AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act, as amended, (33 U.S.C. §§1251 et seq.; the "CWA"),

New Hampshire Fish and Game Department

is authorized to discharge from a facility located at

Powder Mill State Fish Hatchery
288 Merrymeeting Road
New Durham, NH 03855

to receiving water named

Merrymeeting River
(Hydrologic Basin Code: 01070002)

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on the date of signature.

This permit and the authorization to discharge expire at midnight, five (5) years from the effective date.

This permit supersedes the permit issued on January 11, 2005.

This permit consists of **16** pages in Part I including effluent limitations, monitoring requirements, etc., and **25** pages in Part II including Standard Conditions and Definitions.

Signed this 22nd day of December, 2011

/s/ Signature on File

_____

Stephen S. Perkins, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency
Boston, Massachusetts

Part I.
A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge culture water and treated hatchery effluent from outfall serial number 001 into Merrymeeting River. Such discharges shall be limited and monitored by the permittee as specified below. Samples taken in compliance with the monitoring requirements specified below shall be taken at a location that provides a representative analysis of the effluent.

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Maximum Daily	Measurement Frequency	Sample Type
Flow (MGD)	Report	---	1/Week	Flow Meter or weir calculation[1]
TSS	Report lbs/day Report mg/l	Report lbs/day Report mg/l	1/Quarter[2]	24 Hour Composite
BOD_5	Report lbs/day Report mg/l	Report lbs/day Report mg/l	1/Quarter[2]	24 Hour Composite
Total Phosphorus as P[3]	Report lbs/day Report mg/l	Report lbs/day Report mg/l	1/Quarter[2]	24 Hour Composite
Total Ammonia as N	Report mg/l	Report mg/l	1/Quarter[2]	24 Hour Composite
Total Nitrogen as N	Report lbs/day Report mg/l	Report lbs/day Report mg/l	1/Quarter[2]	24 Hour Composite
pH Range[4]	6.5 to 8.0 standard units (see Part I.D.1.a)		1/Week	Grab
Fish Biomass on Hand[5], lbs	Report	---	Monthly	Calculation
Fish Feed Used, lbs	Report	---	Monthly	Calculation
Efficiency of Fish Feed Used[6], Percent	Report	---	Monthly	Calculation
Total Residual Chlorine[7] (when Chloramine-T in use), mg/l	0.011	0.019	1/Day	Grab
Hydrogen Peroxide (when in use), mg/l	---	0.7	1/Day	Grab

Dissolved Oxygen[8], mg/l	---	Report	1/Month (Formalin Absent)	Grab
Dissolved Oxygen Saturation[8], Percent	---	Report	1/Month (Formalin Absent)	Grab
Water Temperature, ˚F	---	Report	1/Month (Formalin Absent)	Grab
Formaldehyde[9], mg/l	1.6	4.6	1/Week (Formalin Present)	Grab
Dissolved Oxygen[9], mg/l	---	Report	1/Week (Formalin Present)	Grab

NOTE: See pages 6 and 7 for explanation of the various footnotes.

2. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge culture water and treated hatchery effluent from outfall serial number 002 into Merrymeeting River. Such discharges shall be limited and monitored by the permittee as specified below. Samples taken in compliance with the monitoring requirements specified below shall be taken at a location that provides a representative analysis of the effluent.

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Maximum Daily	Measurement Frequency	Sample Type
Flow (MGD)	Report	---	1/Week	Flow Meter or weir calculation[1]
TSS	Report lbs/day Report mg/l	Report lbs/day Report mg/l	1/Quarter[2]	24 Hour Composite
BOD_5	Report lbs/day Report mg/l	Report lbs/day Report mg/l	1/Quarter[2]	24 Hour Composite
Total Phosphorus as P[3]	Report lbs/day Report mg/l	Report lbs/day Report mg/l	1/Quarter[2]	24 Hour Composite
Total Ammonia as N	Report mg/l	Report mg/l	1/Quarter[2]	24 Hour Composite
Total Nitrogen as N	Report lbs/day Report mg/l	Report lbs/day Report mg/l	1/Quarter[2]	24 Hour Composite
pH Range[4]	6.5 to 8.0 standard units (see Part I.D.1.a)		1/Week	Grab
Fish Biomass on Hand[5], lbs	Report	---	Monthly	Calculation
Fish Feed Used, lbs	Report	---	Monthly	Calculation
Efficiency of Fish Feed Used[6], Percent	Report	---	Monthly	Calculation
Total Residual Chlorine[7] (when Chloramine-T in use), mg/l	0.011	0.019	1/Day	Grab
Hydrogen Peroxide (when in use), mg/l	---	0.7	1/Day	Grab
Dissolved Oxygen[8], mg/l	---	Report	1/Month (Formalin Absent)	Grab

Dissolved Oxygen Saturation[8], Percent	---	Report	1/Month (Formalin Absent)	Grab
Water Temperature, ˚F	---	Report	1/Month (Formalin Absent)	Grab
Formaldehyde[9], mg/l	1.6	4.6	1/Week (Formalin Present)	Grab
Dissolved Oxygen[9], mg/l	---	Report	1/Week (Formalin Present)	Grab

NOTE: See pages 6 and 7 for explanation of the various footnotes.

Part I.
A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS
EXPLANATION OF FOOTNOTES APPLICABLE TO Part I.A.1-2.

(1) The effluent flow shall be continuously measured and recorded using a flow meter and totalizer. In lieu of an effluent flow meter, weir calculations may be used to report effluent flow. To obtain approval for flow measurement method(s) other than a flow meter and totalizer, or weir calculations, the permittee shall submit a written description of the proposed method(s) to EPA and receive written authorization via certified letter before proceeding.

(2) Once per quarter is defined as a sample collected once during each calendar quarter ending March 31st, June 30th, September 30th and December 31st each year. A sample is required each calendar quarter that a discharge occurs on more than one day. Analytical results shall be submitted with that month's Discharge Monitoring Report (DMR).

(3) The minimum level (ML) for phosphorus is defined as 10 micrograms per liter (µg/l). EPA defines the minimum level as the level at which the entire analytical system shall give recognizable signal and calibration points. This value is the minimum level for phosphorus using EPA approved methods found in the most currently approved versions of *Standard Methods for the Examination of Water and Wastewater*. One of these methods must be used to determine total phosphorus. Sample results less than 10 µg/l shall be reported as zero on the discharge monitoring report (DMR).

(4) Limit is a State Certification Requirement.

(5) In addition to reporting fish biomass on hand, the permittee shall submit a written report with its monthly DMR of any significant import and/or export of fingerling or greater size fish which occurred during the reporting month. The report shall include the dates and quantities of each import and/or export. In lieu of a written report, the permittee is allowed to submit a copy of the permittee's appropriate in house "monthly reports form" as long as that form contains information relevant to any significant import and/or export of fingerling or greater size fish which occurred during the reporting month. This report excludes any fish mortality data as that is covered separately under Part I.A.6.

(6) Efficiency of Fish Feed Used = [Fish Weight Gain (lbs)/Fish Food Fed (lbs)] x 100

(7) The ML for total residual chlorine is defined as 20 µg/l using EPA-approved Method 4500-Cl Methods E and G found in the most currently approved versions of *Standard Methods for the Examination of Water and Wastewater*. One of these methods must be used to determine total residual chlorine. Sample results of 20 µg/l or less shall be reported as zero on the DMR, since compliance/non-compliance is determined based on the ML.

(8) Dissolved oxygen (DO) samples shall be collected from a discharge that is Formalin free. Report the MINIMUM DAILY DO concentration for the month, and the corresponding DO percent saturation and effluent temperature associated with the minimum daily DO sampling result.

(9) In order to capture the maximum concentration of Formaldehyde, sampling for Formaldehyde shall occur as soon as possible after any application of Formalin to the hatchery's culture water, after accounting for its detention time through the raceways, tanks and piping networks to the outfall. The detention time calculation shall take into account dosage, injection point, facility flow (both velocity and volume), etc. where possible. See Part I.B.4.e.ii. Recordkeeping. A sample for DO shall be collected concurrently with that for Formaldehyde and reported under the appropriate DO column on the monthly DMR. Report the MINIMUM DAILY DO concentration sampling result for the month.

Formaldehyde shall be tested using EPA Method 1667, Revision A, or 8315A. The ML for Formaldehyde is 50 µg/l. Alternate analytical method(s) shall be approved by EPA at the permittee's written request as long as the permittee utilizes method(s) that obtain MLs that are equal to or less than 50 µg/l. Such a request, if granted, will be considered a minor modification to the permit.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Continued)

3. The discharge shall not cause a violation of the water quality standards of the receiving water.

4. The discharge shall be adequately treated to ensure that the receiving water remains free from pollutants in concentrations or combinations that settle to form harmful deposits, float as foam, debris, scum or other visible pollutants. It shall be adequately treated to ensure that the receiving water remain free from pollutants which produce odor, color, taste or turbidity which is not naturally occurring and would render it unsuitable for its designated uses.

5. Toxic Controls

   a. No components of the effluent shall result in any demonstrable harm to aquatic life or violate any water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards, with the permittee being so notified.

   b. The permittee shall not discharge into the receiving water any pollutant or combination of pollutants in toxic amounts.

6. This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable standard or limitation promulgated or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the CWA if the effluent standard or limitation so issued or approved:

   a. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

   b. Controls any pollutants not limited in the permit. If the permit is modified or reissued, it shall be revised to reflect all currently applicable requirements of the CWA.

7. The permittee shall notify EPA and the New Hampshire Department of Environmental Services, Water Division (NHDES-WD) within twenty-four (24) hours upon the occurrence of any mortality of greater than 25 percent in any aquatic species under culture at the facility (excluding larval fish and eggs) during a single mortality event in accordance with reporting requirements in Standard Conditions Part II.D.1.e.

8. The permittee shall inform the EPA and NHDES-WD in writing at least ninety (90) days before any change in the fish species to be raised or development stage to be attained at this facility, and before any increase in annual fish biomass greater than 20 percent.

9. There shall be no direct discharge of "cleaning water." Cleaning water is defined as any water from the facility's hatchery house, raceways, ponds, canals, circular tanks, etc. which contains settled solids that have accumulated on the bottom of such structures that is discharged, absent some form of solids removal, directly to the receiving water during periodic cleaning operations. The discharge of water from the hatchery house, or any raceway, pond, canal, circular tank, etc. to a settling tank, empty raceway and/or clarifier for the purposes of settling solids, including the temporary storage of those solids, is allowed. The discharges of any decant water that accumulates above those solids and/or any water that flows slowly over those solids is allowed.

10. Any hypochlorite solution applied to the surface of any rearing equipment exposed to culture water must be neutralized prior to that equipment being exposed to culture water.

11. There shall be no discharge of iodine and/or phosphoric acid solution(s) to the receiving water.

12. The permittee shall use only those Aquaculture Drugs and Chemicals approved by the U.S. Food and Drug Administration (USFDA) and in accordance with labeling instructions or as allowed in Part B.1 immediately below. EPA will defer to the USFDA regarding whether or not a particular drug and/or chemical is used in

accordance with appropriate USFDA requirements.

13. Each year as an attachment to the December DMR, the permittee shall certify in writing that all Aquaculture Drugs and Chemicals used at the hatchery during that calendar year were drugs approved by the USFDA and were used in accordance with USFDA labeling or as allowed under Part B.1 "Drug Use."

B. NARRATIVE EFFLUENT LIMITATION REQUIREMENTS

1. Drug Use

Except as noted below, the permittee must notify EPA and the NHDES-WD in accordance with the following procedures of any investigational new animal drug (INAD) or extra-label drug use which may lead to a discharge of the drug to waters of the United States as stipulated below. However, reporting is not required for any INAD or extra-label drug use that has been previously approved by the USFDA for a different species or disease if the INAD or extra-label use is at or below the approved dosage and involves similar conditions of use.

a. The permittee must provide to EPA and NHDES-WD a written report of impending INAD use within 7 days of agreeing or signing up to participate in an INAD study. The written report must identify the INAD to be used, method of use, the dosage, and the disease or condition the INAD is intended to treat.

b. For INADs and extra-label drug uses, the permittee must provide an oral report to EPA and NHDES-WD as soon as possible, preferably in advance of use, but no later than seven (7) days after initiating use of that drug. The oral report must identify the drugs used, method of application, and the reason for using that drug.

c. For INADs and extra-label drug uses, the permittee must provide a written report to EPA and NHDES-WD within thirty (30) days after initiating use of that drug. The written report must identify the drug used and include: the reason for treatment, date(s) and time(s) of the addition (including duration), method of application, and the amount added.

2. Structural Failure and/or Damage to Culture Units

The permittee must notify EPA and NHDES-WD in accordance with the following procedures when there is a "reportable failure" in, or damage to, the structure of an aquatic animal containment system (i.e., culture unit) or its wastewater treatment system that results in an unanticipated material discharge of pollutants to waters of the United States.

a. For this facility, a "reportable failure" applies only to active culture units (ones that contain fish and flowing water) and their ancillary components and refers to the collapse or damage of a rearing unit or its wastewater treatment system;

damage to pipes, valves, and other plumbing fixtures; and damage or malfunction to screens or physical barriers in the system, which would prevent the rearing unit from containing water, sediment (i.e., settled solids), and the aquatic animals being reared. Wastewater treatment systems include ponds or settling tanks to which cleaning water is directly discharged and culture units which are used for the temporary storage of settled solids removed from active culture units.

b. The permittee must provide an oral report to EPA and NHDES-WD within twenty-four (24) hours of discovery of any reportable failure as defined in item 2.a., above, or damage that results in a material discharge of pollutants. The report shall describe the cause of the failure or damage in the containment system and identify materials that have been released to the environment as a result of that failure.

c. The permittee must provide a written report to EPA and NHDES-WD within five (5) days of discovery of the failure or damage documenting the cause, an estimate of the material released as a result of the failure or damage, and steps being taken to prevent a recurrence.

3. Spills

In the event of a spill of drugs, pesticides or feed that results in a discharge to water of the United States, the permittee must provide an oral report of the spill to EPA and NHDES-WD within twenty-four (24) hours of its occurrence and a written report within five (5) days to the above Agencies. The report shall include the identity and quantity of the material spilled.

4. Best Management Practices (BMP) Plan

The permittee must continue to implement and maintain a BMP Plan (PLAN) upon the permit's effective date that describes how the following requirements will be achieved. The permittee will make the current version of that PLAN available to EPA and/or the NHDES-WD upon request. Within ninety (90) days following the permit's effective date, the permittee shall certify in writing to EPA and NHDES-WD that a written PLAN has been developed in accordance with requirements listed in this part and must submit that certification with the appropriate DMR.

Further, the permittee shall amend the PLAN within thirty (30) days following any change in facility design, construction, operation, or maintenance which affects the potential for the discharge of pollutants into surface waters or after the EPA and/or NHDES-WD determine certain changes are required following an event that results in non-compliance, a facility inspection, or review of the PLAN. The permittee shall place in the PLAN a written documentation of each amended change along with a brief description stating the reason for the amendment, including the date the change triggering the amendment occurred. The permittee shall also

document the date the amended PLAN was implemented.

The PLAN must address, at a minimum, the following requirements:

a. Solids Control

i. Employ efficient feed management and feeding strategies that limit feed input to the minimum amount reasonably necessary to achieve production goals and sustain targeted rates of aquatic animal growth in order to minimize potential discharges of uneaten feed and waste products to waters of the United States. Continue use of low phosphorus feed.

ii. In order to minimize the discharge of accumulated solids from settling tanks, basins and production systems, identify and implement procedures for routine cleaning of rearing units and settling tanks, and procedures to minimize any discharge of accumulated solids during the inventorying, grading and harvesting of aquatic animals in the production system. Part I.A.9. prohibits the direct discharge of cleaning water absent some form of solids removal prior to discharge.

iii. If any material is removed from the rearing units and/or settling tanks, describe where it is to be placed and the techniques used to prevent such material from re-entering the surface waters from any on-site storage. If the material is removed from the site, describe who received the material and its method of disposal and/or reuse.

iv. Remove and dispose of aquatic animal mortalities properly and on a regular basis to prevent discharge to waters of the United States, except in cases where EPA and NHDES-WD authorizes such discharges in order to benefit the aquatic environment.

b. Biological Control

i. Describe in detail the precautions that will be exercised by the facility to prevent aquatic organisms that are neither indigenous nor naturalized to New Hampshire waters from becoming established in the local surface waters.

ii. Provide a description for the storage and treatment of discharges to prevent biological pollution (non-indigenous organisms including fish parasites and fish pathogens and dead or dying fish) from entering the receiving water when the cultured fish population or a portion thereof is showing signs of stress.

c. Materials Storage

i. Ensure proper storage of drugs, pesticides, and feed in a manner designed to prevent spills that may result in the discharge of drugs, pesticides or feed to waters of the United States.

ii. Implement procedures for properly containing, cleaning, and disposing of any spilled material.

d. Structural Maintenance

i. Inspect the production system and the wastewater treatment system on a routine basis in order to identify and promptly repair any damage.

ii. Conduct regular maintenance of the production system and the wastewater treatment system in order to ensure that they are properly functioning.

e. Recordkeeping

i. In order to show how representative feed conversion ratios were calculated, maintain records for aquatic animal rearing units documenting the feed amounts and estimates of the number and weight of aquatic animals.

ii. In order to show how the maximum concentration of Formaldehyde in the discharge was derived, maintain records by outfall of the approach/analyses used to determine the elapsed time from its application to its maximum (peak) effluent concentration.

iii. Keep records that document the frequency of cleaning, inspections, repairs and maintenance. In addition, records of all medicinal and chemical usage (i.e., for each occurrence) at the facility shall be recorded and filed in the PLAN to include the dosage concentration, frequency of application (hourly, daily, etc.), the duration (hours, days) of treatment, and the method of application.

f. Training

i. In order to ensure the proper clean-up and disposal of material, adequately train all relevant facility personnel in spill prevention and how to respond in the event of a spill.

ii. Train staff on the proper operation and cleaning of production and wastewater treatment systems including training in feeding procedures and proper use of equipment.

g. Aquaculture Drugs and Chemicals Used for Disease Control and/or Prevention

List in the PLAN all aquaculture drugs and chemicals including all INAD and extra-label drugs and for each, identify:

i. Product name and manufacturer.

ii. Chemical formulation.

iii. Purpose/reason for its use.

iv. Dosage concentration, frequency of application (hourly, daily, etc.) and the duration (hours, days) of application.

v. The method of application.

vi. Material Safety Data Sheets (MSDS) and Chemical Abstracts Service Registry number for each active therapeutic ingredient.

vii. The method or methods, if any, used to detoxify the wastewater prior to its discharge.

viii. The persistence and toxicity in the environment.

ix. Information on USFDA approval for the use of said medication or chemical on fish or fish related products used for human consumption.

x. Available aquatic toxicity data (vendor data, literature data, etc.); Lethal Concentration to 50 percent of test organisms (LC_{50}) at 48 and/or 96 hours and No Effect Level (NOEL) concentrations for typical aquatic organisms (salmon, trout, daphnia, fathead minnow, etc.).

5. General Definitions

a. Approved Dosage - the dose of a drug that has been found to be safe and effective under the conditions of a new animal drug application.

b. Aquatic Animal Containment System - a culture or rearing unit such as a raceway, pond, tank, net or other structure used to contain, hold or produce aquatic animals. The containment system includes structures designed to hold sediments and other materials that are part of a wastewater treatment system.

c. Drug - any substance defined as a drug in section 201(g)(2) of the Federal Food, Drug and Cosmetic Act (21 U.S.C. 321).

d. Extra-label Drug Use - a drug approved under the Federal Food, Drug and Cosmetic Act that is not used in accordance with the approved label direction, see 21 CFR Part 530.

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

f. New Animal Drug Application - defined in 512(b)(1) of the Federal Food, Drug, and Cosmetic Act [21 U.S.C. 360(b)(1)].

g. Pesticide - any substance defined as a "pesticide" in section 2(u) of the Federal Insecticide, Fungicide, and Rodenticide Act [7 U.S.C. 136(u)].

C. MONITORING AND REPORTING

1. For a period of one year from the effective date of the permit, the permittee may either submit monitoring data and other reports to EPA in hard copy form or report electronically using NetDMR, a web-based tool that allows a permittee to electronically submit discharge monitoring reports (DMRs) and other required reports via a secure internet connection. Beginning no later than one year after the effective date of the permit, the permittee shall begin reporting using NetDMR, unless the facility is able to demonstrate a reasonable basis that precludes the use of NetDMR for submitting DMRs and reports. Specific requirements regarding submittal of data and reports in hard copy form and for submittal using NetDMR are described below:

   a. Submittal of Reports Using NetDMR

      NetDMR is accessed from: http://www.epa.gov/netdmr. Within one year of the effective date of this permit, the permittee shall begin submitting DMRs and reports required under this permit electronically to EPA using NetDMR, unless the facility is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR for submitting DMRs and reports ("opt-out request").

      DMRs shall be submitted electronically to EPA no later than the 15th day of the month following the completed reporting period. All reports required under the permit shall be submitted to EPA as electronic attachments to the DMR. Once a permittee begins submitting reports using NetDMR, it will no longer be required to submit hard copies of DMRs or other reports to EPA or to NHDES-WD.

      Notification required herein or in Part II shall be submitted to EPA and NHDES-WD at the addresses listed in Part I.D.1.c below.

b. Submittal of NetDMR Opt-Out Requests

Opt-out requests must be submitted in writing to EPA for written approval at least sixty (60) days prior to the date a facility would be required under this permit to begin using NetDMR. This demonstration shall be valid for twelve (12) months from the date of EPA approval and shall thereupon expire. At such time, DMRs and reports shall be submitted electronically to EPA unless the permittee submits a renewed opt-out request and such request is approved by EPA. All opt-out requests should be sent to the following addresses:

U.S. Environmental Protection Agency
Water Technical Unit
Attn: NetDMR Coordinator
5 Post Office Square, Suite 100 (OES04-1)
Boston, MA 02109-3912

and

New Hampshire Department of Environmental Services
Water Division; Wastewater Engineering Bureau
Attn: Compliance Supervisor
29 Hazen Drive
P.O. Box 95
Concord, New Hampshire 03302-0095

c. Submittal of Reports in Hard Copy Form

Monitoring results shall be summarized for each calendar month and reported on separate hard copy DMRs postmarked no later than the 15th day of the month following the completed reporting period. All reports required under the permit shall be submitted as attachments to the DMRs. Signed and dated original DMRs and all other reports or notifications required herein or in Part II shall be submitted to the Director at the following address:

U.S. Environmental Protection Agency
Water Technical Unit (OES04-SMR)
5 Post Office Square - Suite 100
Boston, MA 02109-3912

Duplicate signed copies of all reports or notifications required above shall be submitted to the State at the following address:

New Hampshire Department of Environmental Services
Water Division

Wastewater Engineering Bureau
29 Hazen Drive
P.O. Box 95
Concord, New Hampshire 03302-0095

2. Any verbal reports, if required in Parts I and/or II of this permit, shall be made to both EPA and to NHDES-WD.

D. STATE PERMIT CONDITIONS

1. The permittee shall comply with the following conditions which are included as State Certification requirements.

   a. The pH of the discharge shall be in the range of 6.5 to 8.0 standard units (S.U.) unless the upstream ambient pH in the receiving water is outside of this range, and is not altered by the facility's discharge or activities. If the permittee's discharge pH is lower than 6.5 S.U., the permittee may demonstrate compliance by showing that the discharge pH is either higher than, or no more than 0.5 S.U. lower than, the ambient upstream river water pH. For this demonstration, the upstream river water sample must be collected on the same day as the discharge pH is measured. The location where the upstream ambient pH sample is collected must be representative of the upstream conditions unaffected by the facility's discharge(s) or activities. Results of the ambient upstream river water pH sampling that are obtained to determine compliance with this limit shall be submitted as an attachment to the DMR.

   b. The permittee shall not at any time, either alone or in conjunction with any person or persons, cause directly or indirectly the discharge of waste into the said receiving water unless it has been treated in such a manner as will not lower the legislated water quality classification or interfere with the uses assigned to said water by the New Hampshire Legislature (RSA 485-A:12).

2. This NPDES Discharge Permit is issued by the EPA under Federal and State law. Upon final issuance by the EPA, the NHDES-WD may adopt this permit, including all terms and conditions, as a State permit pursuant to RSA 485-A:13. Each Agency shall have the independent right to enforce the terms and conditions of this Permit. Any modification, suspension or revocation of this Permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of the Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
EPA NEW ENGLAND
OFFICE OF ECOSYSTEM PROTECTION
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

FACT SHEET

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

PUBLIC NOTICE START AND END DATES: November 7, 2011 thru December 6, 2011

CONTENTS:

NPDES PERMIT NO.: NH0000710

NAME AND MAILING ADDRESS OF APPLICANT:

New Hampshire Fish and Game Department
11 Hazen Drive
Concord, NH 03301-6500

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Facility Location
Powder Mill State Fish Hatchery
288 Merrymeeting Road
New Durham, NH 03855

Mailing Address
Powder Mill State Fish Hatchery
288 Merrymeeting Road
New Durham, NH 03855

RECEIVING WATER: Merrymeeting River (HUC 01070002)

CLASSIFICATION: Class B

Table of Contents

I. Proposed Action, Type of Facility and Discharge Location

The applicant, the New Hampshire Fish and Game Department (NHF&GD), has applied to the U.S. Environmental Protection Agency, New England Office (EPA) for reissuance of its NPDES permit for the discharge of wastewater from its Powder Mill State Fish Hatchery. This state owned and operated facility is engaged in rearing various species of trout (eastern brook, rainbow and brown) hatched from eggs at other NHF&GD hatcheries and transferred as fingerlings to Powder Mill for grow out to suitable size for stocking. Landlocked Atlantic salmon are reared from eggs taken from feral brood fish captured in pound nets each year in the fall (primarily from Lake Winnipesaukee, but occasionally from Squam Lake and/or Sunapee Lake) and transported back to Powder Mill as green eggs for incubation and hatching in the hatchery building followed by grow out to stockable size (8 to

10 fish per pound) in the outside rearing units. All fish from this facility are used for fisheries management (i.e., stocking) in selected rivers, streams and lakes throughout New Hampshire.

The Powder Mill State Fish Hatchery's current permit was issued on January 11, 2005 and expired on April 1, 2010. The applicant has requested renewal of its NPDES permit to discharge hatchery wastewater into the designated receiving water and has submitted the proper application materials. Their current permit has been continued in force (administratively extended) as per 40 Code of Federal Regulations (C.F.R.) § 122.6 until a new permit can be issued.

II. Description of Facility and Discharge

The Powder Mill State Fish Hatchery is located on Merrymeeting Road in New Durham. The location of the Powder Mill State Fish Hatchery, Outfalls 001 and 002 (formerly 010) and the receiving water (Merrymeeting River) are shown in Attachment A.

This hatchery was first established by the NHF&GD in 1947, with rearing units added in the 1970's and again in the 1990's. The hatchery complex consists of a Hatchery House, seven series of Raceways, three Show Ponds, four Woods Ponds, four Bass Ponds and 27 Circular Tanks (shown in Attachment B). The Powder Mill State Fish Hatchery produces Eastern brook trout, rainbow trout, and brown trout for fisheries management of selected water bodies located primarily in the central part of the state (referred to as Regions 2 & 3, or Conservation District # 3 #2, #5 & #6). The facility also provides landlocked salmon to waterbodies managed for landlocked salmon throughout New Hampshire.

According to NHF&GD, the annual production targets at Powder Mill State Fish Hatchery are: 130,000 pounds (lbs) of eastern brook trout, 97,000 lbs of rainbow trout, 32,000 lbs of brown trout, and 6,000 lbs of landlocked salmon. The maximum annual harvestable weight is 265,000 pounds of fish.

The Powder Mill State Fish Hatchery is designated as a concentrated aquatic animal production (CAAP) facility based on criteria found in 40 C.F.R. § 122.24(b) and 40 C.F.R. Part 122 Appendix C. A CAAP is a facility that contains, grows, or holds "cold water fish species or other cold water aquatic animals in ponds, raceways, or other similar structures which discharge at least 30 days per year but does not include facilities that produce less than 9,090 harvest weight kilograms (approximately 20,000 pounds) of aquatic animals per year; and facilities which feed less than 2,272 kilograms (approximately 5,000 pounds) of food during the calendar month of maximum feeding". According to the permit application dated July 6, 2009, this facility produces more than 20,000 pounds of cold water fish and uses 17,000 lbs of food during the calendar month of maximum feeding. Based on the application and monthly Discharge Monitoring Reports (DMRs), the facility will continue to discharge more than 30 days in a given year and produce more than 20,000 lbs harvest weight of fish per year during the next permit cycle.

Discharges from CAAP operations, such as the Powder Mill State Fish Hatchery, typically contain organic and inorganic solids, nutrients, and chemicals used in the prevention and treatment of various diseases. Any of these constituents could impair the water quality in the receiving water. Dissolved and particulate solids in the discharge result from fish feces and uneaten food particles. Nutrients, such as phosphorus and nitrogen, are associated with these solids. The presence of nutrients can result in excessive growth of any or all of the three main algae types: phytoplankton (floating freely in

water column), periphyton (attached to aquatic vegetation or other structures) and macrophytes (typically attached to bottom sediments). The decay of organic solids resulting from excessive concentrations of solids and nutrients can cause low levels of dissolved oxygen in the receiving water.

EPA will continue to authorize a year-round discharge to the waters of the United States with limits, monitoring requirements, and Best Management Practices (BMPs) as described in this Fact Sheet and shown in the accompanying draft permit.

Chemicals, Drugs, and Disinfectants Currently Used in the State's Fish Hatchery System

Normally, fish hatched from eggs in the State's hatchery system take between 15 to 18 months to grow out to the proper size of length/weight for stocking. According to hatchery officials, the key to maintaining good fish health is to prevent pathogens from entering the hatchery and to maintain clean, healthy rearing units. However, when needed, U.S. Food and Drug Administration (FDA)-approved chemicals and drugs are used as therapeutants to maintain fish health. Below is a list of all the chemicals and drugs currently used in the New Hampshire State Fish Hatchery system, along with their intended use, followed by a subset of that list for those used at the Powder Mill State Fish Hatchery. A review of the first ten chemicals/drugs in New Hampshire's overall list indicates they are all FDA approved therapeutants and/or low regulatory priority aquaculture drugs, except for Chloramine-T, which is an investigational new animal drug (INAD). For the last four chemicals (hypochlorite solutions, oxygen gas and a solution of iodine and phosphoric acid), EPA will not regulate (limit their use) these chemicals as long as any applied hypochlorite solution is neutralized with sodium thiosulfate prior to it being exposed to culture water, and the facility continues to not discharge any of the iodine and phosphoric acid solution to the hatchery's culture water. Adding oxygen gas to the culture water to increase its dissolved oxygen concentration is always appropriate and can only lead to increased dissolved oxygen concentrations in the discharged effluent, always a positive environmental outcome.

- Calcium Chloride (Crystalline Form): Added to culture water to increase total hardness of the water.

- Formalin (37 % Formaldehyde Gas in Water with 16 % Methanol): Added as needed to culture water to control external parasites on fish and eggs. Used primarily to kill swimming zoospores and filamentous hyphae of common mold (fungus) that attach to eggs, gills, and/or skin as well as other active parasitic infections. The FDA restricts the use of formalin solution to three products with the following trade names: Formalin-F, Paracide-F and Parasite-S.

- Oxytetracycline Hydrochloride --Also called Terramycin (Crystalline Form): Used as an antibiotic and added as needed to culture water to control pathogenic gill bacteria on fish.

- Polyvinylpyrrolidone (Iodine in 10 % aqueous solution) --Also called Povidone Iodine: Used as needed to disinfect fish eggs and hatchery equipment. Solution is not discharged to the culture water.

- Potassium Permanganate (Crystalline Form): Added as needed to the culture water to provide temporary increase in the concentration of dissolved oxygen.

- Romet 30 (Contains 25 % Sulfadimethoxine and 5 % Oremetoprim): Used as an antibiotic and, on an as needed basis, mixed with fish food to control systemic bacterial pathogens.

- Sodium Chloride (Crystalline Form): Added as needed to culture water to reduce osmotic pressure gradient between fish and water for the absorption of dissolved oxygen by the gills.

- Tricaine Methanesulfonate B --Also called MS-222 (Crystalline Form): Used as a fish anesthetic, but only in separate containers of culture water and is not added to any of the rearing units. Used as needed and solution is not discharged as wastewater.

- Chloramine-T (N-chloro tosylamide sodium salt): An investigational new animal drug used to treat bacterial gill disease (caused by *Flavobacterium branchiophilium*) in salmonid fish species.

- 35% PEROX-AID® (hydrogen peroxide solution): Used as an external microbiocide for the control of mortality in freshwater-reared finfish eggs due to *saprolegniasis*, in freshwater-reared salmonoids due to bacterial gill disease (*Flavobacterium branchiophilum*), and in freshwater-reared cool water finfish due to external columnaris disease (*Flavobacterium columnae*).

- Calcium Hypochlorite (Crystalline Form): See Sodium Hypochlorite.

- Sodium Hypochlorite (5.25 % sodium hypochlorite in water, also known as ordinary household bleach in liquid form): Both hypochlorite chemicals are used to disinfect hatchery equipment and the individual rearing units, as needed. Hypochlorite solutions used to disinfect hatchery equipment (nets, boots, brushes, foot baths, rakes, transport tanks, etc.) are not discharged to the hatchery water and any hypochlorite solution remaining on that equipment is neutralized with sodium thiosulfate prior to its re-introduction into the culture water. If the hatchery needs to disinfect any rearing units, the fish and culture water would first be removed followed by brushing down all surfaces in contact with the culture water with a hypochlorite solution. In turn, that would be followed by a brushing down with sodium thiosulfate to neutralize the chlorite ion followed by an on the spot test using phenolphthalein indicator solution to determine if neutralization has been completed. It is standard practice to use sodium thiosulfate to neutralize chlorine (i.e., a dechlorination agent) in NPDES permits.

- Oxygen Gas: Added to culture water to enhance fish respiration for life support as needed.

- Solution of Iodine and Phosphoric Acid: Used to disinfect hatchery equipment only at the New Hampton hatchery. Used as needed and solution is not discharged to the culture water.

Chemicals, Drugs and Disinfectants Routinely Used at the Powder Mill State Fish Hatchery

- Sodium Chloride (Crystalline Form)

- Formalin - 37 % Formaldehyde Gas in Water with 16 % Methanol

- Chloramine-T (N-chloro tosylamide sodium salt)

- 35% PEROX-AID®

- Polyvinylpyrrolidone (Iodine in 10 % aqueous solution) --Also called Povidone Iodine

- Sodium Chloride (Crystalline Form)

- Sodium Hypochlorite at 5.25 % (Ordinary Household Bleach in Liquid Form)

Review of drug and chemical usage practices at the hatcheries, and the material safety data sheets for the above listed materials indicates that Formalin, Chloramine-T, and PEROX-AID® require effluent limitation because they have a reasonable potential to exceed the New Hampshire's Surface Water Quality Regulations. The draft permit contains effluent limitations for total residual chlorine (when Chloramine-T is in use), hydrogen peroxide (when 35% PEROX-AID® is in use), and formaldehyde (when formalin is in use). See sections entitled "Total Residual Chlorine," "Hydrogen Peroxide," and "Formalin" later in this Fact Sheet.

A quantitative description of significant effluent parameters from the current permit's effluent monitoring data collected at Outfalls 001 and 002 from April 2005 through November 2010 shows: average monthly flow ranged from 0.4 to 20.0 MGD; fish food fed ranged from 0 to 775 lbs/day; and the resident fish biomass population ranged from a low of 0 lbs/day to a high of 4,395 lbs/day. Outfall 002 had higher long-term average flow, fish biomass, and food levels than Outfall 001.

III. Description of Receiving Water

Merrymeeting River is designated as Class B waterbody pursuant to RSA 485-A:8 of the New Hampshire Statutes. Class B waterbodies are considered suitable for fishing, swimming and other recreational purposes, and for use as a water supply after adequate treatment.

Merrymeeting River (Assessment unit NHRIV700020102-04) and Marsh Pond (the downstream impoundment, Assessment unit NHIMP700020102-01-02) are not listed as impaired on New Hampshire Department of Environment's (NHDES's) *Final 2010 Section 303(d) Surface Water Quality List* submitted to EPA for approval. Aquatic life, swimming, and boating uses were not assessed for either waterbody. For both waterbodies, fish consumption is marginal non-support due to atmospheric deposition of mercury (a state-wide listing). According to NHDES, a total maximum daily load (TMDL) has not been completed for Merrymeeting River.

Merrymeeting Lake (Assessment unit NHLAK700020102-03), the source water for the hatchery, is listed as impaired on NHDES's 2010 Section 303(d) List. Aquatic life is marginally impaired due to pH (atmospheric deposition). A TMDL for this waterbody is a low priority for NHDES. The Watershed Report Card (from the 2010 303(d) list) indicates that the lake supports aquatic life regarding total phosphorus and chlorophyll-*a*.

IV. Limitations and Conditions

Effluent limitations, monitoring requirements, and any implementation schedule (if required) are found in Part I of the draft NPDES permit. The basis for each limit and condition is discussed in Section VI of this Fact Sheet.

V. Permit Basis: Statutory and Regulatory Authority

The Clean Water Act (CWA) prohibits the discharge of pollutants to waters of the United States without a NPDES permit unless such a discharge is otherwise authorized by the CWA. The NPDES permit is the mechanism used to implement technology and water-quality based effluent limitations and other requirements including monitoring and reporting. During development, EPA considered the most recent technology-based treatment requirements, water quality-based requirements, and all limitations and requirements in the current/existing permit. The regulations governing the EPA NPDES permit program are generally found at 40 C.F.R. Parts 122, 124, 125, and 136. The general conditions of the draft permit are based on 40 C.F.R. § 122.41 and consist primarily of management requirements common to all permits. The effluent monitoring requirements have been established to yield data representative of the discharge under authority of Section 308(a) of the CWA in accordance with 40 C.F.R. § 122.41(j), § 122.44(i), and § 122.48.

1. Technology-based Requirements

Technology-based treatment requirements represent the minimum level of control that must be imposed under Sections 301(b) and 402 of the CWA (See 40 C.F.R. Part 125, Subpart A). Subpart A of 40 C.F.R. Part 125 establishes criteria and standards for the imposition of technology-based treatment requirements in permits under Section 301(b) of the CWA, including the application of EPA promulgated effluent limitations and, in the absence of promulgated technology-based effluent guidelines, Best Professional Judgment (BPJ) for case-by-case determinations of effluent limitations under Section 402(a)(1)(B) of the CWA.

In general, statutory deadlines for meeting technology-based guidelines (effluent limitations) established pursuant to the CWA have expired. For instance, compliance with the effluent limitations guidelines for fish hatcheries is, effectively, from date of permit issuance [See 69 Federal Register 162, August 23, 2004 Part I.E]. Compliance schedules and deadlines not in accordance with the statutory provisions of the CWA cannot be authorized by a NPDES permit. On August 23, 2004, the EPA promulgated new Effluent Limitations Guidelines and New Source Performance Standards (hereinafter referred to as ELGs) for CAAP facilities [See 40 C.F.R. Part 451].

Typically, ELGs express effluent limitations in the form of numeric standards for specific pollutants, but these new ELGs express effluent limitations in the form of narrative standards in order to achieve reduced discharges of total suspended solids (TSS) and other materials that are generated during the process of culturing fish. These new ELGs apply to the discharge of pollutants from facilities that produce 100,000 pounds or more of aquatic animals per year using flow-through, recirculating, net pen or submerged cage systems and became effective on September 22, 2004 [See Federal Register (FR) on August 23, 2004 (69 FR 51892-51930)]. Additional information relating to development of the ELGs can be found in "*Technical Development Document for the Final Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category (Revised August 2004)*", EPA 821-R-04-01.

The Powder Mill State Fish Hatchery meets the definition of a CAAP at 40 C.F.R. § 122.24(b) and operates flow-through systems. Based on the 2009 permit application, this facility is subject to the ELGs found at 40 C.F.R. Part 451 because it produces more than 100,000 pounds of aquatic animals per year.

In compliance with the ELGs, the Powder Mill State Fish Hatchery must develop and implement operational measures in the form of BMPs to reduce the discharge of solids, the majority of which are uneaten fish food and feces, to the Merrymeeting River. The BMPs specifically protect the Merrymeeting River's minimal assimilative capacity particularly during low-flow periods.

Accordingly, the general reporting requirements detailed in 40 C.F.R. § 451.3 have been incorporated into the draft permit. They require the permittee to report INAD or extralabel drug usage, spills, structural failure and/or damage to rearing units as well as to develop, implement and maintain a BMP plan for the facility. The BMPs must address solids control, materials storage, structural maintenance of culture units and related equipment, recordkeeping and training at the hatchery. BMP plan requirements must represent best practicable control technology currently available, best available technology economically achievable, and best conventional technology as applicable and the permitting authority can modify BMP requirements based on its exercise of best professional judgment (BPJ) [See 40 C.F.R. §§ 451.11, 451.12, and 451.13].

2. Water Quality-based Requirements

Water quality-based limitations are required in NPDES permits when EPA and the State determine that effluent limits more stringent than technology-based limits are necessary to maintain or achieve state or federal water quality standards. See Section 301(b)(1)(C) of the CWA. A water quality standard consists of three elements: (1) beneficial designated use or uses for a waterbody or a segment of a waterbody; (2) a numeric or narrative water quality criteria sufficient to protect the assigned designated use(s); and (3) an antidegradation requirement to ensure that once a use is attained it will not be eroded.

Receiving water requirements are established according to numerical and narrative standards in the state's water quality standards adopted under state law for each stream classification. When using chemical-specific numeric criteria to develop permit limits, both the aquatic-life acute and chronic criteria, expressed in terms of maximum allowable in-stream pollutant concentration, are used. Aquatic-life acute criteria are considered applicable to daily time periods (maximum daily limit) and aquatic-life chronic criteria are considered applicable to monthly time periods (average monthly limit). Chemical-specific limits are allowed under 40 C.F.R. § 122.44(d)(1) and are implemented under 40 C.F.R. §§ 122.45(d) and (f). Therefore, the Region establishes maximum daily and average monthly limits for chemical-specific toxic pollutants based, in part, on a reasonable measure of the facility's actual or projected flow rates on an average monthly and a maximum daily basis for all production-based facilities that have a continuous discharge. Also, the dilution provided by the receiving water is factored into this process. Furthermore, narrative criteria from the state's water quality standards are often used to limit toxicity in discharges where: (1) a specific pollutant can be identified as causing or contributing to the toxicity but the state has no numeric standard; or (2) toxicity cannot be traced to a specific pollutant.

The NPDES permit must limit any pollutant or pollutant parameter (conventional, non-conventional, toxic and whole effluent toxicity) that is or may be discharged at a level that causes or has "reasonable potential" to cause or contribute to an excursion above any water quality criterion. See C.F.R. § 122.44(d)(1). An excursion occurs if the projected or actual in-stream concentration exceeds the applicable criterion. In determining reasonable potential, EPA considers: (1) existing and planned controls on point and non-point sources of pollution; (2) pollutant concentration and variability in the effluent and receiving water as determined from permit's reissuance application,

Monthly DMRs, and State and Federal Water Quality Reports; (3) sensitivity of the species to toxicity testing; (4) statistical approach outlined in Section 3 of the *Technical Support Document for Water Quality-based Toxics Control*, March 1991, EPA/505/2-90-001; and, where appropriate, (5) dilution of the effluent in the receiving water. In accordance with New Hampshire statutes and administrative rules (50 RSA 485-A:8, Env-Wq 1705.02), available dilution for discharges to freshwater receiving waters is based on a known or estimated value of the annual seven consecutive-day mean low flow at the 10-year recurrence interval (7Q10) for aquatic life or the long-term harmonic mean flow for human health (carcinogens only) in the receiving water. Furthermore, 10 % of the receiving water's assimilative capacity is held in reserve for future needs in accordance with New Hampshire's Surface Water Quality Regulations Env-Wq 1705.01. The New Hampshire Code of Administrative Rules Chapter Env-Wq 1700 Surface Water Quality Regulations were readopted and became effective on May 21, 2008. Hereinafter, these Regulations are referred to as the NH Standards.

3. Antibacksliding

EPA's antibacksliding provision as identified in Section 402(o) of the Clean Water Act and at 40 C.F.R. § 122.44(l) prohibits the relaxation of permit limits, standards, and conditions unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued. Antibacksliding provisions apply to effluent limits based on technology, water quality, BPJ and State Certification requirements. Relief from antibacksliding provisions can only be granted under one of the defined exceptions [See 40 C.F.R. § 122.44(l)(2)(i)]. All limits included in the draft permit are at least as stringent as those in the previous permit.

4. Antidegradation

The New Hampshire Antidegradation Policy, found at Env-Wq 1708, applies to any new or increased activity that would lower water quality or affect existing or designated uses, including increased loadings to a waterbody from an existing activity. The antidegradation regulations focus on protecting high quality waters and protecting and maintaining water quality necessary to protect existing uses. The CWA requires that EPA obtain State Certification which states that all water quality standards will be satisfied. The permit must conform to the conditions established pursuant to a State Certification under Section 401 of the CWA (40 C.F.R. §124.53 and §124.55). EPA regulations pertaining to permit limits based upon water quality standards and state requirements are contained in 40 C.F.R. §122.44(d).

This draft permit is being reissued with permit conditions and effluent limitations as stringent as or more stringent than the current permit; with the addition of effluent limits for chlorine (acute and chronic) and hydrogen peroxide (acute). As discussed previously, the extensive rebuilding of the hatchery's outfall network has reduced the number of permitted outfalls to two (Outfalls 001 and 002). See Section VI.1 "Changes to Facility Since Last Permit Issuance" of this Fact Sheet below. Because the draft permit continues to authorize the discharge of hatchery wastewater with the same limitations as the present permit, coupled with the addition of effluent monitoring for chlorine and hydrogen peroxide, EPA expects the State of New Hampshire to indicate that there will be no lowering of water quality and no loss of existing uses as a result of this proposed reissuance. Accordingly, no additional antidegradation review is warranted at this time.

VI. Explanation of Effluent Limitations Derivation

1. Changes to Facility since Last Permit Issuance

In 2005, NHF&GD contracted out a Pipe Consolidation Project to reduce the number of outfalls. Outfalls 002, 006, 007, 008 & 009 were all combined into a single discharge 010 (newly renamed 002). The facility now operates with only the two discharges: 001 (unchanged during project) and 002.

In 2007, the facility invested in a new water supply pipeline from Merrymeeting Lake. This new pipeline was installed with two ultraviolet (UV) water treatment systems for treatment of influent water prior to being used to culture fish at the facility. This new pipeline was installed deeper in Merrymeeting Lake than its predecessor allowing for colder water during the summer months. According to NHF&GD, withdrawing colder, deeper water may reduce exposure of hatchery fish to pathogens believing to be transmitted from feral fish in Merrymeeting Lake. In addition, any pathogens present in lake water from the feral fish would be eliminated by UV treatment. The higher dissolved oxygen levels in the colder water may also reduce stress on the fish, which makes them less susceptible to disease and has reduced the need for the use of medications, primarily Parasite-S®, at the hatchery.

2. Available Dilution

Available dilution (also referred to as dilution factor) provided by the receiving water is determined using the hatchery's average daily discharge along with the annual 7Q10 low flow of the receiving water; Merrymeeting River. The available dilution is reduced by 10 % to account for the State's reserve capacity rule.

The Powder Mill State Fish Hatchery is located just below the outlet of Merrymeeting Lake where it has been reported by the NHDES Dam Bureau, operator of the dam, that each year there are many days during the summer months where little or no flow discharges to the overflow channel from the lake's outlet. Periods of no discharge on a recurring annual basis usually result in a finding of essentially no flow for seven consecutive days at the 10 year return period (7Q10). This fact, coupled with the continuous discharge of overflow water from 2 outfalls located within a short distance of each other, has lead the EPA to conclude that the Merrymeeting River opposite the hatchery has no dilution available for diluting discharges from either of the hatchery's outfalls.

3. Total Suspended Solids (TSS) and Biochemical Oxygen Demand (BOD_5)

The current permit requires quarterly monitoring and reporting of Total Suspended Solids (TSS) and 5-Day Biochemical Oxygen Demand (BOD_5) in lbs/day and mg/l. The narrative standards and reporting requirements in the technology-based effluent limitations guidelines (ELGs) for CAAP facilities (40 CFR Part 451) were incorporated into the current permit. These ELGs established narrative BMPs for solids control. In the preamble to the Final Rule (see 69 Federal Register (FR), August 23, 2004), EPA explained that it was not promulgating numerical limitations for TSS or any other pollutants because a well-operated program to manage feeding, in conjunction with good solids management, is "a key element in achieving effective pollution control at CAAP facilities" (69 FR 51907). EPA concluded that "a combination of settling technology and feed management control

practices or rigorous feed management control and proper solids handling practices alone will achieve low levels of TSS" (69 FR 51908).

At the Powder Mill State Fish Hatchery, NHF&GD uses two earthen settling ponds that receive solids collected from vacuuming the hatchery rearing units. Solids are collected and land applied on local agricultural land.

According to the DMR summary for April 2005 through November 2010 (since consolidation of outfalls), maximum daily TSS values have ranged from 0.0 to 341.1 lbs/day and 0.0 to 10.0 mg/l with the highest long-term average (50.23 lbs/day and 2.0 mg/l) occurring at Outfall 002. Maximum daily BOD_5 ranged from 0.0 to 166.8 lbs/day and 0.0 to 30.0 mg/l with the highest long-term average (23.98 lbs/day and 2.32 mg/L) occurring at Outfall 002. EPA and NHDES anticipate that the BMP prohibiting the direct discharge of cleaning water will ensure the range of pollutant concentrations discharged to the receiving water are protective of its existing and designated uses. The draft permit's monitoring and reporting requirements for TSS and BOD_5 will enable EPA and NHDES to monitor the effectiveness of the BMPs for solids control.

4. pH

The pH range limits in the draft permit are based on Section Env-Wq 1703.18 of the New Hampshire Standards, which specifies that the pH of Class B waters shall be 6.5 to 8.0 standard units (S.U.), unless due to natural causes. According to the DMR summary for April 2005 through November 2010, the daily pH at Outfalls 001 and 002 ranged from 5.9 to 7.7 S.U. The long-term average of the daily minimum pH was 6.5 S.U. at both outfalls.

The draft permit requires the hatchery effluent to be within the range of 6.5 - 8.0 S.U., unless the upstream ambient pH in the receiving water is outside of this range and is not altered by the facility's discharge or activities. In these cases, the permittee may perform sampling of the upstream receiving water to determine whether or not the effluent discharge will significantly alter the pH of the receiving water. If the permittee's discharge is less than 6.5 S.U., compliance may be shown when the discharge pH either exceeds the upstream receiving water pH or is a maximum of 0.5 S.U. lower than the upstream water pH. All receiving water pH monitoring data must be submitted with the facility's monthly DMR.

5. Total Residual Chlorine

The facility uses hypochlorite solutions to clean and disinfect rearing units and hatchery equipment, but EPA and NHDES do not believe the use of hypochlorite solutions results in the presence of residual chlorine in the hatchery effluent. This is because hypochlorite solutions are not discharged directly into the culture water and any hypochlorite solution remaining on the equipment is neutralized with sodium thiosulfate prior to its exposure to that culture water.

The facility uses Chloramine-T, an investigational new animal drug (INAD), to treat bacterial gill disease caused by *Flavobacterium branchiophilium* (FDA INAD #9321 Objective B). Its use must follow the INAD study protocol, and the facility is required to notify EPA as described in Part I.B.1 of the draft permit. The facility has indicated that the use of Chloramine-T will allow it to reduce its use of formalin.

While Chloramine-T has not been used at the Powder Mill State Fish Hatchery to date, at other NHF&GD hatcheries, treatment of diseased fish consists of three consecutive daily static bath treatments of one hour duration with 20 mg/l of Chloramine-T. Following each one hour treatment, the facility neutralizes the treatment solution using sodium thiosulfate, and measures the chlorine residual in the rearing unit to ensure that the chlorine has been neutralized before restarting flow through the system.

The draft permit includes total residual chlorine (TRC) limits to ensure that Chloramine-T use at the facility does not cause TRC criteria violations in the Merrymeeting River. There is no available dilution at the hatchery outfalls, and therefore the maximum daily and average monthly TRC limits are equal to the acute and chronic aquatic life criteria in the NH Standards (19 ug/l and 11 ug/l respectively). The TRC effluent limits and daily monitoring requirement apply whenever Chloramine-T is in use at the facility.

6. Hydrogen Peroxide

The facility uses 35% PEROX-AID® (hydrogen peroxide solution) as an external microbiocide for the control of mortality in freshwater-reared finfish eggs due to saprolegniasis, in freshwater-reared salmonoids due to bacterial gill disease (*Flavobacterium branchiophilum*), and in freshwater-reared cool water finfish due to external columnaris disease (*Flavobacterium columnae*). 35% PEROX-AID® is an FDA-approved drug for freshwater-reared finfish, and its use must adhere to FDA label instructions. The facility has indicated that the use of 35% PEROX-AID® will allow it to reduce its use of formalin.

The facility uses three consecutive daily static bath or continuous flow treatments of 30 to 60 minutes each with 100 mg/l of 35% PEROX-AID® according to the manufacturer's instructions. Treatments are done one rearing unit at a time, and the tank water level is lowered to minimize the amount of chemical needed to achieve the desired dosage, and to minimize peroxide levels in the hatchery effluent.

The NH Standards do not include aquatic toxicity criteria for hydrogen peroxide, but the FDA has derived hydrogen peroxide water quality benchmarks for use by NPDES permitting authorities (*See "Environmental Assessment for the Use of Hydrogen Peroxide in Aquaculture for Treating External Fungal and Bacterial Diseases of Culture Fish and Fish Eggs", United State Geological Survey, 2006, p.72*). For freshwater aquatic life, the acute benchmark (criteria maximum concentration) is 0.7 mg/l. This acute water quality "benchmark" was determined using EPA guidance for deriving water quality criteria. The FDA determined that a corresponding chronic benchmark was unnecessary.

The draft permit includes a maximum daily effluent limit of 0.7 mg/l, and requires daily monitoring of hydrogen peroxide when PEROX-AID® is in use at the facility. The facility monitors residual peroxide using Hach test kit HYP-T #2291700, which has a minimum detection limit of 0.2 mg/l.

7. Total Ammonia

The current permit does not require monitoring of ammonia nitrogen. However, ammonia can be toxic to aquatic life, and can also deplete oxygen concentrations. The aquatic life chronic criteria for ammonia as nitrogen (N) for the summer period (instream pH of 6.5 S.U. and water temperature of 25°C) is 3.40 mg/l and for the winter period (instream pH of 6.5 S.U. and water temperature of 10°C)

is 6.67 mg/l to comply with NH WQS (early life stages of fish present) [See Env-Wq 1703.25]. Given the lack of dilution afforded by the receiving water at this facility, EPA determined that ammonia nitrogen monitoring is necessary to determine if there is a reasonable potential to exceed aquatic life criteria. Because of the potential for ammonia concentrations to deplete dissolved oxygen or increase aquatic life toxicity, the draft permit requires quarterly monitoring and reporting of total ammonia as N.

8. Nutrients (Nitrogen and Phosphorus)

The NH Standards at ENV-Wq 1703.14 require that "Class B waters shall contain no phosphorus or nitrogen in such concentrations that would impair any existing or designated uses, unless naturally occurring." Further, "existing discharges containing either phosphorus or nitrogen which encourages cultural eutrophication shall be treated to remove phosphorus or nitrogen to ensure attainment and maintenance of water quality standards." There are presently no numeric nutrient criteria for nitrogen and phosphorus in the NH water quality standards, but these criteria are currently under development by NHDES.

Nutrients are a pollutant of concern in fish hatchery wastewater, and the current permit requires quarterly monitoring of total phosphorus and total nitrogen to provide data to evaluate the impact of these pollutants on the quality of the receiving water. From April 2005 through November 2010, the maximum daily total phosphorus as P ranged from 0.0 to 0.10 mg/l, with a long-term average at Outfall 001 and Outfall 002 of 0.03 mg/l and 0.05 mg/l, respectively. Mass-based phosphorus values ranged from 0.0 to 3.5 lbs/day. In this same time period, maximum daily total nitrogen as N ranged from 0.0 to 0.90 mg/l, with a long-term average at Outfall 001 and Outfall 002 of 0.21 mg/l and 0.35 mg/l, respectively. Mass-based nitrogen values ranged from 0.0 to 30.4 lbs/day.

There are currently no national or New Hampshire state numeric criteria for nutrient levels to control eutrophication in rivers and streams. However, according to EPA's *Quality Criteria for Water 1986* (Gold Book), the recommended goal for the prevention of nuisance algal growth in flowing waters is 0.1 mg/l. The DMR data summarized above and presented in Appendix C suggest that, on one occasion at Outfall 001, the phosphorus concentration in the effluent approached but did not exceed the recommended Gold Book concentration for flowing waters.

EPA and NHDES continue to expect that the ban on direct discharge of cleaning waters coupled with efficient feed management and feeding strategies (fish food has a phosphorus content that varies from 1.0 to 1.2 % by weight) will minimize nutrient discharges from these sources. The draft permit requires year-round quarterly monitoring for total nitrogen as N and total phosphorus as P.

9. Dissolved Oxygen

The NH Standards require that the instream dissolved oxygen content be at least 75 % of saturation, based on a daily average, and that the instantaneous minimum dissolved oxygen concentration be at least 5 mg/l for Class B waters. See Env-Wq 1703.07(b).

There are several factors which make effluent dissolved oxygen a special concern in this case. These are: (1) water supply for the hatchery is drawn from a point in Merrymeeting Lake about 40 feet below the lake's surface and as a result is likely to have dissolved-oxygen levels below saturation; (2) effluent flows from the hatchery make up the majority of the receiving stream's flow during low flow

periods, meaning that low effluent dissolved oxygen concentrations could significantly depress in-stream concentrations; and (3) the lack of reaeration potential in the stretch of receiving water adjacent to and downstream of the hatchery, which may cause the effluent to negatively affect dissolved oxygen concentrations in Merrymeeting River, particularly if oxygen demand from effluent BOD_5 is significant.

Dissolved oxygen levels of the Powder Mill State Fish Hatchery's effluent between April 2005 and November 2010 ranged from 8.1 to 16.59 mg/l. Dissolved oxygen percent saturation has ranged from a minimum of 80.8% to 120.2%. Dissolved oxygen levels were never less than the minimum of 5 mg/l or 75% saturation required in the NH Standards (Env-Wq 1703.07(b)).

The draft permit continues to require monthly monitoring of the effluent for dissolved oxygen concentration and also requires special monitoring at all times when formalin is being used. The draft permit further requires that the percent saturation be calculated from the dissolved oxygen concentration and temperature to determine if the discharge causes or contributes to exceeding that part of the NH Standards.

10. Formalin

CAAP facilities commonly use biocides, the most common of which are formalin products such as Paracide-F, Formalin-F or Parasite-S, which contain approximately 37 % by weight of formaldehyde gas. Formalin is used for the therapeutic treatment of fungal infections on the eggs of finfish and to control certain external protozoa and monogenetic trematodes on all finfish species. Because it is formulated to selectively kill or remove certain attached organisms, but not the finfish themselves when properly applied, formalin is more toxic to invertebrate species than to vertebrates. When setting the necessary permit limits to protect the receiving water's aquatic environment from the effects of formalin in a discharge, it is more important to develop limits to protect invertebrate species because they are more sensitive to the effects of formaldehyde. In the receiving waters, these invertebrates are an integral part of the food chain for finfish.

Formalin use must be consistent with U.S. Food and Drug Administration (FDA) labeling instructions as per 21 C.F.R. § 529.1030. While the prophylactic use of formalin (i.e., drugs and chemicals used to prevent specific disease(s) in the absence of their symptoms) is not mentioned in those FDA regulations, EPA will only allow its use under the extra-label provisions of the Federal Food, Drug and Cosmetic Act as a Best Management Practice (BMP) to control the excessive use of drugs.

Existing toxicity data indicates that formalin is toxic to aquatic organisms at concentrations below FDA labeling guidelines. Currently there are no acute and chronic aquatic-life criteria for either formalin or formaldehyde in the NH Standards. However, New Hampshire law states that, "all surface waters shall be free from toxic substances or chemical constituents in concentrations or combination that injure or are inimical to plants, animals, humans, or aquatic life" (N.H. RSA 485-A:8, VI and Env-Wq 1703.21(a)(1)). EPA, therefore, will continue to apply the acute, 4.6 mg/l, and chronic, 1.6 mg/l, aquatic-life criteria taken from the Derivation of Ambient Water Quality Criteria for Formaldehyde, Hohreiter, David W. and Rigg, David K., *Journal of Science for Environmental Technology in Chemosphere*, Vol. 45, Issues 4-5, November 2001, pp. 471-486. EPA believes that because these criteria were developed in accordance with EPA's *Guidance for Deriving Numerical*

National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses, they are appropriate for the purpose of establishing effluent limitations.

Additionally, the maximum daily (acute) limit, 4.6 mg/l, and average monthly (chronic) limit, 1.6 mg/l, aquatic-life criteria for formaldehyde are carried forward from the present permit to the draft permit in accordance with the antibacksliding requirements found in 40 C.F.R. § 122.44(1) since the permittee has been able to achieve consistent compliance with these limits. These limits apply at all times, but the monitoring requirements in the draft permit are "when-in-use," since formalin is only used sparingly throughout the year. During the course of the present permit, formaldehyde was not discharged at Outfall 001 and was discharged 17 times at Outfall 002, most recently in December 2009. The numeric effluent limits were not exceeded. The hatchery has expressed interest in discontinuing the use of formalin in favor of Chloramine-T and/or PEROX-AID®, and the draft permit includes numeric limits for the pollutants associated with these chemicals. In addition, the draft permit has retained the numeric limits and monitoring requirements for formaldehyde for periods when formalin is used.

11. Best Management Practices (BMPs)

The ELGs contained in 40 C.F.R. § 451.11 are narrative limitations that describe BMPs to which the facility must adhere. These practices require the permittee to develop and employ methods for: feed management, removal of accumulated solids, proper storage of drugs and pesticides, spill prevention, management of the wastewater treatment system, maintenance of accurate records, and ensuring that all personnel receive proper training.

Three additional BMP Plan categories added to the current permit based on EPA's BPJ authority have been carried over to the draft permit consistent with the antibacksliding regulations found in 40 C.F.R. § 122.44(l). The categories are: (1) detailing precautions taken to prevent aquatic organisms that are neither indigenous nor naturalized to New Hampshire waters from becoming established in local surface waters; (2) identifying and quantifying all aquaculture drugs and chemicals used at this facility; and (3) describing where settled solids are placed after removal from culture units. The EPA has retained these three additional requirements because they will continue to protect the receiving waters from release of non-indigenous species and characterize the use of aquaculture drugs and chemicals in the treatment of pathogens and their potential for discharge to the environment.

Further, based on antibacksliding regulations found in 40 C.F.R. § 122.44(l), EPA has retained the current permit's provision to prohibit the direct discharge of cleaning water from active rearing units to receiving water absent any form of off-line settling or equivalent solids removal. This requirement is based on the BMP plan requirement, stipulated in 40 C.F.R. § 451.11(a)(2), that requires the permittee to implement procedures for the routine cleaning of rearing units and off-line settling basins to minimize the discharge of accumulated solids from settling ponds, basins, and production systems.

12. Additional Requirements and Conditions

The effluent monitoring requirements in the draft permit, as shown in the following table, have been established to yield data representative of the discharge under the authority of Section 308(a) of the CWA in accordance with 40 C.F.R. §§§ 122.41(j), 122.44(i) and 122.48. It is the intent of EPA and NHDES to establish minimum monitoring frequencies in all NPDES permits at permit modification

and/or reissuance that sufficiently monitor an effluent discharge so both the environment and human health are protected. Compliance monitoring frequency and sample type have been set after considering the intended purpose and use of the data, configuration of the physical plant including its flow, and feeding regimes at the hatchery. Shaded sections of the following table signify a revision or addition to the draft permit as compared to the existing permit.

The remaining conditions of the permit are based on the NPDES regulations 40 C.F.R., Parts 122 through 125, and consist primarily of management requirements common to all permits.

Current and Draft Permit Comparison

M- Monitor Only, L-Limited

Parameter	CURRENT PERMIT		DRAFT PERMIT	
	Sampling Frequency	Sample Type	Sampling Frequency	Sample Type
Flow (M)	1/Week	Weir/ Calculation	**1/Week**	**Flow meter or weir calculation**
TSS (M)	1/Quarter	24-Hour Composite	1/Quarter	24-Hour Composite
BOD_5 (M)	1/Quarter	24-Hour Composite	1/Quarter	24-Hour Composite
Total Phosphorus as P (M)	1/Quarter	24-Hour Composite	1/Quarter	24-Hour Composite
Total Ammonia as N (M)	**Not Required**	**Not Required**	**1/Quarter**	**24-Hour Composite**
Total Nitrogen as N (M)	1/Quarter	24-Hour Composite	1/Quarter	24-Hour Composite
pH (L)	1/Week	Grab	1/Week	Grab
Fish Biomass on Hand (M)	Monthly	Calculation	Monthly	Calculation
Fish Feed Used (M)	Monthly	Calculation	Monthly	Calculation
Efficiency of Fish Feed Used (M)	Monthly	Calculation	Monthly	Calculation

Total Residual Chlorine (L) (When in Use)	**Not Required**	**Not Required**	**1/Day**	**Grab**
Hydrogen Peroxide (L) (When in Use)	**Not Required**	**Not Required**	**1/Day**	**Grab**
Dissolved Oxygen (M) (Formalin Absent)	1/Month	Grab	1/Month	Grab
Dissolved Oxygen Saturation (M) (Formalin Absent)	1/Month	Calculation	1/Month	Calculation
Water Temperature (M) (Formalin Absent)	1/Month	Grab	1/Month	Grab
Formaldehyde (L) (Formalin Present)	1/Week	Grab	1/Week	Grab
Dissolved Oxygen (M) (Formalin Present)	1/Week	Grab	1/Week	Grab

VII. Endangered Species Act

Section 7(a) of the Endangered Species Act of 1973, as amended (ESA) grants authority to and imposes requirements upon Federal agencies regarding endangered or threatened species of fish, wildlife, or plants ("listed species") and habitat of such species that has been designated as critical (a "critical habitat"). The ESA requires every Federal agency, in consultation with and with the assistance of the Secretary of Interior, to insure that any action it authorizes, funds, or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The United States Fish and Wildlife Service (USFWS) typically administer Section 7 consultations for bird, terrestrial, and freshwater aquatic species. The NMFS typically administers Section 7 consultations for marine species and anadromous fish.

EPA has reviewed the federal endangered or threatened species of fish, wildlife, or plants to see if any such listed species might potentially be impacted by the issuance of this NPDES permit. There are no endangered species resident in Merrymeeting River. The EPA, therefore, does not have to consult with the USFWS. If adverse effects do occur in the receiving water as a result of this permit action, or if new information becomes available that changes the basis for this conclusion, then USFWS will be notified and consultation will be promptly initiated. During the public comment period, EPA has provided a copy of the draft permit and fact sheet to USFWS.

VIII. Essential Fish Habitat

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq.(1998)), EPA is required to consult with the National

Marine Fisheries Service (NMFS) if EPA's action or proposed actions that it funds, permits, or undertakes, "may adversely impact any essential fish habitat." 16 U.S.C. § 1855(b). The Amendments broadly define essential fish habitat (EFH) as: "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." 16 U.S.C. § 1802(10). Adversely impact means any impact which reduces the quality and/or quantity of EFH. 50 C.F.R. § 600.910(a). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions. 50 C.F.R. § 600.910(a).

EFH is only designated for fish species for which federal Fisheries Management Plans exist [16 U.S.C. § 1855(b)(1)(A)]. EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999.

The Merrimack River and its tributaries are designated EFH for Atlantic salmon (*Salmo salar*) ".....including all tributaries to the extent they are currently or were historically accessible for salmon migration". While water from the Merrymeeting River ultimately flows into the Merrimack River, that water must first flow through two lakes (Winnipesaukee and Winnisquam), then into the Winnipesaukee River which combines with the Pemigewasset River to form the Merrimack River. It is EPA's opinion that while the Merrymeeting River may not constitute EFH for anadromous Atlantic salmon due to its relative isolation from the main stem of the Merrimack River, this draft permit does satisfy NH Standards which are considered by EPA and the NHDES to be protective of all aquatic species including those fish listed under EFH as well as other lesser aquatic organisms. Therefore, there should be no impacts to the water quality or the habitat of the receiving water or to the downstream waters, such as Lake Winnipesaukee, as a result of this discharge for the EFH species of concern or for other species of fish that are stocked in Merrymeeting River or in Lake Winnipesaukee.

It should be noted that while NHF&GD does not stock anadromous Atlantic salmon in the Merrymeeting River it does stock "surplus" fingerling landlocked Atlantic salmon (LLS) into that river as well as yearling LLS into Lake Winnipesaukee each May in support of an active recreational fishery in that lake. Furthermore, if the annual hatching of LLS eggs at the hatchery results in more fingerlings than are needed for grow out to that year's target yearling stocking number, then surplus fingerlings are released into the Merrymeeting River.

The permit limitations and requirements in the draft permit as discussed in this Fact Sheet are designed to protect aquatic species; therefore, this authorized discharge is not likely to adversely affect Atlantic salmon, their forage, or their habitat in the receiving water. This is particularly true given that the direct discharge of settled solids from active rearing units to receiving waters absent any form of off-line settling or equivalent solids removal has been prohibited and the discharge of formalin, total residual chlorine, and peroxide are being regulated to assure that no toxics in toxic amounts are being released to any receiving water.

EPA considers the conditions in the draft permit to be sufficient to protect the EFH species of concern, namely Atlantic salmon; therefore, further mitigation is not warranted at this time. If adverse effects do occur in the receiving water as a result of this permit action, or if new information becomes available that changes the basis for this conclusion, then NMFS will be notified and consultation will be promptly initiated. During the public comment period, EPA has provided a copy of the draft permit and fact sheet to both NMFS.

IX. Monitoring and Reporting

The effluent monitoring requirements have been established to yield data representative of the discharge under authority of Section 308 (a) of the CWA in accordance with 40 C.F.R. §§ 122.41 (j), 122.44 (l), and 122.48.

The draft permit includes new provisions related to DMR submittals to EPA and the State. The draft permit requires that, no later than one year after the effective date of the permit, the permittee submit all monitoring data and other reports required by the permit to EPA using NetDMR, unless the permittee is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR for submitting DMRs and reports ("opt-out request").

In the interim (until one year from the effective date of the permit), the permittee may either submit monitoring data and other reports to EPA in hard copy form, or report electronically using NetDMR.

NetDMR is a national web-based tool for regulated CWA permittees to submit DMRs electronically via a secure Internet application to U.S. EPA through the Environmental Information Exchange Network. NetDMR allows participants to discontinue mailing in hard copy forms under 40 C.F.R. § 122.41 and § 403.12. NetDMR is accessed from the following url: http://www.epa.gov/netdmr. Further information about NetDMR, including contacts for EPA Region 1, is provided on this website.

EPA currently conducts free training on the use of NetDMR, and anticipates that the availability of this training will continue to assist permittees with the transition to use of NetDMR. To participate in upcoming trainings, visit http://www.epa.gov/netdmr for contact information for New Hampshire.

The draft permit requires the permittee to report monitoring results obtained during each calendar month using NetDMR, no later than the 15th day of the month following the completed reporting period. All reports required under the permit shall be submitted to EPA and NHDES as an electronic attachment to the DMR. Once a permittee begins submitting reports using NetDMR, it will no longer be required to submit hard copies of DMRs or other reports to EPA or to NHDES.

The draft permit also includes an "opt-out" request process. Permittees who believe they cannot use NetDMR due to technical or administrative infeasibility, or other logical reasons, must demonstrate the reasonable basis that precludes the use of NetDMR. These permittees must submit the justification, in writing, to EPA at least sixty (60) days prior to the date the facility would otherwise be required to begin using NetDMR. Opt-outs become effective upon the date of written approval by EPA and are valid for twelve (12) months from the date of EPA approval. The opt-outs expire at the end of this twelve (12) month period. Upon expiration, the permittee must submit DMRs and reports to EPA using NetDMR, unless the permittee submits a renewed opt-out request sixty (60) days prior to expiration of its opt-out, and such a request is approved by EPA.

Until electronic reporting using NetDMR begins, or for those permittees that receive written approval from EPA to continue to submit hard copies of DMRs, the draft permit requires that submittal of DMRs and other reports required by the permit continue in hard copy format. Hard copies of DMRs must be postmarked no later than the 15th day of the month following the completed reporting period.

X. State Certification Requirements

EPA may not issue a permit unless the State Water Pollution Control Agency with jurisdiction over the receiving water(s) either certifies that the effluent limitations and/or conditions contained in the permit are stringent enough to assure, among other things, that the discharge will not cause the receiving water to violate State Water Quality Standards or the Agency waives its right to certify as set forth in 40 C.F.R. § 124.53. The NHDES is the certifying authority within the State of New Hampshire. EPA has discussed this draft permit with staff at the NHDES and anticipates that the draft permit will be certified by the State.

Upon public noticing of this draft permit, EPA is formally requesting that the NHDES make a written determination concerning certification. The State will be deemed to have waived its right to certify unless certification is received within 60 days of receipt of this request.

XI. Comment Period, Hearing Requests, and Procedures for Final Decisions

All persons, including applicants, who believe any condition of the draft permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to John Paul King; U.S. EPA; Office of Ecosystem Protection; Industrial Permits Branch (OEP 06-1), 5 Post Office Square, Suite 100; Boston, Massachusetts 02109-3912. Any person, prior to such date, may submit a request in writing for a public hearing to consider the draft permit to EPA and the State Agency. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public meeting may be held if the criteria stated in 40 C.F.R. § 124.12 are satisfied. In reaching a final decision on the draft permit, the EPA will respond to all significant comments and make these responses available to the public at EPA's Boston office.

Following the close of the comment period, and after any public hearings, if such hearings are held, the EPA will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice. Within 30 days following the notice of the final permit decision, any interested person may submit a petition for review of the permit to EPA’s Environmental Appeals Board consistent with 40 C.F.R. § 124.19.

XII. EPA Contact

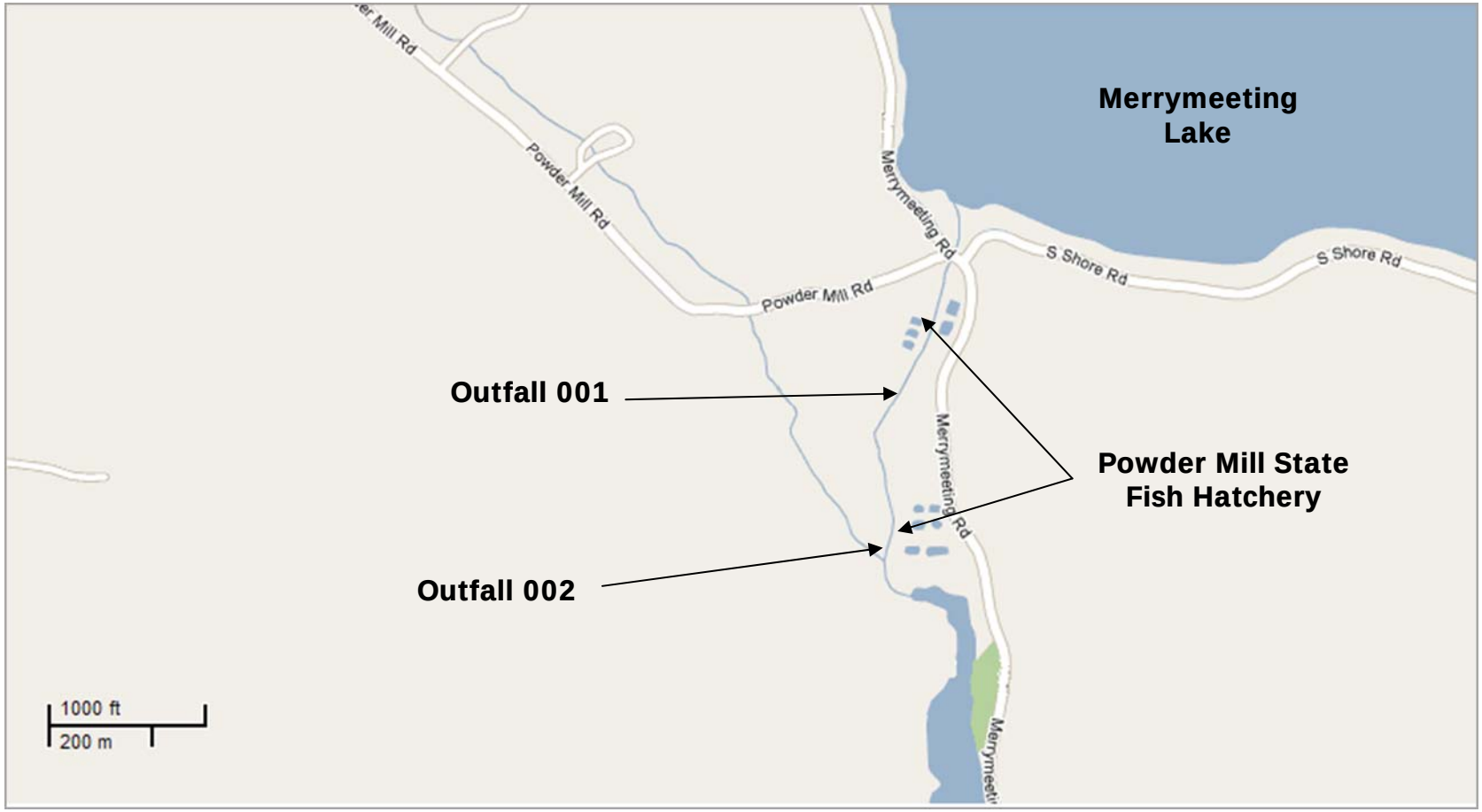
Additional information concerning the draft permit may be obtained between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays from:

John Paul King
U.S. Environmental Protection Agency
Office of Ecosystem Protection
Industrial Permits Branch (OEP06-1)
5 Post Office Square, Suite 100 (CIP)
Boston, MA 02109-3912
Telephone: (617) 918-1295

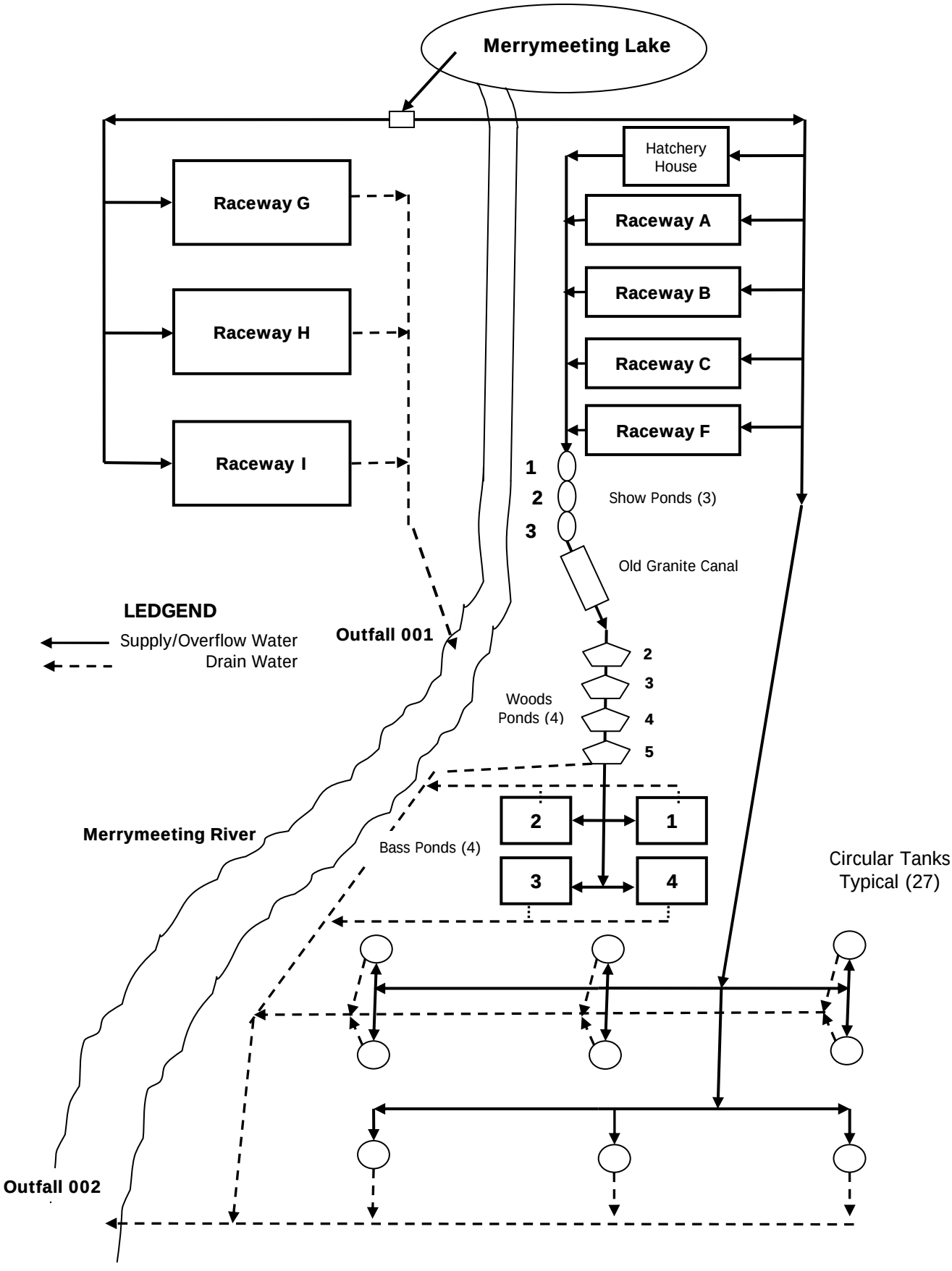
Date:

Stephen S. Perkins, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency

Attachment A
Map Location of Powder Mill Fish Hatchery



Attachment B
Powder Mill Fish Hatchery Water Supply and Drain Diagram



Attachment C
Discharge Monitoring Report Summary
April 2005 – November 2010

Discharge monitoring summaries are presented for Outfalls 001 and 002. For each outfall, the first table (A) presents monitoring data collected on a weekly or monthly basis, and the second table (B) presents data collected quarterly.

Abbreviations: C = no discharge; CL = conditional limit (applied when Formalin in use)

(A) Outfall 001

	Fish food fed per day (lb/d)	Fish on hand (lb/d)	Flow (MGD)	DO (mg/l)	DO % Sat	pH (s.u.)		Temp (deg F)
Date	Mo Avg	Mo Avg	Mo Avg	Daily Min	Daily Min	Min	Max	Daily Max
04/30/2005	50.52	720.20	1.57	12.20	95.00	6.52	6.93	43.60
05/31/2005	59.74	604.50	1.57	11.30	99.00	6.54	6.89	50.80
06/30/2005	52.70	345.50	1.57	10.20	97.00	6.76	6.98	59.70
07/31/2005	18.00	359.50	1.57	10.20	100.00	6.97	7.02	62.90
08/31/2005	17.97	183.40	1.57	9.60	100.00	7.01	7.36	71.90
09/30/2005			1.57	9.97	105.00	7.16	7.32	70.10
10/31/2005	34.66	210.50	1.57	10.04	97.60	6.78	7.25	66.40
11/30/2005	56.10	342.50	1.57	11.14	93.70	6.70	6.83	52.60
12/31/2005	38.35	355.45	1.57	13.45	98.70	6.47	6.82	41.00
01/31/2006	28.22	370.70	1.57	13.53	98.30	6.31	6.68	37.70
02/28/2006	23.78	43.62	1.84	13.59	98.00	6.53	6.92	37.90
03/31/2006	24.19	409.30	1.77	13.20	97.80	6.69	6.81	45.10
04/30/2006	20.80	858.70	1.75	11.92	96.60	6.68	6.91	49.90
05/31/2006	28.00	51.60	1.67	10.47	104.40	6.72	7.10	54.70
06/30/2006	3.80			10.07	98.50	6.50	6.56	63.30
07/31/2006	0.00	0.00	1.90	10.22	108.50	6.50	6.68	67.00
08/31/2006	32.70	168.80	1.70	8.99	99.10	6.55	6.72	68.00
09/30/2006	72.20	166.60	1.70	8.65	90.10	6.50	6.75	68.00
10/31/2006	87.30	103.80	1.80	8.99	83.20	5.88	6.17	62.40
11/30/2006	71.40	469.50	1.70	11.13	93.50	6.53	6.67	51.30
12/31/2006	48.70	480.70	1.80	11.40	89.50	6.54	6.75	43.70
01/31/2007	34.40	497.00	1.90	13.67	99.70	6.58	6.81	40.60
02/28/2007	34.50	885.00	1.70	13.46	100.50	6.51	6.68	39.90
03/31/2007	54.50	824.80	1.90	13.39	99.60	6.51	6.61	42.80
04/30/2007	62.10	866.00	2.00	13.03	98.50	6.52	6.55	43.50
05/31/2007	134.70	752.50	2.40	10.14	89.50	6.50	6.54	57.00
06/30/2007	54.80	0.00	1.80	10.42	98.40	6.50	6.60	60.10
07/31/2007	C	C	C	C	C	C	C	C
08/31/2007	C	C	C	C	C	C	C	C

Attachment C
Discharge Monitoring Report Summary
April 2005 – November 2010

09/30/2007	C	C	C	C	C	C	C	C
10/31/2007	56.80	448.50	2.30	10.75	100.00	6.62	6.68	55.90
11/30/2007	89.50	617.50	2.30	11.63	98.10	6.51	6.58	51.20
12/31/2007	39.50	645.90	2.60	13.00	93.30	6.52	6.69	43.70
01/31/2008	34.60	798.00	2.20	13.45	97.50	6.60	6.87	39.00
02/29/2008	45.70	909.80	2.30	13.79	103.90	6.62	6.74	43.00
03/31/2008	40.10	931.60	2.20	13.36	99.80	6.53	6.55	41.70
04/30/2008	49.40	672.50	2.20	12.53	97.20	6.54	6.62	57.30
05/31/2008	57.60	442.50	2.30	10.72	93.50	6.50	6.53	54.50
06/30/2008	37.20	91.00	2.30	11.54	103.90	6.52	6.59	56.40
07/31/2008	41.30	129.50	1.40	11.47	103.50	6.52	6.82	59.50
08/31/2008	105.60	360.00	1.70	9.99	99.30	6.50	6.54	65.80
09/30/2008	121.60	365.50	2.30	9.71	99.80	6.50	6.51	57.00
10/31/2008	117.90	495.50	2.20	10.05	89.00	6.50	6.60	58.10
11/30/2008	83.00	606.70	20.00	11.48	86.90	6.50	6.55	53.40
12/31/2008	59.60	683.80	2.30	15.82	114.20	6.59	6.84	48.30
01/31/2009	36.70	771.50	2.10	14.67	103.20	6.50	6.67	37.90
02/28/2009	36.00	796.80	2.00	14.06	110.90	6.61	6.74	37.90
03/31/2009	39.10	728.50	2.00	12.78	93.00	6.63	6.75	41.50
04/30/2009	37.10	294.00	2.10	12.84	99.60	6.50	7.28	50.70
05/31/2009	24.40	80.80	2.00	11.38	103.30	6.51	6.74	52.50
06/30/2009	45.60	152.20	1.70	10.71	100.00	6.53	6.88	55.00
07/31/2009	65.60	242.70	1.90	10.45	96.00	6.50	6.70	63.40
08/31/2009	115.20	390.90	2.00	9.79	95.70	6.50	6.70	63.60
09/30/2009	133.50	541.30	2.00	8.91	87.20	6.50	6.67	60.80
10/31/2009	145.00	690.40	2.00	10.42	97.10	6.50	6.88	56.80
11/30/2009	97.90	570.00	1.90	13.10		6.50	6.74	51.90
12/31/2009	56.30	6.11	2.60	13.73	98.20	6.50	6.95	41.90
01/31/2010	40.10	608.70	1.90	13.22	96.80	6.53	6.83	39.20
02/28/2010	31.32	680.80	1.84	13.37	98.50	6.52	6.87	39.50
03/31/2010	34.50	3773.20	4.93	13.28	99.20	6.56	6.78	41.30
04/30/2010	47.70	359.63	2.00	12.38	99.60	6.51	6.72	50.00
05/31/2010	38.58	172.74	2.02	11.67	103.90	6.51	6.79	56.80
06/30/2010	38.86	132.00	2.00	11.94	103.60	6.50	6.98	62.20
07/31/2010	93.00	295.00	2.07	10.78	115.40	6.51	6.85	66.00
08/31/2010	159.50	487.10	2.21	8.84	85.60	6.50	6.97	64.20
09/30/2010	174.00	582.16	1.97	8.42	87.40	6.10	6.65	60.80
10/31/2010	146.70	669.00	2.04	8.40	81.00	6.35	6.55	56.30
11/30/2010	119.00	815.33	1.88	9.55	84.30	6.40	6.58	54.30

Attachment C
Discharge Monitoring Report Summary
April 2005 – November 2010

(B) Outfall 001

	BOD Daily Maximum		Nitrogen Daily Maximum		Phosphorus Daily Maximum		TSS Daily Maximum	
Date	lbs/day	mg/l	lbs/day	mg/l	lbs/day	mg/l	lbs/day	mg/l
06/30/2005	39.28	3.00	7.85	0.60	0.13	0.01	26.18	2.00
09/30/2005	39.28	3.00	6.54	0.50	0.13	0.10	104.75	8.00
12/31/2005	39.28	3.00	9.16	0.70	0.26	0.02	26.18	2.00
03/31/2006	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00
06/30/2006	0.00	3.00	0.84	0.06	0.84	0.06	27.80	2.00
09/30/2006	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/31/2006	0.00	0.00	0.00	0.00	0.28	0.02	0.00	0.00
03/31/2007	0.00	0.00	0.00	0.00	0.43	0.03	0.00	0.00
06/30/2007	0.00	0.00	7.10	0.50	0.43	0.03	28.40	2.00
09/30/2007	C	C	C	C	C	C	C	C
12/31/2007	0.00	0.00	0.00	0.50	0.77	0.04	57.50	3.00
03/31/2008	0.00	0.00	0.00	0.00	0.58	0.03	0.00	0.00
06/30/2008	0.00	0.00	13.40	0.70	0.58	0.03	57.50	3.00
09/30/2008	0.00	0.00	11.30	0.80	0.43	0.03	0.00	0.00
12/31/2008	0.00	0.00	0.00	0.00	0.66	0.04	0.00	0.00
03/31/2009	0.00	0.00	0.00	0.00	0.00	0.00	105.10	6.00
06/30/2009	0.00	0.00	0.00	0.00	1.00	0.06	33.36	2.00
09/30/2009	0.00	0.00	0.00	0.00	0.67	0.04	8.34	0.50
12/31/2009	0.00	0.00	0.00	0.00	0.48	0.03	0.00	0.00
03/31/2010	0.00	0.00	0.00	0.00	0.42	0.02	0.00	0.00
06/30/2010	0.00	0.00	0.00	0.00	0.16	0.01	0.00	0.00
09/30/2010	0.00	0.00	0.00	0.00	0.42	0.02	0.00	0.00

Attachment C
Discharge Monitoring Report Summary
April 2005 – November 2010

(A) Outfall 002 (Formerly 010)

	Fish food fed per day (lb/d)	Fish on hand (lb/d)	Flow (MGD)	Formaldehyde (mg/l)		DO (mg/l)	DO % Sat	pH (s.u.)		Temp (deg F)
Date	Mo Avg	Mo Avg	Mo Avg	Mo Avg	Daily Max	Daily Min	Daily Min	Min	Max	Daily Max
04/30/2005	23.70	390.20	0.36			12.00	93.00	6.52	6.99	44.40
05/31/2005	31.87	394.70	0.43			10.40	90.00	6.55	6.75	50.20
06/30/2005	9.30	342.90	0.93			10.00	100.00	6.79	7.19	58.30
07/31/2005	321.60	711.00	1.81			10.20		6.96	7.32	61.20
08/31/2005	529.76	1480.25	4.09	2.46	3.00	9.60	100.00	6.80	7.70	69.10
09/30/2005	619.40	2088.20	4.09	0.63	2.20	8.70	94.00	6.55	6.80	69.20
10/31/2005	774.50	2857.30	4.09	0.50	0.50	8.09	80.80	6.55	6.62	66.80
11/30/2005	516.36	3449.46	4.09			10.97	90.50	6.56	6.61	51.30
12/31/2005	334.19	3490.70	3.63			13.56	97.70	6.47	6.73	39.80
01/31/2006	243.80	3647.20	3.47			13.25	98.40	6.27	6.77	37.60
02/28/2006	216.18	937.50	4.57			13.60	98.10	6.21	6.80	38.00
03/31/2006	197.40	4395.00	4.02			12.71	94.00	6.60	6.80	45.20
04/30/2006	164.60	1820.80	5.20			11.77	95.00	6.66	6.73	49.80
05/31/2006	257.00	1178.00	3.69			10.52	102.10	6.52	6.98	56.00
06/30/2006	288.70	836.50	4.89			9.46	91.70	6.53	6.80	65.50
07/31/2006	497.00	1402.00	4.90			9.29	98.30	6.50	6.59	64.50
08/31/2006	494.40	1689.50	4.60	0.32	0.95	8.22	88.00	6.50	6.66	66.20
09/30/2006	569.00	2264.90	4.00			8.24	87.50	6.50	6.55	66.70
10/31/2006	526.90	563.60	4.20			9.25	83.90	6.04	6.33	61.70
11/30/2006	418.90	3418.00	4.00	0.11	0.14	10.32	88.90	6.50	6.60	50.90
12/31/2006	261.00	3323.00	4.20	0.11	0.15	12.15	95.00	6.50	6.75	42.80
01/31/2007	179.90	3.38	4.40	0.07	0.07	14.06	99.90	6.63	6.75	42.00
02/28/2007	158.80	3655.60	4.50			14.13	102.30	6.59	6.92	38.00
03/31/2007	179.80	3542.00	4.80			13.71	100.80	6.54	6.75	41.10
04/30/2007	188.60	2703.00	5.38			13.09	98.00	6.62	6.77	44.20
05/31/2007	191.50	597.30	4.70			11.50	106.00	6.60	6.90	54.50
06/30/2007	208.10	554.00	5.50			11.50	105.70	6.58	6.82	61.20
07/31/2007	418.2	1002.3	5.2			11.72	120.2	6.5	6.63	63.4
08/31/2007	563.10	1664.70	4.80	1.53	2.50	9.15	98.80	6.50	6.55	69.10
09/30/2007	591.70	2481.00	4.60	0.84	0.85	9.35	95.50	6.50	6.56	65.80
10/31/2007	544.50	3097.00	5.20			9.62	91.30	6.60	6.83	53.90
11/30/2007	442.10	3489.00	4.00	0.21	0.21	11.96	99.70	6.53	6.67	49.80
12/31/2007	198.50	3565.00	4.60	0.13	0.17	13.30	96.60	6.52	6.87	42.20
01/31/2008	152.50	3490.00	4.70	0.16	0.16	14.54	104.40	6.56	6.86	38.10
02/29/2008	194.00	3986.90	4.70			14.26	104.00	6.63	6.85	41.90
03/31/2008	197.90	4036.80	4.90			13.50	100.10	6.51	6.67	42.00

Attachment C
Discharge Monitoring Report Summary
April 2005 – November 2010

04/30/2008	228.10	1610.60	5.10			12.59	97.20	6.55	6.68	60.60
05/31/2008	211.90	1172.20	4.70			10.99	94.10	6.52	6.69	58.00
06/30/2008	263.80	780.30	4.70			11.26	103.90	6.56	6.83	57.00
07/31/2008	272.80	1125.00	4.30			11.64	104.20	6.55	6.76	57.80
08/31/2008	350.00	1513.90	4.30			11.13	101.50	6.53	6.70	62.70
09/30/2008	459.40	1892.30	4.40			10.23	99.80	6.51	6.75	53.90
10/31/2008	410.60	2090.10	4.30			10.09	87.80	6.50	6.60	58.60
11/30/2008	249.30	2438.60	4.60	0.09	0.18	12.66	107.50	6.50	6.62	52.70
12/31/2008	209.80	2506.00	4.50	0.06	0.11	16.59	118.60	6.51	6.59	42.80
01/31/2009	134.60	2634.50	4.20	0.09	0.09	15.72	109.30	6.50	6.74	36.60
02/28/2009	127.00	2898.60	4.60			16.14	116.20	6.51	6.73	38.30
03/31/2009	153.60	2624.60	4.20			13.75	98.00	6.60	6.72	48.30
04/30/2009	173.80	2404.70	4.70			12.63	98.40	6.50	7.20	52.50
05/31/2009	221.70	1277.90	4.30			9.65	96.70	6.50	6.59	58.40
06/30/2009	277.70	584.20	4.17			9.49	94.20	6.55	6.64	63.50
07/31/2009	388.60	1302.70	6.60			10.10	96.30	6.50	6.77	62.90
08/31/2009	486.30	1989.90	5.20			10.53	95.50	6.50	6.56	57.70
09/30/2009	491.00	2436.50	5.30			10.39	92.80	6.50	6.74	56.60
10/31/2009	460.80	2857.60	4.90			13.42	115.90	6.50	6.68	53.40
11/30/2009	367.30	3283.40	4.40	0.71	0.71	14.23	114.90	6.50	6.77	50.30
12/31/2009	290.40	3483.90	4.90	0.07	0.15	13.71	99.00	6.51	6.65	39.90
01/31/2010	218.40	3541.40	4.30			13.50	97.30	6.52	6.89	39.20
02/28/2010	172.07	4181.10	4.50			13.50	99.00	6.51	6.69	38.30
03/31/2010	181.98	641.80	1.93			13.40	99.50	6.51	6.66	42.20
04/30/2010	192.90	2463.96	4.96			12.45	99.30	6.50	6.61	49.10
05/31/2010	177.00	1326.16	4.67			11.14	99.90	6.65	6.75	58.10
06/30/2010	199.36	662.36	4.39			11.99	116.90	6.50	6.85	59.90
07/31/2010	324.30	1094.80	4.60			11.43	120.20	6.50	6.63	65.40
08/31/2010	410.30	1625.50	4.64			10.02	94.30	6.51	6.91	64.20
09/30/2010	522.00	2342.70	4.30			10.55	97.80	6.11	6.73	59.90
10/31/2010	532.60	2956.58	4.37			9.30	89.50	6.15	6.55	55.70
11/30/2010	512.43	3728.86	4.31			9.54	85.00	6.20	6.45	54.00

Attachment C
Discharge Monitoring Report Summary
April 2005 – November 2010

(B) Outfall 002 (Formerly 010)

	BOD Daily Maximum		Nitrogen Daily Maximum		Phosphorus Daily Maximum		TSS Daily Maximum	
Date	lbs/day	mg/l	lbs/day	mg/l	lbs/day	mg/l	lbs/day	mg/l
06/30/2005	10.83	3.00	2.17	0.60	0.14	0.04	7.22	2.00
09/30/2005	102.33	3.00	20.46	0.60	1.36	0.04	341.10	10.00
12/31/2005	90.82	3.00	27.24	0.90	1.81	0.06	60.54	2.00
03/31/2006	0.00	0.00	0.00	0.00	0.08	0.06	0.00	0.00
06/30/2006	0.00	3.00	18.46	0.60	1.54	0.05	0.00	2.00
09/30/2006	0.00	0.00	0.00	0.00	2.80	0.07	122.50	3.00
12/31/2006	0.00	0.00	0.00	0.00	1.67	0.05	100.08	3.00
03/31/2007	0.00	0.00	0.00	0.00	1.50	0.04	112.60	3.00
06/30/2007	0.00	0.00	0.00	0.00	0.67	0.02	100.00	3.00
09/30/2007	166.80	5.00	20.00	0.60	1.33	0.04	0.00	0.00
12/31/2007	0.00	30.00	0.00	0.50	2.17	0.05	0.00	2.00
03/31/2008	0.00	0.00	0.00	0.00	1.18	0.03	0.00	0.00
06/30/2008	156.80	4.00	19.60	0.50	0.78	0.02	117.60	3.00
09/30/2008	0.00	0.00	25.10	0.70	2.50	0.07	0.00	0.00
12/31/2008	0.00	0.00	0.00	0.00	1.15	0.03	0.00	0.00
03/31/2009	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06/30/2009	0.00	0.00	0.00	0.00	1.80	0.05	71.70	2.00
09/30/2009	0.00	0.00	30.40	0.70	3.50	0.08	0.00	0.00
12/31/2009	0.00	0.00	25.70	0.70	2.90	0.08	0.00	0.00
03/31/2010	0.00	0.00	0.00	0.00	0.63	0.03	0.00	0.00
06/30/2010	0.00	0.00	21.96	0.60	0.73	0.02	0.00	0.00
09/30/2010	0.00	0.00	21.51	0.60	1.26	0.06	71.72	2.00

Attachment C
Discharge Monitoring Report Summary
April 2005 – November 2010

Summary

Parameter			2005 Limit	Outfall 001			Outfall 002		
				Min	Max	Average	Min	Max	Average
Fish food fed per day	Mo Avg	lb/day	Report	0	174.0	60.6	9.3	774.5	314.4
Fish biomass on hand	Mo Avg	lb/day	Report	0	3773.2	509.7	3.4	4395.0	2147.0
Flow	Mo Avg	MGD	Report	1.4	20.0	2.3	0.4	6.6	4.3
Formaldehyde	Mo Avg	lb/day	1.61				0.06	2.5	0.5
	Daily Max		4.58				0.07	3.0	0.7
Dissolved oxygen	Daily Min	mg/l	Report	8.4	15.8	11.5	8.1	16.59	11.6
Dissolved oxygen percent saturation	Daily Min	%	Report	81.0	115.4	97.6	80.8	120.2	97.7
pH	Daily Min	s.u.		5.9	7.2	6.5	6.0	7.0	6.5
	Daily Max		6.5 – 8.5	6.2	7.4	6.8	6.3	7.7	6.8
Temperature	Daily Max	Deg F	Report	37.7	71.9	52.9	36.6	69.2	53.1
BOD	Daily Max	lb/day	Report	0.0	39.28	5.61	0.0	166.8	23.98
	Daily Max	mg/l	Report	0.0	3.00	0.57	0.0	30.0	2.32
Nitrogen	Daily Max	lb/day	Report	0.0	13.40	2.68	0.0	30.4	10.57
	Daily Max	mg/l	Report	0.0	0.80	0.21	0.0	0.9	0.35
Phosphorus	Daily Max	lb/day	Report	0.0	1.00	0.41	0.0	3.5	1.43
	Daily Max	mg/l	Report	0.0	0.10	0.03	0.0	0.08	0.05
Total Suspended Solids	Daily Max	lb/day	Report	0.0	105.10	22.62	0.0	341.1	50.23
	Daily Max	mg/l	Report	0.0	8.00	1.45	0.0	10.0	2.00