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")

Nashua National Fish Hatchery

is authorized to discharge from the facility located at

Nashua National Fish Hatchery
151 Broad Street
Nashua, NH 03063

to receiving water named

Colrain Brook

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

This permit shall become effective on **the first day of the calendar month immediately following 60 days after signature.**

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

This permit consists of 13 pages in Part I including effluent limitations, monitoring requirements, and state permit conditions and 25 pages in Part II including Standard Conditions.

Signed this 29th day of May, 2009

/S/ SIGNATURE ON FILE

_____

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

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning the effective date and lasting through the expiration date, the permittee is authorized to discharge **fish culture water** from **outfall 001**. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitation		Monitoring Requirements[1]	
	Monthly Average	Daily Max	Measurement Frequency	Sample Type
Flow	Report MGD	2.2 MGD	1 / Week	Measure
pH[2]	6.5-8.0 s.u. (See I.F.4 Page 13)		1 / Week	Grab
TSS	*****	Report mg/l Report lbs/day	2 / Year, during cleaning operations[3,4]	Composite[5]
BOD_5	*****	Report mg/l Report lbs/day	2 / Year, during cleaning operations[3,4]	Composite[5]
Total Phosphorus, P	*****	Report mg/l Report lbs/day	2 / Year, during cleaning operations[3,4]	Composite[5]
Formaldehyde	1.61 mg/l	4.58 mg/l	1 / Week (Formalin Present)[6]	Grab
Dissolved Oxygen	≥ 5.0 mg/l		1 / Week (Formalin Present)[6]	Grab
Dissolved Oxygen Saturation	*****	Report %	1 / Week (Formalin Present)[6]	Calculate
Temperature	*****	Report °F	1 / Week (Formalin Present)[6]	Grab

Footnotes on Page 3

Footnotes:

1. Samples taken in compliance with the monitoring requirements specified above shall be representative of all waste streams and taken prior to entering the receiving water.

2. Required for State Certification.

3. Samples taken at a frequency of twice per year (2 / year) shall be taken at least three (3) months apart.

4. The BOD, TSS, and Phosphorus samples shall be taken immediately following a raceway cleaning and/or maintenance activity when pollutant concentrations in the discharge are likely to be at a maximum, rather than at a random operating time during the month.

5. Composite samples shall consist of at least four (4) grab samples collected at approximately equal intervals during the ten minutes following the raceway cleaning and/or maintenance event.

6. Sampling for Formaldehyde shall occur after any discharge of Formalin to the hatchery's culture water, to capture the maximum concentration of that application 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.d.v.2]. Samples for DO and temperature shall be collected concurrently with that for Formaldehyde and reported under the appropriate DO and temperature columns on the monthly DMR. Percent saturation of DO shall be calculated using these values and recorded under the appropriate column. Sampling is not required if formalin is not used during the week. In such cases, the appropriate No Data Indicator Code (NODI) shall be reported on the Discharge Monitoring Reports.

   Formaldehyde shall be tested using Method 1667, Revision A, which has a ML of 50 µg/l. Alternate analytical method(s) shall be approved by EPA-New England at the permittee's written request as long as the permittee utilizes method(s) that obtain MLs that are equal to or less than those referenced for Method 1667, Revision A, above. Such a request will be considered a minor modification to the permit.

Part I.A (continued)

2. The discharge shall not cause a violation of the water quality standards of the receiving waters which have been or may be promulgated.

3. The discharge shall be adequately treated to ensure that the surface 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 surface waters remain free from pollutants which produce odor, color, taste, or turbidity in the receiving waters which is not naturally occurring and would render it unsuitable for its designated uses.

4. There shall be no direct discharge of "cleaning water" (i.e., water containing settled solids that have accumulated on the bottom of active rearing units that is discharged, absent some form of solids removal, along with a portion of the culture water directly to the receiving water during periodic cleaning operations) from any rearing unit (hatchery building, rectangular raceway, circular pool, etc.). However, the discharge of "cleaning water" to a settling pond, lagoon, empty rectangular raceway or circular pool, and/or clarifier for the purposes of settling solids including the temporary storage of those solids followed by the discharge of any decant water that accumulates above those solids and/or any water that flows slowly over those solids is allowed as long as that decant and/or overflow water discharges through a currently permitted outfall (Outfall 001).

5. The effluent shall not contain materials in concentrations or combinations which are hazardous or toxic to human health, aquatic life of the receiving water or which would impair the uses designated by its classification.

6. The results of sampling for any parameter above its required frequency must also be reported, in accordance with 40 CFR §122.41(l)(4)(ii).

7. The permittee shall notify EPA-New England and NHDES-WD in writing of any changes in the operations, including the use of chemical additives, at the facility that may have an effect on the permitted discharge of wastewater from the facility.

8. 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.

9. The permittee shall notify EPA-New England and NHDES-WD within 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) in accordance with reporting requirements in **Standard Conditions Part II.D.1.e.**

10. The permittee shall notify EPA-New England and NHDES-WD in writing of the addition of any non-indigenous species, to be raised at this facility.

11. 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. EPA-New England will defer to the expertise of the USFDA regarding whether or not a particular drug and/or chemical is used in accordance with appropriate USFDA requirements.

    In addition, **each year with the December Discharge Monitoring Report** (to be postmarked by January 15th) the permittee shall certify in writing that all Aquaculture Drugs and Chemicals used at this facility during the calendar year (specify the calendar year) were ones approved by the USFDA and were used in accordance with FDA labeling or as allowed under Part B.1. in Nashua National Hatchery's NPDES permit.

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

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

    b. controls any pollutant not limited by this permit.

    If the permit is modified or reissued, it shall be revised to reflect all currently applicable requirements of the Act.

13. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe (40 CFR §122.42):

    a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

        (i) One hundred micrograms per liter (100 μg/l);

        (ii) Two hundred micrograms per liter (200 μg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 μg/l) for 2,4- dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/l) for animony;

        (iii) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or

        (iv) The level established by the Director in accordance with 40 CFR §122.44(f).

    b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(i) Five hundred micrograms per liter (500 µg/l);

(ii) One milligram per liter (1 mg/l) for antimony;

(iii) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or

(iv) The level established by the Director in accordance with 40 CFR §122.44(f).

c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.

14. Toxics Control

a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.

b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal 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.

B. NARRATIVE EFFLUENT LIMITATION REQUIREMENTS FROM 40 CODE OF FEDERAL REGULATIONS (CFR) PART 451 WITH MODIFICATIONS

Pertinent definitions from 40 CFR Part 451 for specific terms used in this section are listed under *Item 5. General Definitions* at the end of this section.

1. Drug Usage

Except as noted below, the permittee must notify EPA-New England and the NHDES-WD in accordance with the following procedures of the use of any investigational new animal drug (INAD) or extralabel drug where such a use 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 extralabel drug use that has been previously approved by the USFDA for a different species or disease if the INAD or extralabel use is at or below the approved dosage and involves similar conditions of use.

a. The permittee must provide to EPA-New England a written report of an INAD's impending 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 extralabel drug uses, the permittee must provide an oral report to EPA New England as soon as possible, preferably in advance of use, but no later than 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 extralabel drug uses, the permittee must provide a written report to EPA New England within 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-New England and the NHDES-WD in accordance with the following procedures when there is a "**reportable failure**" (as defined immediately below) 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 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-New England within 24 hours of discovery of any "**reportable failure"** as defined in item "a." immediately above or damage that results in a material discharge of pollutants, describing the cause of the failure or damage in the containment system and identifying materials that have been released to the environment as a result of this failure.

c. The permittee must provide a written report to EPA-New England within 7 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 a spill of drugs, pesticides or feed occurs that results in a discharge to water of the United States, the permittee must provide an oral report of the spill to EPA-New England and the NHDES-WD within 24 hours of its occurrence and a written report within 7 days to the above Agencies in accordance with Section D.1.e.(1) of the Standard Conditions of this permit. The report shall include the identity and quantity of the material spilled.

4. Best Management Practices (BMP) Plan

a. The permittee shall develop, implement, and maintain a plan which establishes Best Management Practices (BMPs) to be followed in operating the facility, cleaning the raceways/culture tanks, screens and other equipment and disposing of any solid waste. The purpose of the plan is to identify and to describe the practices which minimize the amounts of pollutants (biological, chemical and medicinal) discharged to surface waters.

b. The permittee shall implement the intent of the BMP requirements described below upon the permit's effective date. However, the permittee has **180 days following the effective date of the permit** to certify in writing to EPA-New England and the NHDES-WD that a written Plan has been developed in accordance with requirements listed in this part. This certification must be submitted with the appropriate DMR. A current copy of the plan shall be maintained at the facility and shall be made available for inspection by EPA and NHDES upon request.

c. The permittee shall amend and update the BMP plan within 14 days following a change in facility design, construction, operation, or maintenance which affects the potential for the discharge of pollutants into surface waters; a release of a reportable quantity of pollutants as described in 40 CFR §302; or a determination by EPA, NHDES-WD or the permittee that the BMP plan appears to be ineffective in achieving the general objectives of controlling pollutants in discharges to surface waters.

d. Below is a list of requirements that shall be addressed in the BMP Plan, at a minimum.

(i) *Solids control*

(1) 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 U.S.

(2) In order to minimize the discharge of accumulated solids from settling ponds and basins and production systems, identify and implement procedures for routine cleaning of rearing units and off-line settling basins, and procedures to minimize any discharge of accumulated solids during the inventorying, grading and harvesting aquatic animals in the production system. **Part I.A.4.** above prohibits the direct discharge of "cleaning water" absent some form of solids removal prior to discharge.

(3) A description of where the removed material is to be placed and the techniques used to prevent it 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.

(4) Remove and dispose of aquatic animal mortalities properly on a regular basis to prevent discharge to waters of the U.S., except in cases where the permitting authority authorizes such discharge in order to benefit the aquatic environment.

(ii) *Biological control*

(1) The precautions that will be exercised by the facility to prevent aquatic organisms that are not indigenous nor naturalized to New Hampshire waters from becoming established in the local surface waters.

(2) A description for the storage and treatment of Outfall 001 discharge 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 are showing signs of stress.

(iii) *Materials storage*

(1) 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 U.S.

(2) Implement procedures for properly containing, cleaning, and disposing of any spilled material.

(iv) *Structural maintenance*

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

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

(v) *Recordkeeping*

(1) 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.

(2) 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 dosage to its maximum (peak) effluent concentration.

(3) Keep records documenting the frequency of cleaning, inspections, maintenance and repairs. 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.) and the duration (hours, days) of treatment, and the method of application.

(vi) *Training*

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

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

(vii) *Medications and chemicals*

For each medication or chemical that are expected to be used in the culture tanks & raceways, identify:

(1) Product name of the medication or chemical.

(2) The chemical formulation of the medication or chemical.

(3) The purpose or use of the chemical.

(4) The dosage concentration, frequency of application (hourly, daily, etc.) and the duration (hours, days) of treatment.

(5) The method of application.

(6) Material Safety Data Sheets (MSDS), Chemical Abstracts Service (CAS) Registry number for each active therapeutic ingredient.

(7) The method or methods used to detoxify the wastewater prior to discharge following application of chemical and/or medication.

(8) Information on the persistence and toxicity of each medication or chemical.

(9) Information on the Food and Drug Administration (USFDA) approval for the use of said medication or chemical on fish or fish related products used for human consumption.

(10) Available aquatic toxicity data for each medication or chemical used (vendor data, literature data, etc.); 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** means 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** means 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** means 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. **Extralabel drug use** means 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)** means a 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** is defined in 512(b)(1) of the Federal Food, Drug, and Cosmetic Act [21 U.S.C. 360(b)(1)].

g. **Pesticide** means 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. SPECIAL CONDITIONS - pH Limit Adjustment

The permittee may submit a written request to the EPA-New England requesting a change in the permitted pH limit range. The permittee's written request must include the State's approval letter containing an original signature (no copies). The State's letter shall state that the permittee has demonstrated to the State's satisfaction that as long as discharges to the receiving water from a specific outfall are within a specific numeric pH range the naturally occurring receiving water pH will be unaltered. That letter must specify for each outfall the associated numeric pH limit range. Until written notice is received by certified mail from the EPA-New England indicating the pH limit range has been changed, the permittee is required to meet the permitted pH limit range in the respective permit.

D. UNAUTHORIZED DISCHARGES

This permit authorizes the permittee to discharge only in accordance with the terms and conditions of this permit and only from the outfall listed in Part I A. of this permit. Discharges of wastewater from any other point sources which are not authorized by this permit or other

NPDES permits shall be reported in accordance with Section D.1.e.(1) of the Standard Conditions of this permit (Twenty-four hour reporting).

E. MONITORING AND REPORTING

Monitoring results obtained during each calendar month shall be summarized and reported on Discharge Monitoring Report Form(s) postmarked **no later than the 15th day of the following month**. Other monitoring results shall be submitted as required by this Permit.

1. 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:

   Environmental Protection Agency
   Water Technical Unit (SEW)
   P.O. Box 8127
   Boston, Massachusetts 02114

2. Duplicate signed copies of all items required in Section 1 immediately above shall be submitted to the State at:

   New Hampshire Department of Environmental Services
   Water Division
   Wastewater Engineering Bureau
   29 Hazen Drive, P.O. Box 95
   Concord, New Hampshire 03302

F. STATE PERMIT CONDITIONS

1. 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 EPA under Federal and State law. Upon final issuance by EPA, the New Hampshire Department of Environmental Services-Water Division (NHDES-WD) may adopt this permit, including all terms and conditions, as a State permit pursuant to RSA 485-A:13.

3. EPA shall have the right to enforce the terms and conditions of this Permit pursuant to federal law and NHDES-WD shall have the right to enforce the Permit pursuant to state law, if the Permit is adopted. 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.

4. The pH range of 6.5 to 8.0 Standard Units (S.U.) must be achieved in the final effluent unless the permittee can demonstrate to NHDES-WD: (1) that the range should be widened due to naturally occurring conditions in the receiving water or (2) that the naturally occurring receiving water pH is not significantly altered by the permittee's discharge. The scope of any demonstration project must receive prior approval from NHDES-WD.