

**DRAFT 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

**Twin Mountain State Fish Hatchery
1450 Route 3 North
Carroll, New Hampshire**

to receiving water named

**Unnamed Tributary to Carroll Stream
(Hydrologic Basin Code: 01080101)**

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 following sixty (60) days after signature if comments are received. If no comments are received, 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 September 1, 2005.

This permit consists of **14** pages in Part I including effluent limitations, monitoring requirements, etc., and **25** pages in Part II including Standard Conditions and Definitions.

Signed this day of , 2012

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 the Unnamed Tributary to Carroll Stream. 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	6.0 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

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Maximum Daily	Measurement Frequency	Sample Type
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 4 through 5 for explanation of the various footnotes.

Part I.

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS
EXPLANATION OF FOOTNOTES APPLICABLE TO Parts I.A.1.**

- (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 with this alternate approach.
- (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 ($\mu\text{g/l}$). 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 ML 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 $\mu\text{g/l}$ shall be reported as zero on the 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 = $[\text{Fish Weight Gain (lbs)}/\text{Fish Food Fed (lbs)}] \times 100$
- (7) The ML for total residual chlorine is defined as 20 $\mu\text{g/l}$. For total residual chlorine, this is the ML for chlorine 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 $\mu\text{g/l}$ or less shall be reported as zero on the DMR, since compliance/non-compliance is determined based on the ML.

- (8) DO samples shall be collected from a discharge that is Formalin free. Report the MINIMUM DAILY Dissolved Oxygen (DO) concentration for the month, and the corresponding DO percent saturation and effluent temperature associated with the minimum monthly 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.]. 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)**

2. The discharge shall not cause a violation of the water quality standards of the receiving water.
3. 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 waters 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.
4. 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.

5. 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.
6. The permittee shall notify EPA and the New Hampshire Department of Environmental Services, Water Division (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 and eggs) during a single mortality event in accordance with reporting requirements in Standard Conditions Part II.D.1.e.
7. 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.
8. 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, 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.
9. 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.
10. There shall be no discharge of iodine and/or phosphoric acid solution(s) to the receiving water.
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 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.

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 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 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, flooding, 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 24 hours of discovery of any reportable failure as defined in item 2.a. 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 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 occurs 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 24 hours of its occurrence and a written report within 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 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 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 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; include 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.8. 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 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.
- 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 authorize 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 of 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 are 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.), 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 aquaculture drug or chemical.
- 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 C.F.R .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 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.

Notification required herein or in Part II shall be submitted to EPA and NHDES at the address listed in Part I.C.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 an attachment 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 standards 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 with 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: March 23, 2012 – April 21, 2012

NPDES PERMIT NO.: NH0000744

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

Twin Mountain State Fish Hatchery
1450 Route 3 North
Carroll, NH 03598

Mailing Address

Twin Mountain State Fish Hatchery
1450 Route 3 North
Carroll, NH 03598

RECEIVING WATER: Unnamed Tributary to Carroll Stream (HUC 01080103)

CLASSIFICATION: Class B

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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 culture water and treated hatchery effluent from its Twin Mountain State Fish Hatchery. This state owned and operated facility is engaged in rearing various species of trout (eastern brook and rainbow) hatched from eggs at other NHF&GD hatcheries and transferred as fingerlings to Twin Mountain for grow out to suitable size for stocking (8 to 12 inches). On occasion, rainbow trout eggs have been incubated and hatched for production and/or transfer to other facilities when the need has arisen. All fish from this facility are used for fisheries management (i.e., stocking) in selected rivers, streams and lakes throughout New Hampshire, with the exception of fish kept in the Show Pool and aquariums for public viewing, but not stocking purposes.

The Twin Mountain State Fish Hatchery's current permit was effective on November 1, 2005 and expired on November 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 is issued.

II. Description of Facility and Discharge

The Twin Mountain State Fish Hatchery is located on Route 3 in Carroll. The location of the Twin Mountain State Fish Hatchery, Outfall 001, and the receiving water (unnamed tributary to Carroll Stream) are shown in Attachment A.

This hatchery was first established by the NHF&GD in 1934 and expanded in 1938. The hatchery complex consists of a hatchery building, visitor center and aquarium, Show Pool, and series of 10 raceways (shown in Attachment B). A second series of raceways on the southwest side of Route 3 are currently used for holding marked fish for biological mark and recapture studies. The Twin Mountain State Fish Hatchery produces eastern brook trout and rainbow trout for fisheries management of selected waterbodies located primarily in the White Mountain Region of the state (referred to as Regions 1 & 2, or Conservation Districts 1 & 3).

According to NHF&GD, the 2011 annual production targets at Twin Mountain State Fish Hatchery were: 14,772 pounds (lbs) of eastern brook trout and 7,668 lbs of rainbow trout. The maximum annual harvestable weight is approximately 23,000 pounds of fish.

A concentrated aquatic animal production (CAAP) facility is defined in 40 Code of Federal Regulations (C.F.R.) Section 122.24(b) and 40 C.F.R. Part 122 Appendix C as 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 NHF&GD's annual production targets and maximum annual harvestable weight value, this facility has the capacity to produce more than 20,000 lbs of cold water fish per year and will continue to discharge more than 30 days in a given year during the next permit cycle. As a result, the Twin Mountain State Fish Hatchery meets the threshold production level for a CAAP facility defined in 40 C.F.R. 122.24(b).

Discharges from CAAP operations, such as the Twin Mountain 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 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/drugs are used as therapeutants to maintain fish health. Below is a list of all the chemicals/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 Twin Mountain 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) of 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 leads 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 need 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 anesthesia, 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 in the culture water.
- Chloramine-T (N-chloro tosylamide sodium salt): Chloramine-T is an investigational new animal drug used to treat bacterial gill disease (caused by *Flavobacterium branchiophilum*) in salmonid fish species.
- 35% PEROX-AID® (hydrogen peroxide solution): Used as an external microbicide 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 at 5.25 % (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 (i.e., a dechlorination agent) to neutralize chlorine 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 Twin Mountain State Fish Hatchery. Used as needed and solution is not discharged to the culture water.

Chemicals, Drugs, and Disinfectants Routinely Used at the Twin Mountain State Fish Hatchery

- 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 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.

Attachment C summarizes effluent monitoring data for Outfall 001 from December 2009 through June 2011 (after consolidation of the outfalls). The data indicate that during this period, average monthly flow ranged from 0.8 to 1.5 MGD; fish food fed ranged from 27.6 to 79.9 lbs/day; and the resident fish biomass population ranged from a low of 129.5 lbs/day to a high of 612.4 lbs/day.

III. Description of Receiving Water

Carroll Stream 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.

Carroll Stream (Assessment unit NHRIV801030102-02) is not listed as impaired on NHDES's *Final 2010 Section 303(d) Surface Water Quality List* submitted to EPA for approval. Aquatic life, swimming and boating, and wildlife uses were not assessed in 2008 or 2010. Fish consumption is listed as marginal non-support due to atmospheric deposition of mercury (a state-wide listing).

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 National Pollutant Discharge Elimination System (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 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. The 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 Twin Mountain State Fish Hatchery operates flow-through systems that meets the definition of a CAAP at 40 C.F.R. § 122.24(b) because, according to NHF&GD, it meets the production threshold value. This facility is not subject to the ELGs found at 40 C.F.R. Part 451 because it is not expected to produce more than 100,000 pounds of aquatic animals per year.

Even though the Twin Mountain State Fish Hatchery produces less than 100,000 pounds of aquatic animals per year, EPA has made a BPJ determination to apply the ELGs because this hatchery: (1) has been designated a CAAP, (2) operates flow-through rearing units, and (3) discharges to an unnamed tributary to Carroll Stream that is a headwaters stream with essentially no available dilution during low-flow periods (see discussion at Part VI.2 (Available Dilution) in this Fact Sheet). At a minimum, Twin Mountain State Fish Hatchery must develop and implement operational measures in the form of Best Management Practices (BMPs) to reduce the discharge of solids, the majority of which are uneaten fish food and feces, to the unnamed tributary. The BMPs specifically protect the tributary’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 extra label 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, nonconventional, 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 Discharge Monitoring Reports (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, except for pH, are at least as stringent as those in the previous permit. The draft permit includes a lower pH limit of 6.0, which is less stringent than the limit of 6.5 in the previous permit. During the last permit cycle, NHF&GD provided a pH demonstration study to support lowering the minimum pH limit consistent with the State Permit Conditions (see Section entitled "pH" later in this Fact Sheet). The demonstration study represents "new information" and is consistent with the exception to antibacksliding at 40 C.F.R. § 122.44(l)(2)(i)(B)(1).

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 exception of pH. The State of New Hampshire confirmed its support for the lowering of the pH limit consistent with the State Permit Conditions at Part.I.F.1.a. of the previous permit in a letter to the hatchery supervisor on December 28, 2007. The draft permit includes the addition of effluent limits for chlorine (acute and chronic) and peroxide (acute). The extensive rebuilding of the hatchery's outfall network has reduced the number of permitted outfalls to one (Outfall 001). See the Part VI.1 "Changes to the Facility Since the Last Permit Issuance" of this Fact Sheet below. Because the draft permit continues to authorize the discharge of culture water with the same limitations as the present permit; coupled with the addition of effluent monitoring for chlorine and 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 the Facility since the Last Permit Issuance

In 2009, NHF&GD conducted a Pipe Consolidation Project to reduce the number of outfalls from sixteen to one. Outfalls 004, 005, 010, 011, 012, 013, 014, 015, 016, 017, 018, 019, 020, 022, 023, and 024 were all combined into a single discharge designated as Outfall 001.

As part of the Pipe Consolidation Project at Twin Mountain State Fish Hatchery, a new settling tank was installed. This settling tank is for the winter storage of the settled solids vacuumed from the rearing units during cleaning. The settling tank is isolated from the water supply system and dewatered. Fish waste and uneaten food included in the “cleaning water” vacuumed from raceways and quiescent zones are emptied from the vacuuming equipment/trailer into the settling tank. After the solids contained in the cleaning water have settled, water flow to the tank is turned back on at a rate of 3-5 gallons per minute (gpm). The low flow rate is to prevent the tank’s water from freezing and to keep odors down. When the ground has thawed and dried (allowing it to absorb the settled solids) in the spring, the settling tank is vacuumed and the solids spread on a local agricultural field. After seasonal fish stocking, raceways not in use are generally dewatered after vacuum cleaning.

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; Unnamed Tributary to Carroll Stream. The available dilution is reduced by 10 % to account for the State’s reserve capacity rule. The State’s requirement to reserve 10 % of the Assimilative Capacity of the receiving water for future needs is pursuant to New Hampshire’s Surface Water Quality Regulations Env-Wq 1705.01.

For the last permit issuance, NHDES calculated an annual 7Q10 low flow for the unnamed tributary to Carroll Stream at Route 3 of 0.06 cubic feet per second (cfs) using the Dingman Equation. According to DMR data from December 2009 through June 2011, the flow from the hatchery at Outfall 001 ranged from 1.2 cfs (0.8 MGD) to 2.2 cfs (1.45 MGD). Because the hatchery’s discharge at Outfall 001 is much greater than the estimated annual 7Q10 low flow, EPA concludes that the receiving water provides no dilution for the discharge from the hatchery.

3. Total Suspended Solids (TSS) and Biochemical Oxygen Demand (BOD₅)

The current permit requires quarterly monitoring and reporting of Total Suspended Solids (TSS) and 5-Day Biochemical Oxygen Demand (BOD₅) 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 best management practices (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).

Since consolidation to a single outfall in December 2009, maximum daily TSS values have been non-detectable. Maximum daily BOD₅ values at Outfall 001 have also been non-detectable since December 2009 except for a single sample of 25.6 lb/day (3 mg/l) in March 2010. 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 water quality and the existing and designated uses. The continued use of the settling tank for winter storage of settled solids will also help ensure that TSS and BOD₅ levels are protective of the existing and designated uses of the receiving water. The draft permit carries forward quarterly monitoring and reporting requirements for TSS and BOD₅ from the existing permit, which 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. The pH at Outfall 001 ranged from a minimum of 6.1 to a maximum of 6.7 S.U.

In 2006, the permittee conducted a pH demonstration study to support lowering the minimum pH limit from 6.5 to 6.0 consistent with State Permit Conditions at Part I.F.1.a. of the current permit. The permittee demonstrated that the ambient pH of the source well water and Carroll Stream upstream of the hatchery frequently exhibit low pH due to naturally occurring conditions. The discharge of hatchery effluent does not significantly alter the ambient pH of Carroll Stream. NHDES, in a letter on December 27, 2008, confirmed that the discharge does not affect the pH of Carroll Stream and supported adjusting the minimum pH limit in the permit to 6.0. In addition, weekly samples of pH were taken throughout 2011 and confirmed that ambient pH remains below 6.5 S.U. Based on the results of the pH demonstration study, along with recent sampling results and support of NHDES, the draft permit requires the hatchery effluent to be within the range of 6.0 - 8.0 S.U. 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/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.

If treatment of diseased fish is needed, the facility's protocol 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 will neutralize the treatment solution using sodium thiosulfate, and measure 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 confirm that chlorine in the effluent has been neutralized and ensure that Chloramine-T use at the facility does not cause chlorine criteria violations in the receiving water. There is no available dilution at the hatchery outfall, 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 chlorine residual 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.

If a hydrogen peroxide solution is to be used at Twin Mountain State Fish Hatchery, the facility's protocol is 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 will be done one rearing unit at a time, and the tank water level will be 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 to confirm that use of PEROX-AID[®] at the facility does not likely to cause toxicity in the receiving water. 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 Standard Units and water temperature of 25°C) is 3.39 mg/l and for the winter period (instream pH of 6.5 Standard Units 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 concern 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 criteria for nitrogen and phosphorus in the NH WQS, but 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 nitrogen and total phosphorus to provide data to evaluate the impact of these pollutants on the quality of the receiving water. From December 2009 through June 2011, the maximum total phosphorus as P effluent values have generally ranged from 0.0 to 0.05 mg/l, at Outfall 001, except for a single sample of 0.7 mg/l in March 2010. Maximum total nitrogen as N has generally been at non-detectable levels, except for a single sample of 0.7 mg/l in March 2010. Given the limited data record for Outfall 001 and high nutrient levels in March 2010, EPA has carried forward the requirements for quarterly nutrient monitoring in the draft permit.

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 phosphorus concentrations in the effluent are generally less than the recommended Gold Book concentration for flowing waters, with the exception of one sample (March 2010).

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 %) 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) effluent flows from the hatchery make up the majority of the receiving stream's flow during summer low-flow periods, meaning that low DO concentrations in the effluent could result in violations of New Hampshire's in-stream dissolved oxygen requirements at Env-Wq 1703.07; and (2) lack of reaeration potential in the stretch of receiving water adjacent to and downstream of the hatchery, meaning that dissolved-oxygen concentrations in the unnamed tributary to Carroll Stream could be significantly affected by the discharges from the hatchery, particularly if oxygen demand from effluent BOD₅ is significant.

Effluent dissolved oxygen levels between December 2009 and June 2011 have ranged from a minimum of 8.4 to 14.1 mg/l. Dissolved oxygen saturation has ranged from a minimum of 71 to 123 percent (%) saturation. Effluent dissolved oxygen levels were never lower than the minimum of 5 mg/l, and percent saturation was slightly less than the minimum of 75% saturation required in the water quality standards (Env-Wq 1703.07(b)) on only one occasion (April 2011). Formalin was not in use at the hatchery when percent saturation was less than 75%.

The draft permit continues to require monthly monitoring of the effluent for dissolved oxygen concentration and also requires additional 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 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 harm 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, pgs. 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 setting 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. 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 continues the numeric limits and monitoring requirements for formaldehyde 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 (see discussion in Section V.1 of this Fact Sheet). These practices require the permittee to develop and employ methods for feed management, removal of accumulated solids, storage of drugs and pesticides, spill prevention, management of the wastewater treatment system, maintaining accurate records, and ensuring that all personnel receive proper training.

Three additional BMP Plan categories included in 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(1). 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(1), EPA has retained the current permit's BPJ determination to prohibit the direct discharge of settled solids 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 and 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-WD to establish minimum monitoring frequencies in all NPDES permits at the time of permit modification and/or reissuance that sufficiently monitor the effluent discharge so both the environment and human health are protected. Compliance monitoring frequency and sample type has been established after considering the intended purpose and use of the data, configuration of the physical plant including its flow, and feeding regimes at the hatchery.

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
pH (L)	1/Week	Grab	1/Week	Grab
BOD ₅ (M)	1/Quarter	24-Hour Composite	1/Quarter	24-Hour Composite
TSS (M)	1/Quarter	24-Hour Composite	1/Quarter	24-Hour Composite
Total Nitrogen as N (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 Phosphorus as P (M)	1/Quarter	24-Hour Composite	1/Quarter	24-Hour Composite
Total Residue Chlorine (TRC) (L) (When in Use)	Not Required	Not Required	1/Day	Grab
Hydrogen Peroxide (L) (When Chloramine-T 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
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

VII. Endangered Species Act

The Endangered Species Act (16 USC 1451 et seq) requires the EPA ensure that any action authorized by the EPA is not likely to jeopardize the continued existence of any endangered or threatened species or adversely affect its critical habitat. Further, 40 CFR 122.49(c) requires the EPA to consult with the U.S. Fish and Wildlife Service (USFWS) to determine particular permit conditions when the regulations of the Endangered Species Act may apply.

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 reissuance of this NPDES permit. There are no endangered species resident in Carroll Stream or the Unnamed Tributary to Carroll Stream. Further consultation under Section 7 of the ESA with USFWS is not required. 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 unnamed tributary to Carroll Stream is a tributary to Carroll Stream, which is a tributary of the Johns River, which in turn is a tributary of the Connecticut River. These tributary streams have been designated EFH for Atlantic salmon (*Salmo salar*) because the Connecticut River has been designated EFH for Atlantic salmon “including all tributaries to the extent they are currently or were historically accessible for salmon migration.” Presently, there are no ongoing stocking activities of Atlantic salmon in either Carroll Stream or Johns River. Historically the Johns River was a resting area for Atlantic salmon during their migration north along the Connecticut River, according to NHF&G.

The permit limitations and requirements in the draft permit as discussed in the Fact Sheet are designed to protect aquatic species; therefore, this authorized discharge is not likely to adversely affect the federally managed species, 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 discharges of formalin, total residual chlorine, and peroxide are being regulated to assure that no toxics in toxic amounts are being released to the 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 Discharge Monitoring Report (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 Clean Water Act 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 infeasibilities, 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 1100; 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

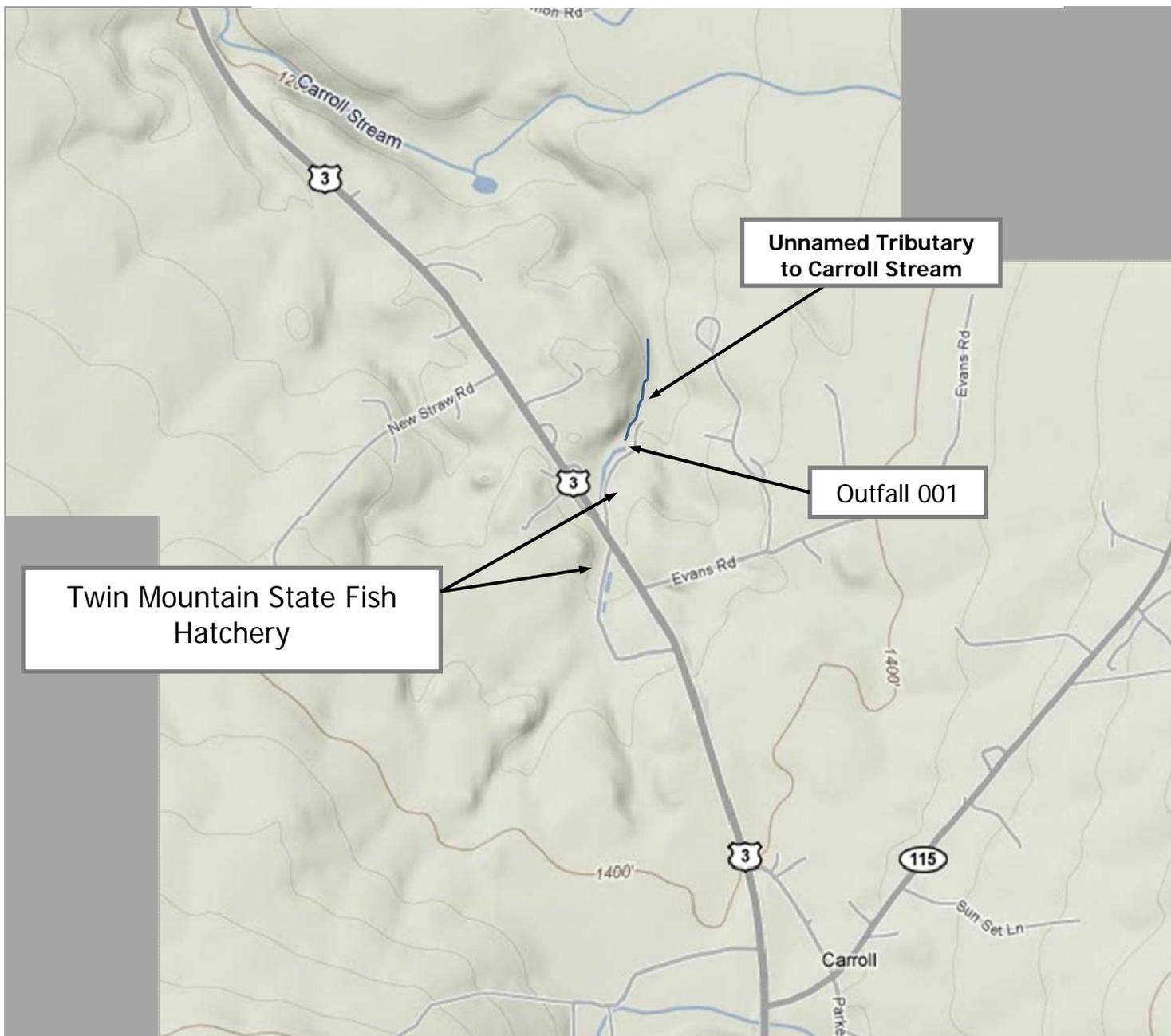
Additional information concerning the draft permit may be obtained between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays from:

John Paul King
U.S. Environmental Protection Agency
Office of Ecosystem Protection
Industrial Permits Branch (OEP06-1)
5 Post Office Square, Suite 1100 (CIP)
Boston, MA 02109-3912
Telephone: (617) 918-1295

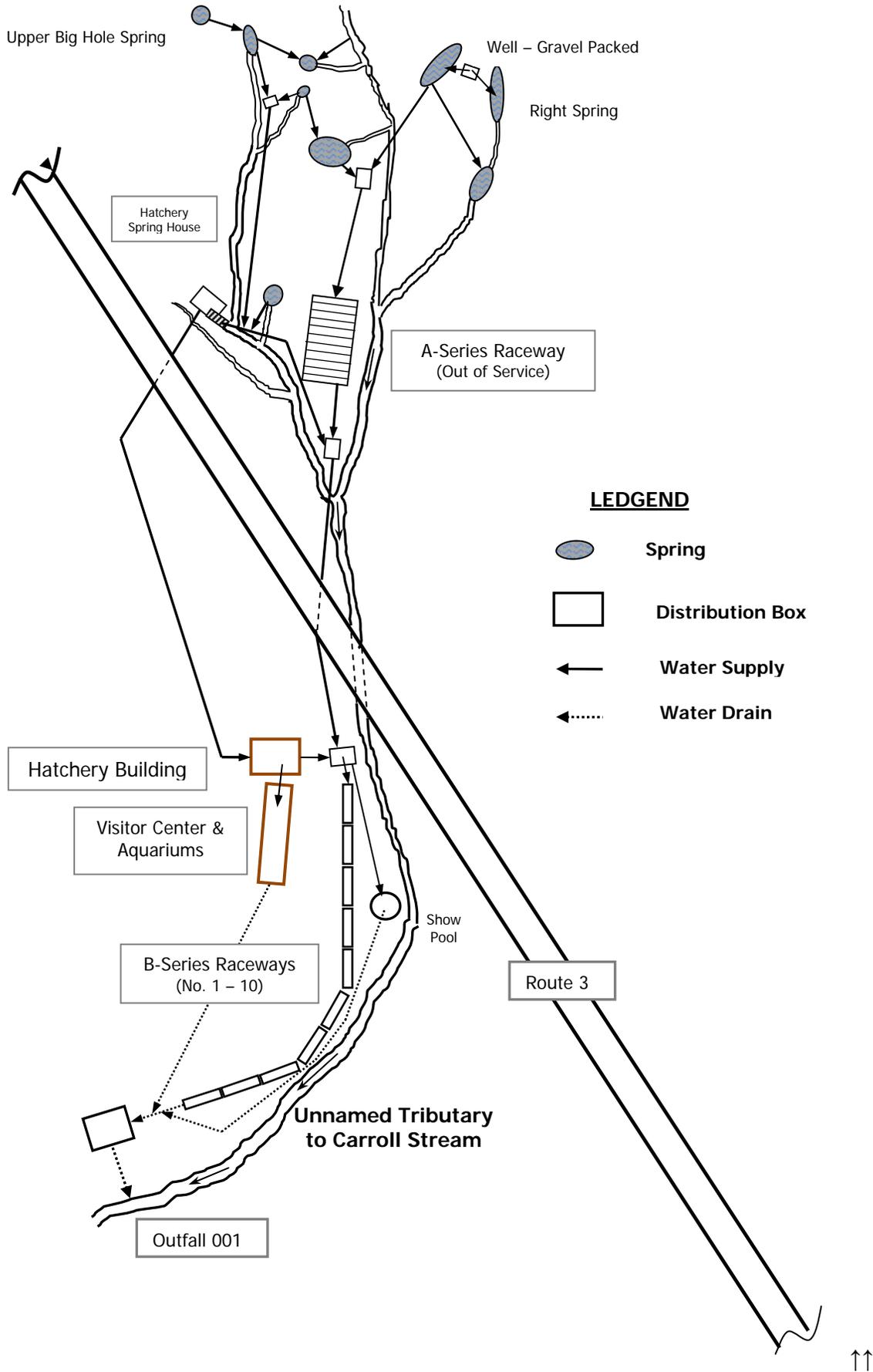
Date: March 14, 2012

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

Attachment A Map Location of Twin Mountain Fish Hatchery



Attachment B Twin Mountain Hatchery Water Supply and Drain Diagram



Attachment C
Discharge Monitoring Report Summary
December 2009 – June 2011

Discharge monitoring summaries are presented for Outfalls 001. 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.

(A)	Fish Food Fed Per Day	Fish on Hand	Flow	Dissolved Oxygen	Dissolved Oxygen Percent Saturation	Minimum pH	Maximum pH	Temperature
Date	lbs/day	lbs/day	MGD	mg/l		S.U.	S.U.	Deg F
	Avg Monthly	Avg Monthly	Max Daily	Min Daily	Min Daily	Max Daily	Max Daily	Max Daily
12/31/2009	36.35	380.45	0.80	11.94	95.00	6.40	6.57	46.76
01/31/2010	69.55	452.81	0.87	11.77	95.40	6.39	6.50	44.24
02/28/2010	66.00	593.57	0.89	13.44	108.20	6.51	6.55	45.14
03/31/2010	65.29	585.35	1.02	12.72	104.80	6.23	6.68	47.30
04/30/2010	74.80	506.56	1.10	11.1	93.90	6.27	6.48	46.94
05/31/2010	54.09	372.06	1.15	10.79	94.70	6.44	6.49	49.46
06/30/2010	30.63	177.03	1.20	10.27	89.70	6.32	6.43	50.00
07/31/2010	36.29	226.45	1.05	11.05	97.60	6.30	6.35	49.46
08/31/2010	40.00	284.38	0.95	10.42	90.50	6.29	6.43	49.64
09/30/2010	51.90	350.50	0.82	10.38	90.40	6.29	6.38	47.66
10/31/2010	27.61	129.54	0.81	11.58	97.20	6.17	6.33	46.22
11/30/2010	53.36	347.66	0.87	12.06	99.60	6.23	6.55	44.96
12/31/2010	62.64	401.41	1.01	13.07	104.40	6.24	6.34	42.26
01/31/2011	60.22	462.29	1.05	12.33	99.30	6.24	6.47	42.80
02/28/2011	64.82	574.00	0.93	12.04	98.40	6.12	6.31	40.46
03/31/2011	77.61	592.41	0.91	11.17	93.20	6.16	6.22	45.68
04/30/2011	79.93	612.43	1.08	8.37	70.90	6.15	6.39	46.58
05/31/2011	72.29	407.35	1.45	12.43	107.10	6.17	6.39	47.84
06/30/2011	57.08	336.16	1.37	14.12	123.00	6.14	6.22	48.56
Minimum	27.61	129.54	0.80	8.37	70.90	6.12	6.22	40.46
Maximum	79.93	612.43	1.45	14.12	123.00	6.51	6.68	50.00
Average	56.87	410.13	1.02	11.62	97.54	6.27	6.43	46.42

Attachment C
Discharge Monitoring Report Summary
December 2009 – June 2011

(B)	BOD		N		P		TSS	
	lb/day	mg/l	lb/day	mg/l	lb/day	mg/l	lb/day	mg/l
Date	Max Daily							
12/31/2009	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03/31/2010	25.59	3.00	5.97	0.70	0.51	0.70	0.00	0.00
06/30/2010	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.00
09/30/2010	0.00	0.00	0.00	0.00	0.14	0.02	0.00	0.00
12/31/2010	0.00	0.00	0.00	0.00	0.40	0.05	0.00	0.00
03/31/2011	0.00	0.00	0.00	0.00	0.07	0.01	0.00	0.00
06/30/2011	0.00	0.00	0.00	0.00	0.62	0.05	0.00	0.00
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum	25.59	3.00	5.97	0.70	0.62	0.70	0.00	0.00
Average	3.66	0.43	0.85	0.10	0.26	0.12	0.00	0.00

NEW HAMPSHIRE DEPARTMENT OF
ENVIRONMENTAL SERVICES
WATER DIVISION
P.O. BOX 95
CONCORD, NEW HAMPSHIRE 03302-0095

U.S. ENVIRONMENTAL PROTECTION
AGENCY
OFFICE OF ECOSYSTEM PROTECTION
REGION I
BOSTON, MASSACHUSETTS 02109-3912

JOINT PUBLIC NOTICE OF A DRAFT NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE INTO THE WATERS OF
THE UNITED STATES UNDER SECTIONS 301 AND 402 OF THE CLEAN WATER ACT
(THE "ACT"), AS AMENDED, AND REQUEST FOR STATE CERTIFICATION UNDER
SECTION 401 OF THE ACT, AND ISSUANCE OF A STATE SURFACE WATER PERMIT
UNDER NH RSA 485-A:13, I(a).

DATE OF NOTICE: **March 23, 2012**

PERMIT NUMBER: **NH0000744**

PUBLIC NOTICE NUMBER: **NH-006-12**

NAME AND MAILING ADDRESS OF APPLICANT:

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

NAME AND LOCATION OF FACILITY WHERE DISCHARGE OCCURS:

Twin Mountain State Fish Hatchery
1450 Route 3 North
Carroll, NH 03598

RECEIVING WATER: Unnamed Tributary to Carroll Stream

RECEIVING WATER CLASSIFICATION: Class B

PREPARATION OF THE DRAFT PERMIT:

The U.S. Environmental Protection Agency (EPA) and the New Hampshire Department of Environmental Services, Water Division have cooperated in the development of a draft permit for the above identified facility. The effluent limits and permit conditions imposed have been drafted to assure that State Water Quality Standards and provisions of the Clean Water Act (CWA) will be met. EPA has formally requested that the State certify the draft permit pursuant to Section 401 of the CWA and expects that the draft permit will be certified.

INFORMATION ABOUT THE DRAFT PERMIT:

A fact sheet (describing the type of facility; type and quantities of wastes; a brief summary of the basis for the draft permit conditions; and significant factual, legal and policy questions considered in preparing this draft permit) and the draft permit may be obtained at no cost at http://www.epa.gov/region1/npdes/draft_permits_listing_nh.html or by writing or calling EPA's contact person named below:

John Paul King
U.S. Environmental Protection Agency – Region 1
5 Post Office Square, Suite 100 (OEP06-1)
Boston, MA 02109-3912
Telephone: (617) 918-1295
Fax: (617) 918-0295

The administrative record containing all documents relating to the draft permit is on file and may be inspected at EPA's Boston office mentioned above between 9:00 a.m. and 5:00 p.m., Monday through Friday, except holidays.

PUBLIC COMMENT AND REQUEST FOR PUBLIC HEARING:

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 **April 21, 2012**, to the U.S. EPA, 5 Post Office Square, Boston, Massachusetts 02109-3912. Any person, prior to such date, may submit a request in writing to EPA and the State Agency for a public hearing to consider the draft permit. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on the draft permit, the Regional Administrator will respond to all significant comments and make these responses available to the public at EPA's Boston office.

FINAL PERMIT DECISION:

Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator 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.

HARRY T. STEWART, P.E., DIRECTOR
WATER DIVISION
NEW HAMPSHIRE DEPARTMENT OF
ENVIRONMENTAL SERVICES

STEPHEN S. PERKINS, DIRECTOR
OFFICE OF ECOSYSTEM PROTECTION
U.S. ENVIRONMENTAL PROTECTION
AGENCY - REGION I