Basin Discharges
from non-WLA permittees

Parameter	Average Monthly		Maximum Daily	
	1999	**2005**	**1999**	**2005**
Settleable Solids	0.1 ml/L	no limit	0.2 ml/L	no limit
Net Total Suspended Solids (TSS)	5 mg/l	5 mg/l	10 mg/l	10 mg/l
Net Total Phosphorus (TP)	0.1 mg/l	0.1 mg/l	0.16 mg/l	0.16 mg/l

2. Limitations on **Offline Settling Basin Discharges** from all permittees; see Table 7.

Table 7
Limitations on Offline Settling Basin Discharges
from all permittees

Parameter	Average Monthly		Maximum Daily	
	1999	**2005**	**1999**	**2005**
Settleable Solids	0.7 ml/L (0.3 ml/L)[2]	None	1.0 ml/L (0.5 ml/L)[2] & ≥95% removal	None
Total Suspended Solids (TSS)	67 mg/l	67 mg/l	100 mg/l & ≥90% removal	100 mg/l & ≥90% removal

[2] Limit on settleable solids for facilities discharging to Billingsley Creek.

3. Effluent Limitations for **Epicenter Aquaculture**; see Table 8.

Table 8
Effluent Limitations for Epicenter Aquaculture

Parameter	Limitations (mg/l)	
	Average Monthly	**Maximum Daily**[3]
Net TSS	15	25
Net Total Phosphorus	0.20	0.32

[3] Reporting is required within 24 hours of violating a maximum daily limit; .see Part V.G.

4. Effluent Limitations for facilities in the **Upper Snake Rock Watershed**.

All of these limitations are based on 2005 wasteload allocations, which were reviewed in a public process and determined to comply with Idaho Water Quality Standards; see Table 9 and Appendix B.

Table 9
Effluent Limitations for Facilities in the Upper Snake Rock Watershed

Facility Name	Permit Number	Parameter	Limitations (lbs/day)	
			Average Monthly	Maximum Daily
Alpha Zeta	IDG130064	Net TP	4.8	7.1
		Net TSS	369.3	701.7
Bell Fish Pond	IDG130049	Net TP	1.2	1.8
		Net TSS	91.5	173.9
Big Bend Trout Farm	IDG130056	Net TP	13.6	20.1
		Net TSS	1045.5	1986.4
Billingsley Bay Farm	IDG130082	Net TP	11.0	16.3
		Net TSS	1277.3	2426.8
Birch Creek Trout	IDG130062	Net TP	4.3	6.4
		Net TSS	242.7	461.2
Blau Farm Pond	IDG130079	Net TP	1.3	1.9
		Net TSS	150.7	286.3
Blind Canyon Aqua Ranch (Ten Springs Hatchery)	IDG130061	Net TP	13.8	20.4
		Net TSS	842.0	1599.8
Blind Canyon Hatchery	IDG130060	Net TP	3.8	5.6
		Net TSS	218.1	414.4
Blue Lakes Trout Farm	IDG130008	Net TP	69.2	102.4
		Net TSS	4222.0	8021.8
Box Canyon Trout Farm	IDG130014	Net TP	141.0	208.7

Table 9
Effluent Limitations for Facilities in the Upper Snake Rock Watershed

Facility Name	Permit Number	Parameter	Limitations (lbs/day)	
			Average Monthly	Maximum Daily
Box Canyon Trout Farm *(cont.)*	IDG130014	Net TSS	8059.0	15,312.1
Briggs Creek Fish Hatchery (East)	IDG130088	Net TP	10.1	15.0
		Net TSS	615.0	1168.5
Briggs Creek West	IDG130054	Net TP	31.0	45.9
		Net TSS	1892.0	3594.8
Buck Eye Ponds	IDG130065	Net TP	7.5	11.1
		Net TSS	700.8	1331.6
Buhl Trout Rearing Facility (Fulmer Ponds)	IDG130080	Net TP	3.5	5.2
		Net TSS	266.8	507.0
C & M Fish Farm	IDG130097	Net TP	3.3	4.9
		Net TSS	374.8	712.1
C.J. Simms Ponds	IDG130087	Net TP	2.9	4.3
		Net TSS	172.6	327.9
CSI Fish Hatchery	IDG130124	Net TP	1.7[4]	2.5
		Net TSS	[5]	[5]
Canyon Springs	IDG130104	Net TP	12.1	25.6
		Net TSS	317.8	893.0
Canyon Trout Farm	IDG130036	Net TP	4.7	7.0
		Net TSS	245.5	466.4

Table 9
Effluent Limitations for Facilities in the Upper Snake Rock Watershed

Facility Name	Permit Number	Parameter	Limitations (lbs/day)	
			Average Monthly	Maximum Daily
Cedar Draw Hatchery	IDG130019	Net TP	5.7	8.4
		Net TSS	724.9	1377.4
Clear Lakes Trout Co. (Middle Hatchery & Processing)	IDG130011	Net TP	70.9	104.9
		Net TSS	4323.0	8213.7
Cox Farm Ponds	IDG130057	Net TP	6.6	9.8
		Net TSS	771.0	1464.8
Crystal Springs Trout Farm	IDG130006	Net TP	82.5	122.1
		Net TSS	5537.0	10,520.3
Daydream Ranch	IDG130084	Net TP	4.2	6.2
		Net TSS	320.5	609.0
Deadman Hatchery	IDG130091	Net TP	2.2	3.3
		Net TSS	253.2	481.0
Decker Springs Ponds	IDG130107	Net TP	2.5	3.7
		Net TSS	285.5	542.4
Deep Creek Ponds	IDG130077	Net TP	[5]	[5]
		Net TSS	674.0	1280.5
Dolana Farm Ponds	IDG130069	Net TP	1.8	2.7
		Net TSS	105.2	199.9
First Ascent Fish Farm (Don Campbell)	IDG130116	Net TP	7.2	15.3

Table 9
Effluent Limitations for Facilities in the Upper Snake Rock Watershed

Facility Name	Permit Number	Parameter	Limitations (lbs/day)	
			Average Monthly	Maximum Daily
First Ascent Fish Farm (Don Campbell) *(cont.)*	IDG130116	Net TSS	180.8	508.1
Fish Breeders of Idaho (Baker)	IDG130133	Net TP	[5]	[5]
		Net TSS	[5]	[5]
Fish Breeders of Idaho (Catfish Farm)	IDG130041	Net TP	12.2[4]	17.8
		Net TSS	[5]	[5]
Fish Breeders of Idaho (Henslee Hatchery)	IDG130111	Net TP	2.9	4.3
		Net TSS	220.8	419.6
Fleming Farm Ponds	IDG130105	Net TP	1.3	1.9
		Net TSS	145.8	276.9
Gary Wright Farm Ponds	IDG130100	Net TP	3.2[4]	4.8
		Net TSS	161.6	307.1
Greene's Trout Farm	IDG130027	Net TP	0.0	0.0
		Net TSS	0.0	0.0
Hagerman National Fish Hatchery (USFWS)	IDG130004	Net TP	[5]	[5]
		Net TSS	[5]	[5]
Hagerman State Fish Hatchery (IDFG)	IDG130003	Net TP	[5]	[5]
		Net TSS	[5]	[5]

Table 9
Effluent Limitations for Facilities in the Upper Snake Rock Watershed

Facility Name	Permit Number	Parameter	Limitations (lbs/day)	
			Average Monthly	Maximum Daily
Jack's Pond	IDG130053	Net TP	[5]	[5]
		Net TSS	778.6	1479.4
John Fleming Ponds (Bedrock Ranch)	IDG130119	Net TP	2.7	4.0
		Net TSS	150.7	286.3
Juker Farm Ponds	IDG130070	Net TP	1.3	1.9
		Net TSS	97.0	184.3
Lemmon Ponds	IDG130076	Net TP	1.9	2.8
		Net TSS	110.7	210.3
Leo Martins	IDG130115	Net TP	2.2	3.3
		Net TSS	250.4	475.8
Lively Farm Ponds	IDG130112	Net TP	1.7	2.5
		Net TSS	132.1	250.9
LynClif Farms (Fish Breeders of Idaho's Barret)	IDG130098	Net TP	3.8	5.6
		Net TSS	293.7	558.0
Magic Springs (Sea Pac of Idaho)	IDG130009	Net TP	50.1	74.1
		Net TSS	3053.7	5802.0
Magic Valley Steelhead Hatchery (IDFG)	IDG130016	Net TP	[5]	[5]
		Net TSS	[5]	[5]

Table 9
Effluent Limitations for Facilities in the Upper Snake Rock Watershed

Facility Name	Permit Number	Parameter	Limitations (lbs/day)	
			Average Monthly	Maximum Daily
Middle Hatchery (Clear Lake Farm)	IDG130007	Net TP	75.0	111.0
		Net TSS	5390.1	10,241.3
Niagara Springs Hatchery (IDFG & IPC)	IDG130013	Net TP	[5]	[5]
		Net TSS	[5]	[5]
Olson Ponds	IDG130059	Net TP	1.2	1.8
		Net TSS	91.5	173.9
Peter's Farm Pond (Kaufman Ponds)	IDG130047	Net TP	2.0	3.0
		Net TSS	199.5	379.0
Pristine Springs	IDG130018	Net TP	50.6 (cold water) 4.8 (warm water)	74.9 (cold water) 10.3 (warm water)
		Net TSS	3207.0	6093.3
RCP	IDG130109	Net TP	1.4	2.1
		Net TSS	75.6	143.7
Rainbow Trout Farms, Inc. (Buhl Hatchery)	IDG130029	Net TP	3.5[4]	5.2
		Net TSS	175.3	333.2
Rainbow Trout Farms, Inc. (Filer Hatchery)	IDG130028	Net TP	5.3	7.8
		Net TSS	304.7	578.8
Rim View Trout Co. Inc.	IDG130010	Net TP	62.1	91.9

Table 9
Effluent Limitations for Facilities in the Upper Snake Rock Watershed

Facility Name	Permit Number	Parameter	Limitations (lbs/day)	
			Average Monthly	Maximum Daily
Rim View Trout Co. Inc. *(cont.)*	IDG130010	Net TSS	3783.6	7188.8
Rocky Ridge Ranch (Snyder Ponds)	IDG130102	Net TP	0.8	1.2
		Net TSS	46.0	87.5
Seapac of Idaho	IDG130046	Net TP	3.7	5.5
		Net TSS	183.0	347.7
Slane Ponds	IDG130118	Net TP	1.9	2.8
		Net TSS	110.7	210.3
Smith Farm Ponds	IDG130090	Net TP	[5]	[5]
		Net TSS	[5]	[5]
Snake River Farm (Clear Springs)	IDG130002	Net TP	47.0	69.6
		Net TSS	2582.0	4905.8
Standal Ponds (White Water Falls)	IDG130117	Net TP	1.7	2.5
		Net TSS	129.3	245.7
Stevenson Ponds	IDG130120	Net TP	2.4	3.6
		Net TSS	137.5	261.3
Stutzman Farm Ponds	IDG130103	Net TP	0.6	0.9
		Net TSS	46.0	87.5
Tunnel Creek Fish Farm	IDG130040	Net TP	3.3	4.9

Table 9
Effluent Limitations for Facilities in the Upper Snake Rock Watershed

Facility Name	Permit Number	Parameter	Limitations (lbs/day)	
			Average Monthly	Maximum Daily
Tunnel Creek Fish Farm *(cont.)*	IDG130040	Net TSS	250.4	475.8
White Springs Trout Farm	IDG130020	Net TP	13.5	20.0
		Net TSS	823.0	1563.7
White Water Ranch	IDG130026	Net TP	4.3	6.4
		Net TSS	247.7	470.6
White's Hatchery	IDG130063	Net TP	1.6	2.4
		Net TSS	88.8	168.7
Wood Farm Ponds	IDG130106	Net TP	3.5	5.2
		Net TSS	269.6	512.2

[4] This facility has a technology-based average monthly limit and therefore cannot increase its average monthly discharge above that limit by buying pollutant credits.
[5] See Table 9 for limits with seasonal variations based on 2005 WLAs.

5. Seasonal Effluent Limitations in the **Upper Snake Rock Watershed**

Wasteload allocations in the Upper Snake Rock Watershed TMDL vary according to the time of year for some facilities. Within each period, the corresponding limits apply to the discharge; see Table 10.

Table 10
Seasonal Effluent Limitations
in the Upper Snake Rock Watershed

Facility Name	Permit Number	Season	Limitations (lbs/day)			
			Net Total Suspended Solids		Net Total Phosphorus	
			Average Monthly	Maximum Daily	Average Monthly	Maximum Daily
CSI Fish Hatchery	IDG130124	Nov. – Feb.	83.3	158.2	1.7	2.5
		Mar. – Jun.	66.8	127.0	1.7	2.5
		Jul – Oct.	99.7	189.5	1.7	2.5
Deep Creek Ponds	IDG130077	Dec. – May.	674.0	1280.5	11.0	16.3
		Jun. - Nov.	674.0	1280.5	1.2	1.8
Fish Breeders of Idaho (Baker)	IDG130133	Dec. - Feb.	246.0	467.5	4.0	5.9
		Mar. -- May	219.2	416.4	3.8	5.6
		Jun. - Aug.	320.0	608.0	5.3	7.8
		Sep. - Nov.	293.2	557.0	5.3	7.8
FBI (Catfish Farm)	IDG130041	Dec. - Feb.	334.8	940.8	12.2	17.8
		Mar. -- May	334.8 (274.0)[6]	940.8 (769.9)	12.2	17.8
		Jun. - Aug.	274.0	769.9	12.2	17.8
		Sep. - Nov.	274.0 (334.8)	769.9 (940.8)	12.2	17.8
Hagerman Natl. (USFWS)	IDG130004	Jan. – Apr.	2068.2	3929.5	17.8	26.3
		May – Aug.	697.4	1325.1	6.0	8.9
		Sep. – Dec.	1487.0	2825.3	12.8	18.9
Hagerman State (IDFG)	IDG130003	Jan. – Jun.	3207.1	6093.5	23.1	34.2
		Jul. - Dec.	1568.8	2980.7	11.3	16.7
Jacks Pond	IDG130053	Dec. - Feb.	778.6	1479.4	4.2	6.2
		Mar. -- May	778.6	1479.4	9.3	13.8
		Jun. - Aug.	778.6	1479.4	9.0	13.3
		Sep. - Nov.	778.6	1479.4	4.3	6.4

Table 10
Seasonal Effluent Limitations
in the Upper Snake Rock Watershed

Facility Name	Permit Number	Season	Limitations (lbs/day)			
			Net Total Suspended Solids		Net Total Phosphorus	
			Average Monthly	Maximum Daily	Average Monthly	Maximum Daily
Magic Valley Steelhead Hatchery (IDFG)	IDG130016	Jan. – Apr.	2712.3	5153.4	21.7	32.1
		May – Aug.	962.2	1828.2	7.7	11.4
		Sep. – Dec.	2024.7	3846.8	16.2	24.0
Niagara Springs Hatchery (IDFG & IPC)	IDG130013	Jan. – Apr.	2980.8	5663.6	22.0	32.6
		May – Aug.	853.7	1622.0	6.3	9.3
		Sep. – Dec.	2019.2	3836.4	14.9	22.0
Smith Farm Ponds	IDG130090	Dec. - Feb.	454.2	863.1	7.8	11.5
		Mar. -- May	454.2 (274.0)[7]	863.1 (520.5)	5.0	7.4
		Jun. - Aug.	274.0	520.5	5.0	7.4
		Sep. - Nov.	274.0 (454.2)	520.5 (863.1)	7.0	10.4

[6] Loads in parentheses will be included in the final permit **if** the TMDL is modified to include these loads and approved by EPA.

6. Effluent Limitations for the **Billingsley Creek Watershed**

Wasteload allocations in the Billingsley Creek TMDL vary according to the rate of effluent flow from the facility. Within each range of flows, the corresponding limits apply to the discharge; see Table 11.

Table 11
Effluent Limitations for Billingsley Creek Facilities

Facility Name	Permit Number	Parameter	Flow (cfs)	Limitations (lbs/day)[7]	
				Average Monthly	Maximum Daily
Billingsley Creek Ranch	IDG130066	Net TP	0-4.9	1.6	2.3
			5.0-9.7	3.1	4.6
		Net TSS	0-4.9	130.7	248.3
			5.0-9.7	261.4	496.7
Boyer Fish Farm	IDG130096	Net TP	0-2.9	0.7	1.0
			3.0-5.8	1.3	2.0
			5.9-8.6	2.0	3.0
		Net TSS	0-2.9	77.5	147.2
			3.0-5.8	155.0	294.4
			5.9-8.6	232.4	441.6
Emerald Valley	IDG130132	Net TP	0-4.9	1.1	1.7
			5.0-9.7	2.3	3.3
		Net TSS	0-4.9	131.2	249.3
			5.0-9.7	262.6	499.0
Fisheries Development Corp.	IDG130017	Net TP	0-7.1	2.5	3.7
			7.2-17.7	6.2	9.2
			17.8-35.4	12.4	18.4
			35.5-53.2	18.6	27.6
			53.3-70.9	24.8	36.8

Table 11
Effluent Limitations for Billingsley Creek Facilities

Facility Name	Permit Number	Parameter	Flow (cfs)	Limitations (lbs/day)[7]	
				Average Monthly	Maximum Daily
Fisheries Development Corp. *(cont.)*	IDG130017	Net TP	71.0-88.6	31.0	46.0
			88.7-106.4	37.3	55.1
		Net TSS	0-7.1	191.1	363.0
			7.2-17.7	477.7	907.6
			17.8-35.4	955.4	1815.3
			35.5-53.2	1433.0	2722.8
			53.3-70.9	1910.7	3630.4
			71.0-88.6	2388.4	4538.0
			88.7-106.4	2866.1	5445.7
Hidden Springs Farm Pond	IDG130048	Net TP	0-4.7	1.5	2.2
			4.8-9.4	3.0	4.5
			9.5-18.7	6.1	9.0
			18.8-28.1	9.1	13.4
		Net TSS	0-4.7	126.2	239.9
			4.8-9.4	252.5	479.8
			9.5-18.7	505.0	959.6
			18.8-28.1	757.6	1439.4
Idaho Springs	IDG130001	Net TP	0-9.3	2.5	3.7
			9.4-23.2	6.3	9.3
			23.3-46.4	12.5	18.5

Table 11
Effluent Limitations for Billingsley Creek Facilities

Facility Name	Permit Number	Parameter	Flow (cfs)	Limitations (lbs/day)[7]	
				Average Monthly	Maximum Daily
Idaho Springs *(cont.)*	IDG130001	Net TP	46.5-69.6	18.8	27.8
			69.7-92.8	25.0	37.0
			92.9-116.1	31.3	46.3
			116.2-139.3	37.5	55.5
			139.4-162.5	43.8	64.8
		Net TSS	0-9.3	250.2	475.5
			9.4-23.2	625.6	1188.6
			23.3-46.4	1251.2	2377.2
			46.5-69.6	1876.7	3565.8
			69.7-92.8	2502.3	4754.4
			92.9-116.1	3127.9	5943.0
			116.2-139.3	3753.5	7131.6
			139.4-162.5	4379.0	8320.1
Johnson Fish Hatchery	IDG130130	Net TP	0-4.2	1.0	1.4
			4.2-8.3	1.9	2.9
		Net TSS	0-4.2	112.3	213.3
			4.2-8.3	224.5	426.5
Jones Fish Hatchery	IDG130005	Net TP	0-8.8	4.3	6.3
			8.9-17.7	8.6	12.7
			17.8-26.5	12.8	19.0

Table 11
Effluent Limitations for Billingsley Creek Facilities

Facility Name	Permit Number	Parameter	Flow (cfs)	Limitations (lbs/day)[7]	
				Average Monthly	Maximum Daily
Jones Fish Hatchery *(cont.)*	IDG130005	Net TP	26.6-35.3	17.1	25.4
			35.4-44.1	21.4	31.7
			44.2-53.0	25.7	38.0
			53.1-61.8	30.0	44.4
			61.9-70.6	34.3	50.7
		Net TSS	0-8.8	238.0	452.1
			8.9-17.7	475.9	904.3
			17.8-26.5	713.9	1356.4
			26.6-35.3	951.9	1808.6
			35.4-44.1	1189.9	2260.7
			44.2-53.0	1427.8	2712.9
			53.1-61.8	1665.8	3164.9
			61.9-70.6	1903.7	3617.1
Rangen Aquaculture Research	IDG130015	Net TP	0-8.8	3.4	5.1
			8.9-17.7	6.8	10.1
			17.8-26.5	10.3	15.2
			26.6-35.3	13.7	20.3
			35.4-44.2	17.1	25.4
			44.3-53.0	20.6	30.4
			53.1-61.8	24.0	35.5

Table 11
Effluent Limitations for Billingsley Creek Facilities

Facility Name	Permit Number	Parameter	Flow (cfs)	Limitations (lbs/day)[7]	
				Average Monthly	Maximum Daily
Rangen Aquaculture Research *(cont.)*	IDG130015	Net TP	61.9-70.6	27.4	40.6
			70.7-79.5	30.8	45.6
			79.6-88.3	34.3	50.7
		Net TSS	0-8.8	238.0	452.1
			8.9-17.7	475.9	904.3
			17.8-26.5	713.9	1356.4
			26.6-35.3	951.9	1808.6
			35.4-44.2	1189.9	2260.7
			44.3-53.0	1427.8	2712.9
			53.1-61.8	1665.8	3164.9
			61.9-70.6	1903.7	3617.1
			70.7-79.5	2141.7	4069.2
			79.6-88.3	2379.7	4521.4
Spring Creek Springs	IDG130050	Net TP	0-4.7	1.5	2.2
			4.8-9.5	3.0	4.4
		Net TSS	0-4.7	127.7	242.7
			4.8-9.5	255.5	485.5
Talbott Trout Farm	IDG130083	Net TP	0-5.2	1.2	1.8
			5.3-10.3	2.4	3.5
			10.4-15.4	3.6	5.3

Table 11
Effluent Limitations for Billingsley Creek Facilities

Facility Name	Permit Number	Parameter	Flow (cfs)	Limitations (lbs/day)[7]	
				Average Monthly	Maximum Daily
Talbott Trout Farm *(cont.)*	IDG130083	Net TP	15.5-20.6	4.8	7.1
		Net TSS	0-5.2	138.8	263.7
			5.3-10.3	277.6	527.4
			10.4-15.4	416.4	791.1
			15.5-20.6	555.2	1054.8
Tupper Springs	IDG130131	Net TP	0-3.3	0.8	1.2
			3.4-6.7	1.6	2.4
		Net TSS	0-3.3	89.9	170.7
			3.4-6.7	179.8	341.6

[7] A flow measurement must be taken each time a sample for pollutant analysis is taken; the pollutant limitations that apply to the sample are determined by the flow measured concurrently

7. Effluent Limitations for **Bear River Facilities**; see Table 12.

These limits are based on WLAs proposed in the 2005 Bear River TMDL, which vary by the season for TP; if the TMDL is not approved by EPA before the permits are finalized, these facilities will be covered under the Cold Water Permit.

Table 12
Effluent Limitations for Bear River Facilities

Facility Name	Permit Number	Season	Limitations (lbs/day)			
			Net Total Suspended Solids		Net Total Phosphorus	
			Average Monthly	Maximum Daily	Average Monthly	Maximum Daily
Bear River Trout Farm	IDG130113	Jan.–Mar.	539.0	1024.1	5.4	8.0
		Apr.—Jun.	539.0	1024.1	8.0	11.8
		Jul.—Sep.	539.0	1024.1	3.6	5.3
		Oct.—Dec.	539.0	1024.1	3.6	5.3
Grace Fish Hatchery	IDG130035	Jan.–Mar.	425.8	809.0	1.3	1.9
		Apr.—Jun.	425.8	809.0	1.0	1.5
		Jul.—Sep.	425.8	809.0	0.5	0.7
		Oct.—Dec.	425.8	809.0	0.5	0.7
Soda Springs Brood Station (Clear Springs Foods)	IDG130034	Jan.–Mar.	475.8	904.0	4.6	6.8
		Apr.—Jun.	475.8	904.0	2.0	3.0
		Jul.—Sep.	475.8	904.0	2.0	3.0
		Oct.—Dec.	475.8	904.0	4.6	6.8

8. Effluent Limitations for **Bruneau River Facilities;** see Table 13

The limits for these warm water facilities are based on WLAs under the currently applicable TMDL, which was approved by EPA in 2001; only TP WLAs were included in that TMDL; the TSS limits, identical to those in the Epicenter Aquaculture Permit, the sole warm water facility without WLAs, are also applied. If revised WLAs are adopted by IDEQ and approved by EPA before these permits are finalized, if those WLAs are below the applicable TBLs, they will be applied in the permit. For details on the WLAs, watch for IDEQ's upcoming public notice on the Bruneau River TMDL. See Appendix B for details of deriving the MDL from the WLA.

Table 13
Effluent Limitations for Bruneau River Facilities

Facility Name	Permit Number	Parameter	Average Monthly Limit	Maximum Daily Limit
ACE Development USA	IDG130123	Net TP	0.27 lbs/day	0.57 lbs/day
		Net TSS	15 mg/l	25 mg/l
Arraina	IDG130122	Net TP	0.31	0.66
		Net TSS	15 mg/l	25 mg/l

9. Effluent Limitations for **Big Lost River Facilities**; see Table 14.

Wasteload allocations for the Big Lost River facilities were expressed by IDEQ as concentration limits (mg/l); therefore, we are applying concentration limits in the permit. In the absence of a WLA for TP, we are applying the performance-based technology limit for cold water facilities. Compliance with the final limits is required by August 3, 2007; see the schedule in Appendix D of the WLA permit for additional requirements.

Table 14
Effluent Limitations for Big Lost River Facilities

Facility Name	Permit Number	Parameter	Limitations (mg/l)	
			Average Monthly	Maximum Daily
Lost River Trout Hatchery	IDG13073	Net TP	0.10	0.16
		Interim Net TSS	5.0	10.0
		Final Net TSS[8] (Except during pond cleaning)	2.0 [9]	2.0
		Final Net TSS[7] (during pond cleaning)	--	5.0
		Final Settleable solids[7]	2.0 ml/L[8]	--

Table 14
Effluent Limitations for Big Lost River Facilities

Facility Name	Permit Number	Parameter	Limitations (mg/l)	
			Average Monthly	Maximum Daily
Lost River Trout Hatchery *(cont.)*	IDG13073	Final Temperature[7] (7/1-9/14 & 11/16—2/29)[10]	19° C [8, 11]	22° C [10,12]
		Final Temperature[7] (3/1-6/30 & 9/15—11/15)[9]	9° C [8,10]	13° C [10,11]
Mackay Fish Hatchery	IDG13030	Net TP	0.10	0.16
		Interim Net TSS	5.0	10.0
		Final Net TSS[7] (Except during pond cleaning)	2.0 [8]	2.0
		Final Net TSS[7] (during pond cleaning)	--	5.0
		Final Settleable solids[7]	2.0 ml/L [8]	--
		Final Temperature[7] (7/1─9/14 & 11/16─2/29) [9]	19° C [8]	22° C [10,11]
		Final Temperature[7] (3/1─6/30 & 9/15─11/15) [9]	9° C [8]	13° C [10,11]

[8] Compliance with final limits is required by August 3, 2007; see Compliance Schedule in Appendix D of the WLA permit for additional requirements.
[9] Daily average limit
[10] Dates when these limits apply
[11] Reporting is required within 24 hours of violating a average daily limit or an instantaneous maximum temperature limit.
[12] Instantaneous limit

10. Effluent Limitations for **Portneuf River Facilities**; see Table 15.

If revised WLAs are adopted by IDEQ and approved by EPA before the permits are finalized and if those WLAs are below the applicable TBLs, they will be applied in the permit. For details on revised or additional WLAs, watch for IDEQ's upcoming public notice on the Portneuf River TMDL. See Appendix B for details of deriving the MDL from the WLA.

a. Batise Springs Trout Farm.

The TP and TSS limits are based on WLAs approved in 2001. The TSS WLAs for Batise Springs (5 mg/l, monthly average, and 10 mg/l, daily maximum) were converted to mass limits using the average flow reported to EPA between August 2000 and August 2003: 30.8 cubic feet per second. The Total Inorganic Nitrogen limits are technology-based limits, calculated from data submitted by the facility.

b. Papoose Springs Trout Ranch.

IDEQ has not proposed WLAs for Papoose Springs Trout Ranch; this facility will be covered under the WLA permit only if WLAs are adopted by IDEQ and approved by EPA before these permits are finalized. For details on these WLAs, watch for IDEQ's upcoming public notice.

Table 15
Effluent Limitations for Portneuf River Facilities

Facility Name	Permit Number	Parameter	Average Monthly (lbs/day)	Maximum Daily (lbs/day)
Batise Springs Trout Farm	IDG130043	Net TP	8.4	12.4
		Net TSS	838.0	1592.2
		Net TIN	35.3	74.5
Papoose Springs Trout Ranch	IDG130022	Net TP		
		Net TSS		
		Net TIN		

11. Effluent Limitations for one **American Falls Reservoir facility**; see Table 16.

These limits are based on WLAs proposed in the 2006 American Falls Reservoir TMDL; if the TMDL is not approved by EPA before the permits are finalized, this facility will be covered under the Cold Water Permit.

Table 16
Effluent Limitations for the American Falls Reservoir Facility

Facility Name	Permit Number	Parameter	Average Monthly (lbs/day)	Maximum Daily (lbs/day)
Crystal Springs Trout Farm	IDG130038	Net TSS	334.8	636.1
		Net TP	6.6	9.7
		Net Total Nitrogen[13]	36.9	61.5

[13] Total Kjeldahl nitrogen plus nitrate and nitrite.

12. Effluent limitations for **Lake Walcott** facilities; see Table 17.

IDEQ has not proposed WLAs for these facilities; they will be covered under the WLA permit only if WLAs are adopted by IDEQ and approved by EPA before these permits are finalized. For further information, watch for IDEQ's upcoming public notice on the Lake Walcott TMDL.

Table 17
Effluent Limitations for Lake Walcott Facilities

Facility Name	Permit Number	Parameter	Average Monthly (lbs/day)	Maximum Daily (lbs/day)
Fall Creek Hatchery--Upper	IDG130078	Net TP		
		Net TSS		
Fall Creek Hatchery--Lower	IDG130085	Net TP		
		Net TSS		
American Falls Fish Hatchery	IDG130031	Net TP		
		Net TSS		

C. Limits for Fish Processing Facilities

1. Limits in 1999 General Permit

Production-based limits (lbs of pollutant/1000 lbs of fish produced) for BOD_5, TSS, and oil and grease were applied to fish processing discharges in the 1999 permit and are used in the proposed permit to calculate a mass-based limit (lbs/day) for each processor. Table 18 lists the 1999 limits, including the pH limits and the concentration-based total residual chlorine (TRC) limits, which applied only when the facility was using chlorine disinfection.

Table 18
1999 Production-based Limitations on Fish Processing Discharges

Parameter	Average Monthly	Maximum Daily[14]
Biochemical oxygen demand (BOD_5), *lbs/1000 lbs produced*	1.88	3.76
Total suspended solids (TSS), *lbs/1000 lbs produced*	1.88	3.76
Oil and grease, *lbs/1000 lbs produced*	1.0	2.0
pH, *s.u.*	None	6.5 -- 9.0
Total residual chlorine[15] (TRC), *µg/l*	11	19

[14] Reporting is required within 24 hours of violating a maximum daily limit.
[15] Limits apply only when chlorine disinfection is in use.

2. Proposed Limits

Using the long-term average production rate for each of the fish processors over the last permit cycle and the production based limits in Table 18, EPA has developed technology-based-mass limits (lbs. of pollutant/day) for BOD_5, TSS, and oil and grease for each discharger; mass limits for TP were also developed using the state's WLA. When the technology-based limits for TSS were compared with the water-quality-based limits derived from the WLA, EPA found the technology-based limits to be lower in all but one case. Those comparisons are shown in Table B-9 in Appendix B. Details of the derivation of the limits are shown in Appendix B. The chosen limits shown in Table 19, below.

Table 19
Proposed Effluent Limitations for Fish Processors

Facility Name	Permit Number	Parameter	Limitations	
			Average Monthly	Maximum Daily
Clear Lakes Trout Co. (Middle Hatchery & Processing)	IDG130011	BOD_5 *(lbs/day)*	27.2	54.4
		TSS *(lbs/day)*	27.2	54.4
		TP *(lbs/day)*	2.1	6.1
		Oil & Grease *(lbs/day)*	14.5	29.0
		Total Residual Chlorine *(mg/l)*	0.011	0.019 [16]
		pH (*s.u)*	--	6.5 – 9.0
Clear Springs Food Processing	IDG130125	BOD_5 *(lbs/day)*	180.5	361.0
		TSS *(lbs/day)*	150.0	361.0
		TP *(lbs/day)*	11.8	21.5
		Oil & Grease *(lbs/day)*	96.0	192.0
		Total Residual Chlorine *(mg/l)*	0.011	0.019 [16]
		pH (*s.u)*	--	6.5 – 9.0
Rainbow Trout Farms/Cedar Draw	IDG130028	BOD_5 *(lbs/day)*	20.3	40.6
		TSS *(lbs/day)*	20.3	40.6
		TP *(lbs/day)*	2.5	5.0
		Oil & Grease *(lbs/day)*	10.8	21.6
		Total Residual Chlorine *(mg/l)*	0.011	0.019 [16]

Table 19
Proposed Effluent Limitations for Fish Processors

Facility Name	Permit Number	Parameter	Limitations	
			Average Monthly	Maximum Daily
Rainbow Trout Farms/Cedar Draw *(cont.)*		pH (*s.u)*	--	6.5 – 9.0
SeaPac of Idaho	IDG130046	BOD_5 *(lbs/day)*	44.0	88.0
		TSS *(lbs/day)*	44.0	88.0
		TP *(lbs/day)*	4.5	12.7
		Oil & Grease *(lbs/day)*	23.4	46.8
		Total Residual Chlorine *(mg/l)*	0.011	0.019 [16]
		pH (*s.u)*	--	6.5 – 9.0

[16] Reporting is required within 24 hours of violating a maximum daily limit.

VII. What Monitoring And Reporting Is Required?

Section 308 of the Clean Water Act and federal regulation 40 CFR §122.44(i) require that monitoring be included in permits to determine compliance with effluent limitations. Monitoring may also be required to gather data to assess the need for future effluent limitations or to monitor effluent impacts on receiving water quality. Permittees are responsible for conducting the monitoring and reporting the results to EPA and IDEQ on monthly Discharge Monitoring Reports (DMRs) and in annual reports.

A. Approved Methods and Required Method Detection Limits

The permittee must use EPA approved methods that achieve at least the method detection limits (MDLs) in Table 20. The permittee may request different MDLs if its results have consistently been above the required MDLs. Such a request must be in writing and must be approved by EPA before the permittee may use the revised MDLs.

Table 20
Method Detection Limits

Parameter	Method Detection Limit (MDL)
Phosphorus	0.005 mg/l
Total Suspended Solids	2 mg/l
Ammonia Nitrogen as N	0.01 mg/l
Nitrate	0.1 mg/l
Nitrite	0.01 mg/l
Total Kjeldahl Nitrogen (TKN)	0.03 mg/l
pH	0.1 S.U.
Temperature	0.1 ^{o}C
Aroclor (PCB)	33 μg/kg (dry weight)
Total Copper	0.02 µg/l
Hardness	10 µg/l

B. Effluent Monitoring

Aquaculture facilities are required to monitor flow, total suspended solids, total phosphorus and other parameters to determine compliance with applicable permit limitations. In addition, warm water facilities are required monitor temperature of the effluent. Since some of the proposed limits for these facilities are based on the "net" or incremental contribution of facility activities to pollutant levels in source water prior to discharge, both influent (source water) and effluent (at the discharge point) are required to be monitored. Composite sampling is required to capture variable effluent quality throughout the day. At least one fourth of the minimum four grab samples required for the composite must be taken during quiescent zone or raceway cleaning. Facilities with multiple effluent discharge points and/or influent points must composite samples from all points proportionally to their respective flows. Only the composite sample must be analyzed.

Monitoring frequencies are set at monthly to adequately track facilities' performance at achieving effluent limits and meeting WLAs (for the WLA permit). See Table 21 for monitoring requirements for raceways and full-flow settling basin discharges.

Table 21
Raceway and Associated Full-flow Settling Basin Discharges
Monitoring Requirements

Parameter	Units	Sample Frequency	Sample Type	Sample Location
Flow	cfs	1/month[17]	Approved method[18]	Effluent[19]
Total Suspended Solids	mg/l	1/month	Composite[20]	Influent & Effluent
	lbs/day[21]			
Total Phosphorus	mg/l	1/month	Composite[20]	Influent & Effluent
	lbs/day[21]			
Temperature[22]	ºCelsius	1/month	Thermometer	Effluent
Total Copper	µg/l	1/month[23]	Composite[20]	Effluent
Hardness	mg/l	1/month[23]	Composite[20]	Effluent
Total Inorganic Nitrogen[24]	mg/l	1/month	Composite[20]	Influent & Effluent
	lbs/day[21]			
Total Nitrogen[25]	mg/l	1/month	Composite[20]	Influent & Effluent
	lbs/day[21]			

[17] Flow measurement must be taken concurrently with pollutant sampling; it may be taken on either the influent or effluent as long as the measurement at that location accurately reflects the discharge flow to the receiving water.
[18] Flow measurement method must be one that is approved by Idaho Department of Water Resources; see appendices in each permit.
[19] Flow measurements may be taken on the influent if the measurement at that location accurately reflects the discharge flow to the receiving water and must be taken concurrently with pollutant sampling.
[20] "composite" sample means a combination of at least 4 discrete sample aliquots, collected from the same location at intervals of at least 30 minutes; at least one fourth of the samples must be taken during quiescent zone or raceway cleaning. Facilities with multiple effluent discharge points and/or influent points must composite samples from all points proportionally to their respective flows. Only the composite sample must be analyzed.
[21] See Appendix C for guidance on calculating loads.
[22] Temperature monitoring is only required for discharges from warm-water facilities.
[23] Only if and when using chelated copper compounds or copper sulfate
[24] Monitoring of total inorganic nitrogen (total ammonia plus nitrate and nitrite) is required only for Batise Springs Trout Farm and Papoose Springs Trout Ranch.
[25] Monitoring of total nitrogen (total Kjeldahl nitrogen plus nitrate and nitrite) is required only for Crystal Springs Trout Farm, American Falls Reservoir.

Offline settling basins are to be monitored for flow monthly when discharging and are to be sampled for pollutant concentrations at the highest discharge flow during quiescent zone cleaning. To obtain per cent removal of TSS, the influent(s) to the OLSB is to be monitored at

the same time as the effluent. See Table 22. Loading for each pollutant is to be calculated using the flow measurement taken at the same time as the pollutant sample (see Appendices of the permits for calculation guidance). EPA solicits comments on the frequency and manner of flow measurement requirements for OLSBs and the calculated pollutant discharge loadings which depend on them. The proposed permit requirements do not take into account that many OLSBs have discontinuous discharges. When assuming a constant flow from OLSBs, based on a monthly flow reading, the actual pollutant loading in the discharge likely will be overestimated. EPA has proposed this monthly monitoring frequency in an effort to balance costs of additional flow monitoring (perhaps continuous) and added computations against the effort to more accurately reflect the actual, possibly lower, loading discharged to the stream.

Monitoring OLSBs and fish processor discharges for temperature, pH and ammonia is required to gather more information on the total ammonia which is being discharged. See also Table 23. Analysis of existing data indicates that ammonia may be high enough in the discharge to exceed water quality standards for ammonia in the receiving streams. Since the ammonia standard varies with temperature and pH, monitoring of these parameters in the discharge and in the receiving water is required to make this determination definitively. EPA solicits comments on these monitoring requirements and invites submittal of existing pH, temperature and ammonia effluent data.

Table 22
Off-Line Settling Basin Discharges
Monitoring Requirements

Parameter	Units	Monitoring Requirements		
		Sample Frequency	**Sample Type**	**Sample Location**
Flow	Cfs	1/month	Approved method[26]	Effluent
Total Suspended Solids	mg/l	1/month[27]	Composite[28]	Effluent
	lbs/day[29]			
	% Removal	1/month[27]	Composite[28]	Influent and Effluent
Total Phosphorus	mg/l	1/month[27]	Composite[28]	Effluent
	lbs/day[29]			
pH	s.u.	1/month[27]	Grab[30]	Effluent
Temperature	ºCelsius	1/month[27]	Grab[30]	Effluent
Total ammonia as N	mg/l	1/month[27]	Composite[28]	Effluent

Notes continue on next page

[26] Flow measurement method must be approved by Idaho Department of Water Resources.
[27] Offline settling basin influent and effluent samples must be collected during quiescent zone cleaning.
[28] "composite" sample means a combination of at least 4 discrete sample aliquots, collected from the same location

at intervals of at least 30 minutes. Facilities with multiple effluent discharge points must composite samples from all points proportionally to their respective flows. Only the composite sample must be analyzed.
[29] Lbs/day = mg/l * Effluent flow (cfs) * 5.4
[30] Temperature and pH readings must be taken in conjunction with each grab sample taken for the composite ammonia sample and the results averaged and reported on the monthly discharge monitoring reports (DMRs).

Table 23
Fish Processor Discharges
Monitoring Requirements

Parameter	Units	Sample Frequency	Sample Type	Sample Location
Flow	cfs	1/month	Approved method[31]	Effluent
Total Suspended Solids	lbs/day	1/month	Composite[32]	Effluent
Total Phosphorus	lbs/day	1/month	Composite[32]	Effluent
Biochemical oxygen demand (BOD_5)	lbs/day	1/month	Composite[32]	Effluent
Oil and grease	lbs/day	1/month	Grab	Effluent
pH	s.u.	1/month	Grab	Effluent
Ammonia	mg/l	1/month	Composite[32]	Effluent
Total residual chlorine[33]	μg/l	1/month	Grab	Effluent
Temperature	ºC	1/month	Grab	Effluent

[31] Flow measurement method must be approved by Idaho Department of Water Resources.
[32] "composite" sample means a combination of at least 4 discrete sample aliquots, collected from the same location at intervals of at least 30 minutes. Facilities with multiple effluent discharge points must composite samples from all points proportionally to their respective flows. Only the composite sample must be analyzed.
[33] Chlorine monitoring is required only when chlorine disinfection is in use. Non-detects must be reported no higher than 0.1 mg/L; this does not relieve the permittee of the obligation to comply with the lower limits.

C. Receiving Water Monitoring

The draft general permits require all aquaculture facilities with off-line settling basins and fish processors to monitor the receiving water upstream of the outfall quarterly for pH, temperature, and ammonia. If these facilities anticipate requesting a mixing zone from IDEQ for potential ammonia limits in the future, EPA will need streamflow data to calculate limits using such a mixing zone. Therefore, EPA is considering requiring submittal of streamflow data from these facilities and invites comments on this issue. In addition, all facilities discharging to water-quality limited streams for total phosphorus, total nitrogen, or total inorganic nitrogen must monitor quarterly for those parameters

upstream and downstream of their discharge points outside any zone of partial mixing. See Table 24 and footnotes. This requirement applies whether or not the facility is discharging. Facilities that use chelated copper compounds or copper sulfate must monitor copper and hardness upstream of the outfall at least once in any month when these compounds are applied; such monitoring should be roughly at the same time as the copper and hardness effluent monitoring. Facilities that raise warm water species must monitor temperature quarterly upstream and downstream outside any zone of partial mixing. Epicenter Aquaculture, under an individual permit, is not required to monitor its receiving water, a canal, since copper is not used at the facility, and ammonia toxicity, temperature, and excess nutrients are not concerns for the beneficial uses of the water in the canal.

EPA is also proposing monthly receiving water monitoring downstream of facilities that are buying phosphorus credits (and therefore discharging more than the average monthly limit in their permit). We are soliciting comments on this option.

The monitoring data will provide sufficient background data on the receiving water quality to evaluate the need for incorporating water quality-based effluent limits into the permits during the next permit cycle. It will also provide information on the impact of the discharges to the receiving streams. In order to perform these evaluations, analytical labs need to use methods that have method detection limits below the water quality criteria. Therefore, the draft permit specifies in Table 20 method detection limits required for receiving water monitoring. EPA solicits comments on these monitoring requirements and invites submittal of existing pH, temperature and ammonia receiving water data.

Table 24
Receiving Water Monitoring Parameters

Parameter	Units
Ammonia Nitrogen as N[34]	mg/l
pH	standard units
Temperature	^{o}C.
Total Phosphorus	mg/l
Total Copper	µg/l
Hardness	µg/l
Nitrate[34,35]	mg/l
Nitrite[34,35]	mg/l
Total Kjeldahl Nitrogen [35] (TKN)	mg/l
Total Inorganic Nitrogen[34]	mg/l
Total Nitrogen[35]	mg/l

See notes on next page

[34] Only Batise Springs Trout Farm and Papoose Springs Trout Ranch are required to monitor for total inorganic nitrogen (total ammonia plus nitrate and nitrite).
[35] Only Crystal Springs Trout Farm, American Falls Reservoir, is required to monitor for total nitrogen (total Kjeldahl nitrogen plus nitrate and nitrite).

D. Sediment Sampling

EPA Region 10 is concerned that PCBs may be an issue in some of the Idaho facilities, as discussed in §IV.A.2.a, above. Therefore, we have included a requirement to sample for PCBs in the sediment just downstream of the permittee's outfall, if a facility has painted surfaces or caulking in hatch houses, raceways, or holding ponds. If PCB concentrations exceed 34 μg/kg (ppb) in sediment, the permittee must undertake a study to determine the source of PCBs in its facility, including an investigation of the role of feed, paint, and caulking. The value of 34 μg/kg was chosen because it is used in Canada as the country's sediment quality guideline (SQG) for PCBs (Canadian Council of Ministers of the Environment, 1999). Sediments with measured PCB concentrations equal to or less than the SQG are considered to be acceptable, whereas sediment with concentrations between the SQG and probable effect level (PEL) are considered to represent potential hazards to exposed organisms. The PEL for PCBs is 277 μg/kg. In the U.S. the National Oceanographic and Atmospheric Administration (NOAA) uses these Canadian risk-based standards for its screening concentrations for inorganic and organic contaminants in sediments, called screening quick reference tables, or SQuiRTs (NOAA, 1999). NOAA uses SQuiRTs to determine whether contaminants, like PCBs, are present at levels that may threaten resources of concern to NOAA.

EPA is considering adding other requirements, such as sampling paint in raceways, hatch houses, and holding ponds, analyzing feed, and implementing management practices to reduce the likelihood of releasing PCBs to the environment. We are seeking comments on what requirements might be appropriate.

E. Representative Sampling

The draft permits include the requirement in the federal regulations regarding representative sampling (40 CFR §122.41[j]). This provision specifically also requires representative sampling whenever a bypass, spill, or non-routine discharge of pollutants occurs, if the discharge may reasonably be expected to cause or contribute to a violation of an effluent limit in the permit. This provision is included in the draft permits because routine monitoring could miss permit violations and/or water quality standards exceedances that could result from bypasses, spills, or non-routine discharges. This requirement directs the permittee to conduct additional, targeted monitoring to quantify the effects of such occurrences on the final effluent discharge.

F. Pollutant Trading

1. Development of Pollutant Trading System in the Upper Snake Rock Subbasin

Pollutant trading options for total phosphorus (TP) are available under the WLA permit to permitted facilities discharging to tributary streams and the Snake River in the Upper Snake Rock watershed

under a system for trading credits that was developed in 2001 and 2002 by the City of Twin Falls, representatives of the aquaculture industry, EPA, and IDEQ. Total phosphorus is the pollutant hardest for the aquaculture facilities to reduce in their effluent; at the same time, the City of Twin Falls has recently installed additional treatment to remove phosphorus from its discharge. Therefore, a trading system for the discharge of phosphorus was seen as beneficial, both for the city and for the downstream aquaculture facilities. See Appendix D of this Fact Sheet for details about the development of the trade tracking system, and for requirements for purchasing and selling pollutant credits and reporting such trades to EPA.

Note: The City of Twin Falls will not be available to participate in trades until its permit is reissued to allow such trades.

2. Generation of Credits

Credits are created when a permitted facility discharges less than its average monthly limit (lbs/day) of total phosphorus in a given month. The amount by which its discharge is below the limit is the amount of the credit available for sale to another facility. A facility that exceeds its average monthly limit in a given month may seek out a seller **upstream** of its facility with credit available and buy the credits sufficient to reduce its "effective discharge" enough to be in compliance with its average monthly limit. However, the technology-based average monthly limits of 0.1 mg TP/l for cold water aquaculture facilities and 0.2 mg TP/l for warm water facilities are the upper limits, above which buyers cannot discharge by buying more credits. For four aquaculture facilities (FBI Catfish Farm, College of Southern Idaho, Gary Wright Ponds, and Rainbow Trout Farms), the average monthly TP limits are the technology-based limits. For these facilities, buying of credits is not an option, since doing so would cause their discharge to exceed the technology-based average monthly limit.

For the fish processors, all average monthly limits for TP except one are technology-based; therefore, they are not able to buy credits either. Only Rainbow Trout Farms, with a water-quality-based AML of 2.5 lbs TP/day is allowed to acquire credits up to its technology-based cap of 2.7 lbs TP/day.

Trades are not available to increase allowable maximum daily discharges above the maximum daily limits in the permits.

3. Due Dates

EPA has set the due date for DMRs, which report the trades to EPA, (with copies to IDEQ) at postmarked by the 10th day of the second month following the month for which credits are traded. This is consistent with the DMR due date for facilities across EPA Region 10. A Trade Summary Report produced by the Idaho Clean Water Cooperative (the Cooperative) must be submitted with the DMR. Therefore, EPA is proposing that the Trade Notification Forms reporting the trades to the Cooperative be submitted by the last day of the month following the month for which the credits are traded. We are seeking public comment on whether this time frame allows enough time (10 calendar days) for the Cooperative to produce a summary report, deliver it to the permittees, and for the permittees to send their DMRs to EPA postmarked by the 10th day of the following month. We believe that the timeframe is adequate, especially if the Cooperative delivers Trade Summary Reports electronically to the permittees on or soon after the first day of the second month, which

then gives the permittees a little more than a week to send the DMR and a printed copy of the Trade Summary Report to EPA. If the timeframe is considered inadequate, EPA is seeking input on reasonable due dates for submittal of the trades to the Cooperative to facilitate timely submittal of DMRs by the 10th day of the second month.

4. Impact on Water Quality

An important underlying assumption in the development of the TMDL is that the discharge of TP to the Upper Snake Rock Subbasin will be reduced when the WLAs are applied to the facilities in these permits. The pollutant trading system was developed to minimize the economic cost and provide another option besides treatment for achieving the reductions required in the TMDL. Implementation of this trading system, allowing some dischargers to increase their TP discharges within certain limits while others reduce their input, is a tool to reaching the overall goal of reduced phosphorus in the Snake River and its tributaries. In order to verify that the in-stream phosphorus goals are met of 0.075 mg/l for the Snake River and 0.10 mg/l for the tributaries, IDEQ currently monitors seven ambient water quality monitoring sites on the Snake River monthly, and sporadically monitors the tributaries at their confluences with the Snake River. IDEQ monitoring funds have been reduced in recent years but could be supplemented by industry, the Idaho Legislature, or some other entity to ensure that adequate monitoring of tributaries is conducted. Because of the possibility of localized impacts, EPA invites comments on whether or not trades between facilities discharging to tributaries of the main stem Snake River should be allowed; if allowed, should they be made contingent on the existence of an adequate ambient monitoring plan for the tributaries.

G. Aquaculture Specific Reporting Requirements

1. Chemical Use

Disease control chemicals (including some pesticides) and drugs approved for use in the aquaculture industry are regulated by the U.S. Food and Drug Administration (FDA) or under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), and the permit authorizes discharge as long as label directions are followed. These directions provide information on dosage concentrations allowed as well as discharge concentrations to protect receiving waters.

All of the permits, except the Fish Processor permit, require reporting of chemical use to ensure that facilities are complying with all applicable label and NPDES permit requirements. The ELGs require aquaculture facilities to notify EPA of the use of "any investigational new animal drug (INAD) or any extralabel drug use where such a use may lead to a discharge of the drug to waters of the U.S." 40 CFR §451.3(a) The ELGs further set forth specific reporting requirements for INADs or extralabel drug use. *See* 40 CFR §451.3(a). Pursuant to the requirements set forth in the ELGs, the proposed permits require reporting of chemical use to ensure that facilities are complying with all applicable requirements of the ELG. This includes reporting usage of INADs that have been approved by FDA only for experimental use. When facilities sign up to participate in INAD studies, they are required by FDA to contact the NPDES permitting authority (EPA).

The draft permits also require reporting of extralabel drug use. These are drugs which are prescribed by a veterinarian for short-term use to treat a specific disease which is outside the directions on the label. FDA allows for extralabel drug use, but only if prescriptions are documented. Without such a prescription, use of chemicals in excess of amounts prescribed on the label is not allowed either by FDA, FIFRA, or these NPDES permits, which contain a provision prohibiting the discharge of chemicals in toxic amounts. EPA requires notification of such prescribed extralabel drug usage.

These permits require that the permittees notify EPA and IDEQ within seven days of signing up for an INAD study or of receiving a veterinary prescription for extralabel drug use. When permittees are actually participating in INAD studies or using a drug outside the label directions under the extralabel drug use provision, they must notify EPA and IDEQ orally within seven days. They must also submit a written report to EPA and IDEQ within 30 days.

In addition, EPA requires that the following information, at a minimum, be submitted in the annual report by permittees:

a) The disease control chemical, drug, or disinfectant common name.

b) Estimated or actual amount of the chemical in the effluent.

c) Number of days in each month when the chemical was applied.

EPA will use the information to determine if different conditions or limits are required in the next permit to protect receiving stream beneficial uses.

EPA is proposing to not require chemical usage reporting of fish processors because EPA believes they do not use drugs or pesticides. The only disinfectant used, chlorine, has a discharge limitation in the permit (as described in §IV.C. above). However, EPA solicits comments on whether other chemicals are used by fish processors. If applicable and available, data on the quantity of chemical(s) used and estimated discharge concentrations should be included with the comment. EPA may add chemical reporting requirements if new information warrants it.

2. Accidental Discharges

The permits require that the permittees report to EPA and to IDEQ any spills of feed or chemicals or any structural damage that results in an abnormal discharge of pollutants to waters of the U.S. Such events must be reported orally within 24 hours and in writing within 5 days. Reports must include the identity and quantity of pollutants released.

H. Annual Report of Operations

The permits require the compilation and submittal to EPA and IDEQ of an annual report by January 20 each year summarizing the previous year's operations. The annual report as well as the records used to compile the report must be kept on site and available to EPA and IDEQ inspectors. Information reported will be used by EPA in developing or modifying permit conditions in the next permitting cycle. Also, it should help the permittee in evaluating the management practices utilized at the facility.

I. Quality Assurance Requirements

Within 60 days of receiving coverage under one of the permits, the permittees are required to prepare and follow a quality assurance plan (QA Plan) which prescribes the procedures for the collection and analysis of samples to ensure that data are reliable.

Throughout all sample collection and analysis activities, the permittee must use the EPA-approved QA/QC and chain-of-custody procedures described in *Requirements for Quality Assurance Project Plans* (EPA/QA/R-5) and *Guidance for Quality Assurance Project Plans* (EPA/QA/G-5). The QA Plan must be prepared in the format which is specified in these documents.

VIII. Best Management Practices

Under the Pollution Prevention Act of 1990, 42 U.S.C. § 13101 et seq., whenever feasible, pollution should be prevented or reduced at the source. When pollution cannot be prevented, it should be recycled in an environmentally safe manner; when pollution cannot be prevented or recycled, it should be treated in an environmentally safe manner; and disposal or release into the environment should be employed in an environmentally safe manner and only as a last resort. This policy, along with the Effluent Limitations Guidelines for Concentrated Aquatic Animal Production Point Source Category (69 Federal Register 51892-51930 (August 23, 2004), and 40 CFR §122.44(k) form the basis for the permit requirement that the permittee develop and implement a best management practices (BMP) operating plan.

BMPs are practices that are designed to minimize the volume of pollutants that must be treated and/or discharged. For the aquaculture industry, typical BMPs include careful quiescent zone cleaning to minimize discharge of solids, raceway vacuuming and/or quiescent zone cleaning prior to harvesting fish, adjusting feed fed based on fish consumption, removal of dead fish followed by burial well away from water sources. EPA requires the BMP Plan ensures that disposal or land application of wastes minimizes negative environmental impact. IDEQ has requested specific requirements to comply with the Idaho solid waste regulations.

The permit requires that a permittee develop a plan and implement BMPs within 90 days after receiving authorization to discharge under one of the permits. Under a grant partially funded by EPA, a consortium of aquaculture researchers and industry published *Best Management Practices for Flow-Through, Net-Pen, Recirculating, and Pond Aquaculture Systems* in December 2003. EPA has developed "Compliance Guide for the Concentrated Aquatic Animal Production (CAAP) Point Source Category" (March 2006) to assist aquaculturists in identifying and utilizing BMPs and in developing and implementing materials accounting and BMP Plans. IDEQ and the Idaho Aquaculture Association have developed guidance principles and practices for the management and operation of aquaculture facilities and published these as the Idaho Waste Management Guidelines for Aquaculture Operations (IDHW-DEQ, 1997).

The BMP plan requirements do not include the national effluent guidelines BMP requirements which address solids control because we concluded that the numeric TSS limits included in the permits are more stringent. The permits do require BMPs which address: 1) chemical storage, 2) structural maintenance, 3)

training requirements, and 4) additional requirements that include equipment maintenance, removal of fish from quiescent zones and settling basins, and use of drugs according to label directions.

The BMP plan must be amended whenever there is a change in the facility or operator or in the operation of the facility which materially increases the potential for an increased discharge of pollutants.

IX. Standard Permit Provisions

In addition to facility-specific requirements, most of sections V, VI, and VII of the draft general permits and sections IV, V, and VI of the Epicenter permit contain standard regulatory language, which must be included in NPDES permits (40 CFR §122.41). Because it is based on regulations, the standard regulatory language cannot be challenged in the context of an NPDES permit action. The standard regulatory language covers requirements such as monitoring, recording, reporting requirements, compliance responsibilities, and general requirements.

X. Other Legal Requirements

A. Endangered Species Act

Section 7 of the Endangered Species Act requires federal agencies to request a consultation with the NOAA Fisheries and the U.S. Fish and Wildlife Service (USFWS) regarding potential effects that a federal action, such as permitting, may have on species listed as endangered or threatened. In a letter dated June 1, 2006, the U.S. Fish and Wildlife Service (USFWS) identified the following federally-listed endangered and threatened species in the watersheds where aquaculture facilities are located:

Endangered Species:

- Gray wolf (*Canis lupus*) – experimental
- Sockeye salmon *(Oncorhynchus nerka)*
- Utah valvata snail (*Valvata utahensis*)
- Snake River physa snail (*Physa natricina*)
- Idaho spring snail (*Pyrgulopsis idahoensis*)
- Bruneau Hot Springsnail *(Pyrgulopsis bruneauensis)*
- Banbury Springs lanx (*Lanx sp.*)

Threatened Species:

- Bald eagle (*Haliaeetus leucocephalus*)
- Grizzly Bear (Ursus arctos horribilis)
- Bull trout (*Salvelinus confluentus*)
- Spring/summer Chinook salmon (*Oncorhynchus tshawytscha*)
- Macfarlane's four-o'clock *(Mirabilis macfarlanei)*
- Bliss Rapids snail (*Taylorconcha serpenticola*)
- Canada lynx (*Lynx canadensis*)

Proposed Threatened Species:

- Northern Idaho Ground Squirrel (*Spermophilis brunneus brunneus*)

- Steelhead (*Oncorhynchus mykiss*)
- Fall Chinook salmon (*Oncorhynchus tshawytscha*)
- Spalding's catchfly (*Silene spaldingii*)

Tables 25, 26, and 27 provide the lists of species by counties which have discharging aquaculture facilities and the determination of level of effect, if any, for each species. Notes for all three tables are found after the last table.

Table 25
Effects Determination on Endangered Species[36], by County

County[37]	Gray wolf (*Canis lupus*)	Sockeye salmon (*Oncorhynchus nerka*)	Utah valvata snail (*Valvata tahensis*)	Snake River physa snail (*Physa natricina*)	Idaho springsnail (*Pyrogulopsis idahoensis*)	Bruneau Hot Springsnail (*Pyrgulopsis Bruneauensis*)	Banbury Springs lanx (*Lanx sp.*)
Bannock (1)	NE[38]	[39]	NLAA[40]				
Bingham (2)	NE		NLAA				
Bonner (1)	NE						
Canyon (1)	NE				NLAA		
Caribou (5)	NE						
Clearwater (5)	NE						
Custer (5)	NE	NLAA					
Fremont (1)	NE		NLAA				
Gooding (41)	NE		NLAA/LAA[41]	NLAA/LAA			NE
Idaho (2)	NE	NLAA					
Jerome (2)	NE		NLAA	NLAA			
Owyhee (2)	NE			NLAA	NLAA	NE	
Power (1)	NE		NLAA				
Twin Falls (28)	NE		NLAA/LAA	NLAA/LAA			
Valley (1)	NE						

Table 26
Effects Determination on Threatened Species[42], by County

County	Bald eagle (*Haliaeetus leuco-cephalus*)	Bull trout (*Salvelinus confluentus*)	Spring/summer Chinook salmon (*Oncorhynchus tshawytscha*)	Macfarlane's four-o'clock (*Mirabilis macfarlanei*)	Bliss Rapids Snail (*Taylorconcha serpenticola*)	Grizzly Bear (*Ursus arctos horribilis*)	Canada lynx (*Lynx canadensis*)
Bannock (1)	NE						
Bingham (2)	NE						
Bonner (1)	NE	NLAA				NE	NE
Canyon (1)	NE						
Caribou (5)	NE						NE
Clearwater (5)	NE	NLAA					NE
Custer (5)	NE	NLAA	NLAA				NE
Fremont (1)	NE					NE	NE
Gooding (41)	NE				NLAA/LAA		
Idaho (2)	NE	NLAA	NLAA	NE			NE
Jerome (2)	NE				NLAA		
Owyhee (2)	NE	NLAA					
Power (1)	NE						
Twin Falls (28)	NE	NLAA			NLAA/LAA		
Valley (1)	NE	NLAA	NLAA				NE

Table 27
Effects Determination on Additional[43] Threatened Species[44], by County

County	Northern Idaho Ground Squirrel (*Spermophilis brunneus brunneus*)	Fall Chinook salmon (*Oncorhynchus tshawytscha*)	Spalding's catchfly (*Silene spaldingii*)	Ute ladies' tresses (*Spiranthes diluvialis*)	Steelhead (*Oncorhynchus mykiss*)
Clearwater (5)		NLAA			NLAA
Custer (5)					NLAA
Fremont (1)				NE	
Idaho (2)		NLAA	NE		NLAA
Valley (1)	NE	NLAA			NLAA

[36] from Species List SP #1-4-05-SP-704
[37] Number of aquaculture facilities in the county is in parentheses.
[38] NE=No effect
[39] A blank cell means that the species is absent from the county.
[40] NLAA=Not likely to adversely affect
[41] LAA=Likely to adversely affect
[42] from Species List SP #1-4-05-SP-704
[43] Only the counties where these species are known are included in Table 28.
[44] from Species List SP #1-4-05-SP-704

EPA is currently consulting with USFWS and National Oceanographic and Atmospheric Administration (NOAA) -- Fisheries under section 7 of the Endangered Species Act regarding the impact of these permits on the listed species. EPA has prepared a biological evaluation analyzing the effects of these permits on listed species. A summary of those effects is included below.

Nutrients are the most significant contributors to water quality degradation in many of the stream systems in Idaho. In the Snake River system, where phosphorus is the limiting nutrient, excess discharges of phosphorus contribute to blooms of macrophytes, epiphytic algae, filamentous algae, and phytoplankton. These algal species displace other algae that the listed snails use for food, displace snails from otherwise suitable habitat, and deplete oxygen in the sediment and water column. The WLAs in the TMDLs for phosphorus have been established to eliminate nuisance algal growth in the Snake River and its tributaries. The permit limits in the WLA Permit, which are based on these WLAs, and the technology-based concentration limit for phosphorus in the Cold Water Permit will improve the water quality in the receiving streams in Idaho with respect to nutrients. These permits, combined with controls on nonpoint sources, will reduce algal blooms and improve conditions in areas that are otherwise suitable for snails and other listed species. With respect to phosphorus, EPA has determined that the limits in the permits are not likely to adversely affect and may beneficially affect listed species and species of concern.

Total suspended solids (TSS) measures both settleable and suspended sediment and organic solids in the discharge. As such, TSS provides a surrogate for sediment in the discharge that may have the potential to impact the listed aquatic species. Sediment can impact listed snails by physically covering their habitat, adding to the nutrient loading in the system, and by creating hypoxic or anoxic conditions.

In the Upper Snake Rock watershed, the majority of sediment input to the Snake River comes from nonpoint sources. By comparison, only 5 percent of the total sediment load to the river is estimated to come from the aquaculture facilities discharging at their maximum effluent limit. The actual solids loading to the river and its tributaries from aquaculture facilities is much less, since not all facilities would be discharging the maximum amount allowed for the entire year. The TSS limits in the proposed permits will control solids so that significant deposition in receiving streams from aquaculture sources will not occur. Therefore, EPA has determined that the discharge of TSS from the permitted facilities will have no effect on any listed species or species of concern.

Chemicals in discharges from aquaculture facilities include FDA-approved drugs and medicated feeds and EPA-approved pesticides used for controlling disease outbreaks or algal growths in raceways. In the 1999 permit, EPA required the largest facilities to submit information monthly regarding frequency, timing, and type of chemical use. This information was used to evaluate whether the discharge concentrations could cause acute or

chronic toxicity to organisms in the receiving water. The chemicals used that were of possible concern included potassium permanganate, copper sulfate, oxytetracycline, hydrogen peroxide, formalin and chloramin-T.

Currently, there are no data on toxicity of these chemicals to the listed snails; however, based on toxicity to other molluscs, the discharge concentrations are not likely to adversely affect the listed snails. The discharge concentrations were compared to toxicity values for various fish species. Based on estimates of the maximum effluent concentrations from a small number of Idaho aquaculture facilities in the mid-Snake, the expected levels of copper in the effluent were in the range of the LC_{50} values for rainbow trout. Because this information is limited and estimated, it was determined that we do not have sufficient information to assess the effect of copper discharges on salmonids in the receiving streams. Therefore, we are requiring effluent and ambient sampling for total copper and hardness in the effluent and receiving stream and have added a BMP for limiting the use of copper. We determined that discharge concentrations of other disease controlling chemicals are not likely to adversely affect any of the listed fish species.

Annual record keeping requirements in the permits include information on chemical usage (frequency, timing, and type of chemical used). These data will be used to determine whether further testing and/or limits are needed for large or small facilities in the next permit cycle. A reopener is included in the proposed permit so that testing or limits may be incorporated in the permit, if necessary, before the next permit.

EPA conducted preliminary modeling of the effects to receiving streams of warm water discharged from the four warm water facilities on the Upper Snake Rock watershed. Results indicate the temperature may rise above the 18 degrees Celsius believed to be the lower bound for temperature effects on listed snails. Therefore, issuance to warm water facilities is likely to affect the snails. A reopener could be used to set limits on these facilities if TMDL development by IDEQ establishes WLAs for point sources on the Snake River.

B. Presidential oversight of federal regulations

The Office of Management and Budget has exempted this action from the review requirements of Executive Order 12866 providing for presidential oversight of the regulatory process pursuant to Section 6 of that order.

C. Paperwork Reduction Act

EPA has reviewed the requirements imposed on regulated facilities in the permit under the Paperwork Reduction Act. The information collection requirements have been approved by the Office of Management and Budget (OMB) in submissions made for the NPDES permit program and the previous NPDES permits for aquaculture facilities and fish processors in Idaho.

D. The Regulatory Flexibility Act

EPA has concluded that NPDES general permits are permits under the Administrative Procedure Act (APA), 5 U.S.C. § 551 et seq., and thus not subject to APA rulemaking requirements or the Regulatory Flexibility Act.

E. State Certification

Section 401 of the CWA requires EPA to seek certification from the State of Idaho for any discharges into state waters that the permit is adequate to meet State water quality standards before issuing a final permit. The regulations allow for the State to stipulate more stringent conditions in the permit, if certification cites the CWA or State law references upon which that condition is based. In addition, the regulations require that the State's certification include statements on the extent to which each condition of the permit can be made less stringent without violating the requirements of State law.

EPA requested that State officials review and provide appropriate comments on these draft permits. Furthermore, in accordance with 40 CRF §124.10(c)(1), public notice of the permit is provided to the State of Idaho and State agencies having jurisdiction over fish, shellfish and wildlife resources. EPA will request final certification from the State before the permit is issued.

XI. Definitions And Acronyms

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

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

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

Average Monthly Limit means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.

Beneficial use means any of the various uses which may be made of the water of Idaho, including, but not limited to, domestic water supplies, industrial water supplies, agricultural water supplies, navigation, recreation in and on the water, wildlife habitat, and aesthetics (IDAPA 58.01.02.003.04).

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

Biochemical oxygen demand means the measure of the amount of oxygen necessary to satisfy the biochemical oxidation requirements of organic materials at the time the sample is collected; unless otherwise specified, this term will mean the five (5) day BOD incubated at twenty (20) degrees C (BOD_5) (IDAPA 58.01.02.003.11).

BOD means "5 day biochemical oxygen demand."

Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

CFR means the Code of Federal Regulations.

cfs means cubic feet per second.

Coefficient of variation (CV) means a standard statistical measure of the relative variations of a distribution or set of data, defined as the ratio of the standard deviation to the mean.

Composite sample means a combination of at least 4 discrete sample aliquots, collected from the same location at intervals of at least 30 minutes between dawn and dusk, or four or more discrete samples taken over a 24-hour period. Facilities with multiple effluent discharge points and/or influent points must composite samples from all points proportionally to their respective flows.

CWA means the Clean Water Act, 33 U.S.C. §1251 *et seq.*

Daily discharge means the "discharge of a pollutant" measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limits expressed as mass "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day (40 CFR 122.2).

Director means the Director of the EPA Region 10 Office of Water and Watersheds

Discharge, when used without qualification, means the "discharge of a pollutant."

Discharge of a pollutant means:

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

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

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

Disinfection means any method of reducing the pathogenic or objectionable organisms by means of chemical application or other acceptable means.

DMR (Discharge Monitoring Report) means EPA's uniform, national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees (40 CFR §122.2).

DO (Dissolved oxygen) means the measure of the amount of oxygen dissolved in the water, usually expressed in mg/l (IDAPA §58.01.02.003.29).

Draft permit means a document prepared under 40 CFR §124.6 indicating the Director's tentative decision to issue, modify, reissue, or reissue a "permit" (40 CFR §122.2).

Effluent means any wastewater discharged from a treatment facility (IDAPA §58.01.02.003.32).

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

Effluent limitations guidelines mean regulations published by the Administrator under section 304(b) of CWA to adopt or revise "effluent limitations" (40 CFR §122.2).

EPA means the United States Environmental Protection Agency.

FDA means Food and Drug Administration.

FIFRA means Federal Insecticide, Fungicide, and Rodenticide Act.

Flow-proportioned means proportioned according to rate of influent or effluent. In the context of sampling influent and effluent quality and in the case of multiple influent points or effluent discharge points, the sample volume from each of the influent points, or effluent discharge points, shall be apportioned according to the flow at the time of sampling at the specific influent, or effluent, point.

Full-flow settling means an effluent treatment system that has a settling zone for the entire facility flow.

General permit means an NPDES permit issued under 40 CFR §122.28 authorizing a category of discharges under the CWA within a geographical area. (40 CFR §122.2)

Grab sample means a single sample or measurement taken at a specific time over a period of less than 15 minutes.

Hazardous material means a material or combination of materials which, when discharged in any quantity into state waters, presents a substantial present or potential hazard to human health, the public health, or the environment (IDAPA §58.01.02.003.44).

IDEQ means Idaho Department of Environmental Quality.

INAD means investigational new animal drug.

Influent means the water entering the facility or settling basin(s).

Land application means a process or activity involving applications of wastewater, surface water, semi-liquid material, solid wastes, biosolids, sludge, or solids to the land surface for the purpose of disposal, pollutant removal, ground water recharge, conditioning the soil, or fertilizing crops or other vegetation grown in the soil.

Loading allocation means the greatest amount of pollutant loading that a water body can receive from a source without violating water quality standards (IDAPA §58.01.02.003.53).

LTA means long-term average.

mg/l means milligrams of solute per liter of solution, equivalent to parts per million, assuming unit density (IDAPA §58.01.02.003.58).

Maximum means the highest measured discharge or pollutant in a waste stream during the time period of interest.

Maximum daily limit (MDL) means the highest allowable “daily discharge” (40 CFR §122.2).

ml/L means milliliters per liter.

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

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

Net mg/l means the difference between influent concentration and effluent concentration.

NOI (Notice of Intent) means a request, or application, to be authorized to discharge under a general NPDES permit.

Nuisance means anything which is injurious to the public health or an obstruction to the free use, in the customary manner, of any waters of the State (IDAPA §58.01.02.003.65).

Nutrients means the major substances necessary for the growth and reproduction of aquatic plant life, consisting of nitrogen, phosphorus, and carbon compounds (IDAPA §58.01.02.003.66).

OLSB (Off-line settling basin) means a constructed retention basin that receives wastewater from an aquaculture facility for the retention and treatment of wastewater through settling of solids and around which such wastewaters can be directed during periods of solids removal.

OMB means the U.S. Office of Management and Budget.

ppb means parts per billion.

Point source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff (40 CFR §122.2).

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42

U.S.C. §2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

Production means the amount of fish harvested, processed or released in a given period of time.

Quiescent zone means an area devoid of fish, downstream of the rearing area, that allows solids to settle out of the water column for subsequent removal.

Raceway means a linear production unit, usually made of concrete, where the water exhibits a hydraulic pattern that approximates plug flow, in which all elements of the water move with the same horizontal velocity.

Schedule of compliance means a schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with the CWA and regulations (40 CFR §122.2).

Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

Technology-based permit effluent limitation means wastewater treatment requirements under Section 301(b) of the Clean Water Act that represent the minimum level of control that must be imposed in a permit issued under Section 402 of the Clean Water Act (IDAPA §58.01.02.003.102).

TMDL (total maximum daily load) means the sum of the individual wasteload allocations for points sources, load allocations for nonpoint sources, and natural background. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality (IDAPA §58.01.02.003.103).

Toxic substance means any substance, material or disease-causing agent, or a combination thereof, which after discharge to waters of the State and upon exposure, ingestion, inhalation or assimilation into any organism (including humans), either directly from the environment or indirectly by ingestion through food chains, will cause death, disease, behavioral abnormalities, malignancy, genetic mutation, physiological abnormalities (including malfunctions in reproduction) or physical deformations in affected organisms or their offspring. Toxic substances include, but are not limited to, the one hundred twenty-six (126)

priority pollutants identified by EPA pursuant to Section 307(a) of the Clean Water Act (IDAPA §58.01.02.003.105).

TP means total phosphorus, of which the concentration in water is measured in mg/l.

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

TSS means total suspended solids, of which the concentration in water is measured in mg/l.

Unit density means the quality of a substance that weighs one kilogram per liter, typical of natural water systems and most wastewater.

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance.

U.S.C. means United States Code.

Warm water aquaculture animals include, but are not limited to, the *Ictaluridae, Centrarchidae, Cyprinidae,* and *Cichlidae* families of fish, e.g., respectively, catfish, sunfish, minnow, and tilapia.

Water pollution means any alteration of the physical, thermal, chemical, biological, or radioactive properties of any waters of the State, or the discharge of any pollutant into the waters of the State, which will or is likely to create a nuisance or to render such waters harmful, detrimental or injurious to public health, safety or welfare, or to fish and wildlife, or to domestic, commercial, industrial, recreational, aesthetic, or other beneficial uses (IDAPA §58.01.02.003.113).

Water quality-based effluent limitation means an effluent limitation that refers to specific levels of water quality that are expected to render a body of water suitable for its designated or existing beneficial uses (IDAPA §58.01.02.003.113).

Waters of the United States or waters of the U.S. means:

(a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(b) All interstate waters, including interstate “wetlands;”

(c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, “wetlands,” sloughs, prairie potholes, wet meadows, playa

lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

(1) Which are or could be used by interstate or foreign travelers for recreational or other purposes;

(2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

(3) Which are used or could be used for industrial purposes by industries in interstate commerce;

(d) All impoundments of waters otherwise defined as waters of the United States under this definition;

(e) Tributaries of waters identified in paragraphs (a) through (d) of this definition;

(f) The territorial sea; and

(g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition (40 CFR §122.2).

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

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Appendix A

List of Permittees

Authorized Dischargers who submitted Notices of Intent between 1/1 and 9/27/04

Rearing Facilities without Wasteload Allocations Authorized to Discharge under the Cold Water Permit

NPDES Permit #	Facility Name	Operator Name	Name of Receiving Stream	County
IDG130032	Ashton Fish Hatchery	Idaho Dept of Fish & Game	Black Springs Creek	Fremont
IDG130042	Nampa State Fish Hatchery	Idaho Dept of Fish & Game	Wilson Springs Drain & Pond	Canyon
IDG130039	Pahsimeroi Hatcheries	Idaho Dept of Fish & Game	Pahsimeroi River	Custer
IDG130037	Rapid River Hatchery	Idaho Dept of Fish & Game	Shingle Creek	Idaho

Fish Processors Authorized to Discharge under the Fish Processor Permit

NPDES Permit #	Facility Name	Operator Name	Name of Receiving Stream	County
IDG130011	Middle Hatchery and Processing Center	Clear Lakes Trout Co	Clear Lake	Gooding
IDG130028	Rainbow Trout Farms (Filer)	Rainbow Trout Farms, Inc (Filer)	Cedar Draw	Twin Falls
IDG130046	SeaPac of Idaho	SeaPac of Idaho, Inc.	East Coulee	Twin Falls
IDG130125	Clear Springs Food Processing Plant	Clear Springs Foods, Inc.	Clear Lake	Gooding

Rearing Facilities with Wasteload Allocations Authorized to Discharge under the Wasteload Allocation (WLA) Permit

NPDES Permit #	Facility Name	Operator Name	Name of Receiving Stream	County
IDG130123	Ace Development USA, Inc.	Ace Development USA, Inc.	Jacks Creek	Owyhee
IDG130064	Alpha Zeta Trout Farms (W&W Trout)	John and Maureen Boling	Mud Creek	Twin Falls
IDG130031	American Falls Fish Hatchery	Idaho Dept of Fish & Game	Snake River	Power
IDG130122	Arraina, Inc.	Arraina, Inc.	Jacks Creek	Owyhee
IDG130133	Baker Place	Big Bend Trout	Deep Creek	Twin Falls
IDG130043	Batise Springs Trout Farm	Johannes Lambregts	Portneuf River	Bannock
IDG130113	Bear River Trout Farm	George C. Kimball	Bear River	Caribou
IDG130119	Bedrock Ranch	White Water Fisheries	Snake River	Gooding
IDG130049	Bell Fish Pond	Verl Bell	Unnamed Creek/Ditch	Gooding
IDG130056	Big Bend Trout Farm	Big Bend Trout	Big Bend Irrigation Ditch/ Sta	Gooding
IDG130082	Billingsley Bay Farm	Tsar Nicoulai Caviar	Snake River	Gooding
IDG130066	Billingsley Creek Ranch	ARK Fisheries, Inc.	Billingsley Creek	Gooding
IDG130062	Birch Creek Trout Inc.	ARK Fisheries, Inc.	Birch Creek	Gooding
IDG130060	Blind Canyon Hatchery	Blind Canyon Aquaranch Inc	Blind Canyon Creek	Gooding
IDG130008	Blue Lakes Trout Farm	Clear Lakes Trout Co	Sunny brook (Pristine Springs)	Jerome
IDG130014	Box Canyon Farm	Clear Springs Food, Inc.	Snake River	Twin Falls
IDG130096	Boyer Fish Farm	Tsar Nicoulai Caviar	Billingsley Creek	Gooding
IDG130088	Briggs Creek East	Clear Springs Foods, Inc.	Briggs Creek	Twin Falls
IDG130054	Briggs Creek West	Clear Springs Foods, Inc.	Snake River	Twin Falls
IDG130065	Buck Eye Ponds	Rod Griffith	Snake River	Gooding
IDG130097	C & M Fish Farm	Gary Miller	Slaughter Gultch	Twin Falls
IDG130104	Canyon Springs	Silver Creek Farms	Snake River	Twin Falls
IDG130036	Canyon Trout Farm	Delbert & Pati Klundt	Rock Creek	Twin Falls
IDG130041	Catfish Farm	Fish Breeders of Idaho	Snake River	Gooding
IDG130130	Charlie Johnsons Place	ARK Fisheries, Inc.	Billingsley Creek	Gooding
IDG130007	Clear Lake Farm (Middle Hatchery)	Clear Springs Foods, Inc.	Clear Lake	Gooding
IDG130057	Cox's Ponds	Rod Griffith	Deep Creek	Twin Falls

NPDES Permit #	Facility Name	Operator Name	Name of Receiving Stream	County
IDG130006	Crystal Springs Farm	Clear Springs Foods, Inc.	Crystal Lake	Gooding
IDG130124	CSI Fish Technology Program	Terry L. Patterson	Rock Creek	Twin Falls
IDG130077	Deep Creek Ponds	Rod Griffith	Deep Creek	Twin Falls
IDG130069	Dolana Farm Ponds	Gary Dolana	Deep Creek	Twin Falls
IDG130078	Fall Creek Hatchery, Upper	D. Steve Benson	Fall Creek	Power
IDG130116	First Ascent Fish Farm	Donald Campbell	Mud Creek	Twin Falls
IDG130017	Fisheries Development Corp.	Fisheries Development Corp	Billingsley Creek	Gooding
IDG130080	Fullmer Ponds	Rod Griffith	Deep Creek	Twin Falls
IDG130035	Grace Fish Hatchery	Idaho Dept of Fish & Game	Whiskey Creek	Caribou
IDG130004	Hagerman Nat'l Fish Hatchery	Department of Interior	Riley Creek/ Bickle Irrigation	Gooding
IDG130003	Hagerman State Hatchery	Idaho Dept of Fish & Game	Riley Creek	Gooding
IDG130111	Henslee Hatchery	Big Bend Trout	Kern Irrigation Ditch	Gooding
IDG130048	Hidden Springs Farm Pond	Aquarius Aquaculture	Billingsley Creek	Gooding
IDG130112	Howell Farm ponds	Paul A Howell	Galloway Drain	Twin Falls
IDG130001	Idaho Springs	University of Idaho	Billingsley Creek	Gooding
IDG130053	Jack's Ponds	Rod Griffith	Deep Creek	Twin Falls
IDG130005	Jones Fish Hatchery	John W. Jones Jr.	Billingsley Creek	Gooding
IDG130070	Juker Ponds	ARK Fisheries, Inc.	Silo Creek	Twin Falls
IDG130047	Kaufman Ponds	Rod Griffith	Deep Creek	Twin Falls
IDG130076	Lemmon Ponds	Blind Canyon Aquaranch, Inc.	Irrigation Ditch	Gooding
IDG130073	Lost River Trout Hatchery	Richard A. Smith	Warm Springs Creek	Custer
IDG130098	LynClif Farms	ARK Fisheries, Inc.	Padget irrigation ditch	Gooding
IDG130030	Mackay Fish Hatchery	Idaho Fish & Game	Warm Springs Creek	Custer
IDG130016	Magic Valley Steelhead Hatchery	Idaho Dept of Fish & Game	Snake River	Twin Falls
IDG130011	Middle Hatchery and Processing Center	Clear Lakes Trout Co	Clear Lakes	Gooding
IDG130013	Niagara Springs Hatchery	Idaho Dept of Fish & Game	Niagara Springs Creek	Gooding
IDG130059	Olson Ponds	ARK Fisheries, Inc.	F-Coulee irrigation ditch	Twin Falls
IDG130018	Pristine Springs, Inc	SEAPAC of Idaho	Snake River	Jerome
IDG130028	Rainbow Trout Farms, Inc	Rainbow Trout Farms, Inc (Filer)	Cedar Draw	Twin Falls
IDG130029	Rainbow Trout Farms, Inc.	Rainbow Trout Farms, Inc (Buhl)	Mud Creek	Twin Falls
IDG130015	Rangen Aquaculture Research Center	Rangen Inc.	Billingsley Creek	Gooding

NPDES Permit #	Facility Name	Operator Name	Name of Receiving Stream	County
IDG130109	RCP	Rick & Cheryl Eggleston	Mud Creek	Twin Falls
IDG130010	Rim View Trout Co.	Rim View Trout Co	Snake River	Gooding
IDG130009	SeaPac of Idaho/Magic Springs Hatchery	SeaPac of Idaho, Inc.	Snake River	Gooding
IDG130046	SeaPac of Idaho, Inc.	SeaPac of Idaho, Inc.	East Coulee	Twin Falls
IDG130118	Slane Ponds	White Water Fisheries, Inc	Unnamed Creek	Gooding
IDG130090	Smith's Farm	Big Bend Trout	Decker Creek	Gooding
IDG130002	Snake River Farm	Clear Springs Foods, Inc.	Clear Lake	Gooding
IDG130034	Soda Springs Brood Station	Clear Springs Foods, Inc.	Big Springs Creek	Caribou
IDG130050	Spring Creek Springs	ARK Fisheries, Inc.	Spring Creek	Gooding
IDG130120	Stevenson Ponds	White Water Fisheries	Snake River	Gooding
IDG130103	Stutzman Farm Ponds	ARK Fisheries, Inc.	Twin Falls Canal	Twin Falls
IDG130083	Talbott Trout Farm	Tsar Nicoulai Caviar	Billingsley Creek	Gooding
IDG130061	Ten Springs Hatchery	Blind Canyon Aquaranch, Inc.	Snake River	Gooding
IDG130040	Tunnel Creek	Silver Creek Farms	Snake River	Twin Falls
IDG130131	Tupper Farm Ponds	ARK Fisheries, Inc.	Billingsley Creek	Gooding
IDG130020	White Springs Trout Farm	White Springs Trout Farm	Snake River	Gooding
IDG130026	White Water Ranch	White Water Fisheries, Inc.	Snake River	Gooding
IDG130063	Whites Hatchery	ARK Fisheries, Inc.	Mud Creek	Twin Falls
IDG130100	Wright Farm Ponds	ARK Fisheries, Inc.	Irrigation Ditch	Gooding

Dischargers believed to be eligible for coverage under the Cold Water Permit but who did not submit Notices of Intent between 1/1 and 9/27/04

NPDES Permit #	Facility Name	Operator Name	Name of Receiving Stream	County
IDG130075	Cabinet Gorge Hatchery	Idaho Dept of Fish & Game	Clark Fork River	Bonner
IDG130099	Clearwater Fish Hatchery	Idaho Dept of Fish & Game	Clearwater River	Clearwater
IDG130012	Dworshak National Fish Hatchery	U.S. Department of Interior	North Fork Clearwater	Clearwater
IDG130025	Kooskia Nat'l Fish Hatchery	U.S. Department of Interior	Clear Creek	Idaho
IDG130052	McCall Fish Hatchery	Idaho Dept of Fish & Game	No. Fork Payette River	Valley
IDG130074	Sawtooth Fish Hatchery	Idaho Dept of Fish & Game	Salmon River	Custer

Discharger believed to be eligible for coverage under the WLA Permit but who did not submit a Notice of Intent between 1/1 and 9/27/04

NPDES Permit #	Facility Name	Operator Name	Name of Receiving Stream	County
IDG130091	Deadman Hatchery	Jeff Coats	Deadman Gulch Seep Stream	Twin Falls

Dischargers believed to be eligible for coverage under the WLA Permit but who are not expected to be containing, growing, or holding fish at the facility on the effective date of the WLA permit

NPDES Permit #	Facility Name	Operator Name	Name of Receiving Stream	County
IDG130079	Blau Farm Pond		Unnamed Streams	Twin Falls
IDG130087	C.J. Simms Co. Inc. Farm Ponds		Irrigation to Birch Creek	Gooding
IDG130084	Daydream Ranch	Larry Holland	Rock Creek	Twin Falls
IDG130107	Decker Springs Ponds	Rangen Inc	Decker Springs Creek	Gooding
IDG130132	Emerald Valley	Idaho Department of Parks	Billingsley Creek	Gooding
IDG130085	Fall Creek Facility, Lower	D. Steve Benson	Fall Creek	Power
IDG130105	Fleming Farm Ponds	ARK Fisheries, Inc.	Birch Creek	Gooding
IDG130027	Greene's Trout Farm, Inc.	Ronald A. Kasel	Perrine Coulee #2	Twin Falls
IDG130115	Leo Martins	ARK Fisheries, Inc.	Pospisell Drain	Twin Falls
IDG130022	Papoose Springs Trout Ranch	Western Star Farms	Portneuf River	Bannock
IDG130102	Snyder Blue Rock Farms L.C.	Claudia Snyder	Mud Creek	Twin Falls
IDG130117	White Water Falls	Stan Standal	Stoddard Creek	Gooding
IDG130106	Wood Farm Ponds	Rangen Inc	Snake River	Gooding

Appendix B

Development of Effluent Limitations

Development of Effluent Limitations

Table of Contents

List of Tables

Development of Effluent Limitations

This appendix discusses the basis for and the development of effluent limits in the draft permits. It includes an overall discussion of the statutory and regulatory basis for development of effluent limitations (Section I) and discussions of the development of technology-based effluent limits and water quality-based effluent limits for aquaculture facilities and for fish processing facilities (Sections II and III, below, respectively).

I. Statutory and Regulatory Basis for Limits

Sections 101, 301(b), 304, 308, 401, 402, and 405 of the Clean Water Act (CWA) provide the basis for the effluent limitations and other conditions in the draft permits. The EPA evaluates the discharges with respect to these sections of the CWA and the relevant National Pollutant Discharge Elimination System (NPDES) regulations to determine which conditions to include in the draft permits. EPA first determines which technology-based limits must be applied to the discharges. We then evaluate the effluent quality expected to result from the pollution controls that are assumed in order to achieve technology-based limits. If we see that the effluent could cause or contribute to any exceedances of water quality standards in the receiving waters, we must include water quality-based limits in the permits. The proposed permit limits will reflect whichever requirements (technology-based or water quality-based) are more stringent (40 CFR §§122.44(a)(1) and 125.3). Finally, under CWA §402(o), reissued permits must contain effluent limits at least as stringent as prior versions of the same permit (with certain limited exceptions).

A. Technology-based Evaluation

Section 301(b) of the CWA requires technology-based controls on effluents. This section of the CWA requires that, by March 31, 1989, all permits contain effluent limitations which: (1) control toxic pollutants and nonconventional pollutants through the use of "best available technology economically achievable" (BAT), and (2) represent "best conventional pollutant control technology" (BCT) for conventional pollutants. In no case, may BCT or BAT be less stringent than "best practicable control technology currently available" (BPT), which is the minimum level of control required by Section 301(b)(1)(A) of the CWA. In many cases, BPT, BCT, and BAT limitations are based on effluent guidelines developed by EPA for discharges from specific industries. If EPA has not developed effluent guidelines for the industrial category or for the pollutant, EPA uses best professional judgment (BPJ) to develop technology-based limitations, as provided in CWA §402(a)(1).

1. Effluent Guidelines

   a. Aquaculture Facilities

On August 23, 2004, EPA promulgated final effluent limitation guidelines (ELGs) for

the concentrated aquatic animal production point source category – the aquaculture industry (69 FR 51892-51930). These guidelines are codified in 40 CFR §451 and apply to those rearing facilities that produce 100,000 pounds or more per year of aquatic animals in flow-through, recirculating, net pen, or submerged cage systems.

The ELG does not impose numerical limitations on any pollutants, but instead expresses limitations for flow-through and recirculating systems as management practices for solids control, materials storage, structural maintenance, recordkeeping, and training, as follows.

(1) The required practices for *solids control* include efficient feed management and feeding strategies, cleaning and harvesting procedures to minimize discharge of accumulated solids, and proper removal and disposal of fish mortalities on a regular basis.

(2) Required materials storage practices include storing drugs, pesticides, and feed in a manner designed to prevent spills to waters of the U.S. and implementing procedures to contain, clean and dispose of any spilled material.

(3) For structural maintenance, physical structures of the production system and wastewater treatment system must be inspected on a routine basis to identify and promptly repair any damage.

(4) Recordkeeping requirements include maintaining records documenting feed amounts and estimates of numbers and weights of fish to calculate representative feed conversion ratios as well as keeping records documenting the frequency of cleaning, inspections, maintenance and repairs.

(5) Training requirements include training all relevant facility staff in spill prevention and response and in proper operation and cleaning of production and wastewater treatment systems including feeding procedures and use of equipment.

b. Fish Processors

A separate ELG (40 CFR §408) applies to certain fish processors, none of which include those covered under the Fish Processor Permit being proposed here.

B. Water Quality-based Evaluation

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

permits under CWA §401.

The regulations at 40 CFR §122.44(d) implement Section 301(b)(1)(C) of the CWA. These regulations require that permits include limits for all pollutants or parameters which "are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard", including State narrative criteria for water quality. The limits must be stringent enough to ensure that water quality standards are met and must be at least as stringent as any available wasteload allocation (WLA). (40 CFR §122.44(d)(1)(vii)(B))

EPA Region 10 developed water quality-based effluent limits and conditions for these permits in one of the following two ways:

1. Effluent limits were developed based on wasteload allocations (WLAs) included in Total Maximum Daily Loads (TMDLs) which were developed by the State of Idaho for the many of the streams receiving effluent from these point source facilities. This is discussed in Sections II.B.2 and III.B.8.

2. Permit conditions or effluent limits for other parameters were developed based upon a "reasonable potential analysis" and guidance in EPA's *Technical Support Document for water quality-based toxics control*[1] (TSD). This is discussed in Section II.B.1 and III.B.

II. Aquaculture Permits

(Note: For the Fish Processor Permit, see §III)

A. Technology-Based Limits

1. Limits applied in 1999 General Permit

The TSS, settleable solids, and total phosphorus (TP) limits applied in the 1999 General Permit were technology-based using BPJ. All of these are listed below in Table B-1. Under the anti-backsliding requirements of Section 402(o) of the CWA, limits applied in subsequent permits must be at least as stringent as these, with limited exceptions.

[1] Technical support document for water quality-based toxics control. U.S. Environmental Protection Agency, Office of Water, EPA/505/2-90-001, March 1991.

Table B-1
Technology-Based Effluent Limitations for Aquaculture Facilities in the 1999 General Permit

Wastewater Source and Net[1] Effluent Pollutant	Average Monthly Limit	Maximum Daily Limit	Maximum Instantaneous Limit
Raceways and ponds			
Total Suspended Solids (TSS) (mg/l) (cold water facilities)	5	10	15
TSS (mg/l) (warm water facilities)	15	25	29
Settleable solids (ml/L)	0.1	0.2	0.2
Total Phosphorus (mg/l) (cold water facilities)	0.10	0.16	0.18
Total Phosphorus (mg/l) (warm water facilities)	0.20	0.32	0.36
Offline settling ponds			
TSS (mg/l)	67	100	100
TSS, minimum removal (%)	90%	--	--
Settleable solids (ml/L)	0.7	1.0	1.0
Settleable solids, minimum removal (%)	95%	--	--

[1] Net addition = effluent concentration – influent concentration

2. Technology-Based Limits for the 2006 permits

a. Application of Modified ELG-required practices

Under the provisions of 40 CFR §451.11, the permitting authority may modify the requirements listed in the ELG, based on BPJ. The draft permits have TSS numeric limitations that are retained from the 1999 permit or that are derived from WLAs; EPA Region 10 has determined that these numeric TSS limitations are more stringent than the practices outlined in the ELG for solids control. Therefore, the required practices that relate specifically to solids control are not applied in the permits. The remaining practices required in the ELG are included, and are listed in Table B-2, below.

b. Application of Modified ELG-Required Practices to all aquaculture facilities

Some of the facilities covered by the aquaculture permits are outside the scope of the ELG (e.g. facilities producing between 20,000 pounds and 100,000 pounds of fish per year). Under the BPJ provisions of the CWA§ 402(a)(1) and 40 CFR §125.3(d), EPA considered the effect of applying the practices required in the ELG (other than those for solids control) to all the aquaculture facilities eligible for coverage under these aquaculture permits. Because these practices do not require the installation of additional equipment and because some of them were retained from the 1999 permit under the anti-backsliding provisions of CWA §402(o), EPA determined that their implementation would be feasible and would involve minimal additional cost over current operating practices. Furthermore, the uniform application of these requirements will maintain equity among the Idaho aquaculture facilities and provide a significant benefit in preventing pollution, thereby protecting endangered and threatened species and the aquatic environment across the state. The ELG required practices that are being applied in the aquaculture permits are listed in Table B-2.

Table B-2
Applicable ELG Required Practices

Pollutants	Required Practice
Drugs and pesticides	--Store drugs and pesticides so that spills to waters of the U.S. are prevented --Implement procedures to contain, clean, and dispose of any spilled material which could enter waters of the U.S. –Train staff on spill prevention and response –Report proposed and actual use of Investigational New Animal Drugs and Extralabel Drug Use
All potential pollutants	--Inspect the integrity of production systems and wastewater treatment systems on a routine basis --Repair damage to these systems promptly to prevent discharges of pollutants to waters of the U.S. --Train staff on inspecting the integrity of production and wastewater treatment systems and on operation & cleaning of production & wastewater treatment systems

c. Instantaneous Maximum Limits

The 1999 permit applied instantaneous maximum limits for some pollutants (TSS and TP). In this evaluation, using BPJ and following standard EPA practice and guidance in the TSD, section 5.2.3, EPA Region 10 determined that the maximum daily limits apply to all samples collected in a calendar day, whether grab or composite. We determined that instantaneous maximum limits included in the 1999 permit are redundant with the maximum daily limits. Therefore, they are not included in the proposed permits.

d. Solids Limits

(1) Settleable Solids (SS) limits

Under BPJ, EPA has determined that compliance with numeric limits for TSS insures that settleable solids are discharged in only trace amounts, less the 1999 SS limits. Therefore, limits for settleable solids are not proposed for these permits; limits for TSS will be applied in these permits, both for their own control and as a surrogate for settleable solids.

(2) Total Suspended Solids limits

EPA Region 10 analyzed data submitted by the aquaculture facilities during the last permit cycle and compiled by IDEQ to determine whether the facilities were consistently complying with the1999 technology-based limits for TSS. The data indicate that discharges from the raceways (both warm-water and cold-water) and off-line settling basins consistently met the technology-based maximum daily and average monthly limits and percent removal requirements for TSS. Under the BPJ provisions of 40 CFR § 125.3(d), we determined that these limits were achievable with the current technology in place at the facilities and with no additional cost. Therefore, we selected these limits as the technology-based limits in the proposed permits. Furthermore, under the BPJ provisions of 40 CFR §125.3(c), we determined that the technology-based numeric limits for TSS are more stringent than the ELG's narrative requirements for control of TSS. This lends additional weight to the selection of these limits for those dischargers producing more than 100,000 pounds of fish per year, which are subject to the ELG. See Tables B-3, below.

e. Biochemical oxygen demand (BOD_5)

EPA evaluated BOD_5 in the development of the ELG and determined that control of TSS provided sufficient control of BOD_5 (67 FR 57891). Under BPJ provisions of 40 CFR §125.3(c), EPA Region 10 applied the same reasoning and determined not to include BOD_5 limits in the permits, since all the permits have numeric TSS limits that are more stringent than the narrative TSS "limits" that were judged in the ELG to provide sufficient control for BOD_5.

f. Phosphorus Limits

The ELG did not apply numeric limits for nutrients, including phosphorus, because, as EPA reasoned in the background information (67 FR 57891), control of TSS also effectively controls such nutrients.

(1) Cold Water Raceways

As with TSS, EPA Region 10 analyzed the phosphorus discharge data submitted by the facilities and found that that discharges from the raceways consistently met the technology-based maximum daily and average monthly limits for TP that were imposed in the 1999 permit. Under the BPJ provisions of 40 CFR §125.3(d), EPA Region 10 concluded that the facilities' records of meeting the 1999 limits showed that those limits were achievable with the current technology in place at the facilities and with no additional cost. We also determined that these numeric TP limits were more stringent than narrative standards for control of TSS in the ELG. Therefore, we selected these limits as the technology-based limits for the cold-water

facilities in the WLA and Cold Water permits. These technology-based limits are included in Table B-3, below.

(2) Warm Water Raceways

EPA Region 10 analyzed the total phosphorus discharge data from the raceways at warm water facilities and found that they had not met the previously applied technology-based limits on a consistent basis. However, in light of the fact that the last permit was the first time that phosphorus limits were applied to these facilities, and because the data shows a general trend toward increasing compliance with the limits as time goes on, under the BPJ provisions of 40 CFR §125.3(d), EPA Region 10 has determined that the facilities should now be able to comply with those limits. Therefore, we have selected them for the proposed permits as the technology-based limits and have listed them in Table B-3.

g. Nitrogenous compounds (Ammonia, Total Kjeldahl nitrogen, nitrate, & nitrite)

EPA evaluated these compounds in the development of the ELG and determined that control of TSS provided sufficient control of these pollutants (67 FR 57891). Under the BPJ provisions of 40 CFR §125.3 (c)(2) and (d), we applied the same reasoning to all the facilities including those producing less than 100,000 of fish per year, which would not be regulated under the ELG. Since the permits contain TSS limits that are more stringent than the ELG's narrative requirements, we determined that the proposed TSS limits would adequately control the discharge of nitrogenous compounds of concern. Therefore, we did not develop technology-based limits for these compounds for most facilities under the aquaculture permits.

Table B-3 summarizes the selected technology-based limits for aquaculture rearing facilities.

Table B-3
Selected Technology-Based Effluent Limitations for Aquaculture Facilities

Wastewater Source and Pollutant	Average Monthly Limit (mg/l)	Maximum Daily Limit (mg/l)
Raceways and ponds		
Net[2] TSS (cold-water)	5	10
Net TSS (warm water)	15	25
Net Total Phosphorus (cold water)	0.10	0.16
Net Total Phosphorus (warm water)	0.20	0.26
Net Total Inorganic Nitrogen	see TSS limits	see TSS limits
Net Total Nitrogen	see TSS limits	see TSS limits
Offline settling basins		
TSS	67	100
TSS, minimum removal (%)	90%	

[2] Net addition = effluent concentration -- influent concentration.

B. Water Quality-based Limits

1. Cold Water Permit, Epicenter Aquaculture, and Non-TMDL Parameters in the WLA Permit

a. Narrative prohibitions, Best Management Practices (BMPs), and water quality standards

The pollutants discharged from the aquaculture facilities were evaluated with respect to the Idaho State Water Quality Standards, found at IDAPA 58, Title 1, Chapter 2 (IDAPA 58.01.02). The standards limit several pollutants of concern in these discharges, while indirectly addressing others, as described below. The beneficial uses of the receiving water determine which water quality standards apply. Since these

permits are developed to cover approximately 100 dischargers to many different streams in Idaho, EPA made the conservative and protective assumption that all the beneficial uses apply to all the receiving waters; therefore, we compared the standards for all the applicable uses and chose the most stringent to apply in the permits. This is a conservative approach that provides permit limits or requirements that will protect the water quality and beneficial uses in all the receiving streams and provide equitable and uniform requirements across the industry in Idaho. The applicable criteria used to develop permit requirements are provided in Table B-4 and the sections following, below.

Table B-4
Applicable Water Quality Standards and Corresponding Permit Conditions

Parameter	Water Quality Standard	Permit Conditions
Biological wastes, e.g. dead fish	Requires that surface waters shall be free from floating, suspended, or submerged matter in concentrations causing nuisance or objectionable conditions or that may impair designated beneficial uses. (IDAPA §58.01.02.200.05)	Prohibitions: 1) Discharging sludge, grit and accumulated solid. 2) Discharging any untreated cleaning wastewaters (e.g., obtained from a vacuum or standpipe bottom drain system or rearing/holding unit disinfection). 3) Discharging any floating, suspended or submerged matter, including dead fish, in amounts causing nuisance or objectionable condition or that may impair designated beneficial uses in the receiving water. 2) Practices (e.g., the removal of dam boards in raceways or ponds) which allow accumulated solids to be discharged to waters of the United States. 3) Discharging untreated cleaning wastewater (e.g., obtained from a vacuum or standpipe bottom drain system or rearing/holding unit disinfection). 4) Sweeping, raking, or otherwise intentionally discharging accumulated solids from raceways or ponds to waters of the United States. 5) Containing, growing, or holding fish
Dissolved oxygen	Requires that dissolved oxygen (DO) concentrations shall exceed 6 mg/l at all times in waters designated as habitat for cold-water biota and salmonid spawning and shall exceed 5 mg/l in waters designated as habitat for warm-water biota (IDAPA §58.01.02.250.02.c.i).	
Floating, suspended or submerged matter	Requires that surface waters shall be free from floating, suspended, or submerged matter in concentrations causing nuisance or objectionable conditions or that may impair designated beneficial uses (IDAPA §58.01.02.200.05).	
Nutrients, including phosphorus, nitrogen and carbon compounds	Requires that surface waters shall be free from excess nutrients that can cause visible slime growths or other nuisance aquatic growths impairing designated beneficial uses (IDAPA §58.01.02.200.06).	
Oxygen-demanding materials	Requires that surface waters shall be free from oxygen-demanding materials in concentrations that would result in an anaerobic water condition (IDAPA §58.01.02.200.07).	
Feed and nutritional supplements	Requires that surface waters shall be free from floating, suspended, or submerged matter (IDAPA §58.01.02.200.05), oxygen-demanding materials (IDAPA §58.01.02.200.07), and excess nutrients (IDAPA §58.01.02.200.06).	
Sediment	Requires that sediment shall not exceed quantities which impair designated beneficial uses (IDAPA §58.01.02.200.08).	

Table B-4
Applicable Water Quality Standards and Corresponding Permit Conditions

Parameter	Water Quality Standard	Permit Conditions
Settleable solids	Requires that surface waters shall be free from floating, suspended and submerged matter (IDAPA §58.01.02.200.05), oxygen-demanding materials (IDAPA §58.01.02.200.07), excess nutrients (IDAPA §58.01.02.200.06), and sediment (IDAPA §58.01.02.200.08)	within an offline or full-flow settling basin.
Total suspended solids	Requires that surface waters shall be free from floating, suspended and submerged matter (IDAPA §58.01.02.200.05), oxygen-demanding materials (IDAPA §58.01.02.200.07), and excess nutrients (IDAPA §58.01.02.200.06).	
Hazardous materials	Requires that surface waters shall be free from hazardous materials in concentrations found to be of public health significance or to impair designated beneficial uses (IDAPA §58.01.02.200.01).	prohibit the discharge of hazardous materials.
Drugs, Pesticides, and other Chemicals	Require that toxic substances shall not be present in concentrations that impair designated beneficial uses (IDAPA §58.01.02.200.02).	prohibit the discharge of any toxic substances, including drugs, pesticides, or other chemicals, in concentrations that impair designated use.
Copper	-Numeric limit based on hardness of the ambient stream -Require that toxic substances shall not be present in concentrations that impair designated beneficial uses (IDAPA §58.01.02.200.02).	Limit the use of chelated copper compounds and copper sulfate to only one raceway at a time.
pH[3]	6.5 - 9.5 standard units for the protection of aquatic life (IDAPA 58.01.02.250.01.a).	Limited to 6.5 -- 9.0 on a daily basis
Total residual chlorine (TRC)[4]	Requires that TRC not exceed 19 µg/l, 1-hour average and 11 µg/l, 4-day average (IDAPA 58.01.02. 250.01.c)	Limited to 11µg/l monthly average; 19 µg/l maximum daily

[3] applies only to fish processing discharges.
[4] Ibid.

b. Solids, including Sediment, Settleable Solids, and Total Suspended Solids

Idaho's State Water Quality Standard requires that sediment shall not exceed quantities which impair designated beneficial uses (IDAPA §58.01.02.200.08) and that turbidity shall not exceed background turbidity by more than fifty (50) NTU instantaneously or more than twenty-five (25) NTU for more than ten (10) consecutive days (IDAPA §58.01.02.250.02.d). IDEQ has determined for purposes of setting target loads for sediment water-quality-limited streams that 52 mg/l TSS or less would not impair designated uses. Because the concentrations of TSS in the discharges from cold water aquaculture facilities that are not subject to WLAs will continue to be limited under technology-based limits of 5 mg/l AML and 10 mg/l MDL and those from warm-water facilities, including Epicenter Aquaculture, under technology-based limits of 15 mg/l AML and 25 mg/l MDL, EPA expects that the discharges will not cause nor contribute to exceedances of the State standard**s** for turbidity or sediment. Therefore, we have not developed TSS water quality-based effluent limits for these facilities.

In addition, suspended (and settleable) solid wastes generated in aquaculture facilities and fish processing facilities contain significant amounts of organic residues, which, if discharged, would cause or contribute to deposits of nutrient-rich, oxygen-demanding material at the points of discharge as well as to nutrient-enrichment of the water column. To address this issue, EPA has applied narrative discharge prohibitions that include prohibiting 1) practices (e.g., the removal of dam boards in raceways or ponds) which allow accumulated solids to be discharged to waters of the United States, and 2) sweeping, raking, or otherwise intentionally discharging accumulated solids from raceways or ponds to waters of the United States.

c. Total Phosphorus

Idaho's State Water Quality Standards require that surface waters of the state shall be free from excess nutrients that can cause visible slime growths or other nuisance aquatic growths impairing designated beneficial uses (IDAPA §58.01.02.200.06). The technology-based TP limits of 0.1 mg/l AML and 0.16 mg/l MDL for cold water facilities and of 0.2 mg/l AML and 0.32 mg/l MDL for warm-water facilities, including Epicenter Aquaculture, were applied in the 1999 permit. Because they did not cause or contribute to violations of the applicable water quality standard in streams that have not been designated as water quality-limited, EPA expects that the discharges will not violate nor contribute to violations of the State standard regarding excess nutrients during the term of this permit. Therefore, we have not developed TP water quality based effluent limits for these facilities.

d. Drug, Pesticide, and Other Chemical Use

The Idaho Water Quality Standards do not specifically limit drugs, pesticides, and other chemicals; however, State standards require that toxic substances shall not be present in concentrations that impair designated beneficial uses (IDAPA 58.01.02.200.02). EPA applies this standard by prohibiting the discharge of any toxic substances, including drugs, pesticides, or other chemicals, in concentrations that impair designated uses.

In the previous permit cycle, EPA required some of the facilities to submit information monthly regarding frequency, timing, and type of chemical use, and estimated or measured discharge concentration. This information was used to evaluate whether the discharge concentrations could cause acute or chronic toxicity to organisms in the receiving water, thus requiring effluent limitations in the permits. The chemicals used that were of possible concern included potassium permanganate, copper sulfate, oxytetracycline, hydrogen peroxide, formalin, and chloramine-T. The evaluation indicated that concentrations in the discharges were below the toxicity concentrations for most aquatic species. While the evaluation indicates effluent limitations are not necessary to protect most aquatic species, there are no data on toxicity of these chemicals to the snails that are listed as endangered or threatened under the Endangered Species Act and that inhabit the Upper Snake River Rock watershed springs, tributaries and river. See the Biological Assessment accompanying this permit for a more detailed discussion.

In order to gather additional data, EPA retains and expands the annual reporting requirements for chemical usage in the current permits. These data will be compared with any new toxicity data to determine whether further testing and/or limits are needed in the next permit cycle. A reopener is included in the proposed permit, so that testing or limits may be incorporated in the permits, if necessary, during the term of these permits.

(1) Total Copper

As noted in the Biological Evaluation and in the Fact Sheet, maximum effluent concentrations of copper from a small number of Idaho aquaculture facilities in the mid-Snake were measured at levels in the effluent in the range of the LC_{50} values for rainbow trout. Because this information is limited and estimated, EPA could not assess the effect of copper discharges on salmonids in the receiving streams. Therefore, we are applying the BMP in Table B-8 to limit the use of copper while we gather information to conduct a reasonable potential analysis in the next permit cycle. Under 40 CFR 122.44 (k)(2) and (3), BMPs may be used to control or abate discharge of pollutants when numeric limits are infeasible and the practices are

reasonably necessary to carry out the purposes and intent of the CWA. This copper BMP aims to protect the biological integrity of the receiving stream.

e. Temperature

(1) Cold Water Facilities

Temperature data collected during the past five years indicates that the temperatures of the discharges from cold water facilities were not significantly different than temperatures measured in the source waters, which average 15 degrees Celsius. Source waters for most facilities are natural spring flows which would have affected the temperature of the receiving waters even if the facilities were not there, warming the receiving waters in the winter and having a cooling affect in the summer. Additionally, many of the receiving waters receive large quantities of warm water from agricultural return flows, while the diversions of stream, river and spring water through cold-water aquaculture facilities produce nominal, if any, increases in the temperature (e.g., Brannon 1991, Borgiotti 1995). Therefore, EPA determined that temperature limits are not necessary for cold water facilities, except in the following special case.

When the state developed a TMDL for temperature in the Big Lost River watershed, it established temperature WLAs for the point sources, including the two cold water facilities discharging to Warm Springs Creek in the watershed. The WLA limits are 22ºC, instantaneous maximum, and 19ºC, daily average, except during spawning periods, March 1 – June 30 and September 15 – November 15, when the limits are 13ºC, instantaneous maximum, and 9ºC, daily average.

(2) Warm Water Facilities

EPA has evaluated the impact of the three warm water hatcheries in the Mid-Snake and finds that these aquaculture facilities, using warm water influents drawn up through deep wells, may discharge effluents that are sufficiently warm into waters designated for cold-water and salmonid spawning uses that they may cause or contribute to exceedances of the Idaho water quality standards[2]. Three of these warm water facilities discharge into the Snake River, which already experiences temperatures above the water quality standards, due to natural summer heating coupled with low streamflows; it is listed as impaired for temperature (IDHW-DEQ 1996). IDEQ has determined that the Upper Snake Rock requires the development of total maximum daily loads (TMDLs) for temperature and has scheduled this assessment for completion in 2007. The three warm water facility discharges into

[2] EPA. 2006. Impact of Three Fish Hatcheries on the Snake River Temperatures. Memo from Ben Cope to Sharon Wilson and Carla Fromm. 1/12/06.

this segment will be studied in this process. An upper limit of 18 degrees Celsius is necessary to protect the habitat for listed snail species, which are known to be present in the vicinity of these three facilities. Therefore, EPA is considering several options regarding setting a temperature limit, possibly at 18 degrees Celsius, and is inviting public input including information regarding available technology to reduce the temperature of warm water discharges to the requisite 18 degrees Celsius to protect endangered snails. Any chosen options would require the concurrence of U.S. Fish and Wildlife Service. The options presently under consideration are:

(a) Set a limit at 18 degrees Celsius;

(b) Wait for IDEQ to develop a temperature TMDL which assigns load reductions to all significant sources;

(c) Require that the facilities:

(i) conduct studies of the presence of snails;

(ii) monitor ambient stream temperatures;

(iii) report on available strategies for reducing effluent temperature; and/or

(iv) implement best management practices to reduce effluent temperatures.

Two warm water facilities discharge to Jacks Creek in the Bruneau watershed. These facilities utilize water from warm water wells drilled for supplying irrigation water to farmers. Because the temperature of the water in the stream is elevated already and because the water used in the facility is cooled by evaporation and conductivity in the process, the facility is actually a heat sink and discharges cooler water than would otherwise be discharged from the wells to the stream for irrigation. Therefore, EPA is not proposing to limit temperature from these facilities. However, we are inviting comment on this issue and submittal of information regarding the technology available to reduce the temperature of the discharges.

The source water for Epicenter Aquaculture is Warm Springs Hydro-Canal, a private canal, which flows from a naturally warm water spring. The facility discharges back to the Warm Springs Hydro-Canal, which discharges to a public canal seven miles downstream; that canal discharges to the Salmon River approximately seven miles further downstream. Because the temperature of the water in the canal is naturally elevated because of its warm source water and because the water used in the facility (from the same source water) is actually cooled by evaporation and conductivity in the facility, the facility is actually a heat sink and discharges water cooler than that same water would be if it had not been withdrawn from the canal for use in the aquaculture facility. Therefore, the proposed individual permit for this facility will not have a limit for temperature. However, we are inviting comment on this issue and submittal of information

regarding the technology available to reduce the temperature of the discharges.

f. Ammonia

Idaho's State Water Quality Standard provides acute and chronic criteria for total ammonia that are dependent on temperature and pH levels. (IDAPA §58.01.02.250.02.c.iii). Ammonia data collected from the discharges from raceways at aquaculture facilities indicate that the discharges are not exceeding the State standard that is applicable in the receiving water. But data collected from offline settling basin discharges from some aquaculture facilities, revealed that ammonia concentrations in these discharges may exceed the ambient State standards at some times. In such cases, EPA analyzes the reasonable potential of the discharge to cause a violation of the State water quality standard. Unfortunately, we do not have temperature and pH data which are necessary to conduct this analysis. Therefore, in these draft permits, EPA is proposing to require the monitoring of ammonia, pH and temperature of the effluents and of the receiving water above offline settling basin discharges. These data will allow the calculation in the next permit cycle of the reasonable potential to exceed State standards for total ammonia at the temperatures and pH of the facilities' discharges and of the receiving streams. We are also requesting comment on the issue of requiring streamflow monitoring or data to support the application of mixing zones for such limits. EPA believes the intermittent nature and small volume of OLSB discharges relative to raceway discharges minimizes adverse effects that occasional spikes in ammonia would have on receiving water.

2. WLA Parameters in WLA Permit

a. Applicable TMDLs

The regulations at 40 CFR §122.44(d)(1)(vii)(B) require that effluent limits be consistent with the assumptions and requirements of any available wasteload allocation (WLA) for a discharge to a water body subject to an approved TMDL. A TMDL is a determination of the amount of a pollutant from point, nonpoint, and natural background sources that may be discharged to a water body without causing the water body to exceed the state water quality criterion for that pollutant. The State of Idaho is developing, has issued, and, if appropriate, EPA has approved final TMDLs, all of which include WLAs for aquaculture facilities and/or fish processors, for the water bodies listed in Table B-5. The TMDLs themselves can be accessed at http://www.deq.state.id.us/water/data_reports/surface_water/tmdls/sba_tmdl_master_list.cfm.

Table B-5
Applicable TMDLs Approved by EPA

River or Watershed	Number of Facilities	Pollutants	Date Approved by EPA
American Falls Reservoir	1	Phosphorus, sediment, nitrogen	Pending
Bear River	3	Phosphorus, sediment	pending
Bruneau River	2	Phosphorus, sediment	March 2001
Big Lost River	2	Sediment	August 2004
Lake Walcott	3	Phosphorus, sediment	June 2000
Portneuf River	2	Phosphorus, sediment, nitrogen	April 2001
Upper Snake Rock	79	Phosphorus, sediment	September 2005

b. Deriving Limits from WLAs

A TMDL provides a wasteload allocation (WLA) for each facility that discharges the regulated pollutant to a watershed addressed by the TMDL. The average monthly limit and the maximum daily limit were derived from the WLAs listed above; the resulting limits for rearing facilities are listed in Tables 9--18 in the Fact Sheet. Those for fish processing facilities are listed in Table B-12, below, as well as in Table 20 in the fact sheet.

In translating the WLAs into permit limits, EPA followed the procedures in the TSD. The first step in developing limits is to determine the time frame over which the WLAs apply. In general, the period over which a criterion applies is based on the length of time the target organism can be exposed to the pollutant without adverse effect. For example, aquatic life criteria generally apply as one-hour averages (acute criteria) or four-day averages (chronic criteria). In the case of total phosphorus, the target organisms are aquatic vegetation which responds to high concentrations with excess growth, which depletes oxygen enough to be detrimental to aquatic life, resulting in eutrophication. High TSS levels can smother snail habitat and add nutrient loading to the water column. Since the period over which these effects occur is uncertain, EPA has determined that applying the WLAs directly as monthly averages is the conservative approach and appropriate.

The MDL is calculated by multiplying the AML by the factors in Equations 4, 5, 6, 7, 8, and 9, the derivation of which is based in part on the coefficient of variation (CV) for the effluent using Equation 3, below, and Table 5-3 in the TSD. A coefficient of variation for cold-water rearing facilities was calculated from a subset of the effluent data compiled by IDEQ for the years 2000 – 2002, using the data reported by 22 of the largest cold-water facilities. This subset was used because these facilities were required to conduct effluent characterization monitoring more frequently than the rest of the facilities; therefore, the data are the most robust available. In EPA's analysis, it discarded non-detect data and outliers greater than three standard deviations from the mean of the data, believing that the latter data may represent sampling or analytical errors. The derived CV for TSS discharges from cold-water facilities was 0.537; the CV for TP was 0.289. Separate CVs were derived for warm-water facilities, including Canyon Springs, First Ascent, and Fish Breeders of Idaho Catfish Farm in the Upper Snake Rock subbasin; and Arraina and Ace Development in the Bruneau River subbasin. The warm water CV for TSS was 1.362; the CV for TP was 0.676. For total inorganic nitrogen for the Portneuf River facilities, the mean was 0.112 and the CV was 0.664.

Equation 3:
$$(MDL) = \frac{(AML) \times \exp(z_{99}\sigma - 0.5\sigma^2)}{\exp(z_{95}\sigma_n - 0.5\sigma_n{}^2)}$$

where:

exp =	base of natural logarithm (= 2.718281828. . .)
σ =	standard deviation
σ_n^2 =	ln ([CV^2/n] + 1)
σ^2 =	ln ([CV^2] + 1)
CV =	the coefficient of variation of the effluent (= σ/mean)
n =	number of samples in monitoring period (assumed n=4)
z =	z statistic
z_m =	z for percentile exceedance probability for the MDL
z_a =	z for percentile exceedance probability for the AML
$z_{95\%}$ =	1.645, for 95th percentile occurrence probability
$z_{99\%}$ =	2.326, for 99th percentile occurrence probability]

Cold-water Rearing Facilities:

Total Suspended Solids:

Equation 4:
$$MDL = AML \times 1.90$$

Total Phosphorus:

Equation 5: $MDL = AML \times 1.48$

Total Inorganic Nitrogen (Portneuf River facilities only)

Equation 6: $MDL = AML \times 2.11$

Total Nitrogen (American Falls Reservoir facility only)

Equation 7: $MDL = AML \times 1.67$

Warm-water Rearing Facilities:

Total Suspended Solids:

Equation 8: $MDL = AML \times 2.81$

Total Phosphorus:

Equation 9: $MDL = AML \times 2.12$

c. Billingsley Creek Limits

The proposed Billingsley Creek TMDL specified WLAs for TP and TSS that vary with the influent flows to the facilities, which, in turn, vary with the flow from their source water springs. Two to ten flow "tiers" were established in the WLA permit depending on each facility's flow variability expected over the next five years while authorized to discharge under the permit. The WLAs for TP and TSS for each flow tier were used as the AMLs and the MDLs were calculated using equations 4 and 5, above.

C. Selection of Proposed Limits

1. Off-Line Settling Basins (OLSBs)

For those facilities with off-line settling basins, the technology-based average monthly and maximum daily limits for TSS from the 1999 permit are retained in these permits under the anti-backsliding provisions Section 402(o) of the CWA. These apply in addition to selection of the lower of the technology-based or water quality-based facility limits. See Table B-6.

Table B-6
Off-Line Settling Basin Effluent Limitations

Parameter	Average Monthly	Maximum Daily
Total Suspended Solids	67 mg/l	100 mg/l & ≥90% removal

2. Cold Water Permit

a. TSS –The technology-based limits of 5 mg/l AML and 10 mg/l MDL are applied, since EPA determined that these were protective of the water quality standards in the receiving waters and therefore did not develop water quality-based effluent limits. In addition, these limits are retained from the 1999 permit under the anti-backsliding provisions of section 402(o) of the CWA. See Table B-7.

b. Total Phosphorus -- The technology-based limits of 0.1 mg/l AML and 0.16 mg/l MDL are applied, since EPA determined that these were protective of the water quality standards in the receiving waters and therefore did not develop water quality-based effluent limits. In addition, these limits are retained from the 1999 permit under the anti-backsliding provisions of section 402(o) of the CWA. See Table B-7.

Table B-7
Limitations on Raceway, Pond and Associated Full-flow Settling Basin Discharges

Parameter	Average Monthly Limit	Maximum Daily Limit
Net Total Suspended Solids (TSS)	5 mg/l	10 mg/l
Net Total Phosphorus (TP)	0.1 mg/l	0.16 mg/l

3. Epicenter Aquaculture individual permit

a. TSS – EPA determined above that the technology-based limits of 15 mg/l AML and 25 mg/l MDL were protective of the water quality standards in the receiving waters and therefore did not develop water quality-based effluent limits. Therefore, EPA proposes these limits for Epicenter Aquaculture. See Table B-8.

b. Total Phosphorus – EPA determined above that the technology-based limits of 0.2 mg/l AML and 0.32 mg/l MDL were protective of the water quality standards in the receiving waters. Therefore, EPA proposes these limits for Epicenter Aquaculture. See Table B-8.

Table B-8
Epicenter Aquaculture
Effluent Limitations

Parameter	Limitations (mg/l)	
	Average Monthly	Maximum Daily
Net TSS	15	25
Net Total Phosphorus	0.20	0.32

4. WLA Permit

The selected limits for the permittees under the WLA permit are listed in the WLA Permit (Tables 2—10) and in the Fact Sheet (Tables 9—17). To conserve paper, they are not repeated here.

a. Upper Snake Rock Watershed

(1) Total Suspended Solids Limits

The IDEQ waste load allocations for TSS for the Upper Snake Rock watershed facilities were based on the technology-based average monthly limit in the previous permit for cold water facilities of 5 mg/l TSS. This concentration limit was converted to a WLA of TSS in units of tons/year for each facility using its long term average facility flows. EPA converted the IDEQ's tons/year WLA to pounds per day for each facility.

As explained above in §III.A.2, the WLA was used as the average monthly limit for all facility discharges combined. Therefore, in cases where these WLA-derived water quality-based load limits for the Upper Snake Rock watershed facilities are based on the technology-based limit of 5 mg/l TSS, EPA Region 10 determined that they are at least as stringent as the technology-based concentration limits. While IDEQ included the discharge from OLSBs in the lbs/day TSS limit for the facilities, under the anti-backsliding provisions of section 402(o) of the CWA, EPA retained the technology-based concentration limits for TSS from OLSBs (67 mg/l AML and 100 mg/l MDL) and per cent removal limit (≥90%) that were applied in the 1999 permit.

(2) Total Phosphorus

The IDEQ wasteload allocations for total phosphorus for the Upper Snake Rock watershed facilities were expressed in units of pounds per day. In most cases, they were based on average discharge concentration levels at or below the technology-based average monthly limits of 0.1 mg/l for cold-water rearing facilities and 0.2 mg/l for warm water rearing facilities. Therefore, EPA determined that they are at least as stringent as the applicable technology-based limits and applied them as the average monthly limit for the facilities.

In four cases, where the average concentration basis for the WLA was above the applicable technology-based limit[3], EPA determined that the WLA was less stringent than the technology-based limit; therefore, the latter was chosen for the facilities. In addition, these technology-based limits are retained under the anti-backsliding provisions of the CWA. See Table B-9, below; **bolded** numbers are the chosen limits.

The technology-based numbers were derived from the annual average WLAs as follows:

Equation 10: $$\frac{TBL(mg/l)}{WLA\_basis(mg/l)} \times WLA(lbs/day) = TBL(lbs/day)$$

[3] IDEQ letter from Doug Howard to Randall Smith, November 15, 2002, enclosure: WLA Subcommittee Proposed Middle Snake River Phosphorus WLA, 30-Sep-02.

Table B-9

Selection of Phosphorus Limitations for Four Rearing Facilities In the Upper Snake Rock Watershed

Facility Name & Permit Number	Concentration Basis (mg/l)	Water Quality-based limits *(lbs/day)*		Technology-based limits *(lbs/day)*	
		AML	MDL	AML	MDL
Fish Breeders of Idaho Catfish Farm *(warm-water)* IDG130041	0.268 *(WLA)*	13.0—19.6 *(16.3 annual average)*	27.6-41.6		
	0.2 *(TBL)*			**12.2**	**17.8**
College of Southern Idaho, IDG130124	0.13 *(WLA)*	1.8-2.2 *(2.2 annual average)*	2.7-3.2		
	0.1 *(TBL)*			**1.7**	**2.5**
Gary Wright Ponds IDG130100	0.105 *(WLA)*	3.4	5.0		
	0.1 *(TBL)*			**3.2**	**4.8**
Rainbow Trout Farms IDG130029	0.108 *(WLA)*	3.8	5.6		
	0.1 *(TBL)*			**3.5**	**5.2**

b. Big Lost River Watershed

(1) Total Suspended Solids Limits

The IDEQ waste load allocations for the Big Lost River watershed facilities for the two facilities were set at 2 mg/l TSS for both average and maximum daily limits. Since this is below the technology-based limit of 5 mg/l (AML) and 10 mg/l (MDL), EPA proposes to apply the WLA as a water quality based limit. However, the TMDL allows a three year period for the facilities to come into compliance with the WLAs; therefore, EPA is applying interim limits equal to the technology-based limits until the final compliance date of August 3, 2007, three years from the

date of the TMDL approval. The permittees must come into compliance as quickly as possible, but in no case later than the final compliance date.

(2) Total Phosphorus

Based on IDEQ's TMDL analysis, no TP wasteload allocations were determined to be necessary to meet water quality standards in the Big Lost River watershed. Therefore, technology-based limits of 0.1 mg TP/l (AML) and 0.16 mg TP/l (MDL), which were applied in the previous permit, were continued for those facilities under the anti-backsliding provisions of Section 402 (o) of the CWA.

c. Portneuf River Watershed

IDEQ has not proposed WLAs for Papoose Springs Trout Ranch; this facility will be covered under the WLA permit only if WLAs are adopted by IDEQ and approved by EPA before these permits are finalized.

(1) Total Suspended Solids Limits

Batise Springs was given a TSS WLA based on the technology-based limit of 5 mg/l. Because of federal regulations requiring the application of mass limits in most situations, EPA converted the concentration WLA to an average monthly mass limit (pounds per day) using the long-term average discharge flow. EPA determined that the WLA is essentially equivalent to the applicable technology-based limits and therefore applied it as the average monthly limits for this facility.

(2) Total Phosphorus

IDEQ's wasteload allocation for Batise Springs Trout Farm for total phosphorus was based on a discharge concentration of 0.05 mg/l. Since this level is well below the applicable technology-based TP limit for cold-water facilities (0.1 mg/l), EPA determined that the WLA is more stringent than the technology-based limit. Therefore, it is applied as the average monthly limit for Batise Springs.

(3) Total Inorganic Nitrogen

The IDEQ wasteload allocation for total inorganic nitrogen for Batise Springs Trout Farm was based on an average concentration of 0.211 mg/l. The technology-based limit calculated from data submitted by the facility is an average monthly limit of 0.41 mg/l. Therefore, the WLA is more stringent and is applied as the average monthly limit.

d. Bear River Watershed

IDEQ submitted the Bear River TMDL to EPA for approval in April 2006. If EPA Region 10 approves the TMDL before these permits are finalized, the limits proposed in these permits will be included in the final WLA permit. If it is not approved, these facilities will be covered under the Cold Water General Permit.

(1) Total Suspended Solids Limits

IDEQ adopted a TMDL for the Bear River that assigned TSS WLAs to the facilities based on the technology-based limit of 5 mg/l. Because of federal regulations requiring the application of mass limits in most situations, EPA converted the concentration WLA to an average monthly mass limit (pounds per day) using the long-term average discharge flow. EPA determined that the WLAs are essentially equivalent to the applicable technology-based limits and therefore proposed them as the average monthly limits for these facilities.

(2) Total Phosphorus

The IDEQ wasteload allocations for total phosphorus for the Bear River watershed facilities were based on annual average concentrations of 0.035 mg/l, 0.010 mg/l, and 0.048 mg/l; since all of these bases are below the applicable technology-based limit of 0.1 mg/l, EPA determined that the WLAs were more stringent than the technology-based limits. Therefore, they are proposed as the average monthly limit for the facilities.

e. American Falls Reservoir Watershed

(1) Total Suspended Solids Limits

The IDEQ wasteload allocation for TSS for the American Falls Reservoir watershed facility was based on the technology-based limit of 5 mg/l. Therefore, EPA determined that the WLA is essentially equivalent to the applicable technology-based limit and therefore applied it as the average monthly limit for the facility.

(2) Total Phosphorus

The IDEQ wasteload allocation for total phosphorus for the American Falls Reservoir watershed facility was based the current average effluent concentration of 0.02 mg/l. Since this is below the applicable technology-based limit of 0.1 mg/l, EPA determined that the WLA is more stringent than the technology-based limit. Therefore, the WLA is applied as the average monthly limit for the facility.

(3) Total Nitrogen

The IDEQ wasteload allocation for total nitrogen for the American Falls Reservoir facility was based on a concentration of 0.11 mg/l; the technology-based average monthly limit calculated based on this number is 0.21 mg/l. EPA determined that the WLA is more stringent and applied it as the average monthly limit for the facility.

f. Bruneau River Watershed

If IDEQ adopts revised or additional WLAs and EPA approves them before these permits are finalized, the WLAs will be applied as the AMLs in the final permits if they are below the applicable technology-based limits. The MDLs will be derived as described in §II.B.2.b, above.

(1) Total Suspended Solids Limits

EPA determined above that the technology-based limits of 15 mg/l AML and 25 mg/l MDL were protective of the water quality standards in the receiving waters since these are well below the state's target in-stream level of 52 mg/L for protecting beneficial uses. Therefore, we did not develop water quality-based effluent limits.

(2) Total Phosphorus

EPA used the WLAs for TP from the approved 2001 TMDL as the AML and derived the MDLs from them using the method described in §II.B.2.b, above. These are an order of magnitude lower and therefore more stringent than the technology-based limits of 0.20 mg/l (AML) and 0.26 mg/l (MDL); therefore, the water-quality based limits are applied.

g. Lake Walcott Watershed

(1) Total Suspended Solids Limits

If IDEQ adopts TSS WLAs for the three facilities in the Lake Walcott watershed and if EPA Region 10 approves the TMDLs, we will include them in the final WLA permit as the AML if they are below the applicable TBL. The MDL will be calculated from the AML as described in §II.B.2.b, above.

(2) Total Phosphorus

If IDEQ adopts TP WLAs for the three facilities in the Lake Walcott watershed and if EPA Region 10 approves the TMDLs, we will include them in the final WLA permit as the AML if they are below the applicable TBL. The MDL will be calculated from the AML as described in §II.B.2.b, above.

III. Fish Processor Permit

A. Technology-based Limits

1. Limits on Fish Processor Discharges in the 1999 General Permit

In the 1999 general permit, EPA Region 10 applied technology-based limits for fish processor wastes based on best professional judgment in its assessment of the industry (Culver 1975[4]) for TSS, BOD_5, and oil and grease.

In addition, EPA applied water quality-based narrative limitations on floating solids, visible foam, and chemicals in toxic amounts and numeric limits for pH and for total residual chlorine at the levels of the Idaho water quality standards. The permit also required that processing waste solids, sludge, filter backwash and other pollutants removed in the treatment of wastewaters be disposed of in a manner so as to prevent any pollutant from such materials from entering the waters of the United States. See Table B-10 for numeric limits in the 1999 permit.

Table B-10
1999 Limits on Fish Processing Wastes

Parameter	Average Monthly	Maximum Daily
BOD_5, lbs/1000 lbs produced	1.88	3.76
TSS, lbs/1000 lbs produced	1.88	3.76
Oil and grease, lbs/1000 lbs produced	1.0	2.0
pH, s.u.	None	6.5 - 9.0
Total residual chlorine, (TRC), µg/l	11[5]	19

[5] Applies only when chlorine disinfection is in use.

[4] Culver, R.I. 1975. *Processing Plant Waste Strength – Rainbow Trout.* (EPA memo to the file through Harold E. Geren, Directo r, I.O.O. April 17, 1975)

2. Proposed Technology-based Limits

a. Biochemical oxygen demand (BOD_5)

EPA Region 10 analyzed the BOD_5 discharge data submitted by the fish processors and found that the discharges were meeting the production-based limits in the last permit of 1.88 lbs/1000 lbs fish produced. Therefore, under the BPJ provisions of 40 CFR §125.3 (c)(2) and (d), we determined that the fish processors are capable of meeting these limits with their currently applied treatment technology. We used those limits as the basis for the proposed permit's technology-based limits.

Because the regulations at 40 CFR §122.45(f) require that all limits be expressed in terms of mass (lbs/day), we converted the performance-based limits in lbs of BOD_5 /1000 lbs of fish produced to mass limits (lbs of BOD_5/day), using the long-term average production rates reported during the last permit cycle and using Equation 11, below. The limits are included in Table B-11, below.

Equation 11: $$\frac{lbs\_fish\_produced}{day} \times 1.88 \frac{lbs\_BOD_5}{1000\_lbs\_fish\_produced} = \frac{lbs\_BOD_5}{day}$$

b. TSS

EPA Region 10 analyzed the TSS discharge data submitted by the fish processors and found that the discharges were meeting the production-based limits in the last permit of 1.88 lbs/1000 lbs fish produced. Therefore, under the BPJ provisions of 40 CFR §125.3 (c)(2) and (d), we determined that the fish processors are capable of meeting these limits with their currently applied treatment technology. We used those limits as the basis for the proposed permit's technology-based limits.

Because the regulations at 40 CFR §122.45(f) require that all limits be expressed in terms of mass (lbs/day), we converted the performance-based limits in lbs of TSS /1000 lbs of fish produced to mass limits (lbs/day), using the long-term average production rates reported during the last permit cycle and using Equation 12, below. The limits are included in Table B-11, below.

Equation 12: $$\frac{lbs\_fish\_produced}{day} \times 1.88 \frac{lbs\_TSS}{1000\_lbs\_fish\_produced} = \frac{lbs\_TSS}{day}$$

c. Total Phosphorus

Total phosphorus was not limited for fish processors in the 1999 permit. However, the permit did require quarterly effluent monitoring. IDEQ has now assigned WLAs to the fish processors for TP, so EPA analyzed the TP discharge data to determine a technology-based limit, using the following process.

The performance-based (technology-based) limits for total phosphorus were derived using the following equations from the TSD, sections 5.4-5.5, and *U.S. EPA NPDES Permit Writers' Manual* (EPA 1996). In these documents, EPA specifies the statistical procedures to be used for the derivation of pollutant-specific, water-quality based limits for NPDES permits. Although we are considering technology-based limits here, the statistical procedure in Table 5-2 of the TSD derives a maximum daily limit (MDL) and the average monthly limit (AML) from the long term average and coefficient of variation of a data set. Limits are set so that the maximum daily and average monthly limits are expected to be exceeded no more than 1% of the time. The equations used to calculate the technology-based limits based on the data from fish processors are below.

Equation 13: $$MaximumDailyLimit(MDL) = Long - termAverage(LTA) \times e^{(z\sigma - 0.5\sigma^2)}$$

Equation 14: $$AverageMonthlyLimit(AML) = LTA \times e^{(z\sigma_n - 0.5\sigma_n^2)}$$

where:

e = base of natural logarithm (= 2.718281828. . .)
σ = standard deviation
σ_n^2 = ln ([CV^2/n] + 1)
σ^2 = ln ([CV^2] + 1)
CV = the coefficient of variation of the effluent (= σ/mean)
n = number of samples in monitoring period
z = z statistic
z_m = z for percentile exceedance probability for the MDL
z_a = z for percentile exceedance probability for the AML
$z_{95\%}$ = 1.645, for 95th percentile occurrence probability
$z_{99\%}$ = 2.326, for 99th percentile occurrence probability]

EPA used IDEQ's compilation of data submitted over the last permit cycle to determine the long-term average and the coefficient of variation (CV) for TP discharged from fish processing facilities. The long term average for total phosphorus discharges is 5.429 mg/l and the coefficient of variation is 0.561. Using Equations 13 and 14, above, the following limits are derived:

Total Phosphorus Limits

$LTA_{processors}$ = 5.429 mg/l
$CV_{processors}$ = 0.561

MDL = 5.429 × 2.942
MDL = 15.97 mg/l

AML = 5.429 × 1.830 (assumes n = 4)
AML = 9.93 mg/l

These limits were converted to mass-based limits (pounds per day) using the average monthly flow and the maximum daily flows, respectively, in the following equation. The limits are included in Table B-11, below.

Equation 15:

$$\frac{X \text{ mg}}{l} \times \frac{3.785 \text{ liters}}{gal} \times \frac{Y \text{ gallons.}}{day.} \times \frac{2.2046 \text{ lbs}}{1{,}000{,}000 \text{ mg}} = \text{lbs/day}$$

Clear Springs Foods (CSF) Processing Plant Holding Ponds

The discharges from the holding ponds were analyzed similarly, but separately from the processing flows at CSF. The long term average concentration for total phosphorus discharges from the holding ponds is 0.0486 mg/l and the coefficient of variation is 0.528.

$LTA_{holding\ ponds}$ = 0.0486 mg/l
$CV_{holding\ ponds}$ = 0.528

MDL = 0.0486 × 2.800
MDL = 0.136 mg/l

AML = 0.0486 × 1.770 (assumes n = 4)
AML = 0.086 mg/l

These limits were converted to mass-based limits (pounds per day) using the average monthly flow and the maximum monthly flow reported to EPA, respectively, using

Equation 15, above. The TP loads from CSF processing flows and holding pond flows are combined in the limits included in Table B-11, below.

$$\text{MDL} = 0.136 \text{ mg/l} \times \frac{3.785 \text{ liters}}{\text{gal}} \times 4.44 \text{ MGD} \times \frac{2.2046 \text{ lbs}}{1{,}000{,}000 \text{ mg}} = 0.685 \text{ lbs/day}$$

$$\text{AML} = 0.086 \text{ mg/l} \times \frac{3.785 \text{ liters}}{\text{gal}} \times 3.87 \text{ MGD} \times \frac{2.2046 \text{ lbs}}{1{,}000{,}000 \text{ mg}} = 0.238 \text{ lbs/day}$$

Total CSF loads

MDL: 20.8 + .7 = 21.5 lbs/day

AML: 11.6 + .2 = 11.8 lbs/day

d. Oil and Grease

EPA analyzed the oil and grease discharge data submitted by the fish processors and found that the discharges were meeting the production-based limits in the 1999 permit. Therefore, we determined that the fish processors are capable of meeting these limits with their currently applied treatment technology. Under the BPJ provisions of 40 CFR §125.3 (c)(2) and (d), we applied these limits as the basis for the proposed permit's technology-based limits.

However, the regulations at 40 CFR §122.45 (f) require that all limits be expressed in terms of mass (lbs/day). Therefore, the EPA converted the production-based limits of the 1999 permit to mass limits (lbs/day), using the long-term average production rates reported during the last permit cycle and using Equation 16, below. The limits are included in Table B-11, below.

Equation 16: $$\frac{lbs\_fish\_produced}{day} \times 1.0 \frac{lbs\_O\&G}{1000\_lbs\_fish\_produced} = \frac{lbs\_O\&G}{day}$$

e. pH

EPA analyzed the pH discharge data submitted by the fish processors and found that the discharges were meeting the limits in the last permit. Therefore, under the BPJ provisions of 40 CFR §125.3 (c)(2) and (d), EPA proposes to retain those limits as

performance-based limits in the fish processor permit and includes them in Table B-11, below.

f. Total Residual Chlorine

EPA analyzed the total residual chlorine discharge data submitted by the fish processors and found that the discharges were not meeting the limits in the last permit. The long term average (LTA) of the chlorine discharges was 0.057 mg/l and the CV was 2.087; based on these numbers, EPA calculated performance-based limits, using equations 13 and 14, above. Under the BPJ provisions of 40 CFR §125.3 (c)(2) and (d), the calculated limits were chosen as the technology-based limits of 0.60 mg/l (MDL) and of 0.29 mg/l (AML), which are included in Table B-11, below.

Total Residual Chlorine Limits

$LTA_{processors}$ = 0.057 mg/l
$CV_{processors}$ = 2.087

MDL = 0.057 × 10.44
MDL = 0.60 mg/l

AML = 0.057 × 5.09 (assumes n = 4)
AML = 0.29 mg/l

Table B-11, below, summarizes the calculated technology-based limits for the fish processor general permit.

Table B-11
Selected Technology-Based Effluent Limitations for Fish Processors

Facility Name	Production Rate (lbs/day)	Permit Number	Parameter	Limitations	
				Average Monthly	Maximum Daily
Clear Lakes Trout Co.	14,480	IDG130011	BOD_5 *(lbs/day)*	27.2	54.4
			TSS *(lbs/day)*	27.2	54.4
			TP *(lbs/day)*	2.1	6.1
			Oil & Grease *(lbs/day)*	14.5	29.0
			Total Residual Chlorine (TRC) *(mg/l)*	0.29	0.60
			pH (*s.u)*	--	6.5 – 9.0
Clear Springs Foods Processing	96,020	IDG130125	BOD_5 *(lbs/day)*	180.5	361.0
			TSS *(lbs/day)*	180.5	361.0
			TP *(lbs/day)*	11.8	21.5
			Oil & Grease *(lbs/day)*	96.0	192.0
			TRC *(mg/l)*	0. 29	0.60
			pH (*s.u)*	--	6.5 – 9.0
Rainbow Trout Farms	10,790	IDG130028	BOD_5 *(lbs/day)*	20.3	40.6
			TSS *(lbs/day)*	20.3	40.6

Table B-11
Selected Technology-Based Effluent Limitations for Fish Processors

Facility Name	Production Rate (lbs/day)	Permit Number	Parameter	Limitations	
				Average Monthly	Maximum Daily
Rainbow Trout Farms *(cont.)*	10,790	IDG130028	TP *(lbs/day)*	2.7	5.0
			Oil & Grease *(lbs/day)*	10.8	21.6
			TRC *(mg/l)*	0. 29	0.60
			pH (*s.u)*	--	6.5 – 9.0
SeaPac of Idaho	23,400	IDG130046	BOD_5 *(lbs/day)*	44.0	88.0
			TSS *(lbs/day)*	44.0	88.0
			TP *(lbs/day)*	4.5	14.0
			Oil & Grease *(lbs/day)*	23.4	46.8
			TRC *(mg/l)*	0. 29	0.60
			pH (*s.u)*	--	6.5 – 9.0

B. Water quality-based Limits for Fish Processing Facilities

1. Biochemical oxygen demand (BOD_5)

The Idaho water quality standard applicable to BOD_5 is the requirement that surface waters shall be free from oxygen-demanding materials in concentrations that would result in an anaerobic water condition (IDAPA §58.01.02.200.07). As mentioned above, EPA Region 10 evaluated the BOD_5 discharge data and found that the discharges were meeting the production-based limits in the last permit of 1.88 lbs/1000 lbs fish produced. We do not have any information that indicates that these discharges violated or contributed to a violation of the

applicable water quality standard. Therefore, we determined that the technology-based limits were sufficient to protect water quality and did not develop a water quality based limit for BOD_5. The anti-backsliding requirements of Section 402(o) of the CWA also support retaining the limits at a level no higher than those in the 1999 permit.

2. Oil and Grease

The Idaho water quality standard applicable to oil and grease is the requirement that surface waters shall be free from floating, suspended, or submerged matter in concentrations causing nuisance or objectionable conditions or that may impair designated beneficial uses (IDAPA §58.01.02.200.05). As mentioned above, EPA Region 10 evaluated the oil and grease discharge data and found that the discharges were meeting the production-based limits in the last permit of 1.0 lbs/1000 lbs fish produced. We do not have any information that indicates that these discharges violated or contributed to a violation of the applicable water quality standard. Therefore, we determined that the technology-based limits were sufficient to protect water quality and did not develop a water quality based limit for oil and grease. The anti-backsliding requirements of Section 402(o) of the CWA also support retaining the limits at a level no higher than those in the 1999 permit.

3. Total Residual Chlorine

Idaho's State Water Quality Standard requires that TRC shall not exceed a one (1) hour average concentration of 19 µg/L nor a 4 day average concentration of 11 µg/L for waters classified for aquatic life use (IDAPA §16.01.02.250.02.a.iii). Since chlorine products are used in equipment sanitization in fish processing facilities, we are proposing maximum daily and average monthly limitations equivalent to the State standards as the water quality based effluent limitations for the fish processor permit.

4. pH

Idaho's State Water Quality Standard requires that pH shall be between 6.5 - 9.5 standard units for the protection of aquatic life (IDAPA 58.01.02.250.01.a). Therefore, this range is selected as the water-quality based MDL for pH.

5. Ammonia

Idaho's State Water Quality Standard provides acute and chronic criteria for total ammonia that are dependent on temperature and pH levels. (IDAPA §58.01.02.250.02.c.iii). As with the offline settling basin discharges from aquaculture facilities, ammonia data collected from the discharges from fish processors indicate that these discharges may exceed the ambient State standards at some times. Again, EPA lacks the data necessary to analyze the reasonable potential of the discharges to cause a violation of the State water quality standard. Therefore, in these draft permits, EPA is proposing to require the monitoring of

ammonia, pH and temperature of the effluents and of the receiving water above fish processor discharges. These data will allow the calculation in the next permit cycle of the reasonable potential to exceed State standards for total ammonia at the temperatures and pH of the processors' discharges and of the receiving streams.

6. Temperature

Temperature was not monitored under the 1999 permit, so there is not sufficient information to assess reasonable potential to violate water quality standards. The proposed permit requires monitoring of both the effluent and receiving water.

7. Drugs, Pesticides, and Other Chemicals

The Idaho Water Quality Standards do not specifically limit drugs, pesticides, and other chemicals; however, State standards require that toxic substances shall not be present in concentrations that impair designated beneficial uses (IDAPA 58.01.02.200.02). EPA applies this standard by prohibiting the discharge of any toxic substances, including drugs, pesticides, or other chemicals, in concentrations that impair designated uses.

EPA includes requirements to report structural failures and chemical spills, as well as chemical usage in the annual report. A reopener is included in the proposed permit, so that testing or limits may be incorporated in the permits, if necessary, during the term of these permits.

8. Water Quality based limits based on WLAs for TSS and Total Phosphorus

All the fish processors covered under this permit discharge into the Upper Snake Rock watershed. Therefore, they all have wasteload allocations under the Upper Snake Rock TMDL. The WLAs were used as the water quality-based AML. The process described in §II.B.2.b, above, was used to develop the maximum daily limit multiplier using the CVs of the discharge data from this sector over the last permit cycle; the CV for TSS is 1.129; for TP, 1.194. The following equations were used to calculate the limits. The limits are in Table B-12, below.

a. Total Suspended Solids

Equation 17: $MDL = AML \times 2.64$

b. Total Phosphorus

Equation 18: $MDL = AML \times 2.70$

Table B-12
Water Quality-based Effluent Limitations for Fish Processors

Facility Name & Permit Number	Parameter	Water Quality-based limits *(lbs/day)*	
		AML	MDL
Clear Lakes Trout Co. IDG130011	TSS	43.0	113.6
	TP	3.3	8.9
Clear Springs Foods, IDG130125	TSS	150.0	396.1
	TP	20.2	54.5
Rainbow Trout Farms IDG130028	TSS	32.0	84.5
	TP	2.5	6.8
Seapac of Idaho IDG130046	TSS	52.0	137.3
	TP	4.7	12.7

C. Selection of Proposed Limits

See Table B-13 below where the all the chosen limits for the fish processors are marked in bold type.

1. BOD_5

Since water quality based limits were not developed for BOD_5, the technology-based limits are proposed in the permit. They are also retained under the anti-backsliding provisions of Section 402(o) of the CWA, though their units have been converted to lbs/day.

2. TSS

The fish processors were assigned WLAs for TSS which are considerably higher than the technology-based limit for TSS, except for the AML for Clear Springs Foods; therefore, the technology-based limits were selected for controlling TSS discharges from the fish processors except the Clear Springs Foods AML, which was based on the WLA in the

TMDL. The technology-based limits are also retained under the anti-backsliding provisions of Section 402 (o) of the CWA, though their units have been converted to lbs/day.

3. Total Phosphorus

The water quality-based limits for TP are considerably higher than the technology-based limit, except for the AML for Rainbow Trout Farms and the MDL for SeaPac; therefore, the technology-based limits were selected for controlling TP discharges from the fish processors except the AML for Rainbow Trout Farms and the MDL for SeaPac, which were based on the WLAs in the TMDL. Where the technology-based limits are selected, they are also retained under the anti-backsliding provisions of Section 402 (o) of the CWA, though their units have been converted to lbs/day.

4. Total Residual Chlorine

The water quality based limits are more protective than the performance-based technology-based chlorine limits. See Table B-13. The water quality based limits are also the same as those in the 1999 permit and so are retained under the anti-backsliding provisions of Section 402 (o) of the CWA. Since the minimum detection level of chlorine is at 0.1 mg/l, the compliance level will be non-detect at 0.1 mg/l.

5. Oil and Grease

Since EPA determined that the technology-based oil and grease limits were protective of the water quality narrative standard, no water quality-based limit was developed. Therefore, the technology-based limits are applied in the permit. The technology-based limits are also retained under the anti-backsliding provisions of Section 402 (o) of the CWA, though their units have been converted to lbs/day.

6. pH

The technology-based limits are more stringent than the water quality-based limits and are therefore selected. They are also retained under the anti-backsliding provisions of Section 402 (o) of the CWA.

Table B-13

Proposed Effluent Limitations for Fish Processors

Facility Name & Permit Number	Parameter	Water Quality-based limits *(lbs/day)*		Technology-based limits *(lbs/day)*	
		AML	**MDL**	**AML**	**MDL**
Clear Lakes Trout Co. IDG130011	BOD_5	--	--	**27.2**	**54.4**
	TSS	43.0	113.6	**27.2**	**54.4**
	TP	3.3	8.9	**2.1**	**6.1**
	TRC	**0.011 mg/l**	**0.019 mg/l**	0.29 mg/l	0.60 mg/l
	Oil & Grease	--	--	**14.5**	**29.0**
	pH (*s.u)*	--	6.5-9.5	--	**6.5 – 9.0**
Clear Springs Foods, IDG130125	BOD_5			**180.5**	**361.0**
	TSS	**150.0**	396.1	180.5	**361.0**
	TP	20.2	54.5	**11.8**	**21.5**
	TRC	**0.011 mg/l**	**0.019 mg/l**	0.29 mg/l	0.60 mg/l
	Oil & Grease	--	--	**96.0**	**192.0**
	pH (*s.u)*	--	6.5-9.5	--	**6.5 – 9.0**
Rainbow Trout Farms IDG130028	BOD_5	--	--	**20.3**	**40.6**
	TSS	32.0	84.5	**20.3**	**40.6**
	TP	**2.5**	6.8	2.7	**5.0**
	TRC	**0.011 mg/l**	**0.019 mg/l**	0.29 mg/l	0.60 mg/l
	Oil & Grease	--	--	**10.8**	**21.6**
	pH (*s.u)*	--	6.5-9.5	--	**6.5 – 9.0**

Table B-13

Proposed Effluent Limitations for Fish Processors

Facility Name & Permit Number	Parameter	Water Quality-based limits *(lbs/day)*		Technology-based limits *(lbs/day)*	
		AML	**MDL**	**AML**	**MDL**
Seapac of Idaho IDG130046	BOD_5	--	--	**44.0**	**88.0**
	TSS	52.0	137.3	**44**	**88**
	TP	4.7	**12.7**	**4.5**	14.0
	TRC	**0.011 mg/l**	**0.019 mg/l**	0.29 mg/l	0.60 mg/l
	Oil & Grease	--	--	**23.4**	**46.8**
	pH (*s.u)*	--	6.5-9.5	--	**6.5 – 9.0**

Appendix C

Compliance Schedule for

Big Lost River Facilities

Compliance Schedule for

Lost River Trout Hatchery and Mackay Trout Hatchery

Big Lost River Subbasin

1. The permittee must achieve compliance with the final Total Suspended Solids, settleable solids, and temperature limitations in Table 6 of the permit as soon as possible but no later than August 3, 2007.

2. Until compliance with the effluent limits is achieved, at a minimum, the permittee must complete the tasks and reports listed below.

   (a) By **90 days after the effective date of this permit**, submit a plan detailing the steps needed to achieve compliance with the final TSS, settleable solids, and temperature limitations by August 3, 2007.

   (b) By **one year after the effective date of this permit**, install any necessary equipment or facilities needed to enable compliance with the final TSS, settleable solids, and temperature limitations.

   (c) By **August 3, 2007**, achieve compliance with the final TSS, settleable solids, and temperature limitations.

Appendix D

Upper Snake Rock Watershed

Pollutant Trading

Pollutant Trading
In The
Upper Snake Rock Subbasin

Aquaculture facilities in the Upper Snake Rock Watershed whose wastewater discharges are authorized under this permit are eligible to trade total phosphorus (TP) credits with other eligible facilities, including the City of Twin Falls, pursuant to the requirements in Idaho's Water Quality Pollutant Trading Guidance 2003, or the most recent version if updated; Upper Snake Rock Watershed Management Plan, Modification, August 2005; and the conditions contained within the general permits. In order to qualify to trade phosphorus credits, the buyer must meet the following conditions:

- the outfall for the purchasing facility must be downstream of the outfall for the selling facility.
- Even with the buying of credits, the buyer's discharge of phosphorus may not exceed the relevant technology-based limit for TP: 0.1 mg/l for cold water facilities; 0.2 mg/l for warm water facilities and 9.93 mg/l (2.7 lbs/day) for Rainbow Trout Farms fish processor.
- The rest of the fish processors and four aquaculture facilities (FBI Catfish Farm, College of Southern Idaho, Gary Wright Ponds, and Rainbow Trout Farms) are not allowed to buy credits at all because their limits are set at the technology-based limit, which is the maximum average monthly limit that can be discharged.

I. How to Buy Credits for Pollutant Trading

A facility may purchase available phosphorus credits (in lbs/day for a specified month) from an upstream facility using the Trade Tracking System operated by the Idaho Clean Water Cooperative to officially record the credit transaction. Acquiring such credits allows the facility to adjust the amount of its reported average monthly TP discharge for that month by subtracting the amount of purchased credits from its actual discharge amount. As noted above, the actual average monthly TP discharge is not allowed to exceed the applicable technology-based limit for the facility. See Fact Sheet §VI.B. The purchased credits are used to lower the effective average monthly phosphorus discharge rather than increase the limit because the EPA's tracking system does not allow credit transactions to adjust a permit limit. The seller's effective discharge is increased for that month by adding the credit amount to its reported average monthly phosphorus discharge so that its adjusted discharge is higher. The seller may not sell so many credits that its adjusted average monthly discharge exceeds its average monthly limit.

II. Timing of Pollutant Trade

Credits can only be traded for the calendar month in which the credit was generated (when the seller decreased its discharge of phosphorus below its average monthly limit to establish the amount of the credit). If a credit is transferred to a qualified aquaculture facility, the resulting decrease in the buying facility's reported average monthly phosphorus discharge is applicable only during the month associated with the credit. The

purchase of phosphorus credits affects only the average monthly limit and does not affect the facility's maximum daily phosphorus limit.

III. Procedure for Transferring Credits

To create a valid transfer of a credit, the authorized buyer and seller must complete a Trade Notification Form, available from the Idaho Clean Water Cooperative. The buyer must submit it to the Cooperative by the last day of the month following the generation of the credit. The Cooperative records the trade in the accounts for the buyer and seller in accordance with the information reported on the Trade Notification Form.

IV. Reporting Pollutant Trades to EPA and IDEQ

The permittee shall submit to EPA (with copies to IDEQ) a phosphorus-specific discharge monitoring report (DMR) and the Trade Summary Report provided by the Idaho Clean Water Cooperative. The Trade Summary Report will provide (A) the permittee's actual average monthly phosphorus discharge; (B) the total amount of credits (in lbs/day) bought, if any; (C) the total amount of credits (in lbs/day) sold, if any; and (D) the permittee's "adjusted discharge", which is equal to A – B + C. The Permittee shall record both (A) and (D) on the DMR.

All DMRs must be submitted in accordance with Section V.B. of the permit. The phosphorus-specific DMR which reports a trade provides the actual phosphorus and "adjusted discharge" and must be submitted by the 10th day of the second month following sampling.

If a Trade Notification Form is provided by the buyer and seller but the credits are not available for transfer to the buyer, then the trade is not recorded in the Trade Tracking System and the buyer is subject to noncompliance penalties for any actual discharge over its permit limit. The amount of credits that are available for purchase is not the responsibility of EPA. Compliance with the permittee's effluent limit shall only be affected by credits that have been validly transferred by the last day of the month following the generation of the credit.

V. Recordkeeping System

No trade is valid unless it is recorded through the Trade Tracking System operated by the Idaho Clean Water Cooperative (or alternatively, IDEQ). The Idaho Clean Water Cooperative records all trades and generates a monthly summary report of all trades valid for each calendar month. The Trade Notification Form must be submitted to the Cooperative by the last day of the month following the generation of the credit in order for it to be recorded in the Trade Tracking System in time to be reported in the monthly Trade Summary Report and submitted with DMR postmarked by the 10th of the second month following the generation of the credit.