STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
15 W Yakima Ave, Ste 200 • Yakima, WA 98902-3452 • (509) 575-2490

January 7, 2010

Al Jensen
Facility Manager
U.S. Fish and Wildlife Service
12790 Fish Hatchery Road
Leavenworth, WA 98826

RE: Final 401 Certification for the Leavenworth National Fish Hatchery
Order No. 7192

Dear Mr. Jensen:

Enclosed is Order number 7192, in the matter of granting a Water Quality Certification to U.S. Fish and Wildlife Service. The certification includes limits and treatment requirements for wastewater discharges, and monitoring and reporting requirements pertaining to water temperature and fish habitat in Icicle Creek affected by hatchery operations.

All correspondence relating to this document should be directed to Pat Irle, Department of Ecology, 15 W. Yakima Avenue, Suite 200, Yakima, WA 98902. If you have any questions concerning the content of the document, please call Pat, at 509/454-7864.

Sincerely,

Charles McKinney

Charles McKinney, Section Manager
Water Quality Program
Central Regional Office

Enclosure: Order No. 7192
1-30-09 Flow Management Plan
Schedule of required studies and reports (Table 1)

By Registered Mail

cc: Steve Croci, Leavenworth National Fish Hatchery
Michael Lidgard, Environmental Protection Agency, Region 10
Tom Tebb, Ecology-Central

IN THE MATTER OF GRANTING A WATER QUALITY CERTIFICATION TO U.S. Fish and Wildlife Service 1790 Fish Hatchery Road Leavenworth, WA 98826 in accordance with 33 U.S.C. 1341 (FWPCA § 401), RCW 90.48.120, RCW 90.48.260 and Chapter 173-201A WAC	))))))))	**ORDER No. 7192** Certification of the Leavenworth National Fish Hatchery (NPDES Permit No. WA-000-190-2) on Icicle Creek, Chelan County, Washington.

TO: **Al Jensen, Facility Manager**
U.S. Fish and Wildlife Service
12790 Fish Hatchery Road
Leavenworth, WA 98826

The Leavenworth National Fish Hatchery (Leavenworth NFH) is required to have a Clean Water Act (CWA) National Pollutant Discharge Elimination System (NPDES) Permit issued by the U.S. Environmental Protection Agency (EPA) authorizing the discharge of wastewater. In 2005, the U.S. Fish and Wildlife Service (USFWS), which manages and operates the Leavenworth NFH, applied to EPA to renew its NPDES Permit. On June 26, 2006, EPA issued a draft NPDES Permit and associated fact sheet for the Leavenworth NFH. On January 15, 2008, Washington State Department of Ecology (Ecology) received an application from the USFWS requesting a CWA Section 401 water quality certification (401 Certification), 33 USC §1341, for the draft NPDES permit. Pursuant to Ecology's request, the USFWS prepared a Tier II Water Quality Analysis for the Leavenworth NFH and submitted it to Ecology on April 30, 2008. On January 9, 2009, Ecology received a request from the USFWS to withdraw and re-apply for a 401 Certification. Ecology has determined that the project has and is likely to continue to violate water quality standards. This Order is intended to ensure that its continued operation does not create future violations. If operated consistent with the terms of this Order, Ecology has reasonable assurance that the project will meet water quality standards. This document represents Ecology's Section 401 water quality certification and ch. 90.48 RCW order (Order) for the Leavenworth NFH. For purposes of this Order, USFWS and Leavenworth NFH will be referred to as Leavenworth NFH.

PROJECT DESCRIPTION

The Leavenworth NFH is located on Icicle Creek, a tributary to the Wenatchee River, at river mile (RM) 3.0 near Leavenworth, Washington. The Leavenworth NFH was authorized as mitigation for the construction of Grand Coulee Dam and is used to capture, spawn, and rear approximately 1.2 million spring Chinook salmon at 70,000 pounds and acclimate coho salmon for a total weight gain of less than 10,000 pounds annually. According to the draft NPDES permit, the Project has had a total daily average discharge of 26 million gallons per day and the main pollutants of concern are nitrogen, phosphorus, settleable solids (SS), total suspended solids (TSS), dissolved oxygen (DO), pH, temperature, and total residual chlorine (EPA, draft NPDES permit). Water is discharged from the hatchery operations at two locations: (1) from the rearing ponds and raceways via combined Outfalls 001 and 004; and (2) from the Pollution Abatement Pond, Outfall 002.

AUTHORITIES

In exercising authority under 33 U.S.C. § 1341, RCW 90.48.120, and RCW 90.48.260, Ecology has reviewed this application pursuant to the following:

1. Conformance with applicable water quality-based, technology-based, and toxic or pretreatment effluent limitations as provided under 33 U.S.C. §§1311, 1312, 1313, 1316, and 1317 (FWPCA §§ 301, 303, 306 and 307);

2. Conformance with the state water quality standards contained in Chapter 173-201A WAC and authorized by 33 U.S.C. §1313 and by Chapter 90.48 RCW, and with other applicable state laws; and

3. Conformance with the provision of using all known, available and reasonable methods to prevent and control pollution of state waters as required by RCW 90.48.010.

4. Conformance with RCW 90.54.020(3)(a) and (b).

WATER QUALITY CERTIFICATION CONDITIONS

Through issuance of this Order, Ecology certifies that it has reasonable assurance that the activity as proposed and conditioned will be conducted in a manner that will comply with applicable water quality standards and other appropriate requirements of state law. In view of the foregoing and in accordance with 33 U.S.C. §1341, RCW 90.48.120, RCW 90.48.260, Chapter 173-200 WAC and Chapter 173-201A WAC, water quality certification is granted to the Leavenworth NFH subject to the conditions within this Order.

Certification of this project does not authorize the Leavenworth NFH to exceed applicable state water quality standards (Chapter 173-201A WAC), ground water quality standards (Chapter 173-200 WAC) or sediment quality standards (Chapter 173-204 WAC). Furthermore, nothing in this certification shall absolve Leavenworth NFH from liability for contamination and any subsequent cleanup of surface waters, ground waters or sediments occurring as a result of project operations.

A. General Conditions

1. For purposes of this Order, the term "Applicant" shall mean the Leavenworth NFH and its agents, assignees and contractors.

2. For purposes of this Order, all submittals required as conditions shall be sent to the Section Manager, Water Quality Program, Washington State Department of Ecology, Central Regional Office, 15 West Yakima Ave., Suite 200, Yakima, WA 98902 or via e-mail (preferred), if possible, to the Section Manager, Water Quality Program for Ecology's Central Regional Office. Notifications shall be made via phone or e-mail (preferred). All submittals and notifications shall be identified with Order No. 7192 and include the Applicant's name, project name, project location, the project contact and the contact's phone number.

3. Conditions B.6, B.7, B.8, and B.9 shall be deemed denied if the EPA does not issue a NPDES Permit for the Leavenworth NFH within two years from the date of the Order.

4. Copies of this Order shall be kept on the site and readily available for reference by staff of the Leavenworth NFH, its contractors and consultants, Ecology personnel, and state and local government inspectors.

5. The Leavenworth NFH shall ensure that all project staff and other workers at the project site with authority to direct work have read and understand relevant conditions of this Order and all permits, approvals, and documents referenced in this Order.

6. The Leavenworth NFH shall provide access to the project site and all monitoring sites upon request by Ecology personnel for site inspections, monitoring, necessary data collection, and/or to ensure that conditions of this Order are being met.

7. Nothing in this Order waives Ecology's authority to issue additional orders if Ecology determines that further actions are necessary to implement the water quality laws of the state. Further, Ecology retains continuing jurisdiction to make modifications hereto through supplemental order, if additional impacts due to project operation are identified (*e.g.*, violations of water quality standards, downstream erosion, etc.), or if additional conditions are necessary to further protect water quality.

8. All applications, reports, or information submitted to Ecology shall be signed and certified.

    a. All permit applications shall be signed by the project staff or manager with authority to act for USFWS.

    b. All reports required by this permit and other information requested by Ecology shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

        i. The authorization is made in writing by a person described above and submitted to Ecology.

        ii. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

    c. Changes to authorization. If an authorization under paragraph A.8.b.ii. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph A.8.b.ii. shall be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.

    d. Certification. Any person signing a document under this section shall make the following certification:

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

9. This Order does not authorize direct, indirect, permanent, or temporary impacts to waters of the state or related aquatic resources, except as specifically provided for in conditions of this Order.

10. Failure of any person or entity to comply with the Order may result in the issuance of civil penalties or other actions, whether administrative or judicial, to enforce the terms of this Order.

B. Specific Conditions

1. Icicle Creek Stream Flow

a. Flow Management. The Leavenworth NFH shall comply with all of the provisions of the Leavenworth National Fish Hatchery Proposed Flow Management Operations 2009-2014 (Proposed Flow Management Plan), dated January 30, 2009, until replaced with a final plan approved by Ecology in writing. A copy of the Flow Management Plan is attached as Appendix A. Compliance shall include completion of all studies to address the information needs identified in the Proposed Flow Management Plan. All studies required by the Proposed Flow Management Plan shall be submitted to Ecology for its review.

b. Ramping Rates. When adjusting Structure 2, flow ramping rates shall not exceed one inch per hour. If the condition or capability of Structure 2 does not reliably allow stage adjustments as fine as one inch per hour, adjustments should be made in the finest increment possible and field observation of the historical channel or the hatchery canal, as appropriate, should be performed to verify that fish stranding is minimized.

c. Flow Monitoring. The Leavenworth NFH shall prepare the following flow monitoring plans, in accordance with the approved Quality Assurance Project Plan (QAPP), described in paragraph D, and implement them upon Ecology's approval.

i. Historic channel and hatchery canal. Within four months of issuance of this Order, the Leavenworth NFH shall prepare a plan describing how stream flow will be monitored in the hatchery canal and the historic Icicle Creek channel. The plan shall include a description of the monitoring equipment to be used, the monitoring frequency, and the procedures for such monitoring. The plan shall be submitted to Ecology for its review and written approval. The plan shall be implemented within 90 days of its approval by Ecology.

ii. Snow/Nada Lake. Within four months of issuance of this Order, the Leavenworth NFH shall prepare a plan for monitoring releases from Snow and Nada Lakes to supplement Icicle Creek flow below USGS Gage 12458000. The plan shall be submitted to Ecology for its review and written approval. The plan shall be implemented within 90 days of its approval by Ecology.

d. Annual Flow Monitoring Report. By December 31 of each year following approval of the flow monitoring plans, the Leavenworth NFH shall submit an annual report to Ecology compiling the flow monitoring data for the prior water year (October 1 – September 30).

e. Implementation. Within four years of the issuance of this Order, the Leavenworth NFH shall submit a Final Flow Management Plan. Once approved by Ecology, Leavenworth NFH shall implement the Final Flow Management Plan on the schedule set forth in the approved plan.

2. IFIM Study.

a. Within 18 months of issuance of this Order, the Leavenworth NFH shall prepare an Instream Flow Incremental Methodology (IFIM) study plan (IFIM Study Plan) for the historic channel consistent with the requirements of "Instream Flow Guidelines: Technical and Habitat Suitability Issues," Publication No. 04-11-007 (WDFW and Ecology, updated 2/12/2008), or an equivalent method or methodology approved by Ecology. The IFIM Study Plan shall include an implementation schedule. Upon completion, the IFIM Study Plan shall be submitted to Ecology for its review and written approval.

b. Within three months of approval by Ecology, the Leavenworth NFH shall implement the IFIM Study Plan.

c. Within three years of the issuance of this Order, the Leavenworth NFH shall submit a report of the IFIM study results to Ecology. The study results shall include flow recommendations. Once approved by Ecology, USFWS shall incorporate the flow recommendations into the proposed Final Flow Management Plan.

3. Fish Passage.

a. Within one year of issuance of this Order, the Leavenworth NFH shall submit a plan to investigate stream flow management and structural options for improving fish passage at (a) the intake structure, (b) Structure 2, and (c) Structure 5.

The investigation shall address the following:

- Determine flows needed for upstream and downstream passage of all swimming stages of native species;
- Investigate a long-term solution for year-round passage that may include modifications to the structure; and

- Analyze the potential for fish stranding due to ramping rates employed for operating Structure 2.

b. Within three years of issuance of this Order, the Leavenworth NFH shall submit a report summarizing the results of the study and recommending flow management and structural options for improving fish passage.

c. Implementation. Once approved by Ecology, USFWS shall incorporate the flow recommendations from the plan into the Final Flow Management Plan and implement the fish passage plan in accordance with the schedule set forth in the approved plan.

4. Hatchery Canal Hydrologic Functions.

a. Aquifer Recharge. The Leavenworth NFH shall prepare a plan to quantify the timing, rate, and volume of water needed in the hatchery canal to provide sufficient recharge to maintain water levels in the shallow aquifer within the range of variation exhibited during the 1945-1980 period. The Aquifer Recharge Plan shall be submitted to Ecology for its review and written approval.

b. Flood Control. The aquifer recharge plan shall also include a description of the operation of Structure 2 for the purpose of flood control.

c. Within three years of the issuance of this Order, Leavenworth NFH shall submit the Aquifer Recharge Plan and the Flood Control operating rules to Ecology for its review and approval. Once approved by Ecology, USFWS shall incorporate the flow recommendations from these two plans into the Final Flow Management Plan.

5. Navigation and Boating.

Within 24 months of issuance of this order, the Leavenworth NFH shall submit a report evaluating approaches or methods to provide navigation and boating through the natural channel reach from structure 2 through structure 5.

6. Temperature and Flow Monitoring.

a. Water used in hatchery operations. In accordance with the Quality Assurance Project Plan prepared pursuant to the requirements of paragraph D, the Leavenworth NFH shall monitor the temperature and flow of (a) each groundwater well; (b) surface water entering the hatchery; and (c) hatchery discharges to Icicle Creek. To the extent that flow monitoring required by this section coincides with or duplicates flow monitoring required in section B.1, the monitoring frequencies and locations should be reconciled with the flow monitoring plans required in section B.1.c.

i. Monitoring frequency. Temperature shall be monitored hourly from October 1st through September 30th.

ii. Monitoring report. By December 31st of each year, the Leavenworth NFH shall prepare and submit to Ecology an annual report summarizing its monitoring results. In addition to the temperature and flow data collected, the

report shall include an analysis comparing the measured temperature of discharged water to the temperature calculated by flow-averaging the well water and surface water used by the hatchery.

b. Instream Temperature. Within two years of the issuance of this Order, the Leavenworth NFH shall submit a Temperature Study Plan to evaluate measures to reduce temperatures in Icicle Creek. The Temperature Study Plan shall include a QAPP consistent with the requirements of paragraph D for monitoring water temperatures at appropriate locations and frequencies and shall be submitted to Ecology for its review and written approval.

i. Plan Contents. The Temperature Study Plan shall include an evaluation of measures to:

- Lower temperatures in Icicle Creek to temperatures that would occur under natural conditions, focusing on the critical period between June and October.

- Meet the site-potential shade throughout the length of the historic river channel and hatchery canal.

ii. Plan Review and Approval. Within four years of the issuance of this Order, the Leavenworth NFH shall submit a report describing the results of the above study, including the environmental impacts, feasibility, costs, and potential schedules for implementation of each feasible alternative. Once approved by Ecology, the Leavenworth NFH shall within 180 days prepare and submit an Implementation Plan for review and written approval by Ecology.

iii. Implementation. Upon Ecology's approval of the Implementation Plan, Leavenworth NFH shall implement it in accordance with the schedule set forth in the approved Implementation plan.

7. Dissolved Oxygen and pH. Portions of the Wenatchee River, lower Icicle Creek, and other tributaries do not meet water quality standards for Dissolved Oxygen and pH during the critical period identified in the Wenatchee River pH and Dissolved Oxygen TMDL, Ecology Publication No. 08-10-062, August 2009. Phosphorus levels in the Wenatchee River watershed must be reduced to improve DO and pH levels to protect aquatic resources and designated uses. In the TMDL, the Leavenworth NFH was allocated a waste load of 0.52 kg/day total phosphorous.

a. Standards. The Leavenworth NFH shall meet a discharge limit of 0.52 kg/day total phosphorous within five years of permit issuance.

b. Monitoring. The Leavenworth NFH shall prepare and implement a QAPP consistent with the requirements of paragraph D to monitor phosphorus levels in its effluent and Icicle Creek flows upstream of the hatchery. Icicle Creek flow monitoring for calculating total phosphorous concentrations and mass should be reflected in the

development of the flow monitoring required in paragraph B.5. Results shall be provided in both concentrations and total mass.

8. Toxics. The Leavenworth NFH shall prepare and implement a QAPP consistent with the requirements of paragraph D to monitor sediment deposited through hatchery operations for the presence of toxic pollutants. The QAPP shall include the following elements:

   a. Every 12 months, sample and analyze sediment in the pollution abatement pond for total PCBs, hexacholorcyclohexanes and endrin.

   b. Once during the five years subsequent to issuance of this order, sample and analyze the sediment in the pollution abatement pond, above the hatchery intake, and below the hatchery outfall for total PCB, endrin, endosulfan II and DDT.

   c. Provisions for the removal and proper disposal of all sediment in the pollution abatement pond in the event that any sample exceeds its Apparent Effects Threshold (Ecology 2003) for the identified parameter.

9. Turbidity. The Leavenworth NFH shall conduct turbidity monitoring when cleaning sediments from (a) the sand settling basin, (b) conveyance channel, (c) behind the fish screens, and (d) the pollution abatement pond.

   a. Sampling analysis and method. Turbidity analysis shall be performed with a calibrated turbidity meter (turbidimeter), either on-site or at an accredited lab. The results shall be recorded in a site log book in Nephelometric Turbidity Units (NTU).

   b. Sampling locations. Sampling is required at all discharge points where water used to clean sediments is being discharged back into surface waters. Background samples shall also be gathered to ensure that the discharge meets the requirements of WAC 173-201A-200 (discharge not to exceed five NTU above background if turbidity is 50 NTU or less, or 10 percent above background if background turbidity is greater than 50 NTU).

   c. Reporting. A copy of sampling results shall be submitted to Ecology within one month of each cleaning event.

C. Aquatic Workgroup.

1. Aquatic Workgroup Participation. Ecology will periodically convene a workgroup of federal, state, and tribal fisheries co-managers for consultation prior to its approval of the several flow- and aquatic resource-related studies, plans, or reports required by this Order. Workgroup members are not obligated to participate. A proposed workgroup member may request Ecology to consult with them separately.

2. Workgroup Composition. Members of the workgroup are USFWS, Ecology, the Yakama Nation, the Colville Confederated Tribes, National Marine Fisheries Service, and Washington Department of Fish and Wildlife.

3. Facilitation. Ecology, or another member of the workgroup, may serve as facilitator for the workgroup.

4. Study Procedures. A summary of the study plans, study reports and implementation plans required under this subsection is provided in Table 1. These documents shall be prepared according to the schedule provided in Table 1 or as modified by Ecology in writing. Where possible, the studies may be done in conjunction with other EPA-required plans and reports associated with the NPDES permit.

5. Plan Preparation. The Leavenworth NFH shall be responsible for preparing proposed study plans and study reports, with any proposed implementation measures, required by this Order. Ecology reserves the right to make the final determination as to the adequacy of the final products required by this 401 Certification.

D. Quality Assurance Project Plan

1. Plan Preparation. The Leavenworth NFH shall prepare a Quality Assurance Project Plan (QAPP) for monitoring of each parameter required to be monitored under this Order, including flow, temperature, phosphorus, turbidity and toxics.

2. QAPP Contents. The QAPP shall be prepared in accordance with the Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies (Ecology Publication Number 04-03-030, July 2004) or its successor. The QAPP shall contain, at a minimum, the list of parameters to be monitored, a map of sampling locations, and descriptions of the purpose of the monitoring, sampling frequency, sampling procedures and equipment, analytical methods, quality control procedures, data handling and data assessment procedures, and reporting protocols.

3. Use of Best Available Science. In preparing the study plans and study reports, and in developing implementation measures to address Project impacts, the Leavenworth NFH shall use the most current and best available scientific information and analysis. When all implementation options are approximately equal in their biologic and hydrologic effectiveness, the Leavenworth NFH may also consider, in evaluating the options, (a) time required to achieve that success, and (b) cost effectiveness of solution.

4. Submittal to Ecology. The draft QAPPs shall be submitted to Ecology for its review and written approval. Once approved, Leavenworth NFH shall follow the approved QAPP for the collection and management of data and analyses for the reports and studies required in section B of this Order.

E. Appeal Process

You have a right to appeal this Order. To appeal this you must:

- File your appeal with the Pollution Control Hearings Board within 30 days of the "date of receipt" of this document. Filing means actual receipt by the Board during regular office hours.
- Serve your appeal on the Department of Ecology within 30 days of the "date of receipt" of this document. Service may be accomplished by any of the procedures identified in WAC 371-08-305(10). "Date of receipt" is defined at RCW 43.21B.001(2).

Be sure to do the following:

- Include a copy of this document that you are appealing with your Notice of Appeal.

- Serve and file your appeal in paper form; electronic copies are not accepted.

1. To file your appeal with the Pollution Control Hearings Board

Mail appeal to:

The Pollution Control Hearings Board
PO Box 40903
Olympia, WA 98504-0903

OR

Deliver your appeal in person to:

The Pollution Control Hearings Board
4224 – 6th Ave SE Rowe Six, Bldg 2
Lacey, WA 98503

2. To serve your appeal on the Department of Ecology

Mail appeal to:

The Department of Ecology
Appeals & Application for Relief Coordinator
PO Box 47608
Olympia, WA 98504-7608

OR

Deliver your appeal in person to:

The Department of Ecology
Appeals & Application for Relief Coordinator
300 Desmond Dr SE
Lacey, WA 98503

3. And send a copy of your appeal to:

Section Manager
Department of Ecology
Central Regional Office
15 W. Yakima Avenue, Suite 200
Yakima, WA 98902

For additional information visit the Environmental Hearings Office Website: http://www.eho.wa.gov
To find laws and agency rules visit the Washington State Legislature Website:
http://www.leg.wa.gov/CodeReviser

Your appeal alone will not stay the effectiveness of this Order. Stay requests must be submitted in accordance with RCW 43.21B.320. These procedures are consistent with Ch. 43.21B RCW.

DATED this 7th day of January, 2010 at Yakima, WA 98902.

Charles McKinney

Charles McKinney, Section Manager
Water Quality Program
Central Regional Office