



STATE OF MAINE
Department of Environmental Protection

Paul R. Lepage
GOVERNOR

Patricia W. Aho
COMMISSIONER

March 27, 2015

Mr. Sonny Pierce
Pierce Associates Inc., President
P.O. Box 258
Hollis, ME. 04093
e-mail: shybeavertrouthatchery@gmail.com

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0036838
Maine Waste Discharge License (WDL) Application #W008127-6E-C-R
Shy Beaver Hatchery
Proposed Draft Permit

Dear Mr. Pierce:

Enclosed is a **proposed draft** MEPDES permit and Maine WDL (permit hereinafter) which the Department proposes to issue as a final document after opportunity for your review and comment. By transmittal of this letter you are provided with an opportunity to comment on the proposed draft permit and its conditions (special conditions specific to this permit are enclosed; standard conditions applicable to all permits are available upon request). If it contains errors or does not accurately reflect present or proposed conditions, please respond to this Department so that changes can be considered.

By copy of this letter, the Department is requesting comments on the proposed draft permit from various state and federal agencies, as required by our new regulations, and from any other parties who have notified the Department of their interest in this matter.

All comments must be received in the Department of Environmental Protection office on or before the close of business **Monday, April 27, 2015**. Failure to submit comments in a timely fashion will result in the final document being issued as drafted. Comments in writing should be submitted to my attention at the following address:

Maine Department of Environmental Protection
Bureau of Land & Water Quality
Division of Water Quality Management
17 State House Station
Augusta, ME 04333

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-3901 FAX: (207) 287-3435
RAY BLDG., HOSPITAL ST.

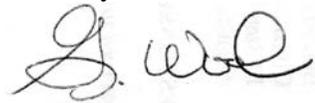
BANGOR
106 HOGAN ROAD
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
(207) 764-6477 FAX: (207) 764-1507

If you have any questions regarding the matter, please feel free to call me at 287-7693.

Sincerely,

A handwritten signature in black ink, appearing to read "G. Wood". The signature is fluid and cursive, with the first name "G." and the last name "Wood" clearly distinguishable.

Gregg Wood
Division of Water Quality Management
Bureau of Land and Water Quality

Enc.

cc: Stuart Rose, DEP/SMRO
Barry Mower, DEP/CMRO
David Webster, USEPA
David Pincumbe, USEPA
Alex Rosenberg, USEPA
Maine Inland Fisheries & Wildlife
Maine Department of Marine Resources



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION
AUGUSTA, ME 04333

DEPARTMENT ORDER

IN THE MATTER OF

PIERCE ASSOCIATES, INC.)	MAINE POLLUTANT DISCHARGE
SHY BEAVER HATCHERY)	ELIMINATION SYSTEM PERMIT
HOLLIS, YORK COUNTY, MAINE)	AND
FISH HATCHERY)	
ME0036838)	WASTE DISCHARGE LICENSE
W008127-6E-C-R)	RENEWAL
		APPROVAL

Pursuant to the provisions of the Federal Water Pollution Control Act, Title 33 USC, Section 1251, *et seq.* and Maine law 38 M.R.S.A., Section 414-A *et seq.*, and applicable regulations the Department of Environmental Protection (Department hereinafter) has considered the application of PIERCE ASSOCIATES, INC. d/b/a SHY BEAVER HATCHERY (permittee hereinafter), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

The permittee has submitted a complete application to the Department for the renewal of combination Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0036838/Maine Waste Discharge License (WDL) #W008127-5Q-A-N (permit hereinafter) issued by the Department on March 29, 2007, for a five year term. The permit authorized the monthly average discharge of up to 1.5 million gallons per day (MGD) of fish hatchery wastewater to Wales Pond Brook, Class B, from a commercial brook trout, rainbow trout, and brown trout hatchery and rearing facility located in Hollis, Maine. The March 29, 2007, permit was subsequently modified on February 23, 2010, by reducing the monitoring frequencies for biochemical oxygen demand (BOD) and total suspended solids (TSS) from 2/Month to 1/Month.

MODIFICATIONS REQUESTED

The permittee is requesting the Department re-evaluate the monitoring frequencies for all parameters given the historical decrease in biomass at the facility and the consistency in the test results for each parameter.

PERMIT SUMMARY

This permit is carrying forward all the terms and conditions of the previous permit except that this permit is;

1. Reducing the year-round monitoring frequencies for BOD and TSS from 1/Month to 1/Year based on the fact the concentration for both parameters has been reported at or below 2.0 mg/L for the most current five-year period of time.
2. Reducing the seasonal (June 1 – September 30) monitoring frequency for total phosphorus from 2/Month to 1/Month given the consistency in test results for the most current five-year period of time.
3. Reducing the year-round monitoring frequency for pH from 2/Month to 1/Year given the consistency in test results for the most current five-year period of time.
4. Eliminating the seasonal (June 1 – September 30) ambient dissolved oxygen and temperature monitoring in Wales Pond Brook given the consistency in test results for the most current five-year period of time.
5. Eliminating the requirement to conduct macro-invertebrate biomonitoring if requested by the Department as the Department will conduct any future biomonitoring.

CONCLUSIONS

BASED on the findings in the attached **PROPOSED DRAFT** Fact Sheet dated March 27, 2015, and subject to the Conditions listed below, the Department makes the following conclusions:

1. The discharge, either by itself or in combination with other discharges, will not lower the quality of any classified body of water below such classification.
2. The discharge, either by itself or in combination with other discharges, will not lower the quality of any unclassified body of water below the classification which the Department expects to adopt in accordance with state law.
3. The provisions of the State's antidegradation policy, 38 M.R.S.A. §464(4)(F), will be met, in that:
 - (a) Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;
 - (b) Where high quality waters of the State constitute an outstanding national resource, that water quality will be maintained and protected;
 - (c) Where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification;
 - (d) Where the actual quality of any classified receiving water body exceeds the minimum standards of the next highest classification, that higher water quality will be maintained and protected;
and
 - (e) Where a discharge will result in lowering the existing quality of any water body, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.
4. The discharge will be subject to effluent limitations that require application of best practicable treatment.

ACTION

THEREFORE, the Department APPROVES the above noted application of PIERCE ASSOCIATES, INC. d/b/a SHY BEAVER HATCHERY to discharge a monthly average flow of up to 1.5 million gallons per day of fish hatchery wastewater to Wales Pond Brook, Class B, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations including:

1. “*Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable To All Permits,*” revised July 1, 2002, copy attached.
2. The attached Special Conditions, including any effluent limitations and monitoring requirements.
3. This permit becomes effective upon the date of signature below and expires at midnight five (5) after that date. If a renewal application is timely submitted and accepted as complete for processing prior to the expiration of this permit, the terms and conditions of this permit and all subsequent modifications and minor revisions thereto remain in effect until a final Department decision on the renewal application becomes effective. [*Maine Administrative Procedure Act, 5 M.R.S.A. § 10002 and Rules Concerning the Processing of Applications and Other Administrative Matters, 06-096 CMR 2(21)(A) (effective April 1, 2003)*].

DONE AND DATED AT AUGUSTA, MAINE, THIS ____ DAY OF _____, 2015.

COMMISSIONER OF ENVIRONMENTAL PROTECTION

BY: _____
Patricia W. Aho, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application _____ March 12, 2014 _____.

Date of application acceptance _____ March 19, 2014 _____.

Date filed with Board of Environmental Protection _____

This Order prepared by Gregg Wood , BUREAU OF LAND & WATER QUALITY

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. The permittee is authorized to discharge **fish hatchery wastewater** via **Outfall #001A** to Wales Pond Brook. Such discharges shall be limited and monitored by the permittee as specified below ⁽¹⁾:

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly <u>Average</u> as specified	Daily <u>Maximum</u> as specified	Monthly <u>Average</u> as specified	Daily <u>Maximum</u> as specified	Measurement <u>Frequency</u> as specified	Sample <u>Type</u> as specified
Flow [50050]	1.5 MGD [03]	Report MGD [03]	---	---	Daily [01/01]	Measured [MS]
BOD [00310]	75 lbs./day [26]	125 lbs./day [26]	6 mg/L [19]	10 mg/L [19]	1/Year ⁽²⁾ [01/YR]	Composite ⁽³⁾ [CP]
TSS [00530]	75 lbs./day [26]	125 lbs./day [26]	6 mg/L [19]	10 mg/L [19]	1/Year ⁽²⁾ [01/YR]	Composite ⁽³⁾ [CP]
Total Phosphorus ⁽⁴⁾ [00665] June 1 – September 30 each year	0.93 lbs./day [26]	Report lbs./day [26]	0.074 mg/L [19]	Report mg/L [19]	1/Month [01/30]	Composite ⁽³⁾ [CP]
pH [00400]	---	---	---	6.0-8.5 S.U. ⁽⁵⁾ [12]	1/Year ⁽²⁾ [01/YR]	Grab [GR]

The italicized numeric values bracketed in the table above and in subsequent text are code numbers that Department personnel utilize to code the monthly Discharge Monitoring Reports (DMRs).

FOOTNOTES: See pages 6 and 7 of this permit for applicable footnotes.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Footnotes:

1. **Sampling** – Sampling and analysis must be conducted in accordance with; a) methods approved in 40 Code of Federal Regulations (CFR) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, or c) as otherwise specified by the Department. Samples that are sent out for analysis shall be analyzed by a laboratory certified by the State of Maine’s Department of Human Services. Samples that are sent out for analysis shall be analyzed by a laboratory certified by the State of Maine’s Department of Human Services. Samples that are sent to another POTW licensed pursuant to *Waste discharge licenses*, 38 M.R.S.A. § 413 are subject to the provisions and restrictions of *Maine Comprehensive and Limited Environmental Laboratory Certification Rules*, 10-144 CMR 263 (last amended February 13, 2000).
2. **BOD, TSS and pH**- 1/Year sampling shall be conducted at the same time samples are obtained for total phosphorus. The permittee shall take at least one sample in each of the four summer months during the five-year term of the permit.
3. **Composite Sample** – Composite sample means a sample consisting of a minimum of four grab samples collected at two-hour intervals during the working day at the facility. Alternatively, upon Department approval, the permittee may elect to use an automatic compositor for sampling.
4. **Total Phosphorous** – All total phosphorus monitoring conducted by the permittee for compliance with this permit shall be performed in accordance with **Attachment A** of this permit, *Protocol For Total P Sample Collection and Analysis for Waste Water and Receiving Water Monitoring Required by Permits, Finalized May 2006*, unless otherwise specified by the Department.
5. **pH Range Limitation** – The pH value of the effluent shall not be lower than 6.0 SU nor higher than 8.5 SU at any time unless these limitations are exceeded due to natural causes. The permittee shall provide oral notification of any exceedence within 24 hours from the time the permittee becomes aware of the circumstances and shall submit a written explanation of the exceedence within 5 days of the time the permittee becomes aware of the circumstances.

B. NARRATIVE EFFLUENT LIMITATIONS

1. The effluent shall not contain a visible oil sheen, foam or floating solids at any time which would impair the usages designated for the classification of the receiving waters.
2. The effluent shall not contain materials in concentrations or combinations which are hazardous or toxic to aquatic life, or which would impair the usages designated for the classification of the receiving waters.

SPECIAL CONDITIONS

B. NARRATIVE EFFLUENT LIMITATIONS (cont'd)

3. The discharges shall not cause visible discoloration or turbidity in the receiving waters which would impair the usages designated for the classification of the receiving waters.
4. Notwithstanding specific conditions of this permit, the effluent must not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

C. AUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with: 1) the permittee's General Application for Waste Discharge Permit, accepted for processing on March 19, 2014; 2) the terms and conditions of this permit; and 3) only from Outfall #001A. Discharges of wastewater from any other point source are not authorized under this permit, and shall be reported in accordance with Standard Condition B(5)(*Bypass*) of this permit.

D. NOTIFICATION REQUIREMENTS

In accordance with Standard Condition D, the permittee shall notify the Department of the following:

1. Any substantial change in the volume or character of pollutants being introduced into the wastewater collection and treatment system.
2. For the purposes of this section, adequate notice shall include information on:
 - a. The quality or quantity of wastewater introduced to the waste water collection and treatment system; and
 - b. Any anticipated impact of the change in the quantity or quality of the wastewater to be discharged from the treatment system.

E. SETTLING BASIN CLEANING

All wastewater settling structures shall be cleaned when accumulated materials occupy 20% of a basin's capacity, when material deposition in any area of the basins exceeds 50% of the operational depth, or at any time that said materials in or from the basins are contributing to a violation of permit effluent limits.

SPECIAL CONDITIONS

F. OPERATION & MAINTENANCE (O&M) PLAN

The permittee shall maintain a current written comprehensive Operation & Maintenance (O&M) Plan. The plan shall provide a systematic approach by which the permittee shall at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit.

The O&M Plan shall establish Best Management Practices (BMP) to be followed in operating the facility, cleaning the raceways/culture tanks, screens, and other equipment and disposing of any solid waste. The purpose of the BMP portion of the plan is to identify and to describe the practices which minimize the amounts of pollutants discharged to surface waters. Among other items, the plan shall describe in detail efficient feed management and feeding strategies to minimize discharges of uneaten feed and waste products, how and when the accumulated solids are to be removed, dewatered, and methods of disposal. The plan shall also describe where the removed material is to be placed and the techniques used to prevent it from re-entering the surface waters from any onsite storage. The plan shall document the recipients and methods of any offsite waste disposal.

By December 31 of each year, or within 90 days of any process changes or minor equipment upgrades, the permittee shall evaluate and modify the O&M Plan including site plan(s) and schematic(s) for the wastewater treatment facility to ensure that it is up-to-date. The O&M Plan shall be kept on-site at all times and made available to Department and USEPA personnel upon request.

Within 90 days of completion of new and or substantial upgrades of the wastewater treatment facility, the permittee shall submit the updated O&M Plan to their Department inspector for review and comment.

G. DISEASE AND PATHOGEN CONTROL NOTIFICATION

The permittee must comply with Maine Department of Inland Fisheries and Wildlife and Maine Department of Marine Resources salmonid fish health rules (12 M.R.S.A., §6071; 12 M.R.S.A., §§7011, 7035, 7201, and 7202, or revised rules). The cited rules include requirements for notification to the appropriate agency within 24-hours of pathogen detection. In the event of a catastrophic pathogen occurrence, the permittee shall submit to the Department for review, information on the proposed treatment including materials/chemicals to be used, material/chemical toxicity to aquatic life, the mass and concentrations of materials/chemicals as administered, and the concentrations to be expected in the effluent. The Department will address such occurrences through administrative modifications of the permit.

H. DISINFECTING/SANITIZING AGENTS

The permittee neither applied for nor does this permit authorize the discharge of waste waters that have been treated with disinfectants and/or sanitizing agents.

SPECIAL CONDITIONS

I. THERAPEUTIC AGENTS

All medicated fish feeds, drugs, and other fish health therapeutants shall be registered with USEPA as appropriate, approved by the US Food and Drug Administration (USFDA), and applied according to USFDA accepted guidelines and manufacturer's label instructions. Records of all such materials used are to be maintained at the facility for a period of five years. This permitting action does not authorize routine off-label or extra-label drug use. Such uses shall only be permitted in emergency situations when they are the only feasible treatments available and only under the authority of a veterinarian. **The permittee shall notify the Department in writing within 24-hours prior to such use.** This notification must be provided by the veterinarian involved and must include the agent(s) used, the concentration and mass applied, a description of how the use constitutes off-label or extra-label use, the necessity for the use in terms of the condition to be treated and the inability to utilize accepted drugs or approved methods, the duration of the use, the likely need of repeat treatments, and information on aquatic toxicity. If, upon review of information regarding the use of a drug pursuant to this section, the Department determines that significant adverse effects are likely to occur, it may restrict or limit such use.

J. MONITORING AND REPORTING

Monitoring results obtained during the previous month shall be summarized for each month and reported on separate Discharge Monitoring Report (DMR) forms provided by the Department and postmarked on or before the thirteenth (13th) day of the month or hand-delivered to a Department regional office such that the DMR's are received by the Department on or before the fifteenth (15th) day of the month following the completed reporting period. A signed copy of the DMR and all other reports required herein shall be submitted to the Department's assigned compliance inspector (unless otherwise specified by the Department) at the following address:

Department of Environmental Protection
Southern Maine Regional Office
Bureau of Land and Water Quality
Division of Water Quality Management
312 Canco Road
Portland, Maine 04103

Alternatively, if you are submitting an electronic DMR (eDMR), the completed eDMR must be electronically submitted to the Department by a facility authorized DMR Signatory not later than close of business on the 15th day of the month following the completed reporting period. Hard Copy documentation submitted in support of the eDMR must be postmarked on or before the thirteenth (13th) day of the month or hand-delivered to the Department's Regional Office such that it is received by the Department on or before the fifteenth (15th) day of the month following the completed reporting period. Electronic documentation in support of the eDMR must be submitted not later than close of business on the 15th day of the month following the completed reporting period.

SPECIAL CONDITIONS

K. REOPENING OF PERMIT FOR MODIFICATIONS

Upon evaluation of the tests results or monitoring requirements specified in Special Conditions of this permitting action, new site specific information, new water quality monitoring data or modeling information, or any other pertinent test results or information obtained during the term of this permit, the Department may, at any time and with notice to the permittee, modify this permit to; (1) include effluent limits necessary to control specific pollutants or whole effluent toxicity where there is a reasonable potential that the effluent may cause water quality criteria to be exceeded, (2) require additional monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information.

L. SEVERABILITY

In the event that any provision, or part thereof, of this permit is declared to be unlawful by a reviewing court, the remainder of the permit shall remain in full force and effect, and shall be construed and enforced in all respects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

ATTACHMENT A

Protocol for Total Phosphorus Sample Collection and Analysis for Waste Water

Approved Analytical Methods: EPA 200.7 (Rev. 44), 365.1 (Rev. 2.0), (Lachat), 365.3, 365.4; SM 3120 B, 4500-P B.5, 4500-P E, 4500-P F, 4500-P G, 4500-P H; ASTM D515-88(A), D515-88(B); USGS I-4471-97, I-4600-85, I-4610-91; OMAAOAC 973.55, 973.56

Sample Collection: The Maine DEP is requesting that total phosphorus analysis be conducted on composite effluent samples, unless a facility's Permit specifically designates grab sampling for this parameter. Facilities can use individual collection bottles or a single jug made out of glass or polyethylene. Bottles and/or jugs should be cleaned prior to each use with dilute HCL. This cleaning should be followed by several rinses with distilled water. Commercially purchased, pre-cleaned sample containers are an acceptable alternative. The sampler hoses should be cleaned, as needed.

Sample Preservation: During compositing the sample must be at 0-6 degrees C (without freezing). If the sample is being sent to a commercial laboratory or analysis cannot be performed the day of collection then the sample must be preserved using H₂SO₄ to obtain a sample pH of <2 su and refrigerated at 0-6 degrees C (without freezing). The holding time for a preserved sample is 28 days.

Note: Ideally, Total P samples are preserved as described above. However, if a facility is using a commercial laboratory then that laboratory may choose to add acid to the sample once it arrives at the laboratory. The Maine DEP will accept results that use either of these preservation methods.

Laboratory QA/QC: Laboratories must follow the appropriate QA/QC procedures that are described in each of the approved methods.

Sampling QA/QC: If a composite sample is being collected using an automated sampler, then once per month run a blank on the composite sampler. Automatically, draw distilled water into the sample jug using the sample collection line. Let this water set in the jug for 24 hours and then analyze for total phosphorus. Preserve this sample as described above.

**MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
AND
MAINE WASTE DISCHARGE LICENSE**

FACT SHEET

DATE: **March 27, 2015**

MEPDES PERMIT NUMBER: **ME0036838**
WASTE DISCHARGE LICENSE: **W008127-6E-C-R**

NAME AND ADDRESS OF APPLICANT:

**PIERCE ASSOCIATES, INC. d/b/a SHY BEAVER HATCHERY
P.O. Box 258
West Buxton, Maine 04093**

COUNTY: **York**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

**SHY BEAVER HATCHERY
161 Shy Beaver Road
Hollis, Maine 04093**

RECEIVING WATER / CLASSIFICATION: **Wales Pond Brook/Class B**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Mr. Sonny Pierce
President
Pierce Associates Inc.
(207) 229-3003**
e-mail: shybeavertrouthatchery@gmail.com

1. APPLICATION SUMMARY

- a. Application: Pierce Associates Inc. (permittee hereinafter) d/b/a Shy Beaver Hatchery has submitted a complete application to the Department for the renewal of combination Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0036838/Maine Waste Discharge License (WDL) #W008127-5Q-A-N (permit hereinafter) issued by the Department on March 29, 2007, for a five year term. The permit authorized the monthly average discharge of up to 1.5 million gallons per day (MGD) of fish hatchery wastewater to Wales Pond Brook, Class B, from a commercial brook trout, rainbow trout, and brown trout hatchery and rearing facility located in Hollis, Maine. The March 29, 2007, permit was subsequently modified on February 23, 2010, by reducing the monitoring frequencies for biochemical oxygen demand (BOD) and total suspended solids (TSS) from 2/Month to 1/Month.

1. APPLICATION SUMMARY (cont'd)

- b. Source Description/ Facility Operation: Shy Beaver Hatchery is a commercial fish hatchery located in Hollis, Maine, and was first established in the 1870s. See **Attachment A** of this Fact Sheet for a map created by the Department showing the location of the facility, and **Attachment B** for a schematic of the facility. Shy Beaver raises brook trout, rainbow trout and brown trout, and obtains eyed eggs from certified brood stock facilities. Prior to 2007, Shy Beaver Hatchery raised approximately 15,000 fish per year for brood stock maintenance and private pond stocking and approximately 15,000 fish per year for bioassays. The facility no longer maintains broodstock and has cut the biomass at the facility to maintain a standing crop biomass of 1,500 – 2,000 pounds throughout the year.

Shy Beaver is a flow-through facility, obtaining source water from natural springs and from two wells of depths of 60 feet and 30 feet deep, respectively. During high flow times (winter, storms, etc.) the water flow-through rate is approximately 1,500 gallons per minute (gpm) (2.16 million gallons per day, mgd), while during drought conditions (summer) it is approximately 800 gpm (1.15 mgd). Shy Beaver has an influent emergency bypass to route excess influent flows, if necessary, directly to Wales Pond Brook. Biomass on station is highest from April through June. Biomass is lowest in the summer as the raceways are mostly empty following stocking.

Hatchery / Rearing: The hatchery operation consists of three stacks of eight incubator trays for a total of 24 trays. The hatchery/rearing facility utilizes well water as its source water. Shy Beaver typically isolates the fish to one species per stack. Eggs/fish are kept in the incubator trays through hatching until the fish reach the swim-up stage. Then, they are transferred to twenty-four aluminum troughs that are 10-feet long by 1-foot wide by 8-inches deep. There is no water reuse between individual egg tray stacks or between troughs; all are set up as parallel flow pass-through systems.

Fish are kept in the troughs until they reach approximately 2-3 inches in length, which first occurs for the rainbow trout between January and March and slightly later for other species raised. Fish are then transferred to circular tanks located outside.

Outside Tanks: Outside tanks utilize well water as the source water. The tanks consist of eleven 8-foot diameter by 20-inch deep (approximately 627-gallon) tanks and four 15-foot diameter by 32-inch deep (approximately 8,378-gallons) tanks. The 8-foot tanks are made of fiberglass, while the 15-foot tanks are made of corrugated steel with a concrete floor. All circular tanks have center drains for cleaning. There is no water reuse between individual circular tanks; all are set up as parallel flow pass-through systems. Fish are held in the outside tanks until they reach approximately 6-inches in length. Fish are then transferred to outside raceways.

1. APPLICATION SUMMARY (cont'd)

Raceways: The raceways utilize a combination of well water and spring water as the source water. One raceway is located above the hatchery and is 12-feet wide by 70-feet long by 16-inches deep. Other raceways are located below the hatchery and are 14-feet wide by 150-feet long by 16-inches deep. Water flow from the hatchery/rearing and outside tank portions of the facility enters the raceway portion and subsequently flows through the remainder of the facility in series flow. All raceways are earthen with wooden sides and are covered with screen to discourage predators. Fish attain a size of approximately 8-10-inches in length in the raceways.

Shy Beaver does not use chemicals of any kind to ensure the fish may be used for bioassays. This permit does not authorize the use of disinfectants at this facility that may carry over to the effluent. Shy Beaver has fish escape prevention screens in place. Shy Beaver stocks several hundred fish per week in Wales Pond Brook for a private fishing club. Shy Beaver typically sells or stocks all fish each year. A minimal number of hold-over fish may be retained for the private fishing club.

- c. Wastewater: Shy Beaver stated that it vacuums fish containment structures as needed with a pool vacuum. Extracted solid waste materials are deposited on the ground surface in various areas of the facility's 250-acre property. Water extracted during vacuuming is returned to the facility flow. Shy Beaver reports that raceways are typically cleaned twice per year. When tanks are emptied of fish, they are cleaned by pressure washing. As described above, all facility flow-through water is combined in the raceway portion of the facility. A former production pool is utilized as a settling basin. Wastewater flows from this structure to the impounded headwaters of Wales Pond Brook, which is a tributary to the Saco River.

2. PERMIT SUMMARY

- a. Modifications requested: The permittee is requesting the Department re-evaluate the monitoring frequencies for all parameters given the historical decrease in biomass at the facility and the consistency in the test results for each parameter.
- b. Terms and Conditions - This permit is carrying forward all the terms and conditions of the previous permit except that this permit is;
1. Reducing the year-round monitoring frequencies for BOD and TSS from 1/Month to 1/Year based on the fact the concentration for both parameters has been reported at or below 2.0 mg/L for the most current five-year period of time.
 2. Reducing the seasonal (June 1 – September 30) monitoring frequency for total phosphorus from 2/Month to 1/Month given the consistency in test results for the most current five-year period of time.
 3. Reducing the year-round monitoring frequency for pH from 2/Month to 1/Year given the consistency in test results for the most current five-year period of time.

2. PERMIT SUMMARY (cont'd)

4. Eliminating the seasonal (June 1 – September 30) ambient dissolved oxygen and temperature monitoring in Wales Pond Brook given the consistency in test results for the most current five-year period of time.
 5. Eliminating the requirement to conduct macro-invertebrate biomonitoring if requested by the Department as the Department will conduct any future biomonitoring.
- c. History – This section provides a summary of significant licensing, permitting, and other events affecting the Shy Beaver Hatchery.

December 20, 2000 – The Department notified Pierce Associates, Inc. of the need to apply to the Department for a Waste Discharge License for the discharge of fish hatchery wastewater.

February 20, 2001 – Pierce Associates, Inc./Shy Beaver Hatchery submitted a General Application to the Department for a new WDL. The application was accepted for processing on February 20, 2001 and was assigned WDL #W008127-5Q-A-N.

March 29, 2007 – The Department issued combination MEPDES permit #ME0036838/WDL #W008127-5Q-A-N for a five-year term.

February 23, 2010 – The Department issued modification #ME0036838/WDL #W008127-6F-B-M that reduced the monitoring frequencies for biochemical oxygen demand (BOD) and total suspended solids (TSS) from 2/Month to 1/Month.

March 12, 2014 – Pierces Associates Inc. submitted a complete application to the Department for the renewal of the combination MEPDES permit/WDL.

3. CONDITIONS OF PERMITS

Maine law, 38 M.R.S.A. Section 414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require application of best practicable treatment (BPT), be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, 38 M.R.S.A., Section 420 and Department rule 06-096 CMR Chapter 530, *Surface Water Toxics Control Program*, require the regulation of toxic substances not to exceed levels set forth in Department rule 06-096 CMR Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants*, and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

4. RECEIVING WATER QUALITY STANDARDS

The impounded headwaters of Wales Pond Brook, which is referred to as Wales Pond, and the brook itself are “waters of the State” as defined by Maine law, 38 M.R.S.A. §361-A sub-section 7. Maine law, 38 M.R.S.A. §467 sub-section 12.B. classifies tributaries of the Saco River, unless otherwise classified, which includes Wales Pond Brook at the point of discharge, as Class B waters. Maine law 38 M.R.S.A. §465 sub-section 3 describes the standards of classification for Class B waters as follows:

- A. *Class B waters shall be of such quality that they are suitable for the designated uses of drinking water supply after treatment; fishing; recreation in and on the water; industrial process and cooling water supply; hydroelectric power generation, except as prohibited under Title 12, section 403; and navigation; and as habitat for fish and other aquatic life. The habitat shall be characterized as unimpaired.*
- B. *The dissolved oxygen content of Class B waters may not be less than 7 parts per million or 75% of saturation, whichever is higher, except that for the period from October 1st to May 14th, in order to ensure spawning and egg incubation of indigenous fish species, the 7-day mean dissolved oxygen concentration may not be less than 9.5 parts per million and the 1-day minimum dissolved oxygen concentration may not be less than 8.0 parts per million in identified fish spawning areas. Between May 15th and September 30th, the number of Escherichia coli bacteria of human and domestic animal origin in these waters may not exceed a geometric mean of 64 per 100 milliliters or an instantaneous level of 236 per 100 milliliters.*
- C. *Discharges to Class B waters may not cause adverse impact to aquatic life in that the receiving waters must be of sufficient quality to support all aquatic species indigenous to the receiving water without detrimental changes in the resident biological community.*

5. RECEIVING WATER QUALITY CONDITIONS

The State of Maine 2012 Integrated Water Quality Monitoring and Assessment Report lists Wales Pond Brook (ME0106000211_616R) as “Category 5-A: Rivers and Steams Impaired by Pollutants Other Than Those Listed in 5-B Through 5-D (TMDL Required).” Impairment in this context refers to the impairment of the aquatic life standard for Class B waters. Benthic macroinvertebrate samples were collected between calendar years 2000 through 2005. The “Upstream” station sampled is located approximately 110 meters below the impounded headwaters of the brook, commonly referred to as Wales Pond, while the “Downstream” station is located approximately 900 meters below the impounded headwaters of the brook. The “Upstream” station sampled in 2005 was in non-attainment of the minimum Class C aquatic life standard. There has been very little variability in the sampling results. The “Upstream” station has never attained the Class B aquatic life standard but has fluctuated between the minimum Class C aquatic life standard (2001, 2003, 2004) or non-attainment (2000, 2002, 2005). The “Downstream” station met the Class B aquatic life standard in 2000, 2001, 2003, and 2005 and the Class C aquatic life standard in 2002 and 2004.

5. RECEIVING WATER QUALITY CONDITIONS (cont'd)

The Department has identified the discharge from Shy Beaver Hatchery as a potential source for the non-attainment status of the brook. Application of appropriate pollution control technologies to the discharge from Shy Beaver Hatchery is anticipated to result in improvement of receiving water quality and, ultimately, attainment of all standards of classification for Class B waters.

Chlorophyll-a level is used by the Department to determine if a waterbody has a reasonable potential to cause an algae bloom. When chlorophyll-a levels are high enough, the water may begin to appear green tainted from plankton that are floating in the water. The plankton may also be visible within the water column. Based on Department research, an in-stream concentration of 0.035 mg/L of total phosphorus corresponds to the maximum level at which algae blooms will not typically occur in a receiving river or stream under normal circumstances.

Based on aerial (from fixed wing aircraft on June 16, 2006) and ground observations (July 6, 2006) conducted by Department staff, the Department has documented the occurrence of heavy algae growth in Wales Pond Brook in and below the impoundment. Analytical test results for two water samples collected from Wales Pond Brook by Department staff on July 6, 2006 for total phosphorous were 25 parts per billion (ppb) and 34 ppb and chlorophyll-a results were 6.9 ppb and 14 ppb. Analytical test results for water samples collected from the impounded portion of the brook by the Department in calendar years 2000, and 2005 for total phosphorous were 34 ppb and 43 ppb, respectively. Analytical test results for chlorophyll-a were 3.1 ppb, 11.0 ppb, and 16.0 ppb, respectively for years 1999, 2000, and 2005. On August 24, 2005 and August 25, 2005, the Department measured dissolved oxygen (DO) in the impounded portion of the brook. On 8/25/05, the DO measurement at a depth of 2 meters was 5.3 parts per million (ppm), which is below the minimum DO standard of 7 ppm for Class B waters. Dissolved oxygen measurements (n = 5) conducted by Department staff in free-flowing portions of Wales Pond Brook at approximately 1:30 p.m. on July 6, 2006 ranged from 13.1 ppm to 13.6 ppm. These results are consistent with expectations for DO levels occurring in a nutrient-rich receiving water at mid-afternoon as aquatic plants are producing oxygen in during photosynthesis.

Based on these observations, test results, and monitoring results, the Department is making a best professional judgment determination in this permitting action that Wales Pond Brook is not attaining the designated use of "recreation in and on the water" for Class B waters due to the heavy algae growth. This determination is supported by the ambient water quality data, which indicate phosphorous and chlorophyll-a levels have been documented above the thresholds indicating algae blooms may occur.

Application of appropriate pollution control technologies to the discharge from Shy Beaver Hatchery and the reduction in biomass at the facility will provide reasonable assurance in the improvement of receiving water quality and, ultimately, attainment of all standards of classification for Class B waters.

5. RECEIVING WATER QUALITY CONDITIONS (cont'd)

The State of Maine 2012 Integrated Water Quality Monitoring and Assessment Report, prepared by the Department pursuant to Sections 303(d) and 305(b) of the Federal Water Pollution Control Act, lists all of Maine’s fresh waters as, “*Category 4-A: Waters Impaired With Impaired Use, TMDL Completed, Waters Impaired by Atmospheric Deposition of Mercury*.” The report states the impairment is caused by atmospheric deposition of mercury; a regional scale TMDL has been approved. Maine has a fish consumption advisory for fish taken from all freshwaters due to mercury. Many waters and many fish from any given water, do not exceed the action level for mercury. However, because it is impossible for someone consuming a fish to know whether the mercury level exceeds the action level, the Maine Department of Health and Human Services decided to establish a statewide advisory for all freshwater fish that recommends limits on consumption. Maine has already instituted statewide programs for removal and reduction of mercury sources.

The Department has no information that the discharge from the permittee’s facility is causing or contributing to the impairment.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

- a. Applicability of National Effluent Guidelines: On June 30, 2004, USEPA finalized the Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category (National Effluent Guidelines). The earlier September 12, 2002 proposed National Effluent Guidelines (NEGs) and subsequent working draft NEGs established numerical limitations for the discharge of total suspended solids (TSS) and requirements for facilities to develop and implement best management practices (BMP) plans for control of other pollutants.

In the final NEGs, EPA expressed effluent limitations in the form of narrative standards, rather than as numerical values. The final NEGs require facilities to develop and implement BMPs regarding operation and maintenance of the facility, as does this permitting action.

- b. Flow: The March 29, 2007, permit established a monthly average discharge flow limitation of 1.5 MGD that is being carried forward in this permit. The flow limitation is based on information provided by the permittee in the 2007 permitting process and is considered representative of the design capacity of the facility at full production. This permitting action is carrying forward a daily, measured discharge flow monitoring requirement consistent with Department guidelines for wastewater treatment facility discharges.

A review of the Discharge Monitoring Report (DMR) data for the period January 2010 – November 2014 indicates values have been reported as follows:

Flow (DMRs=47)

Value	Limit (MGD)	Range (MGD)	Average (MGD)
Monthly Average	1.5	0.54-1.14	0.76
Daily Maximum	Report	0.64-1.5	0.89

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

- c. Dilution Factors: The chronic dilution factor associated with this facility was derived in accordance with Department rule, 06-096 CMR, Chapter 530 Section 4.A *Surface Water Toxics Control Program* and were calculated as follows.

$$\text{Chronic: } 7Q10 = 2.5 \text{ cfs} \Rightarrow \frac{(2.5 \text{ cfs})(0.6464) + (1.5 \text{ MGD})}{(1.5 \text{ MGD})} = 2.1:1$$

- d. Biochemical Oxygen Demand (BOD₅) Total Suspended Solids (TSS): According to EPA’s final NEG, effluent from fish hatcheries and rearing facilities can contain “...high concentrations of suspended solids and nutrients, high BOD and low dissolved oxygen levels. Organic matter is discharged primarily from feces and uneaten feed.” As stated in the 2002 proposed NEG, “elevated levels of organic compounds contribute to eutrophication and oxygen depletion.” This is expressed as BOD “...because oxygen is consumed when microorganisms decompose organic matter.” “The greater the BOD, the greater the degree of pollution and the less oxygen available.” The discharge of high BOD wastewater to small receiving waters with insufficient dilutions can result in formation of oxygen deficient areas known as sag points. Oxygen sag points represent both localized impacts to habitat and aquatic life as well as barriers to migration throughout the receiving water. Based on this premises and a long standing practice of regulating effluent BOD, the Department considers BOD a significant pollutant and therefore is establishing effluent limitations and monitoring requirements for this parameter in this permitting action.

The previous permit established monthly average and daily maximum effluent concentration limitations of 6 mg/L and 10 mg/L, respectively, for BOD₅ and TSS based on a Department best professional judgment (BPJ) determination of best practicable treatment (BPT) for the discharge of fish hatchery wastewater from fish hatchery facilities. Department rule 06-096 CMR Chapter 523 subsection 6 f states that all pollutants limited in permits shall have limitations, standards or prohibitions expressed in terms of mass. With a monthly average discharge flow limit of 1.5 MGD, the previous permit established monthly average and daily maximum technology-based mass limits for BOD₅ and TSS as follows:

Monthly Average Mass Limit: (6 mg/L)(8.34 lbs./gallon)(1.5 MGD) = 75 lbs./day
 Daily Maximum Mass Limit: (10 mg/L)(8.34 lbs./gallon)(1.5 MGD) = 125 lbs./day

A review of the DMR data for the period January 2010 – November 2014 indicates values have been reported as follows:

BOD mass (DMRs = 47)

Value	Limit (lbs/day)	Range (lbs/day)	Average (lbs/day)
Monthly Average	75	<9 – 22	6
Daily Maximum	125	<9 - 22	6

BOD concentration (DMRs=47)

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Monthly Average	6	<2 – 3.2	1
Daily Maximum	10	<2 – 3.2	1

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

TSS mass (DMRs=47)

Value	Limit (lbs/day)	Range (lbs/day)	Average (lbs/day)
Monthly Average	75	<4.9 – 15	4
Daily Maximum	125	<4.9 - 15	4

TSS concentration (DMRs = 47)

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Monthly Average	6	<1 – 2.3	0.5
Daily Maximum	10	<1 – 2.3	0.5

The February 23, 2010 permit modification reduced the monitoring frequency for BOD and TSS from 2/Month in March 29, 2007, to 1/Month given the excellent compliance date for the previous three-year period. The permittee has requested the Department eliminate the monitoring requirements all together given the discharge concentrations are at or below the level of detection of 2.0 mg/L for the last five-year period. The Department agrees continued monitoring of BOD and TSS is of little value given the consistency of results being at or below the level of detection for the most current five year period.

06-096 CMR Chapter 523, §5(i) states that for parameters limited in a permit, “*the requirement to report monitoring results shall be established on a case-by-case basis with a frequency dependent on the nature and the effect of the discharge but in no case less than once per year.*” Therefore, the Department is making a best professional judgment to reduce the monitoring frequencies for BOD and TSS to 1/Year based on the most current five years of test results for both parameters.

However, pursuant to Special Condition D, *Notification Requirement*, of this permit, any substantial change in the volume or character of pollutants being introduced into the wastewater collection and treatment system or significant increase in biomass at the facility must be reported to the Department as soon as the permittee is aware of the situation. Pursuant to Special Condition K, *Reopening of Permit For Modifications*, the Department reserves the right to change monitoring requirements or limitations based on new information.

- e. Total Phosphorus and Orthophosphate: Phosphorus is a nutrient that encourages the growth of plants such as planktonic algae and macrophytes in northern waters. Oxygen levels in the water are reduced in the early morning hours due to extended nighttime respiration of algae. The decomposition of excess plant material further reduces the amount of available oxygen in the water through biochemical oxygen demand. Lowering oxygen levels in a receiving water impacts the aquatic life in that water, making it unfit for some forms of life. Further, enrichment from excess nutrients, such as phosphorus, can result in reductions in aquatic macro-invertebrate species diversity, an indicator of the overall health of a receiving water. Excess phosphorus can also result in undesirable aesthetic conditions in a receiving water, impacting that water’s ability to meet standards for maintaining recreational use, a designated use by law. Therefore, any increase in the

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

phosphorus content in a receiving water has the potential to cause or contribute to non-attainment of classification standards. Orthophosphate (ortho-P) is the portion of total phosphorous (total-P) that is readily available for uptake by aquatic plants. It is important to be able to characterize the facility effluent in terms of the relationship between ortho-P and total-P in order to better understand the effects on the receiving water. It is noted ortho-P monitoring was only required during the summer of 2007 and the permittee complied with the requirement.

For discharges to rivers and streams, the Department typically utilizes an in-stream total phosphorus concentration threshold of 0.035 mg/L (35 parts per billion, µg/L) and the dilution provided by a receiving water to calculate water quality-based effluent limits. At this time, the Department has not adopted nutrient criteria for phosphorous. Based on Department research, an in-stream concentration of 0.035 mg/L corresponds to the maximum level at which algae blooms will not typically occur in a receiving river or stream under normal circumstances. The Department has insufficient ambient water quality data at this time to determine site-specific phosphorous criteria for Wales Pond Brook.

Phosphorus is typically of concern under chronic (7Q10 stream design flow) conditions during the summer months. With a chronic dilution factor of 2.1:1 and a monthly average discharge flow limit of 1.5 MGD, seasonal (June 1 through September 30 of each year) monthly average water quality-based concentration and mass limits for total phosphorous in the 2007 permit were derived as follows:

$$\begin{aligned} \text{Monthly Average Concentration} &= (\text{ambient water quality threshold})(\text{chronic dilution}) \\ &= (0.035 \text{ mg/L})(2.1) = 0.074 \text{ mg/L} \end{aligned}$$

$$\begin{aligned} \text{Monthly Average Mass} &= (\text{monthly average concentration})(\text{conversion factor})(\text{discharge flow limit}) \\ &= (0.074 \text{ mg/L})(8.34 \text{ lbs./gallon})(1.5 \text{ MGD}) = 0.93 \text{ lbs./day} \end{aligned}$$

A review of the DMR data for the period June 2010 – September 2014 indicates values have been reported as follows:

Total phosphorus mass (DMRs=20)

Value	Limit (lbs/day)	Range (lbs/day)	Average (lbs/day)
Monthly Average	0.93	0.08 – 0.27	0.14
Daily Maximum	Report	0.11 – 0.32	0.17

Total phosphorus concentration (DMRs = 20)

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Monthly Average	0.074	0.01 – 0.04	0.03
Daily Maximum	Report	0.01 – 0.05	0.03

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

The March 29, 2007, permit established a minimum monitoring frequency requirement of twice per month and a composite sample type for total phosphorus based on a Department best professional judgment of the minimum monitoring and sample type necessary to accurately characterize the discharge from this facility.

The permittee has requested the Department eliminate total phosphorus monitoring requirements all together given the expense associated with the monitoring. Given the continued non-attainment issues associated with Wales Pond Brook, the Department maintains total phosphorus limitations and monitoring requirements remain appropriate for this discharge. However, the Department believes it is reasonable to reduce the seasonal monitoring frequency from 2/Month to 1/Month given the lack of variability in the data and the fact the concentration results are approximately 60% lower than the concentration limit in the permit and the mass results are 80% lower than the mass limit in the permit. Therefore this permit establishes a 1/Month monitoring frequency for total phosphorus.

- f. **pH:** The March 29, 2007 permit established a pH range limitation of 6.0-8.5 standard units. The pH value of the effluent shall not be lower than 6.0 SU nor higher than 8.5 SU at any time unless these limitations are exceeded due to natural causes. The permittee shall provide oral notification of any exceedence within 24 hours from the time the permittee becomes aware of the circumstances and shall submit a written explanation of the exceedence within 5 days of the time the permittee becomes aware of the circumstances. This permit established a minimum monitoring frequency requirement twice per month for pH based on the Department’s BPJ of monitoring frequencies necessary to more accurately characterize facility effluent conditions.

A review of the DMR data for the period January 2010 – November 2014 indicates the following;

pH (DMRs = 45)

Value	Limit (su)	Minimum (su)	Maximum (su)
Range	6.0 – 8.5	6.2	6.4

The permittee has requested the Department eliminate pH monitoring requirement given the time and expense associated with the monitoring. The Department believes it is reasonable to reduce the monitoring frequency from 2/Month given the lack of variability in the data. To be consistent with BOD and TSS, the Department is reducing the monitor frequency to 1/Year.

7. SETTLING BASIN CLEANING

Discharge of inadequately treated fish hatchery wastewater (excess feed and fish waste) contributes solids, BOD, and nutrients to receiving waters which can contribute to eutrophication and oxygen depletion. This, in combination with other pollutant-specific toxic effects, impacts the aquatic life and habitat value in the receiving water. Typical hatchery wastewater treatment practices include effluent filtration and settling with solids removal. Special Condition G of this permit establishes a requirement that any settling structures be cleaned when accumulated materials occupy 20% of a basin's capacity, when material deposition in any area of the basins exceeds 50% of the operational depth, or at any time that said materials in or from the basins are contributing to a violation of permit effluent limits.

8. DISEASE AND PATHOGEN CONTROL AND REPORTING

Maine Department of Inland Fisheries and Wildlife (MDIFW) Rules (Chapter 2.03-A) and Maine Department of Marine Resources (MeDMR) Rules (Chapter 24.21) state that *“the transfer and/or introduction of organisms fall within the jurisdiction of the Department of Marine Resources (12 MRSA, §6071) into coastal waters within the State of Maine and the Department of Inland Fisheries and Wildlife (12 MRSA, §§7011, 7035 and 7201, 7202) into public and/or private waters within the State of Maine. These rules are intended to protect wild and farmed salmonid fish populations and shall be applicable to all individuals involved in the culture and movement of live salmonids and gametes.”* Further, both agencies' rules define Diseases of Regulatory Concern as *“...infectious agents that have been demonstrated to cause a significant increase in the risk of mortality among salmonid populations in the State of Maine. Diseases of Regulatory Concern are classified by the Commissioner into three (3) disease categories: exotic, endemic (limited distribution) and endemic based on an annual review and analysis of epidemiological data.”* In this permitting action, as a salmonid aquaculture facility, Shy Beaver Hatchery must comply with MDIFW and MeDMR salmonid fish health rules (12 MRSA, §6071; 12 MRSA, §§7011, 7035, 7201, and 7202, or revised rules). The cited rules include requirements for notification to the appropriate agency within 24-hours of pathogen detection. In the event of a catastrophic pathogen occurrence, the permittee shall submit to the Department for review, information on the proposed treatment including materials/chemicals to be used, material/chemical toxicity to aquatic life, the mass and concentrations of materials/chemicals as administered, and the concentrations to be expected in the effluent. The Department will address such occurrences through administrative modifications of the permit.

9. AMBIENT DISSOLVED OXYGEN AND TEMPERATURE MONITORING

The March 29, 2007, Fact Sheet contained the following italicized text;

On June 16, 2006 and July 6, 2006, the Department documented heavy algae growth in Wales Pond Brook, especially in the area immediately surrounding the outfall from Shy Beaver Hatchery and at the dam on the Wales Pond Brook impoundment. Shy Beaver Hatchery is the only known point source discharge to Wales Pond Brook. The previously unregulated discharge from Shy Beaver Hatchery is suspected as a potential source of excess nutrient loading to the receiving water.

Based on the low effluent dilution provided in the receiving water and the need for additional data on the effects of Shy Beaver Hatchery’s discharge on water quality, this permitting action requires the permittee to seasonally monitor ambient dissolved oxygen and temperature levels in Wales Pond Brook as specified in Special Condition L of this permit.

A review of the 1/week seasonal DMR data for the period June 2010 – September 2014 indicates the following;

Dissolved oxygen (DMRs=20)

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Minimum	Report	7.4 – 13.0	9.1
Average	Report	7.8 – 13	10.0
Maximum	Report	8.3 – 14.0	10.8

Temperature (DMRs=20)

Value	Limit (°C)	Range (°C)	Average (°C)
Minimum	Report	13 - 22	18.1
Average	Report	16 - 25	19.9
Maximum	Report	17 - 27	21.8

The permittee has requested the Department eliminate the ambient water quality monitoring requirement given the time and expense associated with the monitoring and that sufficient data has been collected for the Department to determine if water classification standards are being attained. The Department agrees that the permittee has provided the Department with sufficient ambient water quality data to determine if standards are being attained. The dissolved oxygen values cited above do attain the Class B dissolved oxygen standards. Therefore, the requirement to continue to monitor Wales Pond Brook for dissolved oxygen and temperature is not being carried forward in this permitting action.

10. MACROINVERTEBRATE BIOMONITORING

Macroinvertebrate communities provide indications of the overall ecological health of a receiving water. Based on macroinvertebrate monitoring data from calendar years 2000-2005 at two locations in Wales Pond Brook, the Department has determined that Wales Pond Brook did not meet the aquatic life standard for Class B waters during calendar years 2000, 2002, and 2004. These data were utilized in classifying Wales Pond Brook as an impaired waterbody. The Department has determined that the discharge from the Shy Beaver Hatchery is a potential source for the non-attainment status of the brook.

In order to evaluate attainment of the stream water classification standards and designated uses, resource impacts, and to identify corrective measures when necessary, the Department's Division of Environmental Assessment (DEA) will conduct macroinvertebrate biomonitoring in the receiving water once during the term of this permitting action to determine attainment of the aquatic life standards. The March 29, 2007 required that in the event that biomonitoring results indicate non-attainment of aquatic life standards in the receiving water, Shy Beaver Hatchery would be required to conduct ambient macroinvertebrate biomonitoring annually thereafter as specified in Special Condition K of the March 29, 2007 permit. If the receiving water was subsequently determined by the Department to be meeting criteria, standards, and designated uses for its assigned water quality class, the Department would reopen the permit pursuant to permit Special Condition M, to modify or discontinue the biomonitoring requirement.

As of the date of this permit renewal, the Department does not have any new biomonitoring results for Wales Pond Brook. As a result, the Shy Beaver Hatchery is still only considered a potential source for the non-attainment status of the brook. If additional information collected by the Department determines the Shy Beaver facility is indeed causing or contributing to non-attainment of aquatic life standards, the permit will be reopened to pursuant to Special Condition K, *Reopening of Permit For Modifications*, to change monitoring requirements or limitations based on new information.

11. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As permitted, the Department has determined the existing water uses will be maintained and protected and the discharge will not cause or contribute to the failure of Wales Pond Brook to meet the standards of classification for Class B waters.

12. PUBLIC COMMENTS

Public notice of this application was made in the *Journal Tribune* newspaper on or about March 10, 2014. The Department receives public comments on an application until the date a final agency action is taken on that application. Those persons receiving copies of draft permits shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to Chapter 522 of the Department's rules.

13. DEPARTMENT CONTACTS

Additional information concerning this permitting action may be obtained from, and written comments sent to:

Gregg Wood
Division of Water Quality Management
Bureau of Land & Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone: (207) 287-7693 Fax: (207) 287-3435
e-mail: gregg.wood@maine.gov

14. RESPONSE TO COMMENTS

Reserved until the close of the formal 30-day public comment period.

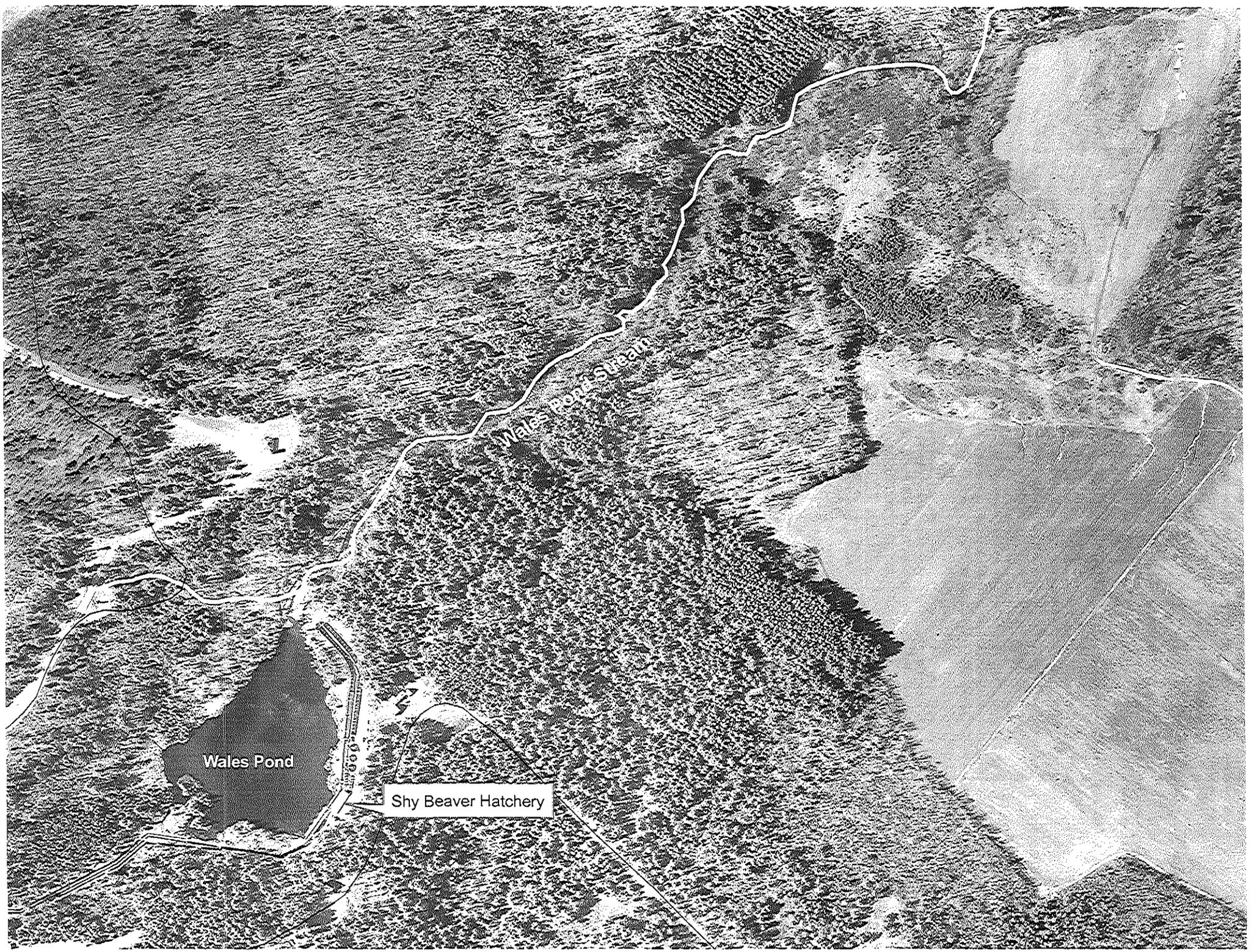
ATTACHMENT A



Shy Beaver Hatchery at Hollis, Maine

Map created by Maine DEP
March 7, 2007



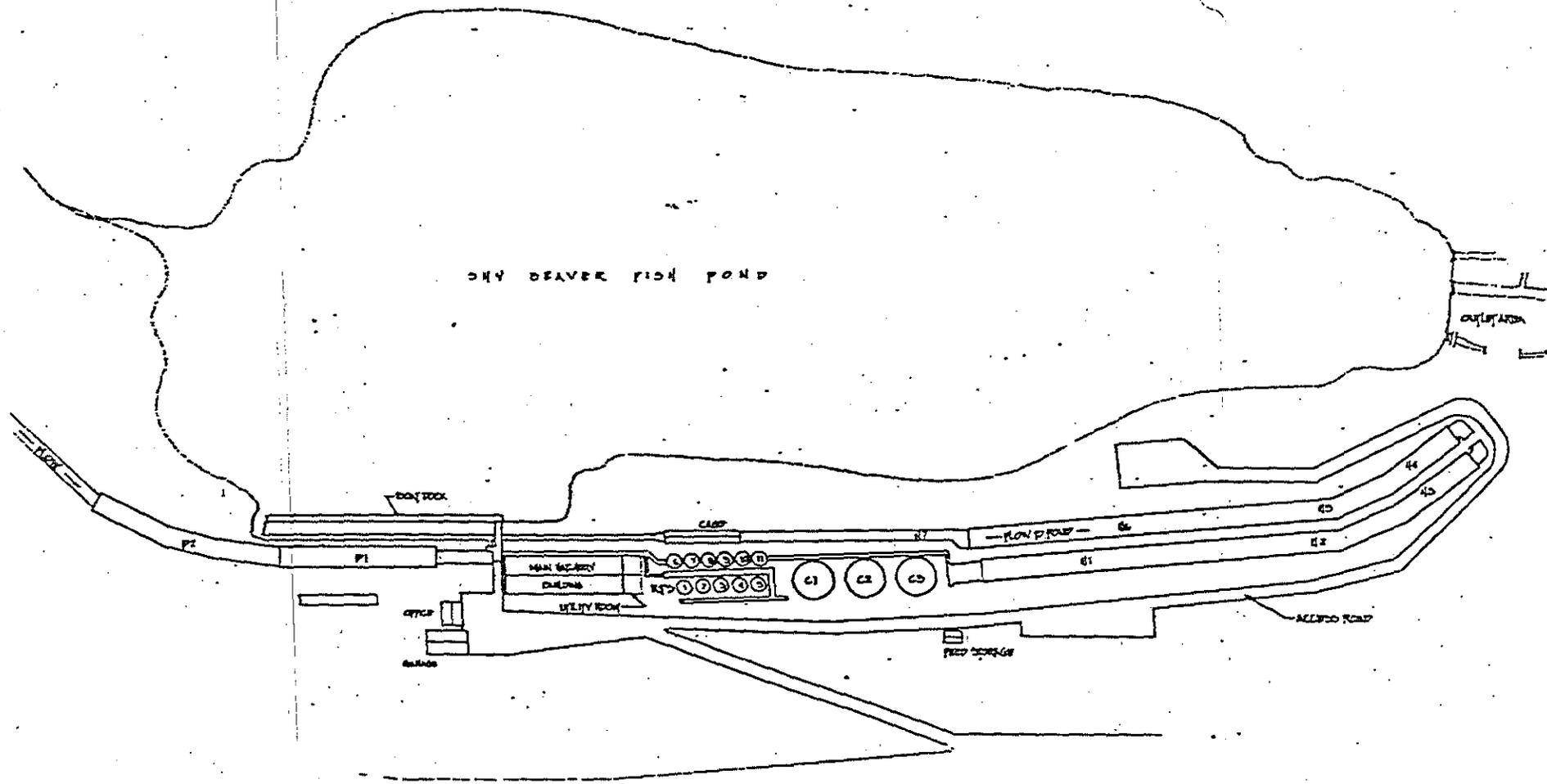


Wales Beaver Stream

Wales Pond

Shy Beaver Hatchery

ATTACHMENT B



ATTACHED Drawing Number	CUSTOMER	PIERCE ASSOCIATES, INC.	
P.O. Box 63 North Warrum, ME 04861 (207) 277-3728	PROJECT	DRY BEAVER FISH POND REDEVELOPMENT	DWG. NO. 2105
	SPEC	LOT PLAN	SCALE NTS.