



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
COMMISSIONER

July 30, 2014

Mr. Todd Langevin
Division of Fisheries and Wildlife
State of Maine
State House Station #41
Augusta, ME. 04333

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0001040
Maine Waste Discharge License (WDL) Application #W002030-6F-E-R
Proposed Draft Permit

Dear Mr. Langevin:

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 **Friday, August 29, 2014**. 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) 287-7688 FAX: (207) 287-7826

BANGOR
106 HOGAN ROAD, SUITE 6
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 04679
(207) 764-0477 FAX: (207) 760-3143

If you have any questions regarding the matter, please feel free to call me at 592-7161.

Sincerely,



Cindy L. Dionne
Division of Water Quality Management
Bureau of Land and Water Quality

Enc.

cc: Tim Knedler, Facility Mgr.
Fred Gallant, DEP/SMRO
Barry Mower, DEP/CMRO
Pamela Parker, DEP/CMRO
Lori Mitchell, DEP/CMRO
David Webster, EPA
Alex Rosenberg, EPA
David Pincumbe, EPA
Olga Vergara, EPA
Ivy Frignoca, CLF
Environmental Review, DIFW
Environmental Review, DMR
Laury Zicari, USFWS



DEPARTMENT ORDER

IN THE MATTER OF

ME. DEPT. OF INLAND FISHERIES & WILDLIFE)	MAINE POLLUTANT DISCHARGE
NEW GLOUCESTER FISH HATCHERY)	ELIMINATION SYSTEM PERMIT
NEW GLOUCESTER, CUMBERLAND CTY, MAINE)	AND
#ME0001040)	WASTE DISCHARGE LICENSE
#W002030-6F-E-R)	RENEWAL
APPROVAL)	

In compliance with the applicable provisions of *Pollution Control*, 38 M.R.S.A. §§ 411 – 424-B, *Water Classification Program*, 38 M.R.S.A. §§ 464 – 470 and *Federal Water Pollution Control Act*, Title 33 U.S.C. § 1251, and applicable rules of the Department of Environmental Protection (Department), the Department has considered the application of the MAINE DEPARTMENT OF INLAND FISHERIES AND WILDLIFE (DIFW), with its supportive data, agency review comments, and other related materials on file, and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

On June 30, 2011, the Department accepted as complete for processing, a renewal application from DIFW for Waste Discharge License (WDL) #W002030-5Q-E-R / Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0001040, which was issued on July 5, 2006 for a five-year term. The 7/5/06 MEPDES permit authorized DIFW to discharge a monthly average of 3.0 million gallons per day (MGD) of fish hatchery wastewater from the DIFW New Gloucester Hatchery to Eddy Brook, Class B, in New Gloucester, Maine.

The Department issued a minor revision to amend the formalin limits on October 10, 2008, and a minor revision to adjust the monitoring frequencies for biochemical oxygen demand (BOD₅) and total suspended solids (TSS) and to amend the monthly average flow limit of 3.0 MGD to a report only monthly average flow requirement on April 23, 2009. A Consent Agreement (CA) between the Department and DIFW in regards to nine DIFW hatcheries was finalized on June 2, 2010. This CA resolved violations at the New Gloucester hatchery.

PERMIT SUMMARY

This permitting action is carrying forward all the terms and conditions of the previous permitting actions except that it (please see Fact Sheet for more information on these summary items):

1. Eliminates the Schedule of Compliance as established in Special Condition G of the 2006 permit;
2. Eliminates the BOD₅ and pH limitations and monitoring requirements;
3. Amends language in the “Footnotes” section of Special Condition A;

PERMIT SUMMARY (cont'd)

4. Establishes additional requirements to be included in the facility Operations and Monitoring Plan;
5. Eliminates the Special Condition I *Settling Basin Cleaning* as contained in the 2006 permit;
6. Establishes Conditions G. *Use of Drugs for Disease Control* and H. *Spills*;
7. Revises the monitoring frequency for formalin from 1/2weeks to once per occurrence (01/OC), to clarify that formalin is to be reported at each use;
8. Eliminates the reporting requirement for monthly average Fish on Hand and revises the monitoring frequency 2/month to 1/month, to allow for increased monitoring flexibility;
9. Establishes Special Condition H. *Pesticides and Other Compounds* to replace Special Conditions K. *Therapeutic Agents* and L. *Disinfecting/Sanitizing Agents* from the 2006 permit;
10. Eliminates the formalin concentration limit and establishes a mass based limit to allow for increased facility flexibility and management; and
11. Revises the total phosphorous concentration limit to report only.

CONCLUSIONS

Based on the findings summarized in the attached **PROPOSED DRAFT** Fact Sheet dated July 30, 2014, and subject to the special and standard conditions that follow, 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, *Classification of Maine waters*, 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 natural 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;

CONCLUSIONS (cont'd)

- (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 water 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 discharges will be subject to effluent limitations that require application of best practicable treatment as defined in *Conditions of licenses*, 38 M.R.S.A. § 414-A(1)(D).
 5. The applicant has objectively demonstrated to the Department's satisfaction that the discharge is necessary and that there are no other reasonable alternatives available, as required by *Standards for classification of fresh surface waters*, 38 M.R.S.A. § 464(4)(A)(1)(a) for the direct discharge of pollutants to waters having a drainage area of less than 10 square miles.

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ACTION

Based on the findings and conclusions as stated above, the Department APPROVES the above noted application of the MAINE DEPARTMENT OF INLAND FISHERIES & WILDLIFE to discharge an unspecified amount of fish hatchery wastewater to Eddy Brook, Class B, in New Gloucester, Maine, 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 and the authorization to discharge become effective upon the date of signature below and expire at midnight five (5) years from the effective date. If a renewal application is timely submitted and accepted as complete for processing prior to the expiration of this permit, the authorization to discharge and the terms and conditions of this permit and all 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) (amended August 25, 2013)]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

DONE AND DATED AT AUGUSTA, MAINE, THIS _____ DAY OF _____ 2014.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
PATRICIA W. AHO, Commissioner

Date filed with Board of Environmental Protection _____

Date of initial receipt of application: June 28, 2011

Date of application acceptance: June 30, 2011

This Order prepared by Cindy L. Dionne, BUREAU OF LAND & WATER QUALITY

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. The permittee is authorized to discharge **fish hatchery wastewater from Outfall #005A (fish hatchery and rearing station)** to Eddy Brook. Such discharges are limited and must be monitored by the permittee as specified below⁽¹⁾:

Effluent Characteristic	Discharge Limitations					Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Daily Minimum	Measurement Frequency	Sample Type
Flow <i>[50050]</i>	Report MGD <i>[03]</i>	---	---	---	---	Daily <i>[01/01]</i>	Measured <i>[MS]</i>
TSS <i>[00530]</i>	50 lbs./day <i>[26]</i>	250 lbs./day <i>[26]</i>	6 mg/L <i>[19]</i>	10 mg/L <i>[19]</i>	---	1/Month <i>[01/30]</i>	Composite ⁽²⁾ <i>[CP]</i>
Total Phosphorus ⁽³⁾ <i>[00665]</i> June 1 – September 30	0.77 lbs./day <i>[26]</i>	Report lbs./day <i>[50]</i>	Report mg/L <i>[19]</i>	Report mg/L <i>[19]</i>	---	2/Month <i>[02/30]</i>	Composite ⁽²⁾ <i>[CP]</i>
Fish on Hand <i>[45604]</i>	---	Report lbs./day <i>[26]</i>	---	---	---	1/Month <i>[01/30]</i>	Calculate <i>[CA]</i>
Formalin ⁽⁴⁾ <i>[51064]</i>	Report lbs./day <i>[26]</i>	18.3 lbs./day <i>[26]</i>	---	---	---	1/Occurrence <i>[01/OC]</i>	Calculate <i>[CA]</i>
Dissolved Oxygen <i>[00300]</i> June 1 – Sept 30	---	---	Report mg/L <i>[19]</i>	Report mg/L <i>[19]</i>	7.5 mg/L <i>[19]</i>	1/Week <i>[01/07]</i>	Measured <i>[MS]</i>

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

FOOTNOTES: See Pages 6 through 7 of this permit for applicable footnotes.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

FOOTNOTES

1. **Sampling** – All effluent monitoring must be conducted at a location following the last treatment unit in the treatment process, as to be representative of end-of-pipe effluent characteristics. Any change in sampling location must be approved by the Department in writing. The permittee must conduct sampling and analysis in accordance with; a) methods approved by 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 must be analyzed by a laboratory certified by the State of Maine's Department of Health and Human Services for wastewater. Samples that are sent to a publicly owned treatment works (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 (effective date April 1, 2010). If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report (DMR).

All analytical test results must be reported to the Department including results which are detected below the respective reporting limits (RLs) specified by the Department or as specified by other approved test methods. If a non-detect analytical test result is below the respective RL, the concentration result must be reported as <Y where Y is the RL achieved by the laboratory for each respective parameter. Reporting a value of <Y that is greater than an established RL or reporting an estimated value ("J" flagged) is not acceptable and will be rejected by the Department. Reporting analytical data and its use in calculations must follow established Department guidelines specified in this permit or in available Department guidance documents.

2. **Composite Samples** – Samples must consist of 24-hour composites collected with an automatic composite sampler. Alternatively, when weather conditions and/or equipment prevents automatic compositing and upon Department approval, the permittee may manually composite a minimum of four grab samples collected at two-hour intervals during the working day at the facility. The permittee must indicate the type of sample collected on the DMR.
3. **Total Phosphorus** – Phosphorus concentration reporting and monitoring requirements and mass limitations are seasonal and are only in effect from June 1 through September 30 each year. See **Attachment A** of this permit for sample protocols.
4. **Formalin** – Formalin monitoring must be conducted when in use at the facility and must consist of a calculated effluent mass value. Therefore, the following calculation must be applied to assess

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

FOOTNOTES (cont'd)

the total mass of formalin discharged per day (lbs./day):

$$\text{Formalin applied (gallons)} \times 9.03^1 \text{ (lbs./gallon)} = \text{Total formalin in effluent (lbs./day)}$$

The permittee must provide this information and calculations to the Department in a document accompanying the monthly DMR. The formalin treatment limit corresponds to two types of treatments:

1. One hour per day treatment typical of hatchery and rearing facility discharges; and
2. Maximum of up to 24 hours of treatment and discharge for addressing emergency conditions at the facility.

Formalin treatments greater than 1-hour in duration must be conducted no more frequently than once every four days. The permittee must provide a list of dates on which treatments greater than 1-hour were performed, and the length of time of each such treatment, with each monthly DMR. For instances when a permittee has not used formalin for an entire reporting period, the permittee must report "NODI-9" for this parameter on the monthly DMR or "N9" if the submittal is an electronic DMR.

B. NARRATIVE EFFLUENT LIMITATIONS

1. The permittee must not discharge effluent that contains 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 permittee must not discharge effluent that contains 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.
3. The permittee must not discharge effluent that causes visible discoloration or turbidity in the receiving waters that causes those waters to be unsuitable for the designated uses and characteristics ascribed to their class.
4. The permittee must not discharge effluent that lowers the quality of any classified body of water below such classification, or lowers 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 June 30, 2011; 2) the terms and conditions of this permit; and 3) only from Outfall #005A). Discharges of wastewater from any other

¹ Per Material Safety Data Sheet, Parasite-S has a specific gravity of 1.0775-1.0865 giving it an average density of 9.03 lbs./gallon.

SPECIAL CONDITIONS

C. AUTHORIZED DISCHARGES (cont'd)

point source(s) are not authorized under this permit, and must be reported in accordance with Standard Condition B(5), *Bypasses*, of this permit.

D. NOTIFICATION REQUIREMENT

In accordance with Standard Condition D, the permittee must 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 must include information on:
 - a. The quality or quantity of wastewater introduced to the wastewater 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. MONITORING AND REPORTING

Monitoring results obtained during the previous month must be summarized for each month and reported on separate DMR forms provided by the Department and **postmarked on or before the thirteenth (13th) day of the month or hand-delivered to the Department's Regional Office such that the DMRs 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 must be submitted to the Department assigned inspector (unless otherwise specified by the Department) at the following address:

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

Alternatively, if the permittee submits 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

F. OPERATIONS AND MAINTENANCE (O&M) PLAN

The permittee must have a current written Operation & Maintenance (O&M) Plan for the facility. The plan must provide a systematic approach by which the permittee must 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. An acceptable O&M plan must ensure the following items are adequately addressed:

1. Solids Control
 - a. Methods and practices to ensure 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 to waters of the State.
 - b. In order to minimize the discharge of accumulated solids from the settling basin, settling tanks, 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.
 - c. Procedure for removal and disposal of mortalities to prevent discharge to waters of the State.
2. Materials Storage
 - a. Ensure proper storage of drugs², pesticides³, feed, and any petroleum and/or hazardous waste products in a manner designed to prevent spills that may result in the discharge of drugs, pesticides, or feed to waters of the State.
 - b. Implement procedures for properly containing, cleaning, and disposing of any spilled material that has the potential to enter waters of the State.
3. Structural Maintenance
 - a. Inspect the production system and the wastewater treatment system on a routine basis in order to identify and promptly repair any damage.
 - b. Conduct regular maintenance of the production system and the wastewater treatment system in order to ensure that they are properly functioning.

² **Drug.** “Drug” means any substance defined as a drug in section 201(g)(1) of the *Federal Food, Drug and Cosmetic Act* [21 U.S.C. § 321].

³ **Pesticide.** “Pesticide” means any substance defined as a “pesticide” in section 2(u) of the *Federal Insecticide, Fungicide, and Rodenticide Act* [7 U.S.C. § 136 (u)].

SPECIAL CONDITIONS

F. OPERATIONS AND MAINTENANCE (O&M) PLAN (cont'd)

4. Recordkeeping
 - a. Maintain records for fish rearing units documenting the feed amounts and estimates of the numbers and weight of fish.
 - b. Maintain records that document the frequency of cleaning, inspections, repairs and maintenance.

5. Training
 - a. In order to ensure the proper clean-up and disposal of spilled material adequately, train all relevant personnel in spill prevention and how to respond in the event of a spill.
 - b. Train staff on the proper operation and cleaning of production and wastewater treatment systems including training in feeding procedures and proper use of equipment to prevent unauthorized discharges.

By December 31 of each year, or within 90 days of any process changes or minor equipment upgrades, the permittee must 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 must 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 must submit the updated O&M Plan to their Department inspector for review and comment.

G. USE OF DRUGS FOR DISEASE CONTROL

1. **General requirements.** All drugs used for disease prevention or control must be approved or authorized by the U.S. Food and Drug Administration (FDA), and all applications must comply with applicable FDA requirements.
2. **FDA-approved drugs.** Drugs approved by the FDA for fish culture purposes may be used in accordance with label instructions.
 - a) Preventative treatments. The discharge of any approved drug administered as a preventative measure is not authorized by this permit, unless the following conditions are met: the drug must be approved by FDA, and the treatment and route of administration must be consistent with the drug's intended use. Discharges may occur through direct application of a drug or indirectly through feed, injection, ingestion, or immersion at the facility.
 - b) Drugs identified in the permittee's application. The following drugs were identified in the

SPECIAL CONDITIONS

G. USE OF DRUGS FOR DISEASE CONTROL (cont'd)

permittee's application as currently being in use:

<u>Name</u>	<u>Freq. of Use</u>	<u>Concentration</u>	<u>Qty. Used/Year</u>
Parasite-S (formalin)	As needed	1:500 / 1:600	55 gal.
Tricaine-S	1-2/month	15 to 330 ppm	<20 grams

- c) Drugs not identified in the permittee's application. When the need to treat or control diseases requires the use of a FDA-approved drug not identified in an application, the permittee must notify the Department orally or by electronic mail prior to initial use of the drug.
- 1) The notification must include a description of the drug, its intended purpose, the method of application, the amount, the concentration, the duration of the use, and information on aquatic toxicity.
 - 2) ***Within seven (7) days of*** the initial notification the permittee must submit a written report that includes all of the information outlined in Section G.2.c)1) above.
 - 3) The Department may require submission of an application for permit modification, including public notice requirements, if the drug is to be used for more than a 30 consecutive day period.
 - 4) 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 use of the drug.
3. **Extralabel drug use.** Extralabel drug use is not authorized by this permit, unless in accordance with a specific prescription written for that use by a licensed veterinarian.
- a) Notification. The permittee must notify the Department orally or by e-mail prior to initial extralabel use of a drug.
 - 1) The notification must include a description of the drug, its intended purpose, the method of application, the amount, concentration, and duration of the use, information on aquatic toxicity, and a description of how and why the use qualifies as an extralabel drug use under FDA requirements.
 - 2) ***Within seven (7) days of*** the initial notification the permittee must submit a written report that includes all of the information outlined in Section G.3.a) 1) above. Notice must include documentation that a veterinarian has prescribed the drug for the proposed use. A copy of the veterinarian's prescription must be maintained on-site during treatment for Department review.
 - 3) If, upon review of information regarding the extralabel use of a drug pursuant to this

SPECIAL CONDITIONS

G. USE OF DRUGS FOR DISEASE CONTROL (cont'd)

section, the Department determines that significant adverse effects are likely to occur, it may deny, restrict or limit use of the drug.

4. **Investigational New Animal Drug (INAD).** The discharge of drugs authorized by the FDA for use during studies conducted under the INAD program is not authorized by this permit, unless in accordance with specific prior consent given in writing by the Department.
 - a) Initial report. The permittee must provide a written report to the Department for the proposed use of an INAD *within seven (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, dosage, and disease or condition the INAD is intended to treat.
 - b) Evaluation and monitoring. *At least ninety (90) days prior to initial use* of an INAD at a facility, the permittee must submit for Department review and approval a study plan for the use of the drug that:
 - 1) Indicates the date the facility agreed or signed up to participate in the INAD study.
 - 2) Demonstrates that the minimum amount of drug necessary to evaluate its safety, efficacy, and possible environmental impacts will be used.
 - 3) Includes an environmental monitoring and evaluation program that at a minimum describes sampling strategies, analytical procedures, evaluation techniques and a timetable for completion of the program. Currently available data or literature that adequately characterize the environmental fate of the INAD and its metabolite(s) may be proposed for consideration in determinations of environmental monitoring and evaluation programs required by the Department pursuant to this section.
 - c) Notification. The permittee must notify the Department orally or by electronic mail *no more than forty-eight (48) hours after* beginning the first use of the INAD under the approved plan.
 - d) The following INAD was identified by the permittee and is authorized to be used in accordance with the INAD program:

<u>Name</u>	<u>Freq. of Use</u>	<u>Concentration</u>	<u>Qty. Used/Year</u>
Aqui-S® 20E	As needed	1:500 / 1:600	55 gal.

H. PESTICIDES AND OTHER COMPOUNDS

1. **General requirements.** All pesticides used at the facility must be applied in compliance with federal labeling restrictions and in compliance with applicable statute, Board of Pesticides Control rules and best management practices (BMPs). Chemicals or compounds not registered as pesticides and proposed for use at the facility must be identified in the permittee's application and may only be discharged to waters of the State with express approval in this

SPECIAL CONDITIONS

H. PESTICIDES AND OTHER COMPOUNDS (cont'd)

permitting action. In accordance with Standard Condition D, and Special Condition D of this permit, the permittee must notify the Department of any substantial change in the volume or character of pollutants being introduced into the wastewater collection and treatment system.

- a) Pesticides identified in the permittee’s application. The following pesticides were identified in the permittee’s application as currently being in use:

<u>Name</u>	<u>Freq. of Use</u>	<u>Concentration</u>	<u>Qty. Used/Year</u>
Virkon Aquatic	Daily	As directed on label	3 gallons

- b) Other compounds identified in the permittee’s application. The following compounds were identified in the permittee’s application as currently being in use. The permittee is authorized to discharge the following compounds. It is the Department’s Best Professional Judgment (BPJ) that the incidental discharge of these chemicals will not cause or contribute to non-attainment of applicable water quality standards.

<u>Name</u>	<u>Freq. of Use</u>	<u>Concentration</u>	<u>Qty. Used/Year</u>
Argentyne Iodine	12 times/Year	80 mL : 1 gal. water	3 gallons
Argentyne Iodine	4x/year	40 mL : 1 gal. water	1 gallons

I. SPILLS

In the event of a spill of drugs, pesticides, feed, petroleum and/or hazardous waste products that results in a discharge to waters of the State of Maine, the permittee must provide an oral report of the spill to the Department within 24 hours of its occurrence and a written report within 5 days to the Department. The report must include the identity and quantity of the material spilled.

J. REOPENING OF PERMIT FOR MODIFICATION

In accordance with 38 M.R.S.A. § 414-A(5) and upon evaluation of the tests results or monitoring requirements specified in Special Conditions of this permitting action, new site specific 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.

K. SEVERABILITY

In the event that any provision(s), or part thereof, of this permit is declared to be unlawful by a reviewing court, the remainder of the permit must remain in full force and effect, and must be construed and enforced in all aspects 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 and Receiving Water Monitoring Required by Permits

Approved Analytical Methods: EPA 365.1 (Rev. 2.0), 365.3, 365.4; SM 4500-P B.5, 4500-P E, 4500-P F; ASTM D515-88(A), D515-88(B); USGS 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
MAINE WASTE DISCHARGE LICENSE**

**PROPOSED DRAFT
FACT SHEET**

DATE: **JULY 30, 2014**

PERMIT NUMBER: **#ME0001040**

WASTE DISCHARGE LICENSE: **#W002030-6F-E-R**

NAME AND ADDRESS OF APPLICANT:
**MAINE DEPARTMENT OF INLAND FISHERIES &
WILDLIFE
NEW GLOUCESTER FISH HATCHERY
284 STATE STREET, 41 STATE HOUSE STATION
AUGUSTA, MAINE 04333**

COUNTY: **CUMBERLAND**

NAME AND ADDRESS WHERE DISCHARGE(S) OCCUR(S):
**MAINE DEPARTMENT OF INLAND FISHERIES &
WILDLIFE
NEW GLOUCESTER FISH HATCHERY
312 FISH HATCHERY ROAD
NEW GLOUCESTER, MAINE 04260**

RECEIVING WATER CLASSIFICATION: **EDDY BROOK/CLASS B**

COGNIZANT OFFICIAL CONTACT INFORMATION:

**MR. TIM KNEDLER, FACILITY MANAGER
(207) 657-3423
tim.knedler@maine.gov**

1. APPLICATION SUMMARY

Application: On June 30, 2011, the Maine Department of Environmental Protection (Department) accepted as complete for processing, a renewal application from the Department of Inland Fisheries and Wildlife (DIFW) for Waste Discharge License (WDL) #W002030-5Q-E-R / Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0001040, which was issued on July 5, 2006 for a five year term. The 7/5/06 MEPDES permit authorized DIFW to discharge a monthly average 3.0 million gallons per day (MGD) of fish hatchery wastewater from the DIFW New Gloucester Hatchery to Eddy Brook, Class B, in New Gloucester, Maine.

Proposed Draft

1. APPLICATION SUMMARY (cont'd)

The Department issued a minor revision to amend the formalin limits on October 10, 2008, and a minor revision to adjust the monitoring frequencies for biochemical oxygen demand (BOD₅) and total suspended solids (TSS) and to amend the monthly average flow limit of 3.0 MGD to a report only monthly average flow requirement on April 23, 2009. A Consent Agreement (CA) between the Department and DIFW in regards to nine DIFW hatcheries was ratified on June 2, 2010. This CA resolved violations at the New Gloucester hatchery.

2. PERMIT SUMMARY

- a. Terms and Conditions: This permitting action is carrying forward all the terms and conditions of the previous permitting actions except that it:
1. Eliminates the Schedule of Compliance as established in Special Condition G of the 2006 permit;
 2. Eliminates the BOD₅ and pH limitations and monitoring requirements;
 3. Amends language in the "Footnotes" section of Special Condition A;
 4. Establishes additional requirements to be included in the facility Operations and Monitoring Plan;
 5. Eliminates the Special Condition I *Settling Basin Cleaning* as contained in the 2006 permit;
 6. Establishes Conditions G. *Use of Drugs for Disease Control* and H. *Spills*;
 7. Revises the monitoring frequency for formalin from 1/2weeks to once per occurrence (01/OC), to clarify that formalin is to be reported at each use;
 8. Eliminates the reporting requirement for monthly average Fish on Hand and revises the monitoring frequency 2/month to 1/month, to allow for increased monitoring flexibility;
 9. Establishes Special Condition H. *Pesticides and Other Compounds* to replace Special Conditions K. *Therapeutic Agents* and L. *Disinfecting/Sanitizing Agents* from the 2006 permit;
 10. Eliminates the formalin concentration limit and establishes a mass based limit for formalin to allow for increased facility flexibility and management; and
 11. Revises the total phosphorous concentration limit to report only.
- b. History: The most current relevant regulatory actions include:

February 20, 1975 – The USEPA issued NPDES Permit #ME0001040 to the Maine Department of Inland Fisheries and Game for the discharge of an unspecified volume of wastewater from the New Gloucester Rearing Pools to Eddy Brook. The permit was valid through February 15, 1980.

2. PERMIT SUMMARY (cont'd)

March 3, 1975 - The Maine Department of Environmental Protection issued License #663 to the Maine Department of Inland Fisheries and Game for the discharge of a daily average of 2.02 MGD and a daily maximum of 2.3 MGD of fish hatchery wastewater from the New Gloucester Rearing Pools to Eddy Brook, Class B-1. The license expired on February 12, 1978.

August 28, 1975 – The USEPA modified NPDES Permit #ME0001040 and reduced effluent monitoring requirements for the New Gloucester facility based on effluent data collected at New England fish hatcheries.

September 28, 1977 – The Maine Board of Environmental Protection ordered WDL #663 amended based on effluent monitoring data conducted since issuance of the WDL. In this Board action, the required minimum monitoring frequency for settleable solids was reduced to once per year, while monitoring for all other parameters was eliminated.

March 8, 1978 – The Maine Board of Environmental Protection issued WDL # 2030 to DIFW for the discharge of a daily maximum of 3.0 MGD of hatchery wastewater from the DIFW New Gloucester Fish Rearing Station Rearing Pools to Eddy Brook, Class B-1. The WDL was issued for a five-year term.

March 8, 1982 – The USEPA accepted DIFW's NPDES Permit reapplication as complete. Department files contain no evidence of further permitting actions by USEPA for this facility.

May 11, 1983 – The Maine Board of Environmental Protection issued WDL #2030 for the discharge of a daily maximum of 3.0 MGD of fish hatchery wastewater from the DIFW New Gloucester Rearing Pools to Eddy Brook, Class B-1. The WDL was a renewal of a previously issued license #2030, although it eliminated parameters for suspended solids and eliminated monitoring requirements for all other parameters. The WDL was issued for a five-year term.

July 21, 2000 – The Department issued # W-002030-5Q-A-R to the DIFW New Gloucester Fish Hatchery for the discharge of a daily maximum of 3.0 MGD of treated fish hatchery wastewater. The WDL was issued for a five-year term.

September 10, 2001 –The Department required monitoring for Outfall #001B, designated for effluent discharges from the facility when cleaning raceways, to be conducted by autocomposer.

February 2002 – On behalf of DIFW, Fishpro Inc. submitted an Alternative Discharge Study report for all nine DIFW hatcheries and rearing stations. The study evaluated eliminating effluent discharges through: piping the discharges to larger receiving waters, connecting to municipal wastewater treatment facilities, wastewater storage collection, land application of wastewater, and discharging to existing wetland areas. The study determined that none of the alternatives evaluated were viable options for the DIFW facilities.

September 12, 2002 – The Department submitted a report entitled *Maine Department of Environmental Protection Water Quality Concerns and Effects from State Fish Hatchery Discharges* to the Maine Legislature's Inland Fisheries and Wildlife Subcommittee's Commission to Study the Needs and Opportunities Associated with the Production of Salmonid Sport Fish in Maine and DIFW.

2. PERMIT SUMMARY (cont'd)

November 2002 – FishPro Inc. submitted to DIFW its *Comprehensive Statewide Fish Hatchery System Engineering Study* addressing recommended upgrades to all DIFW fish hatcheries and rearing facilities.

July 11, 2003 – The Department administratively modified WDL # W-002030-5Q-A-R to extend the 3-year schedule of compliance for BOD₅, TSS, and phosphorus effluent limits established in the WDL through the life of the WDL.

June 27, 2005 - The Department received a timely application from DIFW for renewal of the WDL for the discharge of fish hatchery wastewater from the New Gloucester facility. The application was assigned WDL # W-002030-5Q-B-R and MEPDES permit #ME0001040.

July 5, 2006 – The Department issued WDL #W-002030-5Q-B-R / #ME0001040 for a five year term.

October 10, 2008 – The Department issued minor revision WDL #W-002030-5Q-C-M / #ME0001040 (incorrectly identified on the revision as #ME0001140) for the amendment of the formalin concentration limits.

April 23, 2009 – The Department issued minor revision WDL #W-002030-5Q-D-M / #ME0001040 (incorrectly identified on the revision as #ME0001140) for the amendment of the flow limit and monitoring frequency requirements for BOD₅ and TSS.

June 2, 2010 – The Department entered into a Consent Agreement with DIFW for the violations incurred at several hatchery facilities including New Gloucester hatchery.

June 28, 2011 – DIFW submitted a complete and timely application for renewal of WDL/MEPDES permit for the New Gloucester hatchery. The application was assigned WDL #W002030-6F-E-R / #ME0001040.

- c. **Source Description:** The DIFW New Gloucester State Fish Hatchery was constructed in 1932 as a state aquaculture facility and is located on a 144-acre parcel of state owned land. The hatchery has been added to and renovated since its inception. DIFW New Gloucester is a flow-through facility that discharges to Eddy Brook, followed by Collyer Brook, and the Royal River. DIFW New Gloucester consists of two hatchery buildings (with employee living quarters on the second floor of the “new” hatchery), two on site employee houses, a feed storage building (freezer building), an emergency generator building, two separate lines of raceway pools for rearing, and Eddy Brook into which the facility effluent is discharged.

Influent Water: DIFW New Gloucester has 2 sources of water, a reservoir with a DIFW-controlled dam, and a well.

Reservoir water: The DIFW New Gloucester rearing facility obtains a portion of its influent water from a reservoir constructed in Eddy Brook, which was rebuilt in 1995. The reservoir intake branches into two 12-inch diameter PVC pipes, which supply water to the east side and west side raceways. The reservoir water is also available for use in the “new” and “old” hatcheries. The raceway influent water

2. PERMIT SUMMARY (cont'd)

is screened by ½ inch wide slats and is not treated. Several springs along the raceways also contribute water to the flow at this facility.

Summer water levels in Eddy Brook are considered minimally adequate to meet facility needs, thus DIFW New Gloucester typically uses all of the flow contained in Eddy Brook during the summer months.

Well water: Influent water for the hatchery facility is obtained from an 80-foot deep drilled well located on site. This well can sustain a continuous supply of 115-120 gpm. Well water is available in the “new” and the “old” hatcheries. Approximately 106 gpm is used in the “new” hatchery and approximately 10 gpm is used in the “old” hatchery. In case of well pump failure, the facility is equipped to draw water from a 24-inch diameter PVC pipe from the Eddy Brook reservoir. The “new” hatchery facility utilizes one sealed and one packed (bio-rings) aeration/degassing column to reduce high dissolved nitrogen gas concentrations and increase the dissolved oxygen concentrations. Well water enters two 8” wide columns with one sealed and one open top. This water passes through the columns and is contained in a head box for distribution to the combi tanks on the 1st floor. A portable liquid oxygen tank (4,505 cubic feet (cf)) is used to supply oxygen to the sealed column coupled with a backup system of three (282 cf) high-pressure oxygen tanks. The “old” hatchery has 2 head boxes. The large head box is supplied by an 8-inch diameter packed column and the small head box is supplied with a 6-inch diameter packed column. No oxygen is currently used in the “old” hatchery.

Hatchery Facilities

“New Hatchery”: DIFW New Gloucester’s “new” hatchery consists of twenty-five, 5-foot diameter fiberglass combi-tanks. The top portions of the tanks have a flow through rate of 3 gpm and maintain depths of 0.58 feet (85-gallons each). The bottom portions of the tanks have a flow through rate of 3-4 gpm and maintain depths of 2.4 feet (353-gallons each). The maximum flow to the combi-tanks is 3-5 GPM. Each unit is operated independently with well water constituting the primary source of influent water and reservoir water acting as an emergency (well pump failure) secondary source. The combi tanks are cleaned daily by scrubbing down the sides and bottoms, with wastewater disposed of as described below.

Brown trout eggs (New Gloucester Strain) are brought into the “new” hatchery after eggs are taken from the New Gloucester brood stock on site in mid-October. The eggs are first set up in the top portion of 12 combi-tanks to facilitate egg picking, fungus treatment, and to minimize the total amount of Formalin used.

All rainbow and brown trout fry are moved out of the hatchery by mid-June by way of transfer to outside raceways, transfer to other facilities, or as unscheduled surplus stocking. The “new” hatchery is consequently shut down for the summer and will not resume operation until mid October.

Hatchery flow-through and cleaning wastewater is routed directly to Eddy Brook thru an outfall below the bridge culverts (West side of Eddy brook).

2. PERMIT SUMMARY (cont'd)

“Old Hatchery”: DIFW New Gloucester’s “old” hatchery Consists of 21 aluminum troughs and 5 fiberglass circular tanks that are used for incubation and early rearing. The trough dimensions are 120 inches long by 20 inches wide with a water depth of 9 inches (94-gallons each) and have a flow through rate of 3-5 gpm. The five fiberglass tanks are 8 feet in diameter with a water depth of 13 inches (407-gallons each) and have a flow through rate of 3-5 gpm. All tanks and troughs are operated with well water constituting the primary source of influent water and the reservoir water acting as a supplement or secondary source. These fry will remain in these troughs until transfer to DIFW Casco in mid May-early June.

Landlocked salmon eggs (Sebago Strain) are brought into the “old” hatchery after taking eggs from the Casco landlocked salmon broodstock in mid-November. The eggs hatch in two of the smaller aluminum troughs in mid-January, begin to feed by late February, and remain in these troughs until all are transferred to DIFW Casco in late May. The “old” hatchery is consequently shut down for the summer and will not resume operation until mid-November.

Hatchery flow-through and cleaning wastewater is routed directly to Eddy Brook through an outfall in the riprap adjacent to the building (East side of “old” hatchery).

Broodstock Facilities

Broodstock are contained in a 8-foot x100-foot x 31-inch deep (15,460-gallon) covered concrete raceway.

Rearing Facilities

DIFW New Gloucester’s rearing facilities consist of two lines of earthen raceways with concrete dams (except raceway #8 East (broodstock)) referred to as the “West side” and “East side” raceways because of their orientation on the site. The West side consists of 13 individual raceways, while the East side consists of 14 raceways. Raceways are numbered starting at the top (highest upstream) to the bottom (lowest downstream).

Current utilization of the West side: West side raceway #1 is utilized as an influent sediment containment area and fish are reared in raceways #2, #3, #4, and #5. West side raceways #6 through #13 are utilized as effluent sediment containment areas. Current utilization of the East side: East side raceway #1 is utilized as an influent sediment containment area and fish are reared in raceways #2, #3, #4, #5, #6, #7, and #8. East side raceways #9 through #14 are utilized as effluent sediment containment areas. Raceway utilization is flexible and dependent upon production goals, densities and time of year.

For calendar year 2010, DIFW New Gloucester raised 955 broodstock (2,513 pounds), 81,959 first year fish (14,131 pounds), and 23,617 second year fish (25, 979 pounds).

Feed

For calendar year 2010 DIFW New Gloucester fed an average of 96.6 pounds of food per day, a maximum of 233.7 lbs/day, with the highest amount of feed per month in July. Also for 2010, a

2. PERMIT SUMMARY (cont'd)

maximum quantity of fish on station was as follows:

Broodstock:	2,513 lbs	Amount: 955 fish
First Year Fish:	14,131 lbs	Amount: 81,959 fish
Second Year Fish:	25,979 lbs	Amount: 23,617 fish

Feed is distributed to the fry in the hatcheries by mechanical means (Sweeny automatic feeders, belt feeders), and by hand. Feed is distributed to the fish in the raceways by hand.

d. Wastewater Treatment

Hatchery flow-through and cleaning wastewaters are discharged to Eddy Brook. The “new” hatchery discharges flow-through and cleaning wastewater directly to Eddy Brook through an outfall below the bridge culverts (west side of Eddy brook). The “old” hatchery discharges flow-through and cleaning wastewater directly to Eddy Brook through an outfall in the riprap adjacent to the building (east side of “old” hatchery). Raceway flow-through water is discharged in series through all of the pools in each line and then to Eddy Brook at the bottom of the West and East lines near the “closed to fishing above this point” sign. Raceway cleaning water is discharged through individual outfall concrete chambers at the end of each raceway, when the cleaning dam boards are removed, to Eddy Brook, which runs between the west side and east side raceways. To clean the earthen raceways, DIFW staff agitates settled wastes using a paddle starting at the top end of the raceway pool moving down the raceway with the water flow. When the sediment reaches the mid-point of the raceways, the cleaning dam boards are removed to discharge directly into Eddy Brook. After the raceway is cleaned, the outfall (cleaning) dam boards are replaced, the raceway refills, and the Fish Culturists move to the next raceway. The concrete raceway (broodstock) is cleaned in a similar fashion using a push broom. DIFW New Gloucester indicates that it takes two Fish Culturists approximately one hour to clean each raceway. Two to three raceways are cleaned approximately once per week during the summer, or as needed, and once every 2 to 3 weeks during the non-summer period, or as needed. The sediment containment raceways are dredged every four to five years, or as needed, with accumulated materials removed and properly disposed of.

The west side and east side raceways converge into a 100-foot x 20-foot x 3-foot deep (44,883-gallons) impounded settling area constructed in Eddy Brook during the summer months. From late fall through early spring the dam boards are removed from the sediment containment raceways to prevent access road flooding. Flow from the settling area continues on in Eddy Brook and downstream receiving waters.

In accordance with Standard Condition D, as referenced in Special Condition D of this permit, the permittee must notify the Department of any substantial change in the volume or character of pollutants being introduced into the wastewater collection and treatment system. A map showing the location of the facility is included as Fact Sheet **Attachment A**. A process flow diagram submitted by the permittee is included as Fact Sheet **Attachment B**.

3. CONDITIONS OF PERMIT

Conditions of licenses, 38 M.R.S.A. § 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, *Certain deposits and discharges prohibited*, 38 M.R.S.A. § 420 and *Surface Water Toxics Control Program*, 06-096 CMR 530 (effective March 21, 2012) require the regulation of toxic substances not to exceed levels set forth in *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR 584 (effective July 29, 2012), 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

Classification of major river basins, 38 M.R.S.A. § 467(11)(B) classifies the “Royal River, tributaries,” which includes Eddy Brook, as Class B.

Standards for classification of fresh surface waters, 38 M.R.S.A. § 465 (3) describes the standards for Class B waters.

The Department has determined that Eddy Brook, at the point of discharge, has a watershed of less than 10 square miles. 38 M.R.S.A. § 464 (4)(A)(1) states that: “Discharges into these waters that were licensed prior to January 1, 1986 are allowed to continue only until practical alternatives exist.” Prior to issuing a discharge license, the Department requires the applicant to objectively demonstrate to the Department’s satisfaction that the discharge is necessary and that there are no other reasonable alternatives available. An Alternative Discharge Study performed by Fishpro for multiple DIFW facilities (including New Gloucester) indicate that there are no reasonable alternatives to the current discharge. Todd Langevin of DIFW (email correspondence dated February 25, 2014) confirmed the 2002 Fishpro conclusion that no reasonable alternatives exist.

5. RECEIVING WATER QUALITY CONDITIONS

The State of Maine 2012 Integrated Water Quality Monitoring and Assessment Report (Report), prepared by the Department pursuant to Sections 303(d) and 305(b) of the Federal Water Pollution Control Act, lists the waters in Eddy Brook (ABD Assessment Unit ID ME0106000102_603R03) as “Category 2: Rivers and Streams Attaining Some Designated Uses – Insufficient Information for Other Uses.”

The Report lists all of Maine’s fresh waters as, “Category 4-A: Waters Impaired by Atmospheric Deposition of Mercury.” Impairment in this context refers to a statewide fish consumption advisory due to elevated levels of mercury in some fish tissues. The Report states, “All freshwaters are listed in Category 4A (TMDL Completed) due to USEPA approval of a Regional Mercury TMDL. 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.”

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- a. **Flow:** The April 23, 2009 Minor Revision eliminated the 3.0 MGD monthly average flow limit and established a monthly average flow reporting requirement. This permit action is carrying forward the requirement to report monthly average flow at the facility.

The Department reviewed 60 Discharge Monitoring Reports (DMRs) that were submitted for the period April 2009 – March 2014. A review of data indicates the following:

Flow

Value	Limit (MGD)	Range (MGD)	Mean (MGD)
Monthly Average	Report	1.5 – 12	4

- b. **Dilution Factors:** Dilution factors associated with wastewater discharges are derived in accordance with freshwater protocols established in *Surface Water Toxics Control Program 06-096 CMR 530* (effective March 21, 2012), and methods for low flow calculation contained in *Estimating Monthly, Annual, and Low 7-day, 10-year Streamflows for Ungaged Rivers in Maine* (Scientific Investigations Report 2004-5026, US Department of Interior, US Geological Service).

The DIFW New Gloucester facility obtains its water from the headwaters of Eddy Brook and a well. DIFW reports that the section of Eddy Brook below the DIFW owned reservoir dam is significantly or completely dewatered on occasion. At those times, the DIFW New Gloucester discharge constitutes the only flow in that portion of Eddy Brook. Based on this information, the Department must assume acute (1Q10), chronic (7Q10) and harmonic mean dilution factors of 1:1. If DIFW wishes to establish a guaranteed minimum flow from the Eddy Brook reservoir dam in the future, this determination may be revisited.

- c. **BOD₅ and TSS:** In the 7/5/06 permit, TSS and BOD₅ concentration limits of 6 and 10 mg/L for monthly average and daily maximum, respectively, were established as best professional judgment (BPJ) of minimum treatment technology.

The Department reviewed 81 DMRs that were submitted for the period June 2006 – July 2013. A review of data indicates the following:

BOD₅ mass

Value	Limit (lbs./day)	Range (lbs./day)	Mean (lbs./day)
Monthly Average	50	0 – 316	17
Daily Maximum	250	1 – 566	160

BOD₅ concentration

Value	Limit (mg/L)	Range (mg/L)	Mean (mg/L)
Monthly Average	6	<2.0 – 2.7	<2
Daily Maximum	10	<2.0 – 2.7	<2

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

TSS mass

Value	Limit (lbs./day)	Range (lbs./day)	Mean (lbs./day)
Monthly Average	50	0 – 726	54
Daily Maximum	250	1 – 1,386	195

TSS concentration

Value	Limit (mg/L)	Range (mg/L)	Mean (mg/L)
Monthly Average	6	1 – 16	3
Daily Maximum	10	1 – 16	3

The Department’s Division of Environmental Assessment (DEA) reviewed hatchery information in consideration of using TSS as a surrogate for BOD₅. It should be noted that TSS is more closely related to problems most commonly encountered at aquatic animal facilities such as phosphorous enrichment and solids control. After reviewing approximately 6 years of TSS and BOD₅ data, the Department concluded that the results of the two parameters showed a strong correlation. Therefore, the Department concluded that TSS could be relied upon to reflect BOD₅ conditions. Consequently, this permitting action is carrying forward the mass and concentration limits for TSS. This permit is carrying forward with the previously established monitoring frequency of 1/Month for TSS.

BOD can cause depressed DO in the receiving waters and increased carbon levels may create a favorable environment for nuisance bacterial/fungal growth such as *Sphaerotilus natans* that may result in non-attainment of narrative water quality standards. The Department has not observed nuisance bacterial/fungal growth below discharges from the New Gloucester hatchery in quantities that would constitute a violation of narrative water quality standards, and the historical data indicate DO levels that attain Class B standards. Therefore, the Department concludes that Spring Brook does not exhibit BOD-related impacts.

Given that 1) hatchery operations and processes are not likely to change; 2) that the Department has a statistically significant BOD₅ data set from this and multiple similar hatcheries; 3) that neither the USEPA nor Department have promulgated numeric effluent guidelines for BOD₅ for Concentrated Aquatic Animal Production (CAAPs) facilities (including fish hatcheries); 4) that this permitting action contains effluent monitoring for dissolved oxygen; and 5) that in the best professional judgment of the Department’s Division of Environmental Assessment effluent limitations for BOD₅ are not necessary to ensure compliance with water quality standards, this permitting action is eliminating the effluent limitations and monitoring requirements for BOD₅ based on this new information that was not available at the time the previous permit was issued.

Section 402(o) of the Clean Water Act contains prohibitions for anti-backsliding. Generally, anti-backsliding prohibits the issuance of a renewed permit with less stringent limitations than were established in the previous permit. The Clean Water Act contains certain exceptions to anti-backsliding at Section 402(o)(2). In the case of DIFW’s New Gloucester facility and the concentration and mass limitations for BOD₅, the Department has determined that these limitations would not have been established at the time the previous permit was issued based on the new information that has been

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

obtained since issuance of the 2006 permit. Section 402(o)(2)(B)(i) of the Clean Water Act contains an exception to anti-backsliding for information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance. Therefore, this permitting action is eliminating the limitations for BOD₅. [It is noted that anti-backsliding prohibitions and exceptions are mirrored in Chapter 523 of the Department's rules at 40 CFR 122.44(1)(2)(i)(B)(1).]

- d. Dissolved Oxygen: The 7/5/06 permit required in-stream DO measurements to be taken at the point of discharge in the months of July, July, August and September of each year. The Department reviewed 27 DMRs that were submitted for the period August 2006 – June 2013. A review of data indicates the following:

DO

Minimum (mg/L)	Maximum (mg/L)
8.0	11.0

As referenced previously, The Class B dissolved oxygen standard is:

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. 38 M.R.S.A. § 465(3)(B)

Facility data indicate that the DO was consistently within the Class B water quality standards. This permitting action is carrying forward the seasonal reporting requirement for dissolved oxygen to ensure the discharge does not cause or contribute to non-attainment of Class B dissolved standards.

- e. Total Phosphorus: Previous permitting action established both mass and concentration limitation for total phosphorous. The monthly average mass limit of 0.77 lbs./day is a water quality based limit necessary to ensure compliance with Class B water quality standards and is being carried forward in this permitting action. The monthly average concentration limit of 0.035 mg/L for total phosphorous was established based on BPJ of BPT for this discharge. The Department is identifying in this permitting action that the concentration limit is not necessary to ensure water quality standards are achieved and that the limitation was established in error. Section 402(o) of the Clean Water Act contains prohibitions for anti-backsliding. Generally, anti-backsliding prohibits the issuance of a renewed permit with less stringent limitations than were established in the previous permit. The Clean Water Act contains certain exceptions to anti-backsliding at Section 402(o)(2). In the case of DIFW's New Gloucester facility and the concentration limitation for phosphorous, the Department has determined that establishing a concentration limitation for phosphorus constitutes a technical mistake

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

in issuing the permit. Section 402(o)(2)(B)(ii) of the Clean Water Act contains an exception to anti-backsliding for this reason. Therefore, this permitting action is eliminating the concentration limitation for total phosphorous but is requiring concentration data to be reported. (It is noted that anti-backsliding prohibitions and exceptions are mirrored in Chapter 523 of the Department's rules.) Monitoring remains limited to June through September, annually.

The Department reviewed 25 DMRs that were submitted for the period August 2006 – June 2013. A review of data indicates the following:

Total-P Mass from Outfall 005A

Value	Limit (lbs./day)	Range (lbs./day)	Mean (lbs./day)
Monthly Average	0.77	0.35 – 2.22	1
Daily Maximum	Report	0.5 – 5.027	1

Total-P Concentration from Outfall 005A

Value	Limit (mg/L)	Range (mg/L)	Mean (mg/L)
Monthly Average	0.035	0.02 – 0.07	0.04
Daily Maximum	report	0.02 – 0.09	0.04

- f. Fish on Hand: Previous permitting action established a 2/Month reporting requirement for daily maximum mass. However, after review of the data, the Department believes that a 1/Month daily maximum mass reporting requirement is appropriate. Therefore, this permit is establishing a 1/Month reporting requirement of daily maximum mass for fish on hand.

The Department reviewed 83 DMRs that were submitted for the period August 2006 – June 2013. A review of data indicates the following:

Fish on Hand

Value	Limit (lbs.)	Range (lbs.)	Mean (lbs.)
Monthly Average	Report	8,227 – 42,579	19,514
Daily Maximum	Report	8,227 – 111,149	21,401

- g. Formalin: The October 10, 2008 minor permit revision amended the formalin limits based on the Department's BPJ after reviewing the January 2008 report titled "*Meeting Maine Clean Water Standards during Fish Therapeutic Treatments: Determining the Acute No Effect Concentration (ANOEC) Discharge Concentrations in Hatchery Effluents after Fish Therapeutic Treatments with Formalin, Hydrogen Peroxide, Potassium Permanganate and Sodium Chloride*" by G. Russell Danner and Thora Maltais. Formalin concentration limits were based on the ambient water quality criteria (AWQC) of 25 mg/L and 45 mg/L for a 24-hour application and a 1-hour application, respectively and multiplied by the acute dilution factor of 1.

25 mg/L x 1 (effluent dilution) = 25 mg/L 24-hour treatment
 45 mg/L x 1 (effluent dilution) = 45 mg/L 1-hour treatment

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

Mass limits were carried forward in the 2008 revision. The following is an excerpt from the 2008 revision:

“Effluent mass limits were previously and remain calculated based on the permittee’s projected maximum amount of formalin used per day (2-gallons) times the weight of formalin (9.13 lbs/gal), resulting in a value of 18.3 lbs/day.”

Mass limits derived from the 2008 revised AWQC concentration limits would have been calculated as such:

$25 \text{ mg/L} \times 9.03 \text{ lbs./gal.} \times 1.5^1 \text{ MGD} = 338.625 \text{ lbs./day}$ or **339 lbs./day** 24-hour treatment
 $45 \text{ mg/L} \times 9.03 \text{ lbs./gal.} \times 1.5 \text{ MGD}/24 \text{ hours} = 25.396875$ or **25 lbs./hr.** 1-hour treatment

Based on the above mass calculations, both the 24-hour treatment limit of 339 lbs./day and the 1-hour limit of 25 lbs./hour are less stringent than the previously established limit of 18.3 lbs/day. Therefore, based on the Departments BPJ of AWQC, the mass limit established in the 2006 permit (and carried forward since that time) is being carried forward in this permitting action.

The Department is identifying in this permitting action that the formalin concentration limit is not necessary to ensure water quality standards are achieved and that the limitation was established in error. Section 402(o) of the Clean Water Act contains prohibitions for anti-backsliding. Generally, anti-backsliding prohibits the issuance of a renewed permit with less stringent limitations than were established in the previous permit. The Clean Water Act contains certain exceptions to anti-backsliding at Section 402(o)(2). In the case of DIFW’s New Gloucester facility and the concentration limitation for formalin, the Department has determined that establishing a concentration limitation for formalin constitutes a technical mistake in issuing the permit. Section 402(o)(2)(B)(ii) of the Clean Water Act contains an exception to anti-backsliding for this reason. Therefore, this permitting action is eliminating the concentration limitation for formalin. (It is noted that anti-backsliding prohibitions and exceptions are mirrored in Chapter 523 of the Department’s rules.

Formalin monitoring is revised to 1/Occurrence in this permitting action to better clarify the reporting requirement. The Department reviewed 7 DMRs that were submitted for the period August 2006 – June 2013. A review of data indicates the following:

Formalin mass

Value	Limit (lbs./day)	Range (lbs./day)
Monthly Average	18.3	0 – 1.6
Daily Maximum	18.3	0 – 1.6

¹ 1.5 MGD is the lowest recorded flow since June 2006 at New Gloucester according to facility records.

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

Formalin concentration

Value	Limit (mg/L)	Range (mg/L)
Monthly Average	Report	0 – 3.68
1-Hour Maximum	45	0 – 3.68
24-Hour Maximum	25	Treatment not used in data timeframe

- h. **pH:** The previous permit carried forward the established pH limit of 6.0 – 8.5 standard units (SU), pursuant to 38 M.R.S.A. § 464(4)(A)(5) and consistent with the discharge limits established in other MEPDES permits for fish hatcheries.

The Department reviewed 72 DMRs that were submitted for the period August 2006 – June 2013. A review of data indicates the following:

pH

Value	Limit (SU)	Minimum (SU)	Maximum (SU)
Range	6.0 – 8.5	6.4	7.3

Past performance at the New Gloucester hatchery indicates that the pH exhibits consistent results within the required limits and that the discharge does not exhibit a reasonable potential to exceed the pH range limitation established by 38 M.R.S.A. § 464(4)(A)(5). Therefore, this permit is eliminating the pH monitoring requirement based on this new information. This action complies with the anti-backsliding provision at 40 CFR 122.44(l)(2)(i)(B)(1).

7. 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 Eddy Brook to meet standards for Class B classification.

8. PUBLIC COMMENTS

Public notice of this application was made in the *Sun Journal* newspaper on or about July 1, 2011. The Department receives public comments on an application until the date a final agency action is taken on the application. Those persons receiving copies of draft permits must have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to *Application Processing Procedures for Waste Discharge Licenses*, 06-096 CMR 522 (effective January 12, 2001).

9. RESPONSE TO COMMENTS

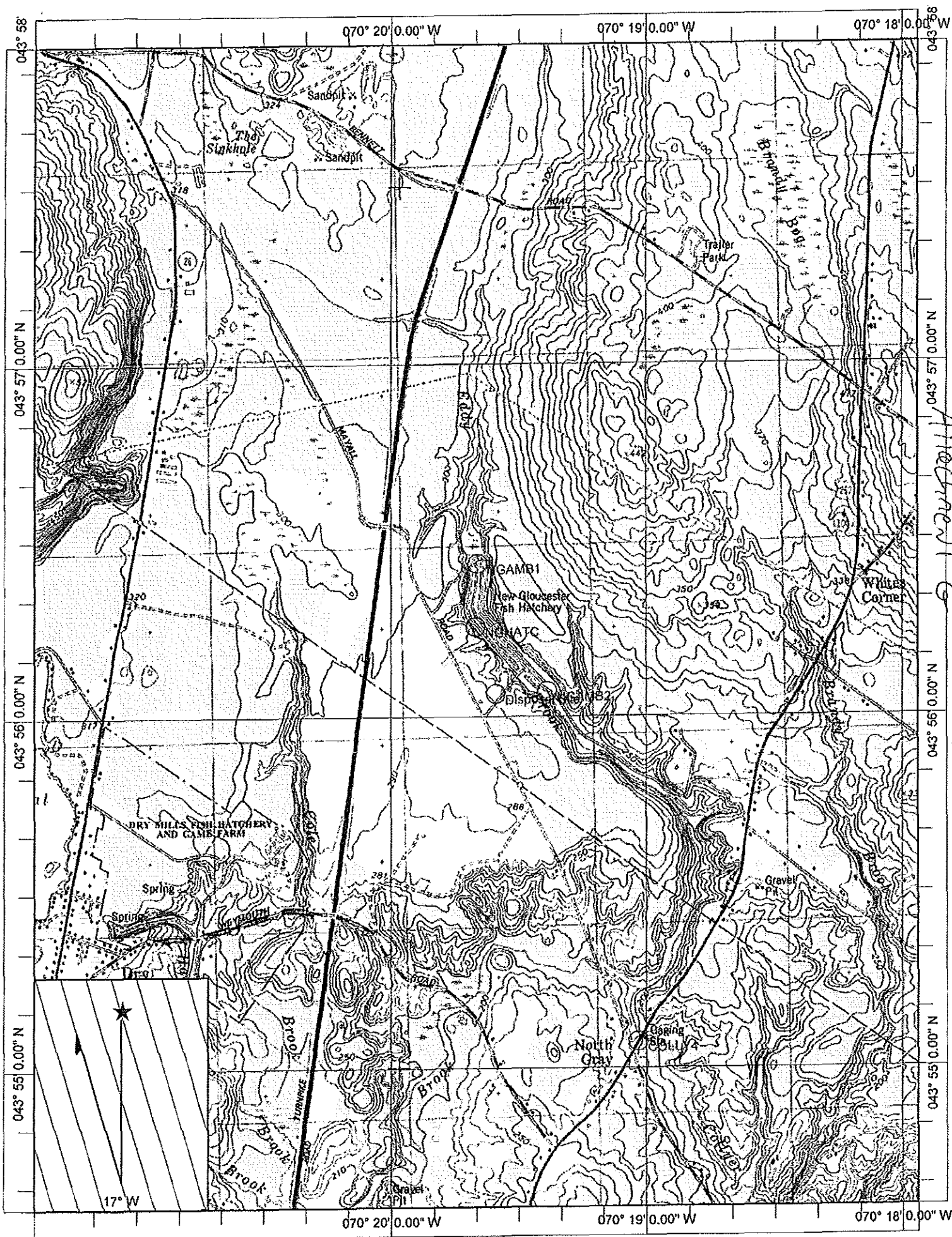
Reserved until the end of the public comment period.

10. DEPARTMENT CONTACTS

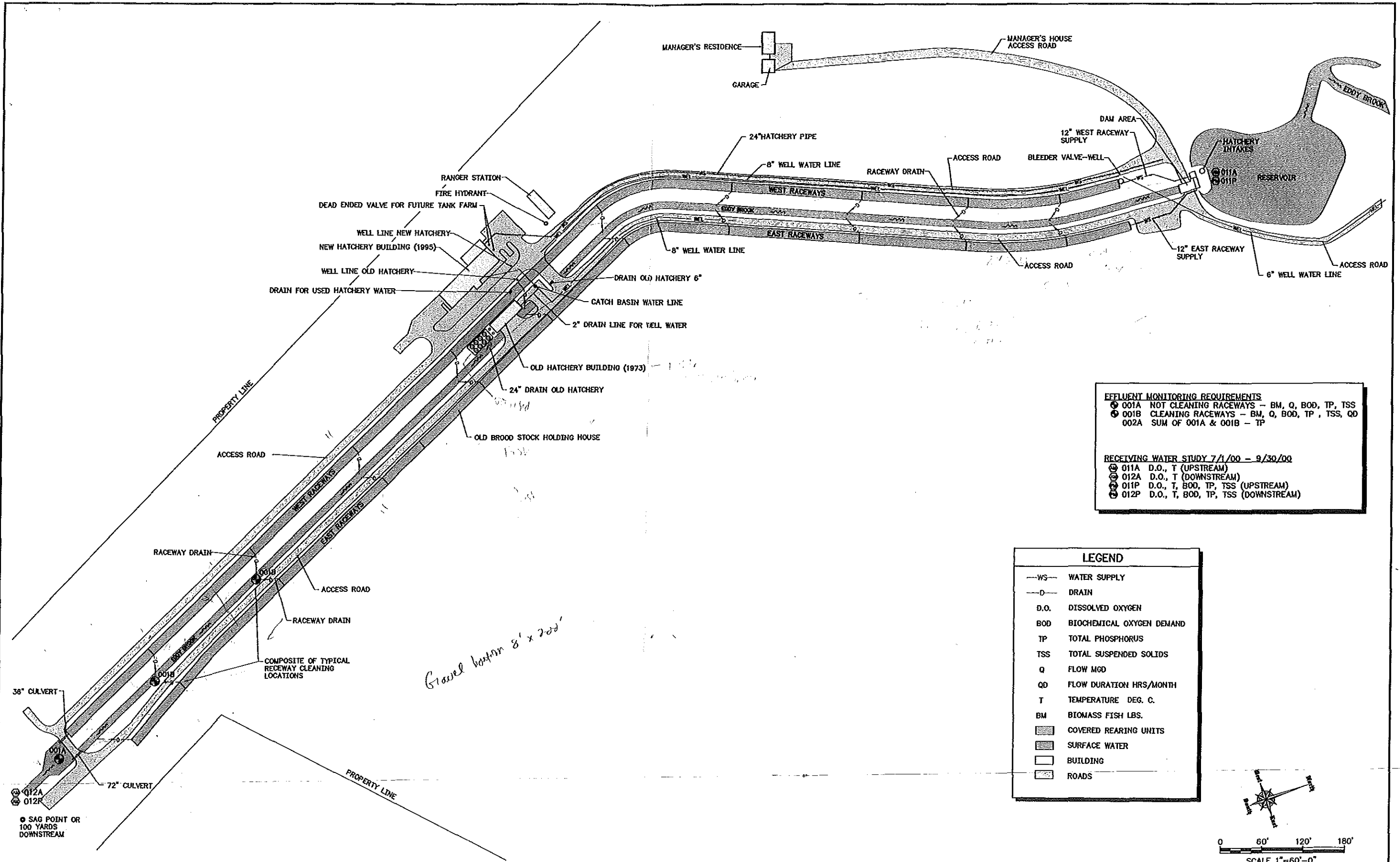
Additional information concerning this permitting action may be obtained from, and written comments sent to:

Cindy L. Dionne
Division of Water Quality Management
Bureau of Land & Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017
Telephone: (207) 592-7161
e-mail: cindy.l.dionne@maine.gov

ATTACHMENT A



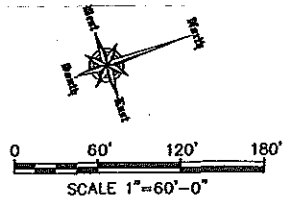
ATTACHMENT B



EFFLUENT MONITORING REQUIREMENTS
 ● 001A NOT CLEANING RACEWAYS - BM, Q, BOD, TP, TSS
 ● 001B CLEANING RACEWAYS - BM, Q, BOD, TP, TSS, QD
 ● 002A SUM OF 001A & 001B - TP

RECEIVING WATER STUDY 7/1/00 - 9/30/00
 ● 011A D.O., T (UPSTREAM)
 ● 012A D.O., T (DOWNSTREAM)
 ● 011P D.O., T, BOD, TP, TSS (UPSTREAM)
 ● 012P D.O., T, BOD, TP, TSS (DOWNSTREAM)

LEGEND	
—WS—	WATER SUPPLY
—D—	DRAIN
D.O.	DISSOLVED OXYGEN
BOD	BIOCHEMICAL OXYGEN DEMAND
TP	TOTAL PHOSPHORUS
TSS	TOTAL SUSPENDED SOLIDS
Q	FLOW MGD
QD	FLOW DURATION HRS/MONTH
T	TEMPERATURE DEG. C.
BM	BIOMASS FISH LBS.
[Pattern]	COVERED REARING UNITS
[Pattern]	SURFACE WATER
[Pattern]	BUILDING
[Pattern]	ROADS



NOTE: EXISTING CONDITIONS DRAWINGS WERE GENERATED USING AERIAL PHOTOGRAPHY FOR GRAPHICAL PRESENTATION PURPOSES ONLY. DRAWINGS SHOULD NOT BE USED FOR SCALED ENGINEERING DESIGN.

SEAL:

FISHPRO
 Consulting Engineers and Scientists
 5201 South Sixth Street Road
 Springfield, IL 62703-5143
 (217) 585-8338

Fort Orchard, Va.
 Portland, Or.



STATE OF MAINE
 DEPARTMENT OF INLAND
 FISHERIES AND WILDLIFE



STATE OF MAINE

DRAWING TITLE:
NEW GLOUCESTER EXISTING CONDITIONS

PROJECT:
MAINE COMPREHENSIVE STATEWIDE FISH HATCHERY SYSTEM ENGINEERING STUDY

FP #00-095
 DATE: 2001
 SHEET:
C-NG-2
 OF 2 SHEETS