

RESPONSE TO COMMENTS - DATED APRIL 25, 2005
REISSUANCE OF NPDES PERMIT NO. NH0000621
NEW HAMPSHIRE FISH AND GAME DEPARTMENT'S
BERLIN FISH HATCHERY

The U.S. Environmental Protection Agency (EPA-New England) and the New Hampshire Department of Environmental Services, Water Division (NHDES-WD) solicited public comments from January 18, 2005, through February 16, 2005, on the draft National Pollutant Discharge Elimination System (NPDES) permit to be reissued to the New Hampshire Fish and Game Department (NHF&GD) for its fish hatchery in Berlin, New Hampshire. This permit is for the discharge of fish hatchery overflow (culture) water from several outfalls into No. 9 Brook, York Pond, Cold Brook and West Branch Upper Ammonoosuc River.

EPA-New England received one set of written comments during the public-notice (comment) period, that from the NHF&GD dated February 7, 2005. The following is a list of responses to those comments and any corrections made to the public-noticed permit as a result of those comments. In addition, EPA-New England made one minor change to the final permit for purposes of clarification and that is discussed at the end of this document.

These six pages of responses and associated comments are complementary to the Fact Sheet and Draft Permit. For the reader to fully understand them, he or she should be familiar with the draft permit, the associated Fact Sheet, applicable federal National Pollutant Discharge Elimination System (NPDES) permit regulations and the State of New Hampshire's Water Quality Statutes, Administrative Rules and Surface Water Quality Regulations.

The effective date of this permit has been set at July 1, 2005, which is a little over 60 days from the anticipated date of issuance. The Agency's general rule for NPDES Permits with comments is to make them effective 60 days following the permit's effective date.

COMMENT NO. 1.

The New Hampshire Fish and Game Department is in disagreement with the draft NPDES permit (#NH0000621) sampling requirements for DIS 005 B-Canal, DIS 007 No-Name Pond and DIS 008 West Branch during the winter months because extreme environmental conditions make compliance exceedingly difficult and creates safety concerns for Department personnel. The primary issue is collecting water samples at these discharge outfalls, when winter icing makes obtaining accurate flow measurements particularly challenging and probably impossible. The monthly winter sampling requirement for DIS-008 is too much to reasonably expect without an engineering solution.

Use of a propeller type flow meter is not a viable option because experience has demonstrated the propeller can foul so that it is not turning freely and providing accurate readings. For example, there is an existing flow meter in the Cold Brook-Well Water pathway that periodically becomes fouled with a horsehair worm (Phylum Nematomorpha) or debris. In order to remedy this problem, the water flow must be shut down so the paddlewheel can be removed, cleaned and re-installed. In the West Branch, existing conditions would prevent a flow meter from being fixed in this manner if this sort of situation occurred, because the flow cannot be shut down short of taking the dam boards out of the diversion pond. The old valves were inoperable when we took possession of the facility, and West Branch raceways are never entirely empty of fish.

Currently the Department takes a weir measurement to determine flow at the tail end of the first two West Branch raceways (1 & 2), at one overflow, but only during ice-free conditions. However, the configuration of raceways 19 and 20 is such that there is no way to perform an accurate weir calculation at any without modification, because there are four weirs with screens in the way. Therefore, flow reconfiguration will include installation of an appropriate flow-measuring device to obtain a flow measure of the overflow water (OW) discharging from DIS-008. The cleaning water (CW) will be plumbed to go to No Name Pond as either an in-line settling pond, or an off-line settling pond. The Department's decision on which option to choose for the short term, is being weighed against a long-term solution that will be needed to address the anticipated advanced treatment, which may be required for "essentially phosphorus free discharge." [Fact Sheet: page 20, paragraph two, sentence four: "Other measures could include sediment removal in conjunction with the elimination of the hatchery's discharge unless that discharge can be made essentially phosphorus free."]

No Name Pond discharges DIS-007 will also require a new flow-measuring device of some kind since flows will be split and access to the dam boards for weir measurement is awkward and a safety hazard. Also, the pipe is thought to be an old wooden pipe, which would have to be replaced, because it will not take a saddle for a sampling port fitting or a flow meter.

Experimental efforts to blow air bubbles into the water with a low pressure blower to keep it from freezing, failed to work because the air stones got coated with "frazzle ice" and the air stones stop working rather quickly.

Allowing for grab samples during the winter does little towards addressing a reasonable solution, since water flow still needs to be measured and icing conditions prevent this from occurring with any level of accuracy or precision.

Until more viable solutions are developed and implemented, the Department is requesting approval for using flow estimates during winter months on an interim basis. Flow measurements would be taken regularly from May through October, and then estimates would be used for the months of November through April. [These dates are based on measurements to be taken the 15th plus or minus of the month, though the flow measurement frequency is 1/week otherwise.]

To resolve the winter-related sampling issues the Department is requesting a meeting with the USEPA NPDES writers in order to come to agreement on a reasonable and effective solution for meeting permit requirements during these environmentally harsh conditions. Perhaps a site visit this winter will assist with understanding the difficulties the Department faces in meeting specific permit requirements. Enclosed are several photographs that provide a visual of the existing winter conditions at these discharge outfalls.

The Department finds the November 30, 2005 date established for altering the piping, and installation of a heated building for composite sampling and water flow measurements under severe winter conditions is unreasonably short. To accommodate the design phase, contracting process, and construction work the Department requests the date be extended to November 30, 2007.

RESPONSE NO. 1:

The Agency understands NHF&GD's concerns regarding the "extreme environmental conditions" in Northern New Hampshire during the winter months making effluent monitoring exceedingly difficult and creating safety concerns for Department personnel who collect water-quality samples and make flow measurements at outfalls of rearing units exposed to the elements. The Agency understands the need for NHF&GD to install heated installations over those outfalls to properly and safely collect reliable flow measurements and water-quality samples. The permittee indicates that these extreme environmental conditions occur in the Berlin area primarily during the months of November through April. Accordingly, the Agency has devised sampling schemes to account for an: (1) outfall/rearing unit (DIS-005 from B-Canal) that will not have electrical power in the foreseeable future due to its remote location; (2) outfall/rearing unit (DIS-007 from Unnamed Pond) that will have minimal discharge during the winter months; and (3) outfall/rearing unit (DIS-008 from West Branch Raceways) that will be provided electrical power and a heated building in the near future due to the need to monitor the discharge of nutrients, particularly phosphorus, and its associated flow to York Pond year round. The Agency believes that year round monitoring at Outfall 008 is necessary because of the impairment of York Pond caused by elevated levels of chlorophyll-*a* (chl-*a*).

Therefore, the measurement frequency of 9 effluent characteristics for Outfall DIS-005 of B-Canal, Outfall DIS-007 from Unnamed Pond and Outfall DIS-008 from West Branch Raceways, shown on pages 3, 4 and 5, respectively, in the draft and final permits have been revised by the addition of footnote 1a which addresses flow measurement, and footnote 2a which addresses sampling of the 8 other effluent characteristics.

Footnote 1a

The final permit will continue to require that flow be monitored at 1/Week November through April, except when ice has formed over the discharge. New footnote 1a (in bold), found on page 6 of the final permit, reads, **If ice formation prevents the direct measurement of effluent flow during the winter months of November through April, flow shall be estimated. When flow is estimated, enter an "ES" code for "Estimate" in the "Sample Type" box on the appropriate monthly Discharge Monitoring Report (DMR). The applicability of footnote 1a to Outfall 008 expires**

on May 1, 2007.

Footnote 2a

The final permit requires that TSS, BOD₅, Total Phosphorus, Total Nitrogen, pH, Dissolved Oxygen, Dissolved Oxygen Saturation and Water Temperature be monitored at the same frequency in the final permit as required in the draft permit, except when ice has formed over the discharge. New footnote 2a (in bold), added to page 7 of the final permit, reads, **If ice formation prevents the collection of water samples during the winter months of November through April, enter a "5" code for "Frozen Conditions" in the appropriate box of the monthly DMR for the effluent characteristics not sampled.**

However, at Outfall 008, regardless of ice conditions, "grab sample(s)" shall be collected at least once during the period January 1st through March 31st, and on those samples, analyses shall performed for the effluent characteristics footnoted by 2a. During this period, those sample(s) are to be collected from West Branch Raceways's rearing unit 19 or 20 just prior to its discharge from that unit. The applicability of footnote 2a to Outfall 008 expires on May 1, 2007. Due to the addition of footnote 2a, the last sentence in footnote (5) on page 7 of the draft permit was eliminated from that footnote in the final permit for consistency purposes.

The decision on whether icing issues are sufficiently hazardous to forego measuring and sampling during the winter months is to be made by the on-site NHF&GD personnel.

Because NHF&GD plans to construct facilities which will allow sampling of Outfall 008 during the winter months beginning no later than November 1, 2007, a condition has been included in the final permit to void footnotes 1a and 2a after May 1, 2007. Thus, the bolded sentence added to both footnotes that reads, **The applicability of footnote 1a/2a to Outfall 008 expires on May 1, 2007.**

The authorization to use the "5" code for outfall DIS-005 and DIS 007 continues for the life of the permit because at DIS-005 its remote location makes it impractical to provide electrical power and at DIS-007 due to the minimal discharge of decant water does not warrant the collection of samples during winter months at this time. Both these decisions will likely be revisited at next permit reissuance.

Furthermore, because York Pond is an impaired waterbody due to excessive chl-*a* concentrations in the pond's water column, its phosphorus contributions need to be controlled to the "maximum extent practicable". Therefore, two additional type of requirements have been added to the final permit. One type limits discharges to York Pond to only overflow water from the West Branch Raceways and the other type places added emphasis on the Best Managements Practices (BMPs) Plan for the West Branch Raceways. Each one of these individual changes/additions is described below.

Part I.A.1.c. on Page 4

In the first paragraph a new second sentence in bold was added that reads, **Furthermore, any**

discharge from Unnamed Pond into York Pond is strictly prohibited.

Part I.A.1.d. on Page 5

In the draft permit's first paragraph, the second sentence was eliminated, and in the final permit, the sentence in bold was added, **No other type of discharge to York Pond is allowed.**

Part I.A.8. on Page 9

In the draft permit, the latter portion of the last sentence of that section was changed and an additional sentence was added to the end of that section in the final permit. In the final permit, that segment now reads, "...through any permitted outfall, except to York Pond (**Part I.A.1.a.-c.**). **To reiterate, there shall be no discharge of cleaning, decant or clarifier waters to York Pond.**"

Part I.B.4.h. on Page 15

This section was added to the final permit to place a special emphasis on the need to control nutrients, particularly phosphorus, in the discharge from West Branch Raceways through BMPs.

COMMENT NO. 2.

C-Canal is essentially a settling basin and since it has no source for electricity the Department is requesting approval for grab sampling rather than composite sampling.

RESPONSE NO. 2:

The Agency agrees with the permittee and has made the change from a 24-Hour Composite to a Grab sample. Accordingly, in the final permit on page 6 under the heading of Sample Type, the word "Grab" is shown for the effluent parameters TSS, BOD₅, Total Phosphorus and Total Nitrogen. Given this change and the language in the two new footnotes (1a and 2a) added to the final permit (See Response No. 1 above), the bolded sentence in footnote (2) on page 6 of the draft permit has been replaced with the bolded sentence below in the final permit for consistency purposes. That replacement sentence reads, **"However, up through October 31, 2007, "Grab" samples are allowed in place of 24-Hour Composite" samples."**

COMMENT NO. 3.

In the PERMIT, on page 9-18 – Item 12, the last sentence of the paragraph says the facility utilizes three named raceways for rearing fish. There are actually **five** named raceways for rearing fish, and the list should include Hatchery Raceways, which contain 24 individual raceway units, and B-Canal, which is one big raceway.

RESPONSE NO. 3:

The Agency agrees with the permittee's comment. It was an oversight on the Agency's part and the two additional raceways should have been incorporated in the public-noticed version of the draft permit. Therefore, the Hatchery Building and B-Canal Raceway have been added to the final permit in accordance with the permittee's request with the resultant five sets of rearing units being listed in alphabetic order (See bottom of page 9, Item 12.). Furthermore, in that same Item 12, the Agency changed the word shown in italics in the phrase "...this facility utilizes *three* named raceways for rearing fish..." in the draft permit to "...this facility utilizes *five* named raceways for rearing fish..." in the final permit.

COMMENT NO. 4.

In the PERMIT, on page 16-18 – Item C. SPECIAL CONDITIONS, pH Limit Adjustment first sentence, is inconsistent with Page 18 of 18 - Item F. STATE PERMIT CONDITIONS 1a., in the last sentence of the paragraph.

RESPONSE NO. 4:

The permittee is correct. Accordingly, the last sentence in Section F.1.a. in the draft permit was eliminated from that section in the final permit for consistency purposes.

EPA-NEW ENGLAND's MINOR CHANGE TO DRAFT PERMIT

In the draft permit on page 9, Item 11, 2nd paragraph, first sentence, the Agency changed the word shown in italics within the parenthesis (to be *submitted* by January 15th) of the draft permit to read (to be *postmarked* by January 15th) in the final permit (same section and page) to be consistent with the submission requirements for DMRs shown in Section E. Monitoring and Reporting on page 17 of both the draft and final permits.

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Lee E. Perry, Executive Director
New Hampshire Fish and Game Department
11 Hazen Drive
Concord, New Hampshire 03301-6500

Re: Final Issuance of NPDES Permit No. NH0000621
(for) Berlin State Fish Hatchery in Berlin, NH

Dear Mr. Perry:

Enclosed is your final National Pollutant Discharge Elimination System (NPDES) permit issued pursuant to the referenced application. The permit will become effective on the date specified in the permit, as required by 40 Code of Federal Regulations, Section 124.15. Also, enclosed is the Agency's response to comments on the draft permit and information on hearing requests and stays of NPDES permits.

We appreciate your cooperation throughout the development of this permit. Should you have any questions, feel free to contact Mr. Brian Pitt of my staff at phone number (617) 918-1875.

Sincerely,

Roger A. Janson, Director
NPDES Municipal Permits Branch

Enclosures: Permit with Response to Comments

cc: New Hampshire Department of Environmental Services, Water Division



ROUTING SLIP FOR NEW HAMPSHIRE PERMITS

FROM: Frederick B. Gay
 MAIL CODE: CMP
 PHONE NUMBER: 617/918-1297 until April 28th



NAME	Mail Code	INITIALS	DATE IN	DATE OUT
Frederick B. Gay, Permit Engineer	CMP		*****	
Brian Pitt, Team Leader NPDES Municipal Permits Branch	CMP			
Roger A. Janson, Director Municipal Permits Branch	CMP			
Linda M. Murphy, Director Office of Ecosystem Protection	CAA			
Shelley Puleo, Office of Municipal Assistance	CMU			
PCS Processing	SEW			
→ → → → →	CMP	PLEASE RETURN FILE AND BUCK SLIP TO: Brian Pitt		

NPDES PERMIT (Final Issuance)

Permit Name: New Hampshire Fish and Game Department --Berlin Mill State Fish Hatchery
 Berlin, New Hampshire

Permit Number: NH0000621

Comments Received: YES! Permittee was the only commenter and a response to comments was prepared for those comments as well as for some additional changes made by the Agency. Therefore, the issued permit differs slightly from that public noticed.

Comments: No appeal likely!