STATE OF MAINE

Department of Environmental Protection

JOHN ELIAS BALDACCI
GOVERNOR

David P. Littell
COMMISSIONER

September 10, 2009

Mr. Fred Trasko
Green Lake National Fish Hatchery
One Hatchery Way
Route #180
Ellsworth, Maine 04605

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0002623
Maine Waste Discharge License (WDL) Application # W-000721-5Q-E-R
Final Permit/License, Green Lake National Fish Hatchery, Ellsworth.

Dear Fred:

Enclosed please find a copy of your **final** MEPDES permit and Maine WDL which was approved by the Department of Environmental Protection. Please read the permit/license and its attached conditions carefully. You must follow the conditions in the order to satisfy the requirements of law. Any discharge not receiving adequate treatment is in violation of State Law and is subject to enforcement action.

Any interested person aggrieved by a Department determination made pursuant to applicable regulations, may appeal the decision following the procedures described in the attached DEP FACT SHEET entitled "*Appealing a Commissioner's Licensing Decision*."

If you have any questions regarding the matter, please feel free to call me at (207) 287-6114 or contact me via email at Robert.D.Stratton@maine.gov.

Sincerely,

Bob Stratton DEP

Robert D. Stratton
Division of Water Quality Management
Bureau of Land and Water Quality

Enc./cc: Matt Young (MEDEP); Sandy Mojica (USEPA)

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 624-6550FAX: (207) 624-6024
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

web site: www.maine.gov/dep

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

IN THE MATTER OF

GREEN LAKE NATIONAL FISH HATCHERY	)	MAINE POLLUTANT DISCHARGE
ELLSWORTH, HANCOCK COUNTY, MAINE	)	ELIMINATION SYSTEM PERMIT
FISH HATCHERY	)	AND
#ME0002623	)	WASTE DISCHARGE LICENSE
#W-000721-5Q-E-R **APPROVAL**	)	**RENEWAL**

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) has considered the application of the GREEN LAKE NATIONAL FISH HATCHERY (hereinafter, GLNFH), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

The applicant has applied for a renewal of Maine Pollutant Discharge Elimination System (MEPDES) Permit # ME0002623 / Maine Waste Discharge License (WDL) #W-000721-5Q-D-R, which was issued on February 6, 2004 for a five-year term and administratively modified on August 2, 2006 and October 6, 2008. The MEPDES Permit / Maine WDL authorized the discharge of up to a monthly average of 13.3 million gallons per day (MGD) and up to a daily maximum of 19.4 MGD of fish hatchery wastewater, as well as 0.288 MGD of influent filter backwash wastewater, to Reed's Brook, Class B and Graham Lake, Class GPA, from a federal salmon hatchery in Ellsworth, Maine.

PERMIT SUMMARY

This permitting action is similar to the February 6, 2004 MEPDES Permit / Maine WDL and subsequent Administrative Modifications in that it is carrying forward all previous terms and conditions with a few exceptions. This permitting action is different in that it is:

1. changing the biochemical oxygen demand (BOD_5) and total suspended solids (TSS) minimum monitoring frequency requirement from once per week to twice per month;
2. revising the required formalin measurement frequency to once per occurrence;
3. eliminating the Graham Lake Water Quality Monitoring Study requirements based on collection of sufficient data to yield revised water quality modeling assumptions and limits;
4. updating requirements related to proper use and record keeping of therapeutic agents and disinfecting/sanitizing agents; and
5. eliminating requirements for installation of specific facility upgrades and establishing BPJ derived minimum treatment technology requirements for the facility.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated July 30, 2009, 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 MRSA Section 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) The standards of classification of the receiving water body are met or, 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

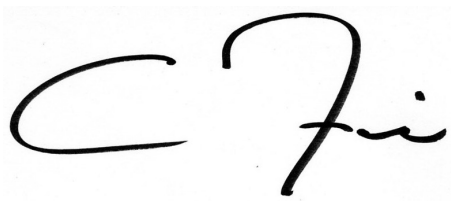
THEREFORE, the Department APPROVES the application of the GREEN LAKE NATIONAL FISH HATCHERY to discharge a monthly average of 13.3 MGD and a daily maximum of 19.4 MGD of fish hatchery and rearing facility wastewater, as well as 0.288 MGD of influent filter backwash wastewater, to Graham Lake, Class GPA and Reed's Brook, Class B, SUBJECT TO THE FOLLOWING 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 expires five (5) years from the date of signature below.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES



This permit has been digitally signed by Andrew C. Fisk on behalf of Commissioner David P. Littell. It is digitally signed pursuant to authority under 10 M.R.S.A. § 9418. It has been filed with the Board of Environmental Protection as of the signature date
2009.09.09 07:43:09 -04'00'

Date of initial receipt of application: January 15, 2009
Date of application acceptance: January 23, 2009

This Order prepared by Robert D. Stratton, BUREAU OF LAND & WATER QUALITY

SPECIAL CONDITIONS
A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. The permittee is authorized to discharge **fish hatchery and rearing facility wastewater from Outfall #001A** to Graham Lake. Such discharges shall be limited and monitored by the permittee as specified below. The italicized numeric values bracketed in the table below and in the text on subsequent pages are code numbers that Department personnel utilize to code the monthly Discharge Monitoring Reports (DMRs). Footnotes are found on Pages 5-6.

Effluent Characteristic	**Discharge Limitations**				**Minimum Monitoring Requirements**	
	Monthly Average as specified	Daily Maximum as specified	Monthly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Flow *[50050]*	13.3 MGD *[03]*	19.4 MGD *[03]*	---	---	Daily *[01/01]*	Measured *[MS]*
BOD_5 *[00310]*	665 lbs/day *[26]*	1,618 lbs/day *[26]*	6 mg/L *[19]*	10 mg/L *[19]*	2 / month *[02/30]*	Composite[1] *[CP]*
TSS *[00530]*	665 lbs/day *[26]*	1,618 lbs/day *[26]*	6 mg/L *[19]*	10 mg/L *[19]*	2 / month *[02/30]*	Composite[1] *[CP]*
Total Phosphorus[2] *[00665]*	Report total lbs/month *[76]*	1,426 lbs/year *[50]*	Report mg/L *[19]*	Report mg/L *[19]*	1 / week *[01/07]*	Composite[1] *[CP]*
Fish on Hand *[45604]*	report lbs/day *[26]*	report lbs/day *[26]*	---	---	1 / week *[01/07]*	Calculated *[CA]*
Formalin[3] **1-Hour Treatment Maximum** *[51064]*	report lbs/day *[26]*	46 lbs/day *[26]*	report mg/L *[19]*	46 mg/L *[19]*	Once per occurrence *[01/OC}*	Calculated *[CA]*
Formalin[3] **24-Hour Treatment Maximum** *[51064]*	report lbs/day *[26]*	46 lbs/day *[26]*	report mg/L *[19]*	26 mg/L *[19]*	Once per occurrence *[01/OC}*	Calculated *[CA]*
pH *[00400]*	---	---	---	6.0-8.5 S.U. *[12]*	1 / week *[01/07]*	Grab *[GR]*

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS, Footnotes:

Sampling Locations: As GLNFH is a flow-through facility where outflow essentially equals inflow, discharge flow shall be determined through sampling inflow volumes at the water treatment plant. Effluent samples for all other parameters shall be collected at Outfall #001A after the last treatment process prior to discharge to the receiving water on a year-round basis unless otherwise noted. All monitoring shall be conducted so as to capture conditions representative of wastewater generating processes at the facility, such as flow-through and cleaning discharge flows, use of therapeutic and disinfecting/sanitizing agents, etc. and in consideration of settling pond detention times. Any change in sampling location(s) must be reviewed and approved by the Department in writing. Sampling and analysis must be conducted 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 shall be analyzed by a laboratory certified by the State of Maine's Department of Health and Human Services. Samples that are sent to a 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). **All effluent limits are gross, end-of-pipe limits, unless otherwise specified.**

All detectable analytical test results shall 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 shall be reported as <Y where Y is the detection limit achieved by the laboratory for each respective parameter. Reporting a value of <Y that is greater than an established RL is not acceptable and will be rejected by the Department. For mass, if the analytical result is reported as <Y or if a detectable result is less than a RL, report a <X lbs/day, where X is the parameter specific limitation established in the permit.

1. Samples shall consist of 24-hour composites collected with an automatic composite sampler. Alternatively, when weather conditions and/or equipment prevents automatic compositing and upon approval by the Department's compliance inspector, the permittee may manually composite a minimum of four grab samples collected at two-hour intervals during the working day at the facility.

2. The 1,426 lbs/year phosphorus limit is a gross, end-of-pipe limit that entails GLNFH's modeled allowable phosphorus contribution to Graham Lake plus source background levels. GLNFH shall report the total mass of phosphorus discharged in lbs/month and lbs/year and concentration in mg/L, with the DMR for the monitoring period. Laboratory analysis shall consist of a low-level total phosphorus analysis with a minimum detection limit of 1 part per billion.

SPECIAL CONDITIONS

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

3. Formalin monitoring shall be conducted only when in use at the facility and shall consist of a calculated effluent value. The permittee shall calculate the effluent formalin concentration through accurate determinations of the formalin mass administered in each facility use, the volume of facility wastewater to which the formalin is added during the treatment period, and the volume of large wastewater structures that receive the effluent (during 1-hour treatments). The effluent mass shall be calculated by multiplying the gallons of formalin used by a 9.13 lbs / gallon conversion formula based on the weight of formalin. The permittee shall provide this information and calculations to the Department in a document accompanying the monthly DMR. See Fact Sheet Section 6f for sample calculations. The two-tiered formalin limits correspond to a first tier standard one hour per day treatment typical of hatchery and rearing facility discharges and a second tier for up to a maximum of 24 hours of treatment and discharge for addressing emergency conditions at the facility. Concentration limits for both tiers are based on the Department's BPJ of AWQC that will be protective of aquatic life in the receiving water. **Note, formalin treatments and discharges pursuant to the second tier limits (1 hour to 24 hour discharges) must be conducted no more frequently than once every four days. The permittee shall provide a list of dates on which the second tier limits were utilized and the length of time of each such treatment, with each monthly DMR.**

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 by 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 by the classification of the receiving waters.
3. The discharges shall not cause visible discoloration or turbidity in the receiving waters which would impair the usages designated by 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. UNAUTHORIZED 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 January 23, 2009; 2) the terms and conditions of this permit; and 3) only from Outfall #001A. Additionally, the permittee is authorized to discharge influent filter backwash wastewater as described in Fact Sheet Section 2e, *Wastewater Treatment*, but is not required to monitor that discharge due to its deminimus nature. 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), *Bypasses*, of this permit.

SPECIAL CONDITIONS
D. NOTIFICATION REQUIREMENT

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 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 shall be summarized for each month and reported on separate Discharge Monitoring Report (DMR) forms provided by the Department. If you are receiving hard-copy DMR forms by mail, the completed, returned forms must be **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 shall 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
106 Hogan Road
Bangor, Maine 04401

Alternatively, if you are submitting an electronic Discharge Monitoring Report (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. OPERATION & MAINTENANCE (O&M) PLAN

This facility shall have 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 (biological, chemical, and medicinal) discharged to surface waters. Among other items, the plan shall describe in detail 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 EPA 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. ALTERNATIVE DISCHARGE STUDY:

On or before six-months prior to expiration of this permit, GLNFH is required to submit to the Department for review, an Alternative Discharge Study (ADS) report for the GLNFH facility to determine if practical alternatives to the discharge exist. The ADS report shall evaluate wastewater treatment infrastructure, technologies, practices or other modifications that will result in the elimination of the discharge to the receiving water or improvement in the effluent quality, pursuant to guidance in Fact Sheet Section 7. *[34099]*

H. SETTLING POND 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. The permittee is responsible for reporting effluent violations pursuant to Standard Conditions D.1 (f) and (g).

SPECIAL CONDITIONS

I. DISEASE AND PATHOGEN CONTROL AND REPORTING

GLNFH must comply with Maine Department of Inland Fisheries and Wildlife and Maine Department of Marine Resources 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, in addition to the requirements of the rules, **the permittee shall notify the Department in writing within 24-hours of detection**, with information on necessary control measures and the veterinarian involved. The permittee shall submit to the Department for review and approval, 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. If, upon review of information regarding a treatment pursuant to this section, the Department determines that significant adverse effects are likely to occur, it may restrict or limit such use.

J. 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 of 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. Such uses and discharges will be subject to Department review and approval. 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.

K. DISINFECTING/SANITIZING AGENTS

Records of all disinfectants and/or sanitizing agents used that have the potential to enter the waste stream or receiving water, their volumes and concentrations as used and concentrations at the point of discharge, shall be maintained at the facility for a period of five years. This permitting action only authorizes the discharge of those materials applied for, evaluated by the Department, and either regulated or determined to be deminimus in this permitting action or in subsequent Department actions.

SPECIAL CONDITIONS

L. MINIMUM TREATMENT TECHNOLOGY REQUIREMENT:

Based on the information provided and Department BPJ, the permittee shall provide minimum treatment technology for the GLNFH facility that shall consist of treatment equal to or better than 60-micron microscreen filtration of the effluent, wastewater settling/clarification, and removal of solids. The GLNFH shall provide treatment and/or effluent quality equal to or better than the BPJ minimum treatment technology and shall comply with all effluent limitations, monitoring requirements, and operational requirements established in this permitting action. Additional treatment may be necessary to achieve specific water quality based limitations.

M. 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, 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 effluent and or ambient water quality monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information including, but not limited to, new information from ambient water quality studies of the receiving water.

N. 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 aspects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
AND
MAINE WASTE DISCHARGE LICENSE

FACT SHEET

Date: July 30, 2009

MEPDES PERMIT NUMBER: #ME0002623
MAINE WDL NUMBER: # W-000721-5Q-E-R

NAME AND ADDRESS OF APPLICANT:

GREEN LAKE NATIONAL FISH HATCHERY
One Hatchery Way, Route #180
Ellsworth, Maine 04605

COUNTY: HANCOCK

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

Green Lake National Fish Hatchery
One Hatchery Way, Route #180
Ellsworth, Maine 04605

RECEIVING WATER / CLASSIFICATION: Reed's Brook / Class B;
Graham Lake / Class GPA

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: Mr. Fred Trasko
(207) 667-9531

1. APPLICATION SUMMARY

a. Application: The applicant has applied for a renewal of Maine Pollutant Discharge Elimination System (MEPDES) Permit # ME0002623 / Maine Waste Discharge License (WDL) #W-000721-5Q-D-R, which was issued on February 6, 2004 for a five-year term and administratively modified on August 2, 2006 and October 6, 2008. The MEPDES Permit / Maine WDL authorized the discharge of up to a monthly average of 13.3 million gallons per day (MGD) and up to a daily maximum of 19.4 MGD of fish hatchery wastewater, as well as 0.288 MGD of influent filter backwash wastewater, to Reed's Brook, Class B and Graham Lake, Class GPA, from a federal salmon hatchery in Ellsworth, Maine.

2. PERMIT SUMMARY

a. Regulatory: On January 12, 2001, the Department received authorization from the U.S. Environmental Protection Agency (USEPA) to administer the National Pollutant Discharge Elimination System (NPDES) permit program in Maine, excluding areas of special interest to Maine Indian Tribes. On October 30, 2003, after consultation with the U.S. Department of Justice, USEPA extended Maine's NPDES program delegation to all but tribally owned discharges. That decision was subsequently appealed. On August 8, 2007, a panel of the U.S. First Circuit Court of Appeals ruled that Maine's environmental regulatory jurisdiction applies uniformly throughout the State. From January 12, 2001 forward, the program has been referred to as the MEPDES program and permit #ME0002623 (same as NPDES permit number) utilized as the primary reference number for the GLNFH facility.

b. Terms and Conditions: This permitting action is similar to the February 6, 2004 MEPDES Permit / Maine WDL and subsequent Administrative Modifications in that it is carrying forward all previous terms and conditions with a few exceptions. This permitting action is different in that it is:

1. changing the biochemical oxygen demand (BOD_5) and total suspended solids (TSS) minimum monitoring frequency requirement from once per week to twice per month;
2. revising the required formalin measurement frequency to once per occurrence;
3. eliminating the Graham Lake Water Quality Monitoring Study requirements based on collection of sufficient data to yield revised water quality modeling assumptions and limits;
4. updating requirements related to proper use and record keeping of therapeutic agents and disinfecting/sanitizing agents; and
5. eliminating requirements for installation of specific facility upgrades and establishing BPJ derived minimum treatment technology requirements for the facility.

c. History: The most recent relevant regulatory actions include the following

August 24, 1999 – The Department issued WDL #W-000721-5Q-B-R for a two-year term. The WDL authorized GLNFH to discharge 19.4 MGD of hatchery wastewater to Graham Lake and 0.228 MGD of influent filter backwash to Reeds Brook in Ellsworth. The WDL replaced WDL #W-000721-41-A-R, issued on June 20, 1985.

September 28, 2000 – The Department administratively modified WDL #W-000721-5Q-B-R by suspending monitoring requirements and an effluent flow limit for Outfall #002A, an influent filter backwash wastewater discharge to Reeds Brook, based on a request from GLNFH and review of previous monitoring results.

2. PERMIT SUMMARY (cont'd)

December 11, 2001 - GLNFH submitted to the Department an Alternative Discharge Study report entitled, *"Effluent Water/Waste Treatment Options Green Lake National Fish Hatchery, Ellsworth, Maine"*.

February 6, 2004 – The Department issued WDL #W-000721-5Q-C-R / MEPDES Permit #ME0002623 for the discharge of up to a monthly average of 13.3 MGD and up to a daily maximum of 19.4 MGD of fish hatchery wastewater, as well as 0.288 MGD of influent filter backwash wastewater, to Reed's Brook, Class B and Graham Lake, Class GPA, from a federal salmon hatchery in Ellsworth, Maine. The Permit/WDL incorporated the terms and conditions of the MEPDES permit program and was issued for a five-year term.

August 2, 2006 – The Department issued an Administrative Modification of WDL #W-000721-5Q-C-R / MEPDES Permit #ME0002623 to revise the annual maximum phosphorus mass limit based on data from ambient water quality monitoring, effluent monitoring, and a reevaluation of the Department's lake water quality model based on receiving water-specific conditions.

October 6, 2008 – The Department issued Minor Revision #W-000721-5Q-D-M / MEPDES Permit #ME0002623 to revise effluent formalin limitations based on newly obtained toxicity data and a revision of the Department's best professional judgement of ambient water quality criteria.

January 23, 2009 – GLNFH submitted a timely application for renewal of its WDL / MEPDES Permit. The application was assigned WDL #W-000721-5Q-E-R / MEPDES Permit #ME0002623.

May 14, 2009 – GLNFH submitted a Practical Alternative Study entitled, Green Lake National Fish Hatchery Effluent Treatment Review, which verified earlier findings of no practical discharge alternative for GLNFH as well as identified options to upgrade wastewater treatment infrastructure and processes to affect improvements in effluent quality.

d. Source Description/ Facility Operation:

GLNFH is a federal Atlantic salmon fish hatchery and rearing facility operated by the US Fish and Wildlife Service (USFWS). GLNFH is located on a 129-acre parcel of land on Route 180 in Ellsworth, Maine, between Green Lake and Graham Lake, at latitude N 44 37.432 and longitude W 68 26.360. GLNFH was established to propagate sea run Atlantic salmon for rivers within the Gulf of Maine Ecosystem as part of the USFWS Atlantic salmon restoration/recovery program.

2. PERMIT SUMMARY (cont'd)

GLNFH extracts its source water from Green Lake at three possible depths, 0 feet, 35 feet, and 65 feet deep relative to the lake surface through 30-inch, 30-inch, and 20-inch diameter intake lines respectively. The surface level intake is privately owned and operated for hydroelectric generation as well as for hatchery production. The depth of water withdrawl is determined by season and the need for a particular water temperature. GLNFH blends the water from different depths to equalize seasonal temperature variations in the source water in order to create optimal fish culture conditions. Intake water is blended into two supply lines, 20 inches and 30 inches in diameter, leading to GLNFH's water treatment facility. The water treatment facility was designed to treat a flow of 12,000 gallons per minute (GPM). The blended influent water is initially filtered through three 15-20-micron micro-screen filters to remove filterable solids and particulate matter. The drum filters undergo a continual rotation and backwashing of filtered matter resulting in a discharge of 0.228 MGD of associated wastewater through a 14-inch diameter pipe to Reed's Brook, previously designated as Outfall #002A. The filtered influent water then passes through 5 ultraviolet (UV) treatment units of 264 UV bulbs each for disinfection and pathogen treatment. The UV treated water then flows through the two supply lines to the hatchery.

The hatchery is divided into discrete culture units: the main hatchery building and the outside rearing area.

Main Hatchery Building.

The main hatchery building consists of 3 indoor rearing units:
1. broodstock holding area.
2. broodstock rearing/ambient temperature rearing unit.
3. egg incubation area and main fry rearing area.

Broodstock Holding Area. GLNFH obtains approximately 1.1 to 1.3 million "eyed" eggs per year from the Craig Brook National Fish Hatchery (CBNFH) in Orland, Maine. CBNFH supplies GLNFH with Gulf of Maine endangered strain salmon eggs, with the primary focus being the Penobscot and Narraguagus strains at this time. These eggs are used for smolt and domestic broodstock production as well as limited fry production. GLNFH also maintains first generation broodstock in a 57-foot by 24-foot by 10-foot cement raceway in the broodstock holding area as a supply of eggs for local stocking efforts and as an emergency source of the Penobscot River strain. GLNFH produces 1,350 to 2,500 broodstock annually.

2. PERMIT SUMMARY (cont'd)

Broodstock Rearing/Ambient Temperature Rearing Unit. The GLNFH broodstock rearing/ambient temperature rearing unit consists of six 30-foot concrete raceways, seven 5-foot fiberglass circular rearing tanks, and four 6-foot fiberglass semicircular rearing tanks. This area serves as a base for tagging operations with six tagging stations located inside the room. In addition, a heat recovery sump and filter is located in this area. This is part of a heat recovery loop from the juvenile fry rearing area. Most production units are used intermittently for research conducted at this facility, tagging operations, and rearing broodstock.

Egg Incubation Area and Main Fry Rearing Area. Following the water treatment facility, flow passes through an additional in-line UV treatment unit prior to the egg incubation room, which consists of a total of 350 Heath style fiberglass egg incubation trays arranged in four sections. Two sections discharge water that is part of a heat exchange loop. GLNFH adds formalin in the egg incubation trays for approximately 4 weeks from November to January at a concentration of 1,720 parts per million (ppm) to prevent fungus growth. Approximately 130 gallons of formalin containing 37% formaldehyde are used per year for this purpose.

GLNFH incubates a total of 2.4 million eggs annually. Source incubation water may be chilled in the fall to slow egg development and ensure proper fish development until the Green Lake water temperature naturally meets the optimal temperature. Beginning in February and encompassing the incubation and fry rearing stages, the incubation and fry rearing source water is heated from 33 degrees F to 50 degrees F. The eggs hatch in mid March and the fish are transferred to the main fry rearing unit, which consists of fifty-six 6-foot diameter by 2-foot deep circular fiberglass nursery tanks. Water depth in the tanks varies with life stage and the water temperature is maintained at approximately 50 degrees F. The fish begin being fed by approximately April 1.

GLNFH utilizes a heat exchanger to recapture 40-45% of the energy expended during heating. Effluent from the nursery tanks is microscreen filtered, sent to the heat exchanger, then to the facility wastewater settling ponds. The heat exchanger influent is filtered for removal of any organic materials. Heating of source water is discontinued by approximately the third week of May when ambient water temperatures reach 50 degrees F. Beginning the last week in May and extending for approximately four weeks, the fish are transferred from the fry rearing area to the outside rearing area.

2. PERMIT SUMMARY (cont'd)

Outside Rearing Area

As the fish grow, they are subsequently moved outside to 102 circular concrete grow out pools, 34 of which are twenty feet in diameter by 3 feet deep and 68 of which are thirty feet in diameter by 3 feet deep. Water depths are maintained at approximately 18 inches. In mid July in response to the increased size of the fish, GLNFH reduces their densities by transferring fish to vacant grow out pools reserved for this purpose. In September, all fish are graded. The smallest (35%) are stocked out as fall parr in late September or early October, while the largest (65%) are retained to be stocked as spring smolts in April of the following year. GLNFH stocks approximately 350,000 salmon parr each fall and approximately 650,000 salmon smolts each spring. GLNFH maintains approximately 3,500 salmon in the 20-foot diameter pools and approximately 8,000 salmon in the 30-foot pools post-grade. Current hatchery returns produce approximately 15-20 adult returns for every 10,000 smolts released. Seventy percent of all stocked adult Atlantic salmon "returns" in the United States originate from GLNFH.

When tagging fish prior to stocking, GLNFH uses approximately 1 kilogram of anaesthetic MS222, which is discharged in the wastewater flow. GLNFH also utilizes lysol and iodine as disinfectants and formalin and sodium chloride as therapeutic agents. Effluent from the Main Hatchery Building and the Outside Rearing Area flow to a distribution box to the facility wastewater settling ponds and is discharged through Outfall #001A to a section of Reed's Brook directly influenced by Graham Lake. Facility wastewater is treated and discharged as outlined below. Schematic drawings of the physical layout of the facility are included as Fact Sheet Attachment A.

e. Wastewater Treatment:

Flow-through and cleaning wastewaters from the hatchery and rearing facility processes described above are presently routed to six parallel flow 170-foot by 52-foot earthen settling ponds with 3:1 side slopes (horizontal:vertical). The settling ponds provide a total capacity of 969,000 gallons with a retention time of 107 minutes at a flow of 9,000 GPM. Supernatant from the settling ponds is discharged through Outfall #001A, a 30-inch diameter discharge pipe, to a section of Reed's Brook directly influenced by Graham Lake and historically considered by the Department to be part of Graham Lake. GLNFH reports that the maximum feeding periods at the facility occur during September and October each year. GLNFH further reports that the largest amount of feeding waste occurs during May through July when the newly hatched fish are being started on a diet, a critical developmental period. GLNFH has a monthly average discharge limit of 13.3 MGD and a daily maximum discharge limit of 19.4 MGD. The origin of these limits is detailed in Fact Sheet Section 6a, EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS, Flow.

2. PERMIT SUMMARY (cont'd)

Because GLNFH discharges its effluent to a Class GPA water, it was required by State law (38 M.R.S.A., § 465-A.1(C)) to investigate practical alternatives to the discharge, which GLNFH addressed in Green Lake National Fish Hatchery Effluent Treatment Review, prepared by MWH Americas, Inc. and submitted on May 14, 2009. In this review, and the 2001 document, Effluent Water/Waste Treatment Options, Green Lake National Fish Hatchery, Ellsworth, Maine, GLNFH has demonstrated to the Department's satisfaction that it currently has no practical alternative to its wastewater discharge to Graham Lake. However, the facility is able to undertake upgrades to its wastewater treatment infrastructure and processes to affect improvements in effluent quality. The 2009 Review reiterated the 2001 report's findings that the most viable facility improvement options include installing microscreen filtration of the full effluent flow with sludge thickening and removal and supernatant recycling through the microscreen filters to address receiving water quality and technology based effluent limits at GLNFH. GLNFH planned to implement the identified facility upgrades during the term of the previous permitting action and that permitting action established a Schedule of Compliance accordingly. However, federal funding changes made the upgrades impossible during that timeframe. GLNFH expresses the desire to incorporate the identified improvements when funding becomes available. In the interim, this permitting action establishes a Minimum Treatment Technology Requirement (Permit Special Condition L) equivalent to requirements for other fish hatcheries and rearing facilities in Maine.

As outlined in Section 2d, Source Description/ Facility Operation, above, GLNFH filters the facility's influent source water to remove large material that may be present. The drum filters undergo a continual rotation and backwashing of filtered matter, resulting in a discharge of 0.228 MGD of associated wastewater through a 14-inch pipe to Reed's Brook, previously designated as Outfall #002A. On September 28, 2000, based on review of effluent data, the Department suspended the previous flow limit and monitoring requirements for Outfall #002A, considering the discharge of pollutants deminimus.

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:

Graham Lake is classified as a Class GPA water pursuant to Maine law, 38 M.R.S.A., Section 465-A, which also describes the standards for Class GPA waters. Maine law, 38 M.R.S.A., Section 465-A.1(C), states that discharges into Class GPA waters "…*licensed prior to January 1, 1986, are allowed to continue only until practical alternatives exist*". Maine law, 38 M.R.S.A., Section 464.4.A(3), further states that ". . . *the Department may not issue a water discharge license for . . . any discharge into a tributary of GPA waters that by itself or in combination with other activities causes water quality degradation that would impair the characteristics and designated uses of downstream GPA waters or causes an increase in the trophic state of those GPA waters*".

5. RECEIVING WATER QUALITY CONDITIONS:

The State of Maine 2008 *Integrated Water Quality Monitoring and Assessment Report* (DEPLW0895), prepared pursuant to Sections 303(d) and 305(b) of the Federal Water Pollution Control Act contains lists of waters in Maine that are attaining water quality standards as well as those that are impaired. Category 4-C, Lake Waters with Impairment not Caused by a Pollutant, lists Graham Lake (Hydrologic Unit Code ID ME0105000212, Lake ID 4350, 7,865-acres) as in non-attainment based on impacts to aquatic life caused by an annual drawdown, which affects habitat through both dewatering of the littoral zone as well as increased turbidity of the pelagic habitat. According to the report, Graham Lake was last visited by the Department in 2004 and is anticipated to be visited again in 2009. All freshwaters in Maine are listed as only partially attaining the designated use of recreational fishing due to a fish consumption advisory (Category 5-C). The advisory was established in response to elevated levels of mercury in some fish caused by atmospheric deposition. The Department has no information at this time that GLNFH causes or contributes to the non-attainment status of Graham Lake. As the impairment is not caused by a pollutant, there is no Total Maximum Daily Load analysis planned for Graham Lake at this time.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS:

Pursuant to Maine Law (38 M.R.S.A., §414-A.1), the Department shall only authorize discharges to Maine waters when those discharges, either by themselves or in combination with other discharges, "*will not lower the quality of any classified body of water below such classification*". Further, "*the discharge will be subject to effluent limitations that require application of the best practicable treatment*". "*Best practicable treatment* (BPT) *means the methods of reduction, treatment, control and handling of pollutants, including process methods, and the application of best conventional pollutant control technology or best available technology economically available, for a category or class of discharge sources that the department determines are best calculated to protect and improve the quality of the receiving water and that are consistent with the requirements of the Federal Water Pollution Control Act" (40 CFR). "If no applicable standards exist for a specific activity or discharge, the department must establish limits on a case-by-case basis using best professional*

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

judgement…" considering "*…the existing state of technology, the effectiveness of the available alternatives for control of the type of discharge and the economic feasibility of such alternatives…*". Pursuant to 38 M.R.S.A, §414-A.1 and §464.4, the Department regulates wastewater discharges through establishment of effluent limitations and monitoring requirements that are protective of Maine waters.

At the time of the previous permitting action, the Department undertook to revise its wastewater discharge permitting program for fish hatcheries and rearing facilities to provide for establishment of scientifically valid and consistently applied effluent limitations, monitoring and operational requirements based on the Department's best professional judgement (BPJ) of best practicable treatment (BPT) or site specific water quality conditions. This permitting action represents a continuance of that process based on observations and analyses conducted for GLNFH and other facilities since issuance of the previous permitting actions.

a. Flow: The previous permitting action carried forward a daily maximum flow limitation of 19.4 MGD and established a monthly average flow limitation of 13.3 MGD for Outfall #001A. Both of the flow limitations were representative of the design capacity of the facility, with the new monthly average limit based upon GLNFH's maximum daily discharge flow and a projected increase for a new Penobscot River sea-run broodstock salmon housing facility. The salmon in the Penobscot facility are not fed, therefore it added only a relatively small amount of flow and not additional pollutants, which would not be permitted in a discharge to a GPA water. In other fish hatchery and rearing facilities licensed by the Department, effluent flow is limited only through a monthly average flow limit. However, GLNFH notes, "*in light of the recent endangered listing of the Penobscot River Strain Atlantic salmon there may be the potential to increase production at this facility*". Based on GLNFH's request, both the monthly average and daily maximum flow limits are being carried forward in this permitting action. The daily flow measurement requirement is being carried forward from the previous permitting action, consistent with Department guidelines for wastewater treatment facility discharges.

   A review of the Discharge Monitoring Report (DMR) data for the GLNFH facility for the period of March 2004 through March 2009 indicates the following.

EFFLUENT FLOW

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	13.3 MGD	2.0 MGD	12.5 MGD	9.4 MGD	59
Daily Max.	19.4 MGD	4.3 MGD	13.0 MGD	10.4 MGD	59

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

b. Dilution Factors: GLNFH discharges its treated effluent to a section of Reed's Brook directly influenced by Graham Lake and historically considered by the Department to be part of Graham Lake. The Department has made the determination that the dilution factors associated with the discharge shall be calculated in accordance with freshwater protocols established in Department Regulation Chapter 530, *Surface Water Toxics Control Program*, October 2005. To calculate potential effects from a facility's effluent discharge, the Department utilizes the receiving water's available dilution during low flow conditions. Low flow conditions at GLNFH occur during the regular winter draw down of Graham Lake at which time Reed's Brook offers the only effluent dilution. From the Green Lake Hydropower Project's Water Quality Certification Order (MEDEP #L-8582), dated July 13, 1983, the required minimum flow to Reed's Brook is 1 cubic foot per second (cfs). The minimum flow requirement of 1 cfs therefore constitutes low flow conditions in Reeds' Brook. With a daily maximum permitted discharge of 19.4 MGD, dilution calculations are as follows*:*

$$\text{Acute 1Q10} = 1 \text{ cfs} \quad \Rightarrow \frac{(1.0 \text{ cfs})(0.6464) + 19.4 \text{ MGD}}{19.4 \text{ MGD}} = 1.03{:}1 \text{ dilution}$$

c. Biochemical Oxygen Demand (BOD_5) & Total Suspended Solids (TSS): The previous permitting action established monthly average and daily maximum concentration limits of 6 mg/L and 10 mg/L respectively for BOD_5 and TSS based on Department Best Professional Judgement (BPJ) of Best Practicable Treatment (BPT). These limits were based on recommendations included in USEPA's 2002 proposed draft National Effluent Guidelines for TSS from fish hatchery wastewater receiving a secondary level of treatment, the Department's long-standing view of the relationship with and significance of BOD, and consideration of effluent quality from facilities utilizing the Department's BPJ of minimum treatment technology. Mass limits were calculated based on the average and maximum effluent flow limits, appropriate concentration limit, and a standard conversion factor. The previously established BOD_5 and TSS concentration and mass limits are being carried forward in this permitting action.

A review of the DMR data for the GLNFH facility for the period of March 2004 through March 2009 indicates the following.

BOD MASS

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	665 lbs/day	60 lbs/day	225 lbs/day	166 lbs/day	57
Daily Max.	1,618 lbs/day	78 lbs/day	317 lbs/day	186 lbs/day	57

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

BOD CONCENTRATION

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	6 mg/L	<2 mg/L	4 mg/L	<2.1 mg/L	57
Daily Max.	10 mg/L	<2 mg/L	12 mg/L	<2.4 mg/L	57

TSS MASS

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	665 lbs/day	60 lbs/day	228 lbs/day	167 lbs/day	59
Daily Max.	1,618 lbs/day	78 lbs/day	299 lbs/day	187 lbs/day	59

TSS CONCENTRATION

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	6 mg/L	<1.7 mg/L	2.7 mg/L	<2.1 mg/L	59
Daily Max.	10 mg/L	<2 mg/L	6.5 mg/L	<2.4 mg/L	58

The previous permitting action established requirements for BOD_5 and TSS monitoring at a minimum frequency of once per week. Based on the review of effluent monitoring conducted to date, this permitting action revises the minimum required monitoring frequency to twice per month based on Department BPJ.

d. Total Phosphorus: 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. Any increase in the phosphorus content of a lake has the potential to cause or contribute to an increase in trophic state of the lake, contrary to Maine law (38 MRSA § 464.4.A.3), which states that *"…the Department may not issue a water discharge license for…any discharge into a tributary of GPA waters which by itself or in combination with other activities causes…an increase in the trophic state of those GPA waters"*. As previously stated, pursuant to Maine Law (38 M.R.S.A., §414-A.1), the Department shall only authorize discharges to Maine waters when those discharges, either by themselves or in combination with other discharges, "*will not lower the quality of any classified body of water below such classification"*. The amount of any pollutant, including phosphorus, in a discharge must not contribute, now or in the future, to an increase in the trophic state of the lake or otherwise cause or contribute to nonattainment of the class standards.

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

In implementation of this standard, which is also applied to changes of land use in lake watersheds in section 465-A, the Department has recognized (1) that most lakes can accept some small increment of increased phosphorus load before they will demonstrate a perceivable increase in trophic state, and (2) that this increment would more likely be the result of the cumulative loading from a number of sources and not be provided by one source. This is the basis for the phosphorus technical guide (Phosphorus Control in Lake Watersheds: A Technical Guide for Evaluating New Development. DEP, 1992), which is used under Department Regulation, Chapter 500, Stormwater Management, the Site Location of Development Law (38 MRSA, §§ 481-490), and many town land use ordinances to define a maximum allowable increase in phosphorus load to each lake which will not risk a perceivable increase in trophic state; and to distribute that increase among proposed and anticipated development activities in the lake's watershed.

The 1992 phosphorus technical guide defines the maximum increment of increased phosphorus content that will not risk a perceivable increase in lake trophic state. This "acceptable increase in phosphorus concentration" is a function of the lake's current water quality, its potential for developing a significant phosphorus recycling problem, and whether or not it supports, or has the potential to support, a coldwater fishery. An indepth description of the model assumptions and methodology is provided in the Fact Sheet of the previous permitting action.

USFWS Hatchery, Green Lake, tributary to Graham Lake

According to the Department's Division of Watershed Management at the time of development of the previous permitting action, Graham Lake is a large (7,865 acres), relatively shallow, impounded lake on the Union River in Ellsworth. It is managed as a warmwater fishery. It is a fairly productive lake that is often clouded by wind re-suspension of sediment from the shallow areas of the lake. Its water quality category is moderately stable with a medium level of protection, resulting in an allowable increase in lake phosphorus concentration of up to 1.25 ppb. The allowable increase in annual load to the lake is 2,178 lbs/yr (989 kg/yr). Growth in the watershed is low so the allocation for point sources would be 0.20 X 2,178 lbs/yr = 436 lbs/yr (197.7 kg/yr).

However, this analysis assumed that Graham Lake would react like most other lakes to changes in its phosphorus load - that its trophic state would increase with an increase in phosphorus load and decrease with a decrease in phosphorus load. If this were in fact the case, as it most definitely is for other lakes such as Alamoosook Lake, the site of another federal fish hatchery, then the suggested 436 lbs/yr phosphorus limit would be an appropriate goal for the hatchery's discharge. However, review of the limited water quality data the Department had on Graham Lake at the time suggested that the lake does not responding to its phosphorus load in the same way that most lakes do.

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

These data imply that Graham Lake behaves differently from other lakes in at least two ways. First, its phosphorus is not being converted to algal biomass nearly as efficiently as in most lakes. Second, something other than algal biomass seems to be controlling the clarity of the lake water as reflected by its secchi disc values. Two factors somewhat unique to Graham Lake may help explain this apparent phenomenon.

First, Graham Lake is highly colored as evidenced by collected water quality data. The Department knows from historic analysis of all of its lake data that, for a number of potential reasons, a given phosphorus concentration will tend to yield a lower algal biomass and associated chlorophyll concentration in a highly colored lake than it would in a lake with a relatively low dissolved color reading.

The second, and probably more important factor in the ecology of Graham Lake, is that due to (1) its shallowness, (2) its exposure to a long fetch of wind from many directions, and (3) the accumulation of many fine sediments in its shallow north end, it is particularly prone to re-suspension of bottom sediments during moderate to heavy winds. This results in high levels of turbidity that, unlike most other lakes, are not a function of algal biomass. Also, reduced light penetration as a result of high concentrations of suspended inorganic sediment may limit the phytoplankton community's ability to take advantage of the available phosphorus.

The Department recognizes that the water source, Green Lake, contains ambient levels of phosphorus that would naturally enter the receiving water, Graham Lake. The Department calculated GLNFH's total allowable phosphorus discharge, including background levels of phosphorus in the source water, to be 731 lbs/yr strictly according to the Department's standard model. However, as noted above, the Department recognized that Graham Lake does not fit the standard model. In the previous permitting action, the Department established a Schedule of Compliance for phosphorus effluent limits to become effective on January 1, 2007, with the limit to consist of either the calculated (standard model) limit above or modified limits developed pursuant to monitoring conducted in a Graham Lake Water Quality Study. Ambient water quality monitoring was subsequently conducted in Graham Lake for two years to explore the relationship between water quality conditions and phosphorus conversion in Graham Lake. Data collected was to be used to compliment existing Graham Lake data in review of modeling assumptions and effluent phosphorous limits established in the permit.

Collected ambient and effluent monitoring data was reviewed by the Department's Divisions of Watershed Management and Water Quality Management. The Department determined that the discharge of current (2006) average phosphorus loads from GLNFH will not impair the characteristics and designated uses or cause an increase in the trophic state of Graham Lake under its current water level management practices. If these water level management practices change in the future, this determination may be revisited and effluent limits and monitoring requirements modified as necessary. The USFWS analyzed facility effluent data and identified an historical average annual phosphorus mass discharge from GLNFH of

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

1,426 lbs/year. Based upon a review of ambient water quality data and effluent data collected since issuance of GLNFH's 2004 MEPDES Permit, on August 2, 2006 pursuant to an Administrative Modification, the Department revised GLNFH's annual phosphorus limit from 731 lbs/year to 1,426 lbs/year.

This permitting action carries forward the annual maximum phosphorus discharge limit of 1,426 lbs/year, the reporting requirement of total lbs of phosphorus per month, and the monthly average and daily maximum concentration limits from the 2006 Permit Modification. The minimum required monitoring frequency of once per week is also being carried forward.

A review of the DMR data for the GLNFH facility for the period of March 2004 through March 2009 indicates the following.

PHOSPHORUS MASS

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Total	Report lbs	0.27 lbs/mon.	284 lbs/mon.	123 lbs/mon.	59
Annual Total	1,426 lbs	1,113 lbs/yr	1,633 lbs/yr	1,391 lbs/yr	5

PHOSPHORUS CONCENTRATION

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	Report mg/L	0.027 mg/L	0.4 mg/L	0.064 mg/L	59
Daily Max.	Report mg/L	0.028 mg/L	0.9 mg/L	0.10 mg/L	59

e. Fish on Hand: This permitting action is carrying forward the reporting requirement for monthly average and daily maximum mass of fish on hand. This parameter is intended to enable both the Department and the permittee in evaluating management practices at the facility and trends in effluent quality and receiving water impacts. This permitting action is also carrying forward the required minimum monitoring frequency of once per week based on the Department's BPJ of monitoring frequencies necessary to accurately characterize facility effluent conditions.

A review of the DMR data for the GLNFH facility for the period of March 2004 through March 2009 indicates the following.

FISH ON HAND

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	report lbs/day	6,505 lbs/day	103,241 lbs/day	59,690 lbs/day	57
Daily Max.	report lbs/day	8,902 lbs/day	109,335 lbs/day	67,314 lbs/day	57

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

f. Formalin**:** Fish hatcheries and rearing facilities commonly use formalin based biocides for therapeutic treatment of fungal infections and external parasites of finfish and finfish eggs. The previous permitting action established monthly average mass and concentration reporting requirements and daily maximum mass and concentration limits for formalin with a required minimum monitoring frequency requirement of once per week and guidance for calculating the levels of effluent formalin. The previous permitting action also established a schedule of compliance for implementation of the toxicity (water quality) based formalin limits, as they were more restrictive than limits established in the immediately preceding licensing action. For the previous permitting action, as existing studies revealed significant variability in formalin toxicity, the MEDEP undertook its own investigation to determine appropriate limitations, contracting with a commercial laboratory for Whole Effluent Toxicity (WET) testing on *Ceriodaphnia dubia* for 48-hour acute toxicity, pursuant to standard methods. Pursuant to MEDEP's long standing goal of 100% survival of the test species, Lotic Inc. identified a BPJ of ambient water quality criteria (AWQC) of 1.56 mg/L. The 1.56 mg/L BPJ of AWQC was multiplied by the facility's acute (1Q10) ambient to effluent dilution to calculate concentration limits under acute critical low flow conditions. Mass limits were calculated based on the calculated concentration limit, multiplied by the daily maximum discharge flow over the projected 4-hour treatment period, then multiplied by a conversion factor of 9.13 lbs/gallon representing the weight of formalin. Though standard methods and assumptions were utilized in the Lotic study, realistically no facilities utilize formalin for 48-hours continuously. Thus, using the standard methods and assumptions appeared to overestimate impacts to aquatic life. In 2008, the Maine Department of Inland Fisheries and Wildlife (MDIFW) provided results of its study of acute toxicity at more targeted time frames of less than 48-hours, typical of rearing facility operations.

MDIFW utilized statistical "bootstrapping" to lend greater statistical significance to the data set. These results were reviewed by MEDEP and determined to represent a more appropriate means of establishing toxicity based effluent limits for formalin. Simultaneously, MEDEP revised its survival goals to 95% of test species to correspond with toxicity work conducted by USEPA. A MEDEP biologist noted, "*the basis for all of EPA's ambient water quality criteria for aquatic life (is) to protect 95% of the species*" and determined that using the 5th percentile of MDIFW's 1-hour exposure data "*gives an equivalent amount of protection to aquatic life*." Based on this, in 2008 the Department developed a revised BPJ of AWQC of 45 mg/L based on a one hour treatment, typical of hatchery and rearing facility discharges. Under emergency conditions, it is acknowledged that additional rearing structures may need to be treated, causing formalin discharges to extend beyond the typical one hour period. To accommodate this, the Department also developed a BPJ of AWQC of 25 mg/L based on a maximum 24-hour treatment period. Such emergency treatments and discharges must be conducted no more frequently than once every four days to ensure the average formalin concentration does not exceed the 5th percentile level. Based on this research, the Department revised GLNFH's MEPDES Permit / Maine WDL on October 10, 2008, revising hatchery and rearing station permit concentration limits for formalin.

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

In this permitting action, the Department is utilizing the same procedure to calculate formalin concentration limits. These calculations utilize a 1-hour exposure criteria typical of normal treatment operations, a 24-hour exposure criteria to accommodate emergency treatment conditions, and the 1.03:1 effluent to ambient acute dilution applicable to this facility and its receiving water.

45 mg/L (1-hour acute criteria) x 1.03 (effluent dilution) = 46 mg/L formalin limit.
25 mg/L (24-hour acute criteria) x 1.03 (effluent dilution) = 26 mg/L formalin limit.

The previously established daily maximum formalin mass limit of 46 lbs/day, developed pursuant to Department Rules, Chapter 523.6(f) based on projected use at GLFNH, is being carried forward in this permitting action. It must be noted that the concentration and mass limits are derived separately and that compliance with one does not guarantee compliance with the other. Throughout the term of the permit, the permittee shall report the monthly average effluent formalin mass and concentration. Effluent values shall be determined through calculations, as described below.

This permitting action is establishing effluent limitations and monitoring requirements for formalin, as this is the commonly used form, and not for formaldehyde. The Department is requiring GLNFH to report therapeutic agents used at the facility that have the potential to be discharged to the receiving water.

A review of the DMR data for the GLNFH facility for the period of March 2004 through March 2009 indicates the following.

FORMALIN MASS

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.					
1-hr treatment	report lbs/day	7.2 lbs/day	23 lbs/day	14.6 lbs/day	19
24-hr treatment	report lbs/day				
Daily Max.					
1-hr treatment	46 lbs/day	7.2 lbs/day	27 lbs/day	16.7 lbs/day	19
24-hr treatment	46 lbs/day				

FORMALIN CONCENTRATION

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.					
1-hr treatment	report mg/L	0.8 mg/L	2.4 mg/L	1.5 mg/L	19
24-hr treatment	report mg/L				
Daily Max.					
1-hr treatment	46 mg/L	0.8 mg/L	2.9 mg/L	1.7 mg/L	19
24-hr treatment	26 mg/L				

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

Effluent levels of formalin can be calculated based on the amount of formalin used at the facility for hatchery, rearing, and broodstock functions and the dilution available in large wastewater settling structures and through mixing in the total facility waste-stream. Previously, the Department developed methods for calculating effluent formalin concentrations and mass values utilizing the varying treatment concentrations in the different facility functions and various internal dilutions provided within the facility. In this permitting action, the Department is providing a more simplified recommendation that utilizes the total mass of formalin used for all functions during the treatment period and the dilutions described above during the same time period. The facility may propose alternative methods for Department review and approval. Effluent formalin values must be calculated upon each use at the facility.

In this example, a facility adds approximately 0.172-gallons (650 ml) of undiluted formalin directly to each line of hatchery egg troughs to achieve the desired dose during a 15-minute treatment period. The hatchery facility uses a maximum of 6 lines of egg troughs for treatment at a time. The hatchery facility wastewater joins with the total facility wastewater prior to discharge to the receiving water. With a total facility discharge flow of 3.0 MGD, the flow during the 15-minute treatment period equates to 31,250-gallons (3.0 MGD / 24-hours / 4) available for dilution of the 1.03 gallons of formalin administered (0.172 gal x 6 troughs). The combined wastewater flow is then discharged to the receiving water. The end of pipe concentration from egg treatments can be calculated as follows, using 1 million parts per million to provide for the concentration of undiluted formalin.

31,250-gal wastewater / 1.03 gal formalin = 30,340:1 dilution
1,000,000 ppm (undiluted) formalin / 30,340 = 33 ppm formalin discharged

For treatments on fish in rearing structures, the same facility adds approximately 6-gallons of undiluted formalin at the head of raceway pools by drip and allows it to flow through the entire line over a one hour period. As in the example above, the rearing facility wastewater joins with the total facility wastewater prior to discharge to the receiving water. With a total facility discharge flow of 3.0 MGD, the flow during the one hour treatment period equates to 125,000-gallons (3.0 MGD / 24-hours) available for dilution of the 6.0 gallons of formalin administered. The combined wastewater flow is then discharged to the receiving water. The end of pipe concentration from fish treatment can be calculated as follows:

125,000-gal rearing facility wastewater / 6 gal formalin = 20,833:1 dilution
1,000,000 ppm (undiluted) formalin / 20,833 = 48 ppm formalin discharged

These examples consider hatchery and rearing facility treatments to be conducted on different occasions. If multiple treatments occur simultaneously, the total amount of formalin must be considered in calculating the end of pipe concentration. For brevity, these examples do not include a broodstock function, which would be calculated in a similar manner. If extended period pool treatments are conducted at the facility, the time

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

during which the pool volume is discharged into the facility waste-stream should be used to determine an appropriate dilution volume instead of the time the formalin is added to the pool. Also, these examples utilized a facility that discharges its effluent without significant wastewater settling. If the facility used a 500,000-gallon settling basin, the rearing facility discharge under the one-hour discharge scenario could be analyzed as follows.

125,000-gal rearing facility wastewater / 6 gal formalin = 20,833:1 dilution
500,000-gal basin volume / 125,000 combined wastestream = 4:1 dilution
1,000,000 ppm (undiluted) formalin / 20,833 / 4 = 12 ppm formalin discharged

Use of the settling basin volume as an additional dilution is only applicable for the one-hour treatment scenario. Under a greater period of time of treatment and discharge, the additional settling volume becomes part of the facility infrastructure and the total facility discharge flow is used. It must be noted that to obtain an accurate end-of-pipe calculation, each facility must utilize accurate amounts of formalin used for all treatment functions, accurate volumes of the facility's effluent flow during the treatment period, and accurate volumes of water within any large settling structures. Effluent flow limits and design criteria can not be used. These examples illustrate end-of-pipe (EOP) concentrations, which would be further diluted depending upon the facility's effluent dilution in the receiving water. If a facility receives a 3:1 effluent dilution in the receiving water, the calculated EOP concentration should be divided by three to provide the concentration in the receiving water after mixing.

g. pH: This permitting action is carrying forward the daily maximum pH range limit of 6.0 – 8.5 standard units (su), considered by the Department as a best practicable treatment standard for fish hatcheries and rearing facilities and consistent with the pH limit established in discharge permits for these facilities. This permitting action carries forward the minimum pH monitoring frequency requirement of once/week to provide for characterization of facility effluent conditions.

A review of the DMR data for the GLNFH facility for the period of March 2004 through March 2009 indicates the following.

pH range

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	---	5.9 s.u.	6.8 s.u.	---	59
Daily Max.	6.0-8.5 s.u.	6.0 s.u.	7.0 s.u.	---	59

7. ALTERNATIVE DISCHARGE STUDY

Maine Law, 38 M.R.S.A., § 465-A.1(C), states that discharges into Class GPA waters *"…licensed prior to January 1, 1986, are allowed to continue only until practical alternatives exist"*. The previous permitting action required GLNFH to conduct and submit a study of alternatives to the discharge of hatchery wastewater to Graham Lake on or before six-months prior to expiration of the permit. On May 14, 2009, GLNFH submitted Green Lake National Fish Hatchery Effluent Treatment Review, prepared by MWH Americas, Inc. In this review, and the 2001 document, Effluent Water/Waste Treatment Options, Green Lake National Fish Hatchery, Ellsworth, Maine, GLNFH has demonstrated to the Department's satisfaction that it currently has no practical alternative to its wastewater discharge to Graham Lake. However, the facility is able to undertake upgrades to its wastewater treatment infrastructure and processes to affect improvements in effluent quality. The 2009 Review reiterated the 2001 report's findings that the most viable facility improvement options include installing microscreen filtration of the full effluent flow with sludge thickening and removal and supernatant recycling through the microscreen filters to address receiving water quality and technology based effluent limits at GLNFH. GLNFH planned to implement the identified facility upgrades during the term of the previous permitting action and that permitting action established a Schedule of Compliance accordingly. However, federal funding changes made the upgrades impossible during that timeframe. GLNFH expresses the desire to incorporate the identified improvements when funding becomes available. In the interim, this permitting action establishes a Minimum Treatment Technology Requirement (Permit Special Condition L) equivalent to requirements for other fish hatcheries and rearing facilities in Maine.

In keeping with the requirements of 38 M.R.S.A., § 465-A.1(C) and as described in Permit Special Condition G, on or before six-months prior to expiration of this permit, GLNFH is required to submit to the Department for review, an Alternative Discharge Study (ADS) report for the GLNFH facility to determine if practical alternatives to the discharge exist. The ADS report shall evaluate wastewater treatment infrastructure, technologies, practices or other modifications that will result in the elimination of the discharge to the receiving water or improvement in the effluent quality.

Alternative Discharge Studies (ADS) typically evaluate the technical feasibility, estimated costs, and potential environmental impact from alternatives that will result in elimination of a discharge to a receiving water. Such alternatives include, but are not limited to, piping the discharge to a less restrictive receiving water, connecting the discharge to a municipal wastewater treatment facility, and constructing storage capacity and land applying effluent. The study shall include a material and cost breakdown of each identified option, additional equipment necessary, any needed real estate purchases or easements, and other issues and expenses. If no practical alternative for elimination of the discharge exists, then the ADS shall also evaluate modifications to existing wastewater treatment infrastructure and practices that will result in improvement of the effluent quality, such as additional or alternative treatment technology or methods, operational changes, seasonal modifications, discharge reduction, etc.

8. SETTLING POND 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.

This permitting action carries forward requirements that the permittee must clean any settling structures at a minimum when accumulated materials occupy 20% of a basin's capacity, when material deposition in any area of the basin 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.

9. 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."* This permitting action carries forward requirements that the permittee 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, in addition to the requirements of the rules, the permittee shall notify the Department in writing within 24-hours of detection, with information on necessary control measures and the veterinarian involved. The permittee shall submit to the Department for review and approval, 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. If, upon review of information regarding a treatment pursuant to this section, the Department determines that significant adverse effects are likely to occur, it may restrict or limit such use.

10. THERAPEUTIC AGENTS:

In the June 30, 2004, USEPA Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category (National Effluent Guidelines), EPA requires proper storage of drugs, pesticides and feed and requires facilities to report use of any investigational new animal drug (INAD), extra-label drug use, and spills of drugs, pesticides or feed that results in a discharge to waters of the U.S. This permitting action carries forward the previous requirements that all medicated fish feeds, drugs, and other fish health therapeutants shall be approved by the US Food and Drug Administration (USFDA) and applied according to USFDA accepted guidelines and manufacturer's label instructions and that therapeutic agents must also be registered with USEPA, as appropriate. Further, records of all such materials used must be maintained at the facility for 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 of 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.

This permitting action does not authorize the discharge of drugs authorized by the USFDA pursuant to the Investigational New Animal Drug (INAD) program. As the INAD program typically involves the long-term study of drugs, their benefits and effects, the permittee is anticipated to be able to notify the Department of its intent to conduct, and provide information related to, such study. The permittee is required to provide notification to the Department for review and approval prior to the use and discharge of any drug pursuant to the INAD program. This notification must include information to demonstrate that the minimum amount of drug necessary to evaluate its safety, efficacy, and possible environmental impacts will be used. Notifications must also include 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. The program must consider the possible effects on the water column, benthic conditions and organisms in or uses of the surrounding waters. INAD related uses and discharges will be subject to Department review and approval.

Formalin: Effluent limitations and monitoring requirements related to the use of formalin at the facility are addressed in Permit Special Condition 6, EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS, Formalin, above.

10. THERAPEUTIC AGENTS (cont'd)

Sodium Chloride: GLNFH uses sodium chloride (NaCl) as a fish "salt dip" to treat for fungus or bacteria. GLNFH estimates a maximum use of 28,880 pounds of salt per year at the facility. On the average, 160 pounds of salt are added to a 30-foot diameter circular grow out pool, with a maximum of six pools treated per day (960 lbs/day maximum). The salt would be diluted in the full facility waste-stream (13.3 MGD) prior to discharge to the receiving water. The concentration in the effluent can be calculated as follows:

960-lbs NaCl divided by 13.3 million gals divided by 8.34 lbs/gal = 8.7 ppm salt.

The average concentration of NaCl in seawater is estimated at 35 parts per thousand (ppt) or 35,000 ppm. The Department's Division of Environmental Assessment (MEDEP DEA) reports that sampling results in Maine marine waters indicate salinity levels of approximately 30 ppt or 30,000 ppm. The MEDEP DEA further reports that instream NaCl levels of between 1 and 5 ppt (1,000 and 5,000 ppm) can potentially result in harm to freshwater aquatic life. In that the effluent NaCl concentrations are anticipated to fall significantly below the 1,000 ppm level of concern, the Department is not establishing specific limitations or monitoring requirements for NaCl in this permitting action. Instead, use of NaCl shall be consistent with the use and record keeping requirements for therapeutic agents specified above.

11. DISINFECTING/SANITIZING AGENTS:

GLNFH reports that it uses iodine for egg disinfection as well as to sanitize the fish stocking truck at the end of the season. Wastewater from both of these processes enters the facility wastewater stream and is subsequently discharged to Graham Lake. The disinfection process involves use of a maximum of 100 gallons per year (1.75% active) at a concentration of 25 ppm iodine solution. The sanitation process involves use of a maximum of 2 gallons per year (1.0% active) at a concentration of 100 ppm iodine solution. Both of these uses are intermittent in nature and receive the full dilution of GLNFH's six setting basins and monthly average discharge flow of 13.3 MGD. The Department considers this discharge to be deminimus in nature and therefore establishes no iodine-specific effluent limitations or monitoring requirements. GLNFH also reports that it uses approximately 4-gallons of Lysol sanitizer per year (10% active) at a concentration of 200 ppm, however the Department considers this use to be a deminimus discharge as well. In this permitting action, the Department carries forward the requirement that the permittee must maintain records of all sanitizing agents and/or disinfectants used that have the potential to enter the waste-stream or receiving water, their volumes and concentrations as used and concentrations at the point of discharge, at the facility for a period of five years. This permitting action only authorizes the discharge of those materials applied for, evaluated by the Department, and either regulated or determined to be deminimus in this permitting action or in subsequent Department actions. The discharges of any other agents or waste products not specifically included in this permitting action are considered unauthorized discharges pursuant to Permit Special Condition C.

12. MINIMUM TREATMENT TECHNOLOGY REQUIREMENT:

Between 2000 and 2002, eleven Maine fish hatcheries were evaluated to identify potential options for facility upgrades. All nine Maine Department of Inland Fisheries and Wildlife hatcheries were evaluated by FishPro Inc., while the two USFWS hatcheries were evaluated by the Freshwater Institute. Recommended wastewater treatment upgrades for each of the facilities included microscreen filtration of the effluent. In the previous permitting action, based on the information provided and Department BPJ, the Department required that the permittee shall provide minimum treatment technology for the GLNFH facility that shall consist of treatment equal to or better than 60-micron microscreen filtration of the effluent, wastewater settling/clarification, and removal of solids. This determination is being carried forward in this permitting action. The GLNFH shall provide treatment and/or effluent quality equal to or better than the BPJ minimum treatment technology and shall comply with all effluent limitations, monitoring requirements, and operational requirements established in this permitting action. Additional treatment may be necessary to achieve specific water quality based limitations.

13. SALMON GENETIC INTEGRITY AND ESCAPE PREVENTION:

The US Fish and Wildlife Service and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) formally listed the Atlantic salmon as an endangered species on November 17, 2000. In that decision, the Gulf of Maine Distinct Population Segment (DPS) encompassed all naturally reproducing remnant populations of Atlantic salmon downstream of the former Edwards Dam site on the Kennebec River northward to the mouth of the St. Croix River. The watershed structure, available Atlantic salmon habitat, and abundance of Atlantic salmon at various life stages were best known for the following eight rivers: Dennys River, East Machias River, Machias River, Pleasant River, Narraguagus River, Ducktrap River, Sheepscot River, and Cove Brook. On June 15, 2009, the two agencies expanded the Gulf of Maine DPS to include salmon in the Penobscot, Kennebec, and Androscoggin Rivers and their tributaries. Two significant issues of concern regarding the rearing of salmon in Maine involve the genetic integrity of the salmon and escape prevention to avoid impacts on native fish.

On December 4, 2000, in regard to the Department's pending delegation to administer the NPDES Permit Program, USEPA Region I informed the Department that "*permits issued to freshwater hatcheries raising salmon will require that the facility be designed or modified to achieve zero escapement of fish from the facility*". The EPA also stated, "*The information contained in the* (US Fish and Wildlife and NOAA Fisheries) *Services' listing documents indicates that a remnant population of wild Atlantic salmon is present in…*" Maine waters "*…and that salmon fish farms and hatcheries are activities having a significant impact on the…*" Gulf of Maine Distinct Population Segment of Atlantic salmon "*…through, among other things, the escape of farmed and non-North American strains of salmon which may interbreed with the wild Maine strains, compete for habitat, disrupt native salmon redds, and spread disease." "Based on this information, the Services have concluded that the escape of farm-raised salmon from fish farms and hatcheries is likely to significantly impair the*

13. SALMON GENETIC INTEGRITY AND ESCAPE PREVENTION (cont'd)

growth, reproduction and habitat of wild salmon, thereby impairing the viability of the DPS." "EPA has analyzed current information, including these findings, and based on this information believes that this remnant population constitutes an existing instream use of certain Gulf of Maine rivers and considers that the above-described impacts to the population would be inconsistent with Maine's water quality standards. Assuming the information discussed above does not significantly change, EPA will utilize its authorities to ensure compliance with Maine water quality standards by ensuring that conditions to protect the remnant population of Atlantic salmon are included in NPDES permits for salmon fish farms and hatcheries, which are subject to regulation as concentrated aquatic animal production facilities." "In view of the substantial danger of extinction to the DPS described by the Services, it is EPA's view that proposed permits authorizing activities that would adversely affect the population, as described earlier in this letter, would be inconsistent with Maine's water quality standards and objectionable under the CWA."

Leading up to the 2000 listing and in review of MEPDES Permit / Maine WDLs for other fish hatchery and rearing facilities in Maine, the USFWS and NOAA Fisheries have advocated for genetic testing of Atlantic salmon housed at hatchery and rearing facilities to ensure that they are of North American origin, as well as employment of a fully functional Containment Management System (CMS) at facilities to prevent the escape of raised salmon or other species of concern in order to avoid impacts on native fish populations. The escape of reared fish also has the potential for transmission of diseases and pathogens to native fish populations. These issues are of particular concern for the Gulf of Maine DPS. GLNFH discharges its effluent to Graham Lake (impounded), which flows into the Union River / Leonard Lake (impounded) and then Union River Bay, which is within the Gulf of Maine DPS.

The previous permitting action did not require genetic testing of salmon at GLNFH or a CMS due to the established genetic legacy of Atlantic salmon reared at GLNFH for the purpose of restoring salmon populations and the extensive fish health procedures employed at the facility. GLNFH was established to propagate sea run Atlantic salmon for stocking in rivers within the Gulf of Maine Ecosystem. GLNFH specifically raises Atlantic salmon of the Penobscot River and other endangered genetic strains.

On these issues, the USFWS has "…*concluded that a CMS does not need to be a permit requirement for Green Lake. Consequently, we are not recommending that MEDEP include a permit requirement for a Containment Management System. Because the salmon raised at Green Lake NFH are all part of the Gulf of Maine Distinct Population Segment, an escaped fish does not pose the genetic risk to wild salmon that an aquaculture salmon poses. Because Green Lake NFH's purpose is to support recovery of the GOM DPS of Atlantic salmon and current requests for fish to stock in the wild exceed the capacity of the hatchery, Green Lake already pays great attention to escapement issues. As for the potential risk posed by disease transmission from the hatchery to salmon in the wild, Green Lake NFH currently meets or exceeds fish health sampling requirements of the New England Fish Health Committee and the State of Maine Fish Health Guidelines. The potential of exposure to a wild salmon from a*

13. SALMON GENETIC INTEGRITY AND ESCAPE PREVENTION (cont'd)

disease outbreak in the hatchery is very minimal given the current status of wild salmon in the Union River watershed. In recent years only single numbers of wild salmon have been captured at the Ellsworth Dam. In some years there are no salmon trapped at the dam. These adults salmon are trucked and released well upstream of Green Lake NFH. Although there is the possibility of a wild salmon migrating downstream through Graham Lake to encounter a disease organism released from Green Lake, this probability is very remote given the very low numbers of wild salmon and the extensive fish health testing and disease precautions that are already employed routinely at Green Lake NFH."

This opinion is supported by NOAA Fisheries which also, "…*does not object to issuing a MEPDES permit to GLNFH without a requirement for a CMS plan. Rather, we hope to work cooperatively with* (GLFNH) *outside of the MEPDES process to develop a fully functioning CMS plan at the facility*".

14. GRAHAM LAKE WATER QUALITY MONITORING STUDY:

In response to unusual water quality conditions and limited existing data for Graham Lake, the previous permitting action required GLNFH to conduct monitoring for two years to explore the relationship between water quality conditions and phosphorus conversion in Graham Lake. Data collected was used to compliment existing limited Graham Lake data in review of modeling assumptions and effluent phosphorus limits established in the permit. The Department reviewed the data and determined that GLNFH's historical average annual phosphorus mass discharge of 1,426 lbs/year would not impair the characteristics and designated uses or cause an increase in the trophic state of Graham Lake under its current water level management practices. On August 2, 2006, the Department Administratively Modified the GLNFH MEPDES Permit / Maine WDL, revising the annual maximum phosphorus limit to 1,426 lbs/year. This remains the Department's determination and thus, the annual maximum limit is carried forward in this permitting action. This permitting action is not establishing further ambient water quality monitoring requirements at this time. However, if the above referenced water level management practices change in the future, this determination may be revisited and effluent limits and monitoring requirements modified as necessary.

15. DISCHARGE IMPACT ON RECEIVING WATER QUALITY:

As permitted, based on the information available to date and best professional judgement, the Department has determined that the existing water uses will be maintained and protected and the discharge will not cause or contribute to the failure of Graham Lake to meet standards for Class GPA classification.

16. PUBLIC COMMENTS:

Public notice of this application was made in the Ellsworth American newspaper on or about January 7, 2009. 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.

17. DEPARTMENT CONTACTS:

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

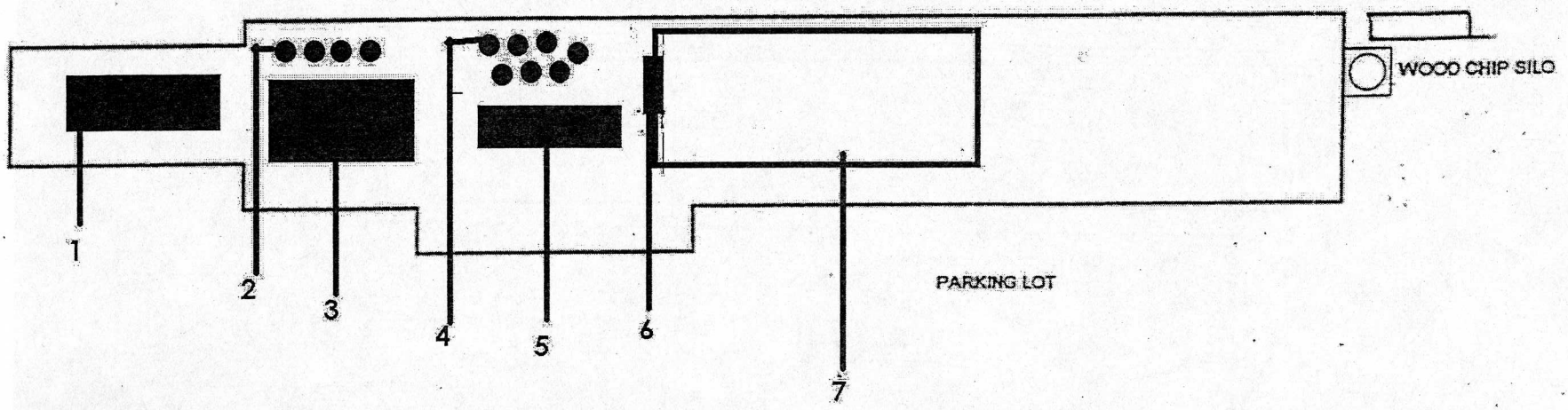
Robert D. Stratton
Division of Water Quality Management
Bureau of Land and Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017

Telephone (207) 287-6114
Fax (207) 287-3435
email: Robert.D.Stratton@maine.gov

18. RESPONSE TO COMMENTS

During the period of July 30, 2009 through August 31, 2009, the Department solicited comments on the proposed draft Maine Pollutant Discharge Elimination System Permit / Maine Waste Discharge License to be issued to the Green Lake NFH for the proposed discharge. The Department did not receive any comments that resulted in significant revisions to the permit, but made some minor internal revisions. Therefore, no response to comments has been prepared.

ATTACHMENT A



1. Broodstock rearing area - 56.8' x 24.3' x 10'• cement raceway.
2. Semi square rearing tanks - 6' x 6.' x 1.5'•fiberglass units.
3. Concrete raceways (4) - 26.5' x 4' x 3'
4. Circular rearing tanks 5' x 2' deep •fiberglass units.
5. Concrete raceways (2) - 26.5' x 4' x 3'
6. Heath style incubation trays (350) - fiberglass units.
7. Circular rearing tanks (56) 6' x 2' deep fiberglass units.

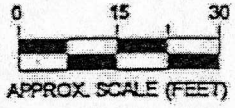
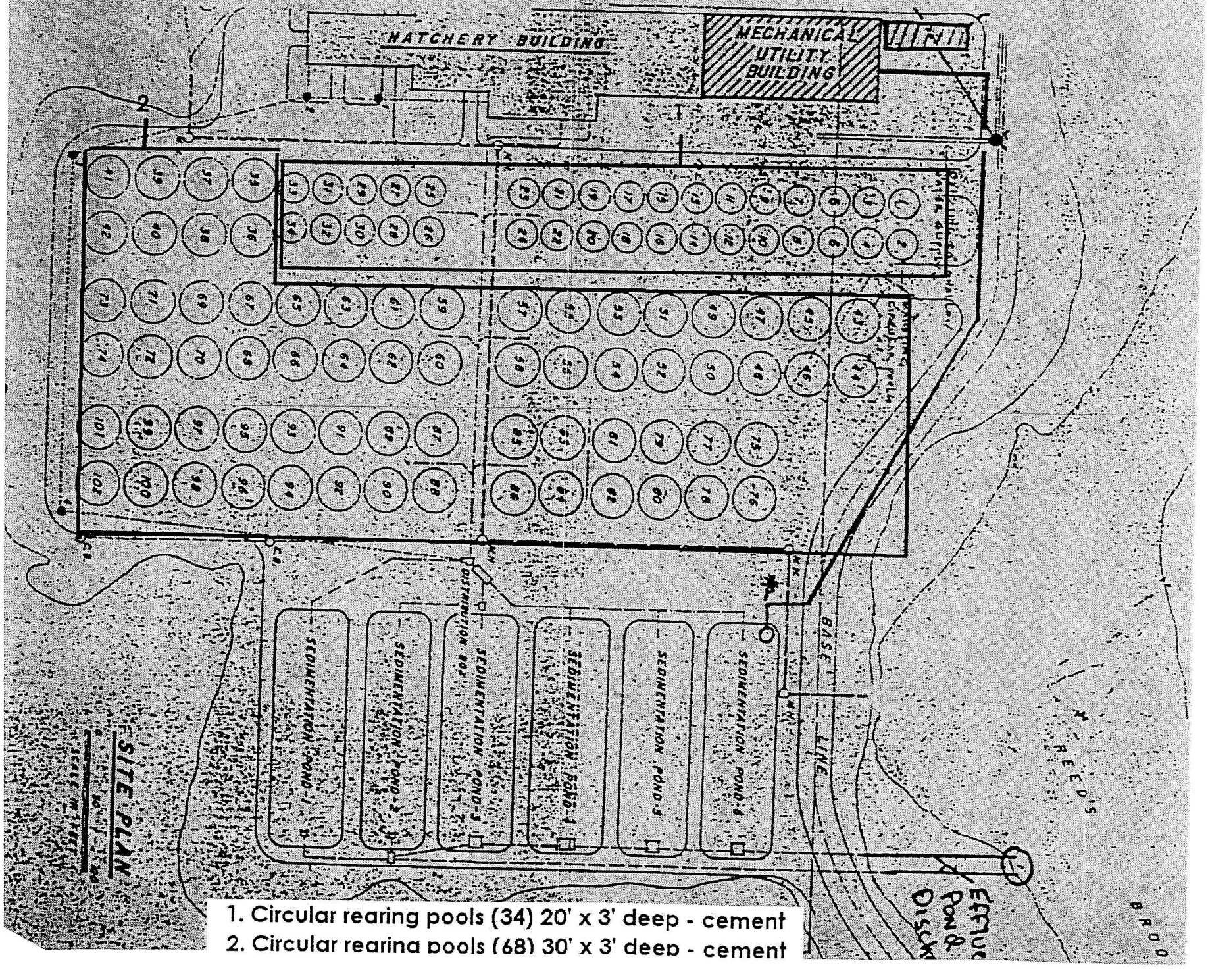


Figure 1.

U.S. DEPARTMENT OF THE INTERIOR
GREEN LAKE NATIONAL FISH HATCHERY, ELLSWORTH, MAINE

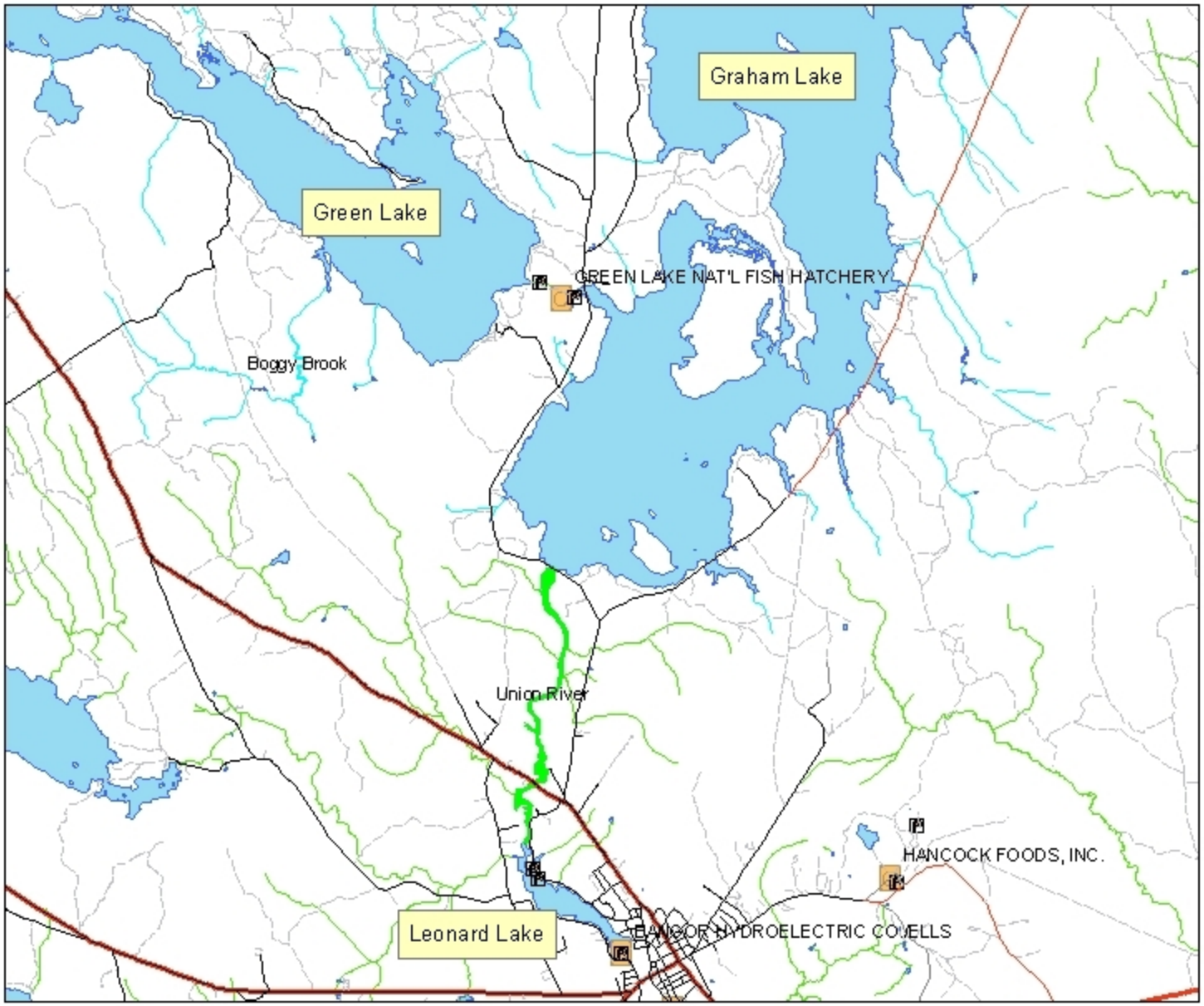
Green Lake NFH
Inside Rearing Units/Main Hatchery Building.

Figure 2. Green Lake NFH Outside Rearing Area



1. Circular rearing pools (34) 20' x 3' deep - cement
2. Circular rearing pools (68) 30' x 3' deep - cement

ATTACHMENT B



Legend

Rivers
- AA
- A
- B
- C

Streams
- AA
- A
- B
- C

Ponds and Lakes

Wastewater_Facilities

Wastewater_Outfalls

Roads

JURISDICTION
- Town Road
- Town Road - Summer
- Town Road - Winter
- State-aided Highway
- State Highway
- Toll Highway
- Private Road
- Reservation Road
- Seasonal Parkway

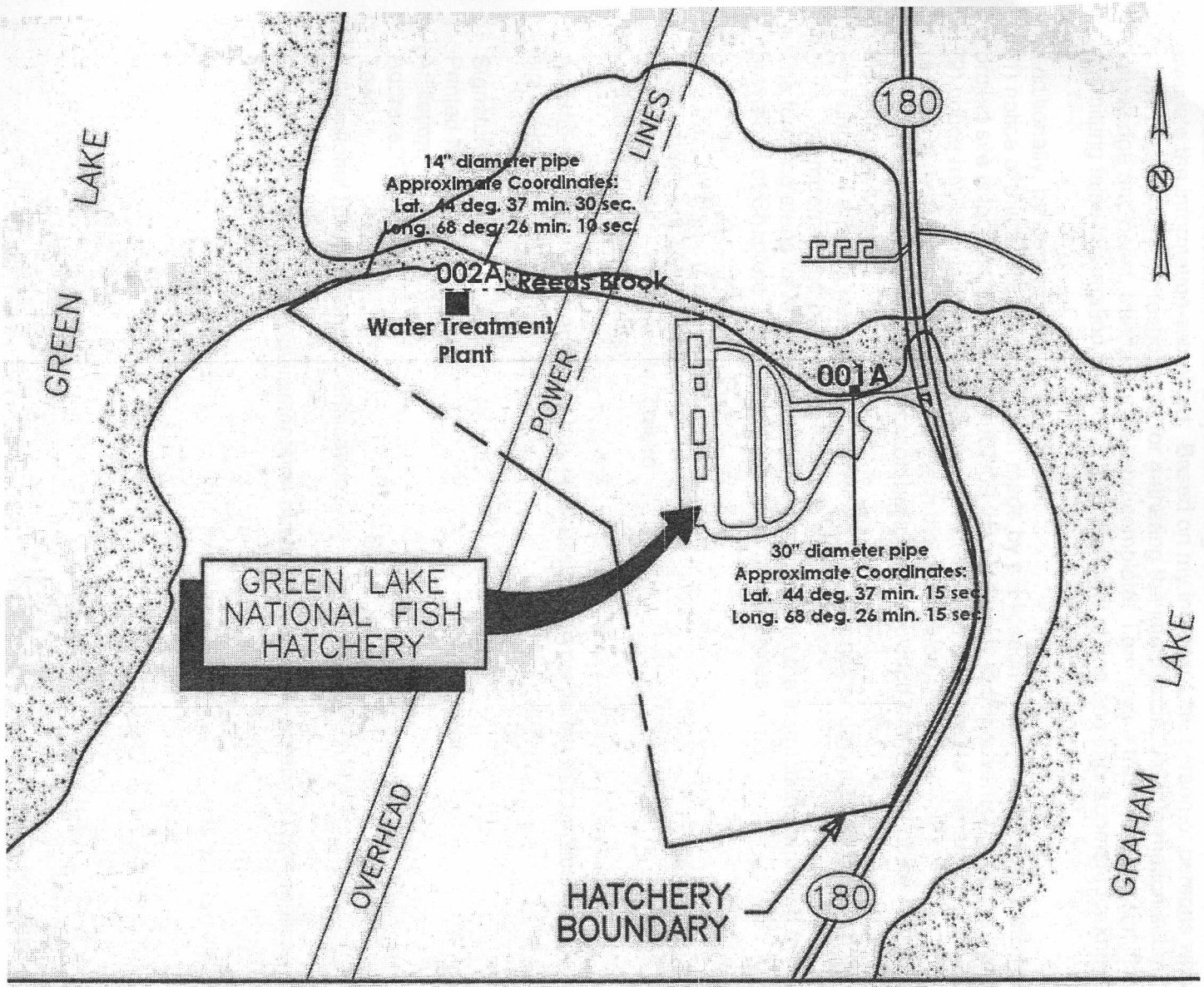
N

Miles
0 0.3 0.6 1.2 1.8 2.4

Green Lake NFH
Ellsworth, Maine

Map created by:
Bob Stratton
Division of Water Quality Management
Maine Department of Environmental Protection

DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE OF MAINE



LOCATION MAP – GREEN LAKE NFH

0 1/4 1/2 3/4 MILES

CONTENTS

A. GENERAL PROVISIONS

1. **General compliance**. All discharges shall be consistent with the terms and conditions of this permit; any changes in production capacity or process modifications which result in changes in the quantity or the characteristics of the discharge must be authorized by an additional license or by modifications of this permit; it shall be a violation of the terms and conditions of this permit to discharge any pollutant not identified and authorized herein or to discharge in excess of the rates or quantities authorized herein or to violate any other conditions of this permit.

2. Other materials. Other materials ordinarily produced or used in the operation of this facility, which have been specifically identified in the application, may be discharged at the maximum frequency and maximum level identified in the application, provided:

(a) They are not

(i) Designated as toxic or hazardous under the provisions of Sections 307 and 311, respectively, of the Federal Water Pollution Control Act; Title 38, Section 420, Maine Revised Statutes; or other applicable State Law; or
(ii) Known to be hazardous or toxic by the licensee.

(b) The discharge of such materials will not violate applicable water quality standards.

3. Duty to comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of State law and the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

(a) The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act, and 38 MRSA, §420 or Chapter 530.5 for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
(b) Any person who violates any provision of the laws administered by the Department, including without limitation, a violation of the terms of any order, rule license, permit, approval or decision of the Board or Commissioner is subject to the penalties set forth in 38 MRSA, §349.

4. Duty to provide information. The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

5. Permit actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

6. Reopener clause. The Department reserves the right to make appropriate revisions to this permit in order to establish any appropriate effluent limitations, schedule of compliance or other provisions which may be authorized under 38 MRSA, §414-A(5).

7. Oil and hazardous substances. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under section 311 of the Federal Clean Water Act; section 106 of the Federal Comprehensive Environmental Response, Compensation and Liability Act of 1980; or 38 MRSA §§ 1301, et. seq.

8. Property rights. This permit does not convey any property rights of any sort, or any exclusive privilege.

9. Confidentiality of records. 38 MRSA §414(6) reads as follows. "Any records, reports or information obtained under this subchapter is available to the public, except that upon a showing satisfactory to the department by any person that any records, reports or information, or particular part or any record, report or information, other than the names and addresses of applicants, license applications, licenses, and effluent data, to which the department has access under this subchapter would, if made public, divulge methods or processes that are entitled to protection as trade secrets, these records, reports or information must be confidential and not available for public inspection or examination. Any records, reports or information may be disclosed to employees or authorized representatives of the State or the United States concerned with carrying out this subchapter or any applicable federal law, and to any party to a hearing held under this section on terms the commissioner may prescribe in order to protect these confidential records, reports and information, as long as this disclosure is material and relevant to any issue under consideration by the department."

10. Duty to reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

11. Other laws. The issuance of this permit does not authorize any injury to persons or property or invasion of other property rights, nor does it relieve the permittee if its obligation to comply with other applicable Federal, State or local laws and regulations.

12. Inspection and entry. The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the EPA Administrator), upon presentation of credentials and other documents as may be required by law, to:

(a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
(c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
(d) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

B. OPERATION AND MAINTENACE OF FACILITIES

1. General facility requirements.

(a) The permittee shall collect all waste flows designated by the Department as requiring treatment and discharge them into an approved waste treatment facility in such a manner as to

maximize removal of pollutants unless authorization to the contrary is obtained from the Department.

(b) The permittee shall at all times maintain in good working order and operate at maximum efficiency all waste water collection, treatment and/or control facilities.

(c) All necessary waste treatment facilities will be installed and operational prior to the discharge of any wastewaters.

(d) Final plans and specifications must be submitted to the Department for review prior to the construction or modification of any treatment facilities.

(e) The permittee shall install flow measuring facilities of a design approved by the Department.

(f) The permittee must provide an outfall of a design approved by the Department which is placed in the receiving waters in such a manner that the maximum mixing and dispersion of the wastewaters will be achieved as rapidly as possible.

2. Proper operation and maintenance. 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. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

3. Need to halt or reduce activity not a defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

4. Duty to mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

5. Bypasses.

(a) Definitions.

(i) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

(ii) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(b) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (c) and (d) of this section.

(c) Notice.

(i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

(ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph D(1)(f), below. (24-hour notice).

(d) Prohibition of bypass.

(i) Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:

(A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
(B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
(C) The permittee submitted notices as required under paragraph (c) of this section.

(ii) The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three conditions listed above in paragraph (d)(i) of this section.

6. Upsets.

(a) Definition. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(b) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (c) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(c) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(i) An upset occurred and that the permittee can identify the cause(s) of the upset;
(ii) The permitted facility was at the time being properly operated; and
(iii) The permittee submitted notice of the upset as required in paragraph D(1)(f) , below. (24 hour notice).
(iv) The permittee complied with any remedial measures required under paragraph B(4).

(d) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

C. MONITORING AND RECORDS

1. General Requirements. This permit shall be subject to such monitoring requirements as may be reasonably required by the Department including the installation, use and maintenance of monitoring equipment or methods (including, where appropriate, biological monitoring methods). The permittee shall provide the Department with periodic reports on the proper Department reporting form of monitoring results obtained pursuant to the monitoring requirements contained herein.

2. Representative sampling. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. If effluent limitations are based wholly or partially on quantities of a product processed, the permittee shall ensure samples are representative of times when production is taking place. Where discharge monitoring is required when production is less than 50%, the resulting data shall be reported as a daily measurement but not included in computation of averages, unless specifically authorized by the Department.

3. Monitoring and records.

(a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(b) Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years, the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

(c) Records of monitoring information shall include:

(i) The date, exact place, and time of sampling or measurements;
(ii) The individual(s) who performed the sampling or measurements;
(iii) The date(s) analyses were performed;
(iv) The individual(s) who performed the analyses;
(v) The analytical techniques or methods used; and
(vi) The results of such analyses.

(d) Monitoring results must be conducted according to test procedures approved under 40 CFR part 136, unless other test procedures have been specified in the permit.

(e) State law provides that any person who tampers with or renders inaccurate any monitoring devices or method required by any provision of law, or any order, rule license, permit approval or decision is subject to the penalties set forth in 38 MRSA, §349.

D. REPORTING REQUIREMENTS

1. Reporting requirements.

(a) Planned changes. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

(i) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

(ii) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under Section D(4).

(iii) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;

(b) Anticipated noncompliance. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(c) Transfers. This permit is not transferable to any person except upon application to and approval of the Department pursuant to 38 MRSA, § 344 and Chapters 2 and 522.

(d) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(i) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Department for reporting results of monitoring of sludge use or disposal practices.

(ii) 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 the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Department.

(iii) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Department in the permit.

(e) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(f) Twenty-four hour reporting.

(i) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance

has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(ii) The following shall be included as information which must be reported within 24 hours under this paragraph.

(A) Any unanticipated bypass which exceeds any effluent limitation in the permit.
(B) Any upset which exceeds any effluent limitation in the permit.
(C) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit to be reported within 24 hours.

(iii) The Department may waive the written report on a case-by-case basis for reports under paragraph (f)(ii) of this section if the oral report has been received within 24 hours.

(g) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (d), (e), and (f) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (f) of this section.

(h) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

2. Signatory requirement. All applications, reports, or information submitted to the Department shall be signed and certified as required by Chapter 521, Section 5 of the Department's rules. State law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan or other document filed or required to be maintained by any order, rule, permit, approval or decision of the Board or Commissioner is subject to the penalties set forth in 38 MRSA, §349.

3. Availability of reports. Except for data determined to be confidential under A(9), above, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. As required by State law, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal sanctions as provided by law.

4. Existing manufacturing, commercial, mining, and silvicultural dischargers. In addition to the reporting requirements under this Section, all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Department as soon as they know or have reason to believe:

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

(i) One hundred micrograms per liter (100 ug/l);
(ii) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
(iii) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with Chapter 521 Section 4(g)(7); or
(iv) The level established by the Department in accordance with Chapter 523 Section 5(f).

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

(i) Five hundred micrograms per liter (500 ug/l);
(ii) One milligram per liter (1 mg/l) for antimony;
(iii) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with Chapter 521 Section 4(g)(7); or
(iv) The level established by the Department in accordance with Chapter 523 Section 5(f).

5. Publicly owned treatment works.

(a) All POTWs must provide adequate notice to the Department of the following:

(i) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA or Chapter 528 if it were directly discharging those pollutants.
(ii) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
(iii) For purposes of this paragraph, adequate notice shall include information on (A) the quality and quantity of effluent introduced into the POTW, and (B) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

(b) When the effluent discharged by a POTW for a period of three consecutive months exceeds 80 percent of the permitted flow, the permittee shall submit to the Department a projection of loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans.

E. OTHER REQUIREMENTS

1. Emergency action - power failure. Within thirty days after the effective date of this permit, the permittee shall notify the Department of facilities and plans to be used in the event the primary source of power to its wastewater pumping and treatment facilities fails as follows.

(a) For municipal sources. During power failure, all wastewaters which are normally treated shall receive a minimum of primary treatment and disinfection. Unless otherwise approved, alternate power supplies shall be provided for pumping stations and treatment facilities. Alternate power supplies shall be on-site generating units or an outside power source which is separate and independent from sources used for normal operation of the wastewater facilities.

(b) For industrial and commercial sources. The permittee shall either maintain an alternative power source sufficient to operate the wastewater pumping and treatment facilities or halt, reduce or otherwise control production and or all discharges upon reduction or loss of power to the wastewater pumping or treatment facilities.

2. Spill prevention. (applicable only to industrial sources) Within six months of the effective date of this permit, the permittee shall submit to the Department for review and approval, with or without conditions, a spill prevention plan. The plan shall delineate methods and measures to be taken to prevent and or contain any spills of pulp, chemicals, oils or other contaminates and shall specify means of disposal and or treatment to be used.

3. **Removed substances.** Solids, sludges trash rack cleanings, filter backwash, or other pollutants removed from or resulting from the treatment or control of waste waters shall be disposed of in a manner approved by the Department.

4. **Connection to municipal sewer.** (applicable only to industrial and commercial sources) All wastewaters designated by the Department as treatable in a municipal treatment system will be cosigned to that system when it is available. This permit will expire 90 days after the municipal treatment facility becomes available, unless this time is extended by the Department in writing.

F. DEFINITIONS. For the purposes of this permit, the following definitions shall apply. Other definitions applicable to this permit may be found in Chapters 520 through 529 of the Department's rules

Average means the arithmetic mean of values taken at the frequency required for each parameter over the specified period. For bacteria, the average shall be the geometric mean.

Average monthly discharge limitation means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. Except, however, bacteriological tests may be calculated as a geometric mean.

Average weekly discharge limitation means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best management practices ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Composite sample means a sample consisting of a minimum of eight grab samples collected at equal intervals during a 24 hour period (or a lesser period as specified in the section on monitoring and reporting) and combined proportional to the flow over that same time period.

Continuous discharge means a discharge which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities.

Daily discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the day.

Discharge Monitoring Report ("DMR") means the EPA uniform national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees. DMRs must be used by approved States as well as by EPA. EPA will supply DMRs to any approved State upon request. The EPA national forms may be modified to substitute the State Agency name, address, logo, and other similar information, as appropriate, in place of EPA's.

Flow weighted composite sample means a composite sample consisting of a mixture of aliquots collected at a constant time interval, where the volume of each aliquot is proportional to the flow rate of the discharge.

Grab sample means an individual sample collected in a period of less than 15 minutes.

Interference means a Discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

(1) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and
(2) Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Maximum daily discharge limitation means the highest allowable daily discharge.

New source means any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:

(a) After promulgation of standards of performance under section 306 of CWA which are applicable to such source, or
(b) After proposal of standards of performance in accordance with section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal.

Pass through means a discharge which exits the POTW into waters of the State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

Permit means an authorization, license, or equivalent control document issued by EPA or an approved State to implement the requirements of 40 CFR parts 122, 123 and 124. Permit includes an NPDES general permit (Chapter 529). Permit does not include any permit which has not yet been the subject of final agency action, such as a draft permit or a proposed permit.

Person means an individual, firm, corporation, municipality, quasi-municipal corporation, state agency, federal agency or other legal entity.

Point source means any discernible, confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation or vessel or other floating craft, from which pollutants are or may be discharged.

Pollutant means dredged spoil, solid waste, junk, incinerator residue, sewage, refuse, effluent, garbage, sewage sludge, munitions, chemicals, biological or radiological materials, oil, petroleum products or byproducts, heat, wrecked or discarded equipment, rock, sand, dirt and industrial, municipal, domestic, commercial or agricultural wastes of any kind.

Process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

Publicly owned treatment works ("POTW") means any facility for the treatment of pollutants owned by the State or any political subdivision thereof, any municipality, district, quasi-municipal corporation or other public entity.

Septage means, for the purposes of this permit, any waste, refuse, effluent sludge or other material removed from a septic tank, cesspool, vault privy or similar source which concentrates wastes or to which chemicals have been added. Septage does not include wastes from a holding tank.

Time weighted composite means a composite sample consisting of a mixture of equal volume aliquots collected over a constant time interval.

Toxic pollutant includes any pollutant listed as toxic under section 307(a)(1) or, in the case of sludge use or disposal practices, any pollutant identified in regulations implementing section 405(d) of the CWA. Toxic pollutant also includes those substances or combination of substances, including disease causing agents, which after discharge or upon exposure, ingestion, inhalation or assimilation into any organism, including humans either directly through the environment or indirectly through ingestion through food chains, will, on the basis of information available to the board either alone or in combination with other substances already in the receiving waters or the discharge, cause death, disease, abnormalities, cancer, genetic mutations, physiological malfunctions, including malfunctions in reproduction, or physical deformations in such organism or their offspring.

Wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Whole effluent toxicity means the aggregate toxic effect of an effluent measured directly by a toxicity test.

DEP INFORMATION SHEET

Appealing a Commissioner's Licensing Decision

Dated: May 2004 **Contact: (207) 287-2811**

SUMMARY

There are two methods available to an aggrieved person seeking to appeal a licensing decision made by the Department of Environmental Protection's (DEP) Commissioner: (1) in an administrative process before the Board of Environmental Protection (Board); or (2) in a judicial process before Maine's Superior Court. This INFORMATION SHEET, in conjunction with consulting statutory and regulatory provisions referred to herein, can help aggrieved persons with understanding their rights and obligations in filing an administrative or judicial appeal.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

DEP's *General Laws*, 38 M.R.S.A. § 341-D(4), and its *Rules Concerning the Processing of Applications and Other Administrative Matters* (Chapter 2), 06-096 CMR 2.24 (April 1, 2003).

HOW LONG YOU HAVE TO SUBMIT AN APPEAL TO THE BOARD

The Board must receive a written notice of appeal within 30 calendar days of the date on which the Commissioner's decision was filed with the Board. Appeals filed after 30 calendar days will be rejected.

HOW TO SUBMIT AN APPEAL TO THE BOARD

Signed original appeal documents must be sent to: Chair, Board of Environmental Protection, c/o Department of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017; faxes are acceptable for purposes of meeting the deadline when followed by receipt of mailed original documents within five (5) working days. Receipt on a particular day must be by 5:00 PM at DEP's offices in Augusta; materials received after 5:00 PM are not considered received until the following day. The person appealing a licensing decision must also send the DEP's Commissioner and the applicant a copy of the documents. All the information listed in the next section must be submitted at the time the appeal is filed. Only the extraordinary circumstances described at the end of that section will justify evidence not in the DEP's record at the time of decision being added to the record for consideration by the Board as part of an appeal.

WHAT YOUR APPEAL PAPERWORK MUST CONTAIN

The materials constituting an appeal must contain the following information at the time submitted:

1. *Aggrieved Status*. Standing to maintain an appeal requires the appellant to show they are particularly injured by the Commissioner's decision.
2. *The findings, conclusions or conditions objected to or believed to be in error.* Specific references and facts regarding the appellant's issues with the decision must be provided in the notice of appeal.
3. *The basis of the objections or challenge.* If possible, specific regulations, statutes or other facts should be referenced. This may include citing omissions of relevant requirements, and errors believed to have been made in interpretations, conclusions, and relevant requirements.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license or permit to changes in specific permit conditions.

5. *All the matters to be contested.* The Board will limit its consideration to those arguments specifically raised in the written notice of appeal.

6. *Request for hearing.* The Board will hear presentations on appeals at its regularly scheduled meetings, unless a public hearing is requested and granted. A request for public hearing on an appeal must be filed as part of the notice of appeal.

7. *New or additional evidence to be offered.* The Board may allow new or additional evidence as part of an appeal only when the person seeking to add information to the record can show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process or show that the evidence itself is newly discovered and could not have been presented earlier in the process. Specific requirements for additional evidence are found in Chapter 2, Section 24(B)(5).

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record.* A license file is public information made easily accessible by DEP. Upon request, the DEP will make the material available during normal working hours, provide space to review the file, and provide opportunity for photocopying materials. There is a charge for copies or copying services.

2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing your appeal.* DEP staff will provide this information on request and answer questions regarding applicable requirements.

3. *The filing of an appeal does not operate as a stay to any decision.* An applicant proceeding with a project pending the outcome of an appeal runs the risk of the decision being reversed or modified as a result of the appeal.

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD

The Board will formally acknowledge initiation of the appeals procedure, including the name of the DEP project manager assigned to the specific appeal, within 15 days of receiving a timely filing. The notice of appeal, all materials accepted by the Board Chair as additional evidence, and any materials submitted in response to the appeal will be sent to Board members along with a briefing and recommendation from DEP staff. Parties filing appeals and interested persons are notified in advance of the final date set for Board consideration of an appeal or request for public hearing. With or without holding a public hearing, the Board may affirm, amend, or reverse a Commissioner decision. The Board will notify parties to an appeal and interested persons of its decision.

II. APPEALS TO MAINE SUPERIOR COURT

Maine law allows aggrieved persons to appeal final Commissioner licensing decisions to Maine's Superior Court, see 38 M.R.S.A. § 346(1); 06-096 CMR 2.26; 5 M.R.S.A. § 11001; & MRCivP 80C. Parties to the licensing decision must file a petition for review within 30 days after receipt of notice of the Commissioner's written decision. A petition for review by any other person aggrieved must be filed within 40-days from the date the written decision is rendered. The laws cited in this paragraph and other legal procedures govern the contents and processing of a Superior Court appeal.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, contact the DEP's Director of Procedures and Enforcement at (207) 287-2811.

Note: The DEP provides this INFORMATION SHEET for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.