STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
ACTING COMMISSIONER

July 6, 2011

Mr. Gene Arsenault
MDIFW Ela Rearing Station
809 Cross Town Road
Embden, Maine 04958

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0001139
Maine Waste Discharge License (WDL) Application # W-002029-6F-E-R
Final MEPDES Permit/Maine WDL, MDIFW Ela Rearing Station, Embden, Maine

Dear Gene:

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) 215-1579 or contact me via email at Robert.D.Stratton@maine.gov.

Sincerely,

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

Enc./cc: Matt Young, Lori Mitchell (MEDEP); Todd Langevin, Russ Danner (MDIFW);
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

ME. DEPT. INLAND FISHERIES & WILDLIFE	)	MAINE POLLUTANT DISCHARGE
ELA REARING STATION	)	ELIMINATION SYSTEM PERMIT
EMBDEN, SOMERSET COUNTY, ME	)	AND
FISH HATCHERY	)	
#ME0001139	)	WASTE DISCHARGE LICENSE
#W-002029-6F-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 MAINE DEPARTMENT OF INLAND FISHERIES AND WILDLIFE ELA FISH REARING STATION (hereinafter MDIFW Embden), 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 #ME0001139 / Maine Waste Discharge License (WDL) #W-002029-5Q-B-R, which was issued on January 30, 2006, for a five-year term. The MEPDES Permit / Maine WDL and subsequent permit modifications approved the discharge of a monthly average of 4.75 million gallons per day (MGD) of fish hatchery wastewater to Mill Stream, Class B from a state brook trout, brown trout, splake, and landlocked Atlantic salmon rearing facility in Embden, Maine.

PERMIT SUMMARY

This permitting action is similar to the January 30, 2006 MEPDES Permit / Maine WDL and subsequent permit modifications and revisions 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. revising the monthly average flow limit to 5.0 MGD and BOD_5, TSS, and total phosphorus mass limits accordingly;
2. revising minimum monitoring frequency requirements for fish on hand and formalin, as well as seasonal monitoring requirements for total phosphorus and effluent dissolved oxygen;
3. eliminating monitoring requirements for effluent pH, ambient dissolved oxygen and water temperature; and
4. updating requirements related to diseases, pathogens, therapeutic agents and disinfecting/sanitizing agents.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated May 25, 2011, revised July 6, 2011, 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 above noted application of the MDIFW ELA FISH REARING STATION to discharge fish hatchery wastewater consisting of a monthly average flow of 5.0 MGD to Mill Stream, Class B, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations including:

1. "*Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable To All Permits,*" revised July 1, 2002, copy attached.

2. The attached Special Conditions, including any effluent limitations and monitoring requirements.

3. This permit and the authorization to discharge become effective upon the date of signature below and expire at midnight five (5) years from the effective date. If a renewal application is timely submitted and accepted as complete for processing prior to the expiration of this permit, the authorization to discharge and the terms and conditions of this permit and all modifications and minor revisions thereto remain in effect until a final Department decision on the renewal application becomes effective. [*Maine Administrative Procedure Act*, 5 M.R.S.A. § 10002 and *Rules Concerning the Processing of Applications and Other Administrative Matters*, 06-096 CMR 2(21)(A) (effective April 1, 2003)]

Teco Brown

This permit is digitally signed by Teco Brown on behalf of Acting Commmissioner Patricia Aho. It is digitally signed pursuant to 10 M.R.S.A. § 9418. It has been filed with the Board of Environmental Protection as of the signature date.
2011.07.06 11:09:13 -04'00'

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: December 15, 2010
Date of application acceptance: December 16, 2010

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 wastewater from Outfall #005A** to Mill Stream. Such discharges shall be limited and monitored by the permittee as specified below. The italicized numeric values bracketed in the table below and in subsequent text are code numbers that Department personnel utilize to code the monthly Discharge Monitoring Reports (DMRs). Footnotes are found on Pages **5 and 6.**

Monitoring Parameter	**Discharge Limitations and Reporting Requirements**				**Minimum Monitoring Requirements**		
	Monthly Average as specified	Daily Maximum as specified	Monthly Average as specified	Daily Maximum as specified	Daily Minimum as specified	Measurement Frequency as specified	Sample Type as specified
Flow *[50050]*	5.0 MGD *[03]*	---	---	---	---	Daily *[01/01]*	Measured *[MS]*
BOD *[00310]*	250 lbs/day *[26]*	417 lbs/day *[26]*	6 mg/L *[19]*	10 mg/L *[19]*	---	1/Month *[01/30]*	Composite[1] *[CP]*
TSS *[00530]*	250 lbs/day *[26]*	417 lbs/day *[26]*	6 mg/L *[19]*	10 mg/L *[19]*	---	1/Month *[01/30]*	Composite[1] *[CP]*
Total Phosphorus[2] **June 1 – Sept 30 yearly** *[00665]*	1.5 lbs/day *[26]*	report lbs/day *[26]*	0.035 mg/L *[19]*	report mg/L *[19]*	---	2/month[3] *[02/30]*	Composite[1] *[CP]*
Fish on Hand *[45604]*	report lbs/day *[26]*	report lbs/day *[26]*	---	---	---	2/month[3] *[02/30]*	Calculated *[CA]*
Formalin[4] **1-Hour Treatment Maximum** *[51064]*	report lbs/day *[26]*	150 lbs/day *[26]*	report mg/L *[19]*	45 mg/L *[19]*	---	Once per occurrence *[01/OC]*	Calculated *[CA]*
Formalin[4] **24-Hour Treatment Maximum** *[51064]*	report lbs/day *[26]*	150 lbs/day *[26]*	report mg/L *[19]*	25 mg/L *[19]*	---	Once per occurrence *[01/OC]*	Calculated *[CA]*
Dissolved Oxygen[5] **From June 1 – Sept 30 yearly** *[00300]*	---	---	report mg/L *[19]*	report mg/L *[19]*	7.5 mg/L *[19]*	2/month[3] *[02/30]*	Measured *[MS]*

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS, FOOTNOTES:

Effluent Monitoring: Effluent values shall be collected at Outfall #005A, the only authorized facility discharge, following all means of wastewater treatment prior to discharge to the receiving water. 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/basin detention times. Any change in sampling location must be 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 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 RL achieved by the laboratory for each respective parameter. Reporting a value of <Y that is greater than an established RL or reporting an estimated value ("J" flagged) is not acceptable and will be rejected by the Department. Reporting analytical data and its use in calculations must follow established Department guidelines specified in this permit or in available Department guidance documents.

1. Composite Samples: 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 notification to 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. Total Phosphorus: The concentration and mass effluent limits and monitoring requirements shall consist of gross, end-of-pipe values. Phosphorus limits and monitoring requirements are seasonal and are only in effect from June 1 through September 30 each year. Laboratory analysis shall consist of a low-level phosphorus analysis with a minimum detection limit of 1 part per billion (1 ug/L).

3. Twice per Month Monitoring: Monitoring required at a minimum frequency of 2/month shall be collected no less than 14 days between sampling events, unless specifically authorized by the Department's compliance inspector.

SPECIAL CONDITIONS

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

4. Formalin: 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 or less). 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.**

5. Supplemental Data Forms: In addition to specified DMR reporting requirements, the permittee shall submit all data from effluent dissolved oxygen monitoring to the Department in a supplemental report accompanying the appropriate monthly discharge monitoring report pursuant to Permit Special Condition E.

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.

SPECIAL CONDITIONS

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 December 16, 2010; 2) the terms and conditions of this permit; and 3) only from Outfall #005A. 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.

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 waste water collection and treatment system; and

   b. Any anticipated impact of the change in the quantity or quality of the wastewater to be discharged from the treatment system.

E. 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 printed-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
Division of Water Quality Management
106 Hogan Road
Bangor, Maine 04401

SPECIAL CONDITIONS

E. MONITORING AND REPORTING (cont'd)

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. **Printed 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.

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 efficient feed management and feeding strategies to minimize discharges of uneaten feed and waste products, how and when the accumulated solids are to be removed, dewatered, and methods of disposal. The plan shall also describe where the removed material is to be placed and the techniques used to prevent it from re-entering the surface waters from any onsite storage. The plan shall document the recipients and methods of any offsite waste disposal.

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

SPECIAL CONDITIONS

G. SETTLING BASIN CLEANING:

All wastewater settling structures shall be cleaned when accumulated materials occupy 20% of a basin's operational 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).

H. DISEASES, PATHOGENS, AND THERAPEUTIC AGENTS:

The permittee must comply with Maine Department of Inland Fisheries and Wildlife (freshwater facilities) and Maine Department of Marine Resources (salmon & marine facilities) 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 addition to the requirements of the MDIFW and MEDMR rules, **the permittee shall notify the Department in writing within 24-hours following pathogen detection**, with information on the disease/pathogen, necessary control measures, and the veterinarian involved.

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 or used as prescribed by a Maine licensed veterinarian as authorized in the Maine Veterinary Practice Act (31 MRSA, §4852) and the Maine Animal Welfare Act (7 MRSA, §3901). Proper veterinary 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 and under the authority of a Maine licensed veterinarian. **The permittee shall notify the Department in writing within 24-hours following such use**, with information on the conditions necessitating off-label or extra-label drug use, necessary control measures, and the veterinarian involved.

For either reporting requirement outlined, the permittee must provide information on: the proposed treatment(s) including materials/chemicals/agents used, material/chemical/agent toxicity to aquatic life, the mass and concentrations of materials/chemicals/agents as administered, and the concentrations to be expected in the effluent. For any off-label or extra-label use, the permittee shall also provide 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, and the likely need of repeat treatments. 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.

The use and discharge of therapeutic agents is subject to the conditions described in Permit Special Condition C, Unauthorized Discharges.

SPECIAL CONDITIONS

I. DISINFECTING/SANITIZING AGENTS:

Disinfectants and/or sanitizing agents shall be registered with USEPA as appropriate and applied according to manufacturer's label instructions. 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. **The use and discharge of disinfecting/sanitizing agents is subject to the conditions described in Permit Special Condition C, Unauthorized Discharges.**

J. MINIMUM TREATMENT TECHNOLOGY REQUIREMENT:

Based on the information provided and Department BPJ, the permittee shall provide minimum treatment technology for the Embden 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. MDIFW Embden 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.

K. REOPENING OF PERMIT FOR MODIFICATIONS

Upon evaluation of the tests results or monitoring requirements specified in Special Conditions of this permitting action, new site specific information, new water quality monitoring data or modeling information, or any other pertinent test results or information obtained during the term of this permit, the Department may, at anytime and with notice to the permittee, modify this permit to; 1) include effluent limits necessary to control specific pollutants or whole effluent toxicity where there is a reasonable potential that the effluent may cause water quality criteria to be exceeded, (2) require additional monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information, including, but not limited to, new information from ambient water quality studies of the receiving water.

L. SEVERABILITY

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

ATTACHMENT A

(Protocol for Total Phosphorus Sample Collection and Analysis)

Protocol for Total Phosphorus Sample Collection and Analysis for Waste Water and Receiving Water Monitoring Required by Permits

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

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

Sample Preservation: During compositing the sample must be at 0-6 degrees C (without freezing). If the sample is being sent to a commercial laboratory or analysis cannot be performed the day of collection then the sample must be preserved using H_2SO_4 to obtain a sample pH of <2 su and refrigerated at 0-6 degrees C (without freezing). The holding time for a preserved sample is 28 days.

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

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

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

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
AND
MAINE WASTE DISCHARGE LICENSE

FACT SHEET

Date: May 25, 2010
Revised: July 6, 2011

MEPDES PERMIT NUMBER: # ME0001139
MAINE WDL NUMBER: # W-002029-6F-E-R

NAME AND ADDRESS OF APPLICANT:

ELA REARING STATION
Maine Dept. of Inland Fisheries and Wildlife
284 State Street, 41 State House Station
Augusta, Maine 04333

COUNTY: SOMERSET

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

ELA REARING STATION
809 Cross Town Road
Embden, Maine 04958

RECEIVING WATER / CLASSIFICATION: Mill Stream, Class B

COGNIZANT OFFICIAL AND TELEPHONE NUMBER:

Mr. Gene Arsenault Facility Manager (207) 566-0591, eugene.arsenault@maine.gov
Mr. Todd Langevin, MDIFW Hatchery Supervisor (207) 287-5261, todd.langevin@maine.gov

1. APPLICATION SUMMARY

The applicant has applied for a renewal of Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0001139 / Maine Waste Discharge License (WDL) #W-002029-5Q-B-R, which was issued on January 30, 2006, for a five-year term. The MEPDES Permit / Maine WDL and subsequent permit modifications approved the discharge of a monthly average of 4.75 million gallons per day (MGD) of fish hatchery wastewater to Mill Stream, Class B from a state brook trout, brown trout, splake, and landlocked Atlantic salmon rearing facility in Embden, Maine.

2. PERMIT SUMMARY

a. Regulatory - 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 #ME0001139 utilized as the primary reference number for the Embden facility.

b. Terms and conditions – This permitting action is similar to the January 30, 2006 MEPDES Permit / Maine WDL and subsequent permit modifications and revisions 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. revising the monthly average flow limit to 5.0 MGD and BOD_5, TSS, and total phosphorus mass limits accordingly;
2. revising minimum monitoring frequency requirements for fish on hand and formalin, as well as seasonal monitoring requirements for total phosphorus and effluent dissolved oxygen;
3. eliminating monitoring requirements for effluent pH, ambient dissolved oxygen and water temperature; and
4. updating requirements related to diseases, pathogens, therapeutic agents and disinfecting/sanitizing agents.

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

February 20, 1975 – The USEPA issued NPDES Permit #ME0001139 to the Maine Department of Inland Fisheries and Game for the discharge of an unspecified volume of wastewater from the Embden Rearing Station to Mill Stream. The Permit was valid through February 15, 1980.

May 11, 1983 – The Maine Board of Environmental Protection issued WDL #2029 for the discharge of a daily maximum of 5.0 MGD of fish hatchery wastewater from the MDIFW Embden Rearing Station to Mill Stream, Class B-1. The WDL was a renewal of a previously issued license #2029. The WDL was issued for a five-year term.

July 21, 2000 – The Department issued # W-002029-5Q-A-R to MDIFW Embden Rearing Station for the discharge of a daily maximum of 4.75 MGD of treated fish hatchery wastewater. The WDL was issued for a five-year term.

2. PERMIT SUMMARY (cont'd)

September 10, 2001 – The Department suspended monitoring requirements established in WDL # W-002029-5Q-A-R for Outfall #001A, designated for effluent discharges from the settling basin when not cleaning raceways. The Department required monitoring for Outfalls #001B and #002A, designated for effluent discharges from the settling basin when cleaning raceways and from non-cleaning flow-through water bypassing the settling basin, to be conducted by autocompositer. The Department made no mention of Outfall #003A, previously designated for a summary of the flow, mass of fish on hand, and total phosphorus values from Outfalls #001B and #002A. MDIFW continued to monitor all outfalls.

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

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

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

July 11, 2003 – The Department administratively modified WDL # W-002029-5Q-A-R to extend the 3-year schedule of compliance for BOD, TSS, and phosphorus effluent limits established in the WDL through the life of the WDL.

January 30, 2006 - The Department issued MEPDES Permit #ME0001139 / Maine WDL #W-002029-5Q-B-R to MDIFW Embden for the discharge of a monthly average of 4.75 MGD of fish rearing facility wastewater to Mill Stream, Class B, in Embden. The Permit / WDL was issued for a five-year term.

October 6, 2008 - The Department issued Minor Revision #W-002029-5Q-C-M / MEPDES Permit #ME0001139 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.

April 23, 2009 - The Department issued Minor Revision #W-002029-5Q-D-M / MEPDES Permit #ME0001139 to revise effluent BOD_5 and TSS minimum monitoring frequency requirements from once / 2 weeks to once / month. The Minor Revision also provided guidance for reporting analytical results below detection and/or reporting limits.

2. PERMIT SUMMARY (cont'd)

December 15, 2010 – MDIFW Embden submitted a timely application for renewal of its MEPDES Permit / WDL. The application was assigned MEPDES Permit #ME0001139 / WDL #W-002029-6F-E-R.

d. Source Description/ Facility Operation:

The MDIFW Embden facility was constructed in 1957 as a state aquaculture facility and underwent significant upgrades in 2005. MDIFW Embden is a fish rearing station, raising brook trout, brown trout, and splake fry and landlocked Atlantic salmon fingerlings obtained from other MDIFW hatchery facilities to appropriate sizes for stocking in Maine waters as part of MDIFW's responsibilities in managing fisheries in Maine. Fish are brought to MDIFW Embden from other MDIFW facilities according to the summary table below.

SPECIES	MDIFW HATCHERY DONOR	MONTH RECEIVED	APPROX SIZE WHEN RECEIVED	FF	SY	FY
Brook Trout	Dry Mills/Gov. Hill	May/Jun	2" – 3 "	45%	42%	13%
Brown Trout	New Glouc.	May	2" – 3"	0	62%	38%
Splake	Gov. Hill	May	2" – 3"	8%	20%	72%
Landlocked Salmon	Grand Lake Str.	Oct/Nov	5" – 7"	0	80%	20%

FF = fall fingerlings; SY = spring yearlings; FY = fall yearlings

Influent Water: Source water for the MDIFW Embden facility is obtained from Embden Pond (1,568-acres) through two intake pipes, a deep water (64-feet deep) 24-inch diameter iron pipe and a shallow water (15-feet deep) 24-inch diameter iron pipe. MDIFW Embden blends influent water in a head box at the head of the facility as needed to meet temperature requirements (35-62 degrees F) for its fish. Influent pipes are screened and the headbox is strained to prevent fish and debris from entering the station. MDIFW Embden is a gravity-fed flow-through facility. It contains a dissolved oxygen management system with bulk liquid oxygen and low head oxygen contact chambers and ultraviolet disinfection of influent water with one UV unit dedicated to each of three lines of rearing tanks. MDIFW Embden discharges to Mill Stream (Class B), which in turn flows to the Carrabassett (Class B) and Kennebec (Class A) Rivers.

Rearing Facilities: MDIFW Embden's rearing facilities consist of thirty, 20-foot diameter by 3.0-foot deep (7,050-gallon) stainless steel circular fish tanks, arranged in three lines of 10 tanks. Influent water is provided to the head of the three lines of tanks, then independently to each tank. Tank effluent water is independently discharged, but combined for treatment. Feeding is conducted with demand and belt feeders as well as manually. MDIFW Embden indicates using an average of 270 pounds of food per day, a maximum of 750 lbs/day, and a period of peak feeding during August and September.

2. PERMIT SUMMARY (cont'd)

Fish are raised for both spring and fall stocking. In the fall (Sept/Oct), MDIFW Embden stocks fall fingerlings (< 12 mos old), 6 to 8-inch long brook trout, brown trout, and splake. Also in the fall, fall yearling (approx. 20 mos old), 12 to 14-inch brook trout, brown trout, splake and landlocked Atlantic salmon are stocked. In the spring (May/June), MDIFW Embden stocks spring yearling (>12 mos old), 6 to 8-inch long landlocked Atlantic salmon and spring yearling (>12 mos old), 10 to 12-inch long brook trout, brown trout, and splake. New trout fry and salmon fingerlings are brought on station for rearing as outlined above to replace stocked fish. MDIFW Embden houses a maximum of 300,000 first-year fish (combined weight 75,000 pounds) at any time.

e. Wastewater Treatment: MDIFW Embden's rearing tanks contain a screened pit on the bottom for settling and collection of solid fish waste materials. As necessary based on daily inspection, MDIFW Embden removes standpipes from individual rearing tanks to divert waste materials contained in the pit to the facility wastewater treatment infrastructure described below for filtration, settling, and removal of solids. Additionally, rearing tanks are inspected a minimum of twice per year and cleaned by power washing as needed when empty.

All facility cleaning and flow-through wastewater is carried via a common wastewater pipeline to two 60-micron drum filters, designed to be operated simultaneously under normal conditions or alone in the case of needed maintenance. Filter backwash of captured solids is routed to a 40-foot by 45-foot sloped settling basin with depths ranging from a few inches to 3.5-feet to facilitate settling (23,562-gallons). MDIFW Embden's 2005 rebuild included an adjoining 40-foot by 45-foot by 5-foot deep (67,320-gallons)) sludge storage/dewatering tank designed to provide a minimum of 6-months of storage capacity. However, site issues have prevented use of this structure to date. MDIFW Embden provides full wastewater treatment of all effluent flows, with final discharge through a single outfall, Outfall #005A, a 24-inch diameter HDPE pipe that outlets approximately one-foot above stream level onto a riprap apron. Use of agents for therapeutic and disinfecting/sanitizing purposes are addressed in subsequent Fact Sheet sections titled accordingly.

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:

Maine law, 38 M.R.S.A., Section 467.4.B(2)(b) classifies Mill Stream at the point of discharge as a Class B water. Maine law, 38 M.R.S.A., Section 465.3, describes the standards for Class B waters.

5. RECEIVING WATER QUALITY CONDITIONS:

The State of Maine 2010 *Integrated Water Quality Monitoring and Assessment Report* (DEPLW1187), 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. The report includes the receiving water in the designation *Mill Stream (Embden)* (Assessment Unit ME0103000304_ 313R01), listed in Category 4-B, Rivers and Streams Impaired by Pollutants – Pollution Control Requirements Reasonably Expected to Result in Attainment. The listing identifies the impairment cause as *Benthic-Macroinvertebrate Bioassessments (Streams)* for a 2.57 mile segment of Class B water. The listing further provides comments, *Hatchery permit issued 1/30/2006; exp. Date 1/30/2011,* and lists an "Expect To Attain Date" of *2011*.

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 the Embden facility causes or adversely contributes to non-attainment of standards in Mill Stream. The Department notes that macroinvertebrate biomonitoring conducted in 2006 indicated that the receiving water below the MDIFW Embden facility was attaining Class B aquatic life standards.

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 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.

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

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 MDIFW Embden and other facilities since issuance of the previous permitting actions. As described herein, MDIFW Embden discharges its wastewater to a small stream that provides minimal dilution. The Department advises MDIFW that considerations of the number, mass, and life stages of fish maintained on station need to also evaluate and include the wastewater treatment infrastructure, operations and maintenance necessary to insure effluent quality, ambient water quality, and attainment of water class standards and designated uses.

a. Flow: The previous permitting action established a monthly average discharge limit of 4.75 MGD, which is being revised to 5.0 MGD in this permitting action to provide the facility with greater weather-related operational flexibility. The required daily minimum measurement frequency 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 IFW Embden facility for the period of February 2006 through January 2011 indicates the following.

EFFLUENT FLOW

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	4.75 MGD	3.17 MGD	4.75 MGD	4.57 MGD	57

b. Dilution Factors: Dilution factors associated with wastewater discharges are derived in accordance with freshwater protocols established in Department Rule 06-096 CMR 530, *Surface Water Toxics Control Program*, October 2005 and methods for low flow calculation contained in Estimating Monthly, Annual, and Low 7-day, 10-year Streamflows for Ungaged Rivers in Maine (Scientific Investigations Report 2004-5026, US Department of Interior, US Geological Service). To calculate potential effects from a facility's effluent discharge, the Department utilizes the receiving water's available dilution during low flow conditions. The MDIFW Embden facility discharges its treated effluent via a discharge pipe into the side of Mill Stream. Typically, these types of discharges do not achieve rapid and complete mixing with the receiving water since initial dilution is based on mixing resulting from the momentum of a discharge as it exits a discharge pipe (jet effect) as well as the dispersion of the effluent plume as it rises to the surface of the receiving water. 06-096 CMR 530.4.B(1) states that analyses using numeric acute criteria for aquatic life must be based on ¼ of the 1Q10 stream design flow to prevent substantial acute toxicity within any mixing zone. The regulation goes on to say that where it can be demonstrated that a discharge achieves rapid and complete mixing with the receiving water by way of an efficient diffuser or other effective method, analyses may use a greater proportion of the stream design, up to including all of it.

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

As noted in the previous permitting action, MDIFW owns the dam on Embden Pond. MDIFW is in the process of granting ownership of the dam to the town of Embden. There is a formal Water Level Order for Embden Pond dated December 6, 1978, but there is no formal requirement specifying a minimum flow that must be passed over or through the dam to Mill Stream. MDIFW Embden reports and Department evidence supports that the area of Embden Pond around the dam and the upper portion of Mill Stream are significantly or completely dewatered on occasion. At those times, the MDIFW Embden discharge constitutes the only flow in that portion of Mill Stream. Based on this information, the Department must assume a seasonal low flow of 0 cubic feet per second in Mill Stream and acute (1Q10), chronic (7Q10) and harmonic mean dilution factors of 1:1, representative of the fact that the MDIFW Embden discharge sometimes constitutes the only river flow. If MDIFW wishes to establish a guaranteed minimum flow from the Embden Pond dam in the future, this determination may be revisited.

c. Biochemical Oxygen Demand (BOD_5) and 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 BPJ of Best Practicable Treatment (BPT), which are being carried forward in this permitting action. 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_5, and consideration of effluent quality from facilities utilizing the Department's BPJ of minimum treatment technology. Mass limits were calculated based on the monthly average flow limit, the appropriate concentration limits, and a standard conversion factor. The previously established BOD_5 and TSS concentration limits are being carried forward in this permitting action. The mass limits are being revised to a monthly average of 250 lbs/day and a daily maximum of 417 lbs/day based on the revised flow limit of 5.0 MGD.

A review of the DMR data for the IFW Embden facility for the period of February 2006 through January 2011 indicates the following.

BOD MASS

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	238 lbs/day	<66 lbs/day	238 lbs/day	<101 lbs/day	57
Daily Max.	396 lbs/day	<66 lbs/day	317 lbs/day	<110 lbs/day	57

BOD CONCENTRATION

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	6 mg/L	<2 mg/L	6 mg/L	<2.7 mg/L	57
Daily Max.	10 mg/L	<2 mg/L	8 mg/L	<2.9 mg/L	57

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

TSS MASS

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	238 lbs/day	<56 lbs/day	<360 lbs/day	<97 lbs/day	57
Daily Max.	396 lbs/day	58 lbs/day	649 lbs/day	<110 lbs/day	57

2 exceedences of the monthly average TSS mass limit.
1 exceedence of the daily maximum TSS mass limit.

TSS CONCENTRATION

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	6 mg/L	<2 mg/L	<10 mg/L	<2.6 mg/L	57
Daily Max.	10 mg/L	<2 mg/L	18 mg/L	<2.9 mg/L	57

2 exceedences of the monthly average TSS concentration limit.
1 exceedence of the daily maximum TSS concentration limit.

The previous permitting action established minimum monitoring requirements of once per two weeks for effluent BOD_5 and TSS, which were modified to once per month in April 2009, based on revised Department BPJ of monitoring frequencies necessary to more accurately characterize facility effluent conditions. This permitting action carries forward the once per month minimum monitoring frequency requirement.

d. Total Phosphorus and Orthophosphate: Phosphorus is a nutrient that encourages the growth of plants such as planktonic algae and macrophytes in northern waters. Oxygen levels in the water are reduced in the early morning hours due to extended nighttime respiration of algae. The decomposition of excess plant material further reduces the amount of available oxygen in the water through biochemical oxygen demand. Lowering oxygen levels in a receiving water impacts the aquatic life in that water, making it unfit for some forms of life. Further, enrichment from excess nutrients, such as phosphorus, can result in reductions in aquatic macro-invertebrate species diversity, an indicator of the overall health of a receiving water. Excess phosphorus can also result in undesirable aesthetic conditions in a receiving water, impacting that water's ability to meet standards for maintaining recreational use, a designated use by law. Therefore, any increase in the phosphorus content in a receiving water has the potential to cause or contribute to non-attainment of classification standards. Pursuant to Maine law (38 MRSA § 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*".

In the previous permitting action, the Department established a seasonal monthly average phosphorus concentration limit based on a 0.035-mg/L BPJ instream ambient water quality (AWQ) threshold and MDIFW Embden's chronic dilution factor. Based on Department research, the AWQC of 0.035 mg/L corresponds to the maximum level at which algae blooms will not typically occur in a receiving river or stream under normal circumstances. As phosphorus is typically of concern under chronic discharge conditions,

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

the 7Q10 dilution of 1:1 described in Fact Sheet Section 6b, Dilution Factors, was utilized in calculation of a water quality based effluent concentration limit of 0.035 mg/L. A monthly average mass limit of 1.4 lbs/day was established based on the concentration limit, monthly average effluent flow limit, and a conversion factor of 8.34 lbs/gallon. The monthly average mass limit is being revised to 1.5 lbs/day based on the revised flow limit of 5.0 MGD. Monitoring and reporting requirements were also established for the daily maximum phosphorus mass and concentration discharged. As phosphorus is typically a summer time concerns for water quality in free flowing rivers and streams, the effluent limits and monitoring requirements were in effect from June 1 through September 30 each year. A required minimum monitoring frequency of once per two-weeks was established based on the Department's BPJ of monitoring frequencies necessary to more accurately characterize facility effluent conditions, which is being revised to twice per month, also based on BPJ.

The previous permitting action established a one year monitoring requirement for monthly average and daily maximum orthophosphate mass and concentration. Orthophosphate is the portion of total phosphorous that is readily available for uptake by aquatic plants. The requirement was fulfilled and is not being carried forward in this permitting action. A review of the DMR data for the IFW Embden facility for the period of February 2006 through January 2011 indicates the following.

PHOSPHORUS MASS

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	1.4 lbs/day	1.4 lbs/day	5.7 lbs/day	2.9 lbs/day	20
Daily Max.	report lbs/day	1.4 lbs/day	7.1 lbs/day	3.5 lbs/day	20

19 exceedences of the monthly average phosphorus mass limit.

PHOSPHORUS CONCENTRATION

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	0.035 mg/L	0.038 mg/L	0.145 mg/L	0.075 mg/L	20
Daily Max.	report mg/L	0.039 mg/L	0.180 mg/L	0.089 mg/L	20

20 exceedences of the monthly average phosphorus concentration limit.

ORTHO-PHOSPHORUS MASS

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	report lbs/day	0.4 lbs/day	1.4 lbs/day	0.9 lbs/day	8
Daily Max.	report lbs/day	0.5 lbs/day	1.9 lbs/day	1.1 lbs/day	8

ORTHO-PHOSPHORUS CONCENTRATION

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	report mg/L	0.011 mg/L	0.036 mg/L	0.023 mg/L	8
Daily Max.	report mg/L	0.013 mg/L	0.049 mg/L	0.027 mg/L	8

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

For the purpose of this permitting action the Department is continuing to utilize the BPJ AWQ threshold for phosphorus described above. It is noted that the Department is currently undergoing rulemaking to establish new nutrient criteria. The adoption of Department Rule 06-096 CMR 583, Use Attainment Evaluation Using Nutrient Criteria for Surface Waters, may, or may not, effect future limits for phosphorus.

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 revising the required minimum monitoring frequency of once per two weeks to twice per month, based on the Department's BPJ of monitoring frequencies necessary to more accurately characterize facility effluent conditions. A review of the DMR data for the IFW Embden facility for the period of February 2006 through January 2011 indicates the following.

FISH ON HAND

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	report lbs/day	17,735 lbs/day	65,664 lb/day	41,353 lb/day	57
Daily Max.	report lbs/day	18,168 lbs/day	73,444 lb/day	47,049 lb/day	57

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. MDIFW Embden reports that approximately 165 gallons of formalin are used at the Embden facility annually, an increase from the 55-gallons per year projected for the previous permitting action. 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 two weeks and guidance for calculating the levels of effluent formalin. 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 projected maximum amount of formalin used per day, 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.

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

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 most 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 MDIFW Embden's MEPDES Permit / Maine WDL on October 10, 2008, revising hatchery and rearing station permit concentration limits for formalin.

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 1:1 effluent to ambient acute dilution applicable to this facility and its receiving water.

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

The previously established daily maximum formalin mass limit of 150 lbs/day, developed pursuant to 06-096 CMR 523.6(f) based on projected use at MDIFW Embden, 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 MDIFW Embden to report therapeutic agents used at the facility that have the potential to be discharged to the receiving water. This permitting action revises the minimum monitoring frequency requirement to once per occurrence (each formalin use), consistent with Department BPJ and requirements for other facilities within this industry.

A review of the DMR data for the IFW Embden facility for the period of February 2006 through January 2011 indicates the following.

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

FORMALIN MASS

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.					
1-hr treatment	report lbs/day	14 lbs/day	60 lbs/day	30.8 lbs/day	19
24-hr treatment	report lbs/day	18 lbs/day	18 lbs/day	18 lbs/day	1
Daily Max.					
1-hr treatment	150 lbs/day	14 lbs/day	75 lbs/day	36.7 lbs/day	19
24-hr treatment	150 lbs/day	18 lbs/day	18 lbs/day	18 lbs/day	1

FORMALIN CONCENTRATION

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.					
1-hr treatment	report mg/L	7.6 mg/L	33 mg/L	18.9 mg/L	19
24-hr treatment	report mg/L	1.8 mg/L	1.8 mg/L	1.8 mg/L	1
Daily Max.					
1-hr treatment	45 mg/L	7.6 mg/L	50 mg/L	22.5 mg/L	19
24-hr treatment	25 mg/L	1.9 mg/L	1.9 mg/L	1.9 mg/L	1

3 exceedences of the daily maximum formalin concentration limit prior to the 2008 permit revision; 1 exceedence after the revision.

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 theoretical 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.

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

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 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 waste-stream = 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.

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

g. Dissolved Oxygen (effluent): The previous permitting action established a seasonal daily minimum effluent dissolved oxygen (DO) limit of 7.5 mg/L and once per week monitoring requirements from June 1 through September 30 each year. This limit was established because of the low dilution of facility effluent provided in the receiving water. It was based on Department modeling and to ensure compliance with Class B dissolved oxygen standards. The previous permitting action also established monthly average and daily maximum effluent DO concentration monitoring requirements at a minimum frequency of once per week. A review of the DMR data for the IFW Embden facility for the period of February 2006 through January 2011 indicates the following.

EFFLUENT DISSOLVED OXYGEN CONCENTRATION

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	report mg/L	9.4 mg/L	11.0 mg/L	10.3 mg/L	19
Daily Max.	report mg/L	10.1 mg/L	11.6 mg/L	10.8 mg/L	19
Daily Min.	7.5 mg/L	7.0 mg/L	10.6 mg/L	9.6 mg/L	19

1 exceedence of the daily minimum effluent dissolved oxygen concentration limit.

This permitting action carries forward the daily minimum limit and monthly average and daily maximum monitoring requirements for DO, but revises the minimum monitoring frequency to twice per month based on the data observed. The permittee shall maintain copies of all data from effluent dissolved oxygen monitoring at the facility for a period of five years and shall provide copies of data to the Department upon request.

h. pH: The previous permitting action (2006) carried forward a daily maximum pH range limit of 6.0 – 8.5 standard units (su) from the preceding (2000) licensing action, 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. The 2000 licensing action contained no requirements to monitor pH, whereas the 2006 permitting action established a requirement to monitor pH once / 2 weeks. A review of the DMR data for the IFW Embden facility for the period of February 2006 through January 2011 indicates the following.

pH RANGE

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	---	6.2 s.u.	6.9 s.u.	---	29
Daily Max.	6.0-8.5 s.u.	6.3 s.u.	7.1 s.u.	---	29

The Department observes that MDIFW Embden has demonstrated consistent effluent quality with pH values within the required range, without exception. Similar to procedures established in 06-096 CMR 530, as this data demonstrates no exceedence of or reasonable potential to exceed the established criteria and based on the demonstrated long-term trend which is not anticipated to change, this permitting action eliminates requirements to monitor effluent pH based on Department BPJ.

7. SETTLING BASIN CLEANING:

Discharge of inadequately treated fish hatchery wastewater (excess feed and fish waste) contributes solids, BOD, and nutrients to receiving waters, which can contribute to eutrophication and oxygen depletion. This, in combination with other pollutant specific toxic effects, impacts the aquatic life and habitat value in the receiving water. Typical hatchery wastewater treatment practices include effluent filtration and settling with solids removal.

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 operational 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.

8. DISEASES, PATHOGENS, AND THERAPEUTIC AGENTS:

This permitting action updates requirements related to diseases, pathogens, and therapeutic agents. Maine Department of Inland Fisheries and Wildlife (MDIFW) Rules (Chapter 2.03-A) and Maine Department of Marine Resources (MeDMR) Rules (Chapter 24.21) state that *"the transfer and/or introduction of organisms fall within the jurisdiction of the Department of Marine Resources (12 MRSA, §6071) into coastal waters within the State of Maine and the Department of Inland Fisheries and Wildlife (12 MRSA, §§7011, 7035 and 7201, 7202) into public and/or private waters within the State of Maine. These rules are intended to protect wild and farmed salmonid fish populations and shall be applicable to all individuals involved in the culture and movement of live salmonids and gametes."* Further, both agencies' rules define Diseases of Regulatory Concern as *"…infectious agents that have been demonstrated to cause a significant increase in the risk of mortality among salmonid populations in the State of Maine. Diseases of Regulatory Concern are classified by the Commissioner into three (3) disease categories: exotic, endemic (limited distribution) and endemic based on an annual review and analysis of epidemiological data."*

In 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 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

8. DISEASES, PATHOGENS, AND THERAPEUTIC AGENTS (cont'd)

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.

The permittee must comply with Maine Department of Inland Fisheries and Wildlife (freshwater facilities) and Maine Department of Marine Resources (salmon & marine facilities) 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 addition to the requirements of the MDIFW and MEDMR rules, the permittee shall notify the Department in writing within 24-hours following pathogen detection, with information on the disease/pathogen, necessary control measures, and the veterinarian involved.

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 or used as prescribed by a Maine licensed veterinarian as authorized in the Maine Veterinary Practice Act (31 MRSA, §4852) and the Maine Animal Welfare Act (7 MRSA, §3901). Proper veterinary 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 and under the authority of a Maine licensed veterinarian. The permittee shall notify the Department in writing within 24-hours following such use, with information on the conditions necessitating off-label or extra-label drug use, necessary control measures, and the veterinarian involved.

For either reporting requirement outlined, the permittee must provide information on: the proposed treatment(s) including materials/chemicals/agents used, material/chemical/agent toxicity to aquatic life, the mass and concentrations of materials/chemicals/agents as administered, and the concentrations to be expected in the effluent. For any off-label or extra-label use, the permittee shall also provide 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, and the likely need of repeat treatments. 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. The use and discharge of therapeutic agents is subject to the conditions described in Permit Special Condition C, Unauthorized Discharges.

MDIFW Embden indicates that the following therapeutic agents may be used at the Embden facility. These agents must be used pursuant to the requirements specified herein.

8. DISEASES, PATHOGENS, AND THERAPEUTIC AGENTS (cont'd)

Formalin. Effluent limitations and monitoring requirements related to the use of formalin at the facility are addressed in Permit Special Condition A, footnote 4 and Fact Sheet Section 6.f.
Finquel/MS 222 fish anesthetic to allow for close examination including fin clippings and vaccinations. Active ingredient Tricaine methanesulfonate. Less than 20 grams (0.7 oz) per year are used.
Fish-eeZZZ fish anesthetic to allow for close examination including fin clippings and vaccinations. Active ingredients spearmint oil, wintergreen oil, and emulsifying agents. Approximately 1 liter (0.26 gal) per year is used.
Sodium Chloride to assist fish in times of high stress. It induces additional slime production to aid in combat against naturally occurring freshwater parasites. Approximately 15,000 pounds per year used to create solutions of 300 ppm within isolated treatment areas.

The use and discharge of the materials described above or incorporated in the future are subject to the conditions described in Permit Special Condition C, Unauthorized Discharges.

9. DISINFECTING/SANITIZING AGENTS:

MDIFW Embden indicates that the following disinfecting/sanitizing agents may be used at the Embden facility. These agents must be used pursuant to the requirements specified herein.

Steris TBQ for disinfection of nets, utensils, boots, stocking trucks, etc. Active ingredients alkyl dimethyl benzyl ammonium chloride (8%) and inert ingredients (90%). Approximately 1 gallon used per year at a concentration of 2 oz per 1 gallon of water.
Argentyne for disinfection of nets, utensils, boots, stocking trucks, etc. Active ingredients polymeric-iodine complex (10%), inert ingredients (90%). Approximately 2 gallons used per year at a concentration of 3.9 oz per 1 gallon of water.
For the previous permitting action, MDIFW Embden reported that neither its hard surface disinfectant ("T.B.Q.") nor its iodine based product for footbath disinfection was used in a manner that it would enter the waste-stream or receiving water.

This permitting action updates requirements related to disinfecting/sanitizing agents. Disinfectants and/or sanitizing agents shall be registered with USEPA as appropriate and applied according to manufacturer's label instructions. 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. The use and discharge of disinfecting/sanitizing agents is subject to the conditions described in Permit Special Condition C, Unauthorized Discharges.

10. 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 Embden facility that shall consist of treatment equal to or better than 60-micron microscreen filtration of the effluent, wastewater settling/clarification, removal of solids. This determination is being carried forward in this permitting action. MDIFW Embden shall provide treatment 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.

11. AMBIENT MACROINVERTEBRATE BIOMONITORING:

In the previous permitting action, the Department committed to conducting macroinvertebrate biomonitoring in the receiving water in 2006 to determine attainment of the aquatic life standards following upgrade of the MDIFW Embden facility. Based on limited available data and Department concerns with potential effects of the facility's effluent discharges on the aquatic life in Mill Stream, the previous permitting action required the permittee to conduct ambient macroinvertebrate biomonitoring annually beginning calendar year 2007. Results were to be reported to the Department annually. The previous permitting action contained provisions for modification or discontinuance of the biomonitoring requirement if the receiving water was determined by the Department to be meeting criteria, standards, and designated uses for its assigned water quality class.

MEDEP's Division of Environmental Assessment's 2006 macro-invertebrate sampling indicated that Mill Stream was attaining Class B aquatic life standards below the discharge from the MDIFW Embden facility. Based on this, MDIFW Embden was not required to conduct macroinvertebrate biomonitoring in 2007 or in subsequent years of the permitting action. The 2006 data is the most recent macroinvertebrate data available. The Department has no information that indicates that additional macroinvertebrate testing is required at this time.

12. AMBIENT DISSOLVED OXYGEN AND TEMPERATURE MONITORING:

Based on the low effluent dilution provided in the receiving water and the need for additional data on the effects of the MDIFW Embden's effluent on the water quality of Mill Stream, the previous permitting action required the permittee to seasonally monitor ambient dissolved oxygen and temperature levels at two locations in Mill Stream. The permittee monitored ambient dissolved oxygen and temperature (Celsius) at a frequency of once per week from June 1 through September 30 each year. Monitoring was conducted at two locations: (1) between the Embden Pond dam and the head of the MDIFW Embden facility in an area representing free-flowing conditions and (2) below the MDIFW Embden outfall in an area representing the dissolved oxygen sag point, unless revised by the Department.

A review of the DMR data for the IFW Embden facility for the period of February 2006 through January 2011 indicates the following.

AMBIENT LOCATION 1 – UPSTREAM MONITORING
AMBIENT DISOLVED OXYGEN CONCENTRATION

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	report mg/L	7.4 mg/L	9.4 mg/L	8.6 mg/L	20
Daily Max.	report mg/L	8.3 mg/L	10.0 mg/L	9.2 mg/L	20
Daily Min.	report mg/L	5.3 mg/L	8.8 mg/L	7.9 mg/L	20

AMBIENT WATER TEMPERATURE

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	report deg C	14.9 degrees C	24.2 degrees C	19.2 degrees C	20
Daily Max.	report deg C	17.0 degrees C	25.3 degrees C	21.4 degrees C	20
Daily Min.	report deg C	10.7 degrees C	23.5 degrees C	17.3 degrees C	20

AMBIENT LOCATION 2 – DOWNSTREAM MONITORING
AMBIENT DISOLVED OXYGEN CONCENTRATION

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	report mg/L	8.4 mg/L	10.5 mg/L	9.3 mg/L	20
Daily Max.	report mg/L	8.6 mg/L	10.7 mg/L	9.8 mg/L	20
Daily Min.	report mg/L	6.9 mg/L	10.0 mg/L	8.8 mg/L	20

AMBIENT WATER TEMPERATURE

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	report deg C	13.0 degrees C	21.9 degrees C	17.4 degrees C	20
Daily Max.	report deg C	13.9 degrees C	23.7 degrees C	19.0 degrees C	20
Daily Min.	report deg C	12.4 degrees C	21.8 degrees C	16.1 degrees C	20

The Department has determined that further information is not needed at this time on potential ambient water quality effects from MDIFW Embden's discharge and is therefore eliminating the ambient monitoring requirements in this permitting action.

13. SALMON GENETIC INTEGRITY AND HATCHERY 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 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.*"

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

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. The release or escape of certain species is also of concern to the Maine Department of Inland Fisheries and Wildlife (MDIFW), which manages fisheries resources in Maine.

MDIFW Embden is a state brook trout, brown trout, splake, and landlocked Atlantic salmon rearing facility that produces fish for stocking in Maine waters as part of MDIFW's responsibilities in managing fisheries. MDIFW Embden does not raise Atlantic salmon as envisioned in the USEPA opinion above and thus is not subject to genetic testing requirements. MDIFW Embden discharges its effluent to Mill Stream, which in turn flows to the Carrabassett and Kennebec Rivers. Although lower portions of the Kennebec River are designated DPS river segments, the receiving waters in the vicinity of the discharge are not DPS waters.

For the previous permitting action, NOAA Fisheries indicated that as MDIFW Embden does not discharge effluent to a Gulf of Maine DPS river segment, a CMS plan is not required for the protection of endangered Atlantic salmon. However, NOAA Fisheries further commented that from an ecosystem perspective, fish containment would certainly help protect native fauna in the receiving water. In this permitting action, as in the previous permitting action, the Department is not requiring genetic testing or a CMS for MDIFW Embden.

14. DISCHARGE IMPACT ON RECEIVING WATER QUALITY:

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

15. PUBLIC COMMENTS:

Public notice of this application was made in the Kennebec Journal newspaper on or about December 15, 2010. 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.

16. 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) 215-1579
Fax (207) 287-3435
email: Robert.D.Stratton@maine.gov

17. RESPONSE TO COMMENTS:

During the period of May 25, 2011 through June 27, 2011, the Department solicited comments on the proposed draft Maine Pollutant Discharge Elimination System Permit / Maine Waste Discharge License to be issued to the MDIFW Embden (Ela rearing) facility for the proposed discharge. On June 27, 2011, the Department received comments on the proposed draft MEPDES Permit / Maine WDL from MDIFW. The comments received related to previous comments from MDIFW on the Preliminary Draft MEPDES Permit / Maine WDL of April 5, 2011, which were addressed by the Department in a correspondence to MDIFW on May 24, 2011 and in the Proposed Draft Permit to the extent possible. The June 27, 2011 comments received and the Department's responses are included below.

Comment 1, Permit Special Conditions A, Footnote 1, Composite Samples. MDIFW comments, "*Having to notify our inspector that we are using 4 grab samples instead of the 24 hr compositor when daily temperatures are averaging below freezing seems unnecessary."*

Response 1. The permit requires 24-hour automatic composite sampling because this methodology typically provides effluent results that are more accurate, as well as to the benefit of the permittee, than hand compositing four grab samples collected during an 8-hour working day. However, the permit allows for use of the latter methodology when weather conditions and/or equipment issues prevent automatic compositing. As noted in earlier (May 24, 2011) correspondence to MDIFW Embden, "*It is important for the compliance inspector to be aware*" of monitoring procedures used at regulated facilities as well as changes in them. This better allows the inspector, whose job is to be familiar with facility operations and procedures and to work with facilities to ensure compliance with permit requirements, to determine compliance with effluent limits, monitoring, operation and maintenance requirements and conditions that may affect them. In the Proposed Draft Permit, the Department revised the requirement to obtain approval of the inspector to initiate the described change in monitoring procedures to a simple notification of the inspector. The MDIFW Embden facility is the first facility to receive this revision to a requirement that is consistent throughout the industry. The Department is proposing no further changes in this requirement at this time.

17. RESPONSE TO COMMENTS (cont'd)

Comment 2, Permit Special Conditions A, Footnote 4, Formalin. MDIFW comments, "*I am still concerned about the frequency of once every 4 days. I would like more open discussion relating to this before it is finalized. Although not utilized frequently, waiting 3 or 4 days to do a follow up treatment may not be sufficient enough and could actually delay the effectiveness of previous treatments.*"

Response 2. As noted in Fact Sheet Section 6.f, Formalin, the requirements for emergency use of formalin in excess of the standard one hour per day use, were established in MDIFW Embden's Permit, as well as all other affected industry Permits, in October 2008 in response to toxicity testing undertaken by MDIFW. These are not arbitrary requirements, but were established based on the aquatic toxicity of formalin in order to provide for protection of ambient aquatic life. As the Department noted in earlier correspondence, "*The two stage formalin numerical and timing limits are based on aquatic effects of formalin as indicated by toxicity testing. I'm afraid we can not shorten the 4 days. Please see the formalin fact sheet summary for information.*" The Department is proposing no further changes in this requirement at this time.

Comment 3, Permit Special Conditions A, Footnote 5, Supplemental Data Forms. MDIFW comments, "*I am assuming that you are also requesting worksheets for formalin calculations and worksheets for calculations that compute data entries for the DMR's. To my knowledge, this has not been consistent statewide so I just want to make sure that there is no room for interpretation.*"

Response 3. The footnote in question requires MDIFW and all other facilities that are required to monitor effluent dissolved oxygen due to extremely low effluent to ambient dilutions, to submit all data obtained for this parameter as opposed to only the data summaries entered on the monthly Discharge Monitoring Report (DMR). For MDIFW Embden, this means that the facility is required to submit the results of the twice per month required monitoring and not just the daily maximum, monthly average, and daily minimum values required to be entered on the DMR. In the previous Permit, MDIFW Embden was required to also submit data for ambient monitoring. However, these requirements have been eliminated in this permitting action as noted in Fact Sheet Section 12, Ambient Dissolved Oxygen and Temperature Monitoring. As the Department noted in earlier correspondence, "*The supplemental forms now only apply to effluent DO, but an inspector is able to request more information to investigate concerns.*" Occasionally, requirements from Department compliance inspectors do vary between facilities in response to facility and receiving water specific issues and concerns. At any time that a permittee believes that this is not being done for appropriate reasons, he/she is encouraged to bring this to the Department's attention. In fact, this is one of a number of concerns being discussed between MDIFW and MEDEP. As far as this footnote requirement, the Department is proposing no further changes in this requirement at this time.

17. RESPONSE TO COMMENTS (cont'd)

Comment 4, Permit Summary 1 and Fact Sheet Section 2.b, Permit Summary Terms and conditions. MDIFW Embden comments, *"I would like to have some more discussion on revising our average daily flow to 5.0 MGD. (i.e implications for or against???) I think that it would be to our benefit although I just want to make sure that I understand any implications that might transpire as a result of it."*

Response 4. In the Preliminary Draft MEPDES Permit / Maine WDL, the Department proposed to carry forward the previous 4.75 million gallon per day (mgd) monthly average flow limitation. MDIFW Embden commented at that time, "*Current WDL max flow of 4.75 MGD is our normal daily operating flow and is what our site was designed to operate efficiently at. Occasional excessive rainfall could increase influent head in Embden P enough to cause us to exceed our allowed daily max of 4.75 MGD. I would like to recommend changing the daily max flow back to 5.0 MGD which is what it was as of WDL#2029 issued May 11th, 1983. This would minimize the risk of being in violation due to exceedance of daily maximum flow.*" The request to increase MDIFW Embden's flow limit was also made by MDIFW, separate from this comment. After investigating the requests, the Department noted in earlier correspondence, "*I have revised your flow limit to 5.0 mgd, which provides for a small increase in your mass limits for bod, tss, and total p.*" In part, Fact Sheet Section 6.a, Flow, states, "*The previous permitting action established a monthly average discharge limit of 4.75 MGD, which is being revised to 5.0 MGD in this permitting action to provide the facility with greater weather-related operational flexibility.*" As this action was taken at the request of MDIFW Embden and MDIFW itself, the Department is proposing no further changes in this requirement at this time.

Comment 5, Fact Sheet Section 2.d, Source Description/Facility Operation. MDIFW Embden comments, *"Just wanted to make sure that you understood that the % values at the right hand side of the table were representative of the total fish stocked for each age class of fish for each of the respective species."*

Response 5. The Department understands and appreciates MDIFW Embden's clarification.

Comment 6, Fact Sheet Section 7, Settling Basin Cleaning. MDIFW Embden comments, *"I would like to have some more open discussion, again, concerning the exceedence of the 50 % of the operational depth. During the month of Mar. 2010 when we were cited for be being in violation of this parameter, our BOD5 and TSS values were well within our allowed limits for that reporting period."*

Response 6. The Department notes that requirements for settling basin cleaning have been a frequent concern of MDIFW Embden due to unique issues at the facility, compounded by the design of its settling structures. MDIFW Embden and the Department have met and discussed this issue on several previous occasions. As noted in Fact Sheet Section 7, Settling Basin Cleaning, and as carried forward from the previous Permit, "*the permittee must clean*

17. RESPONSE TO COMMENTS (cont'd)

any settling structures at a minimum when accumulated materials occupy 20% of a basin's operational 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." MDIFW Embden appears to be concerned with a specific period of time when they were noted to be in noncompliance with the numerical maintenance triggers, but in compliance with facility effluent limits. As the Department noted in earlier correspondence related to other concerns with this requirement, "*This is a consistent requirement for all facilities* (in this industry) *in an attempt to ensure regular maintenance.*" The requirement is written to require maintenance of settling structures at a minimum of either when numerical triggers are reached or at anytime that violations occur related to this structure. The Department will continue to review its requirements in the future to ensure that they bring about the desired positive results. However, the Department is proposing no further changes in this requirement at this time.

ATTACHMENT A

(Facility Location Maps)

ATTACHMENT B

(Facility Site Plans)

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

0 0.35 0.7 1.4 2.1 2.8 Miles

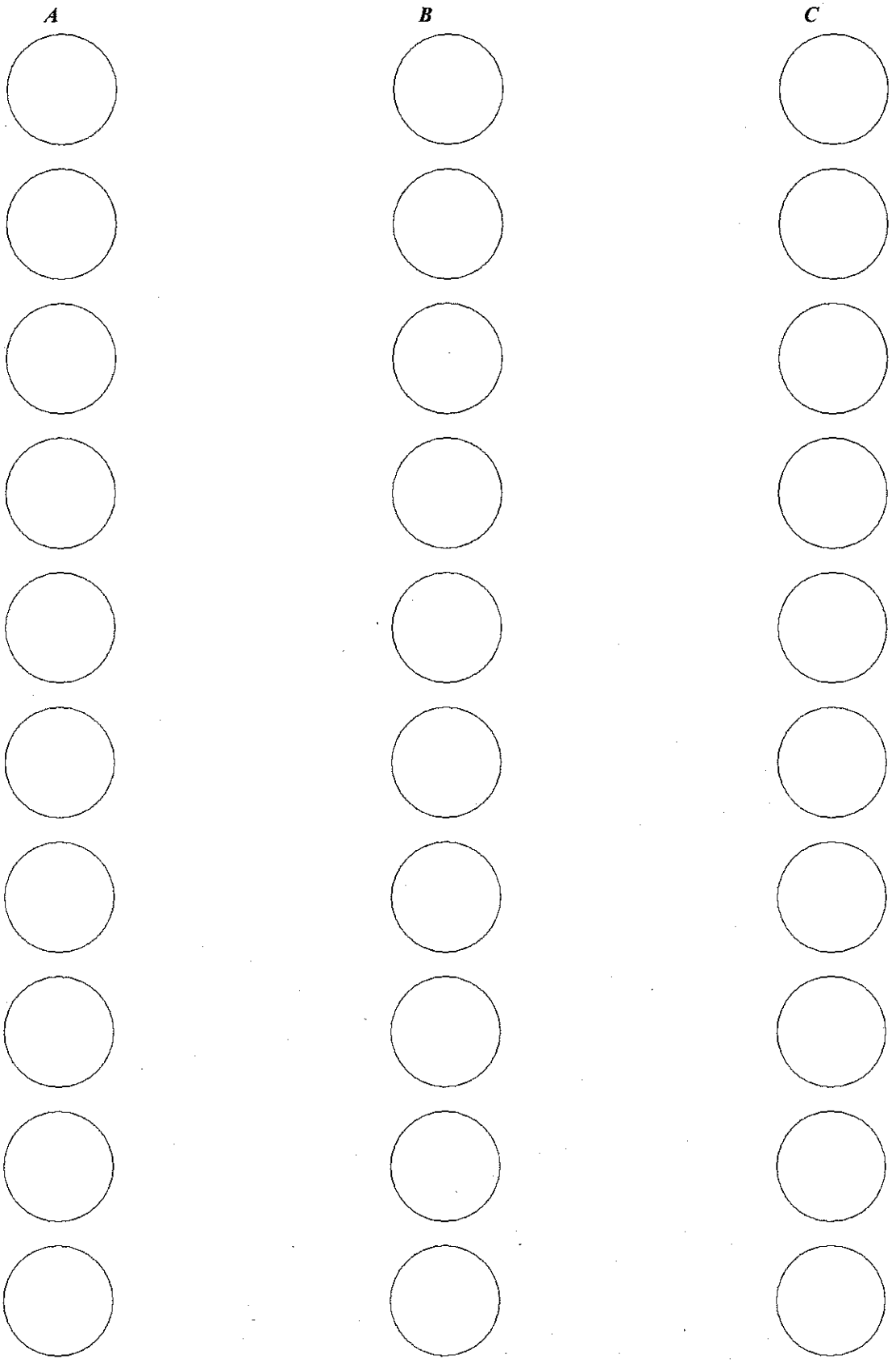
MDIFW ELA Rearing Station
Embden, Maine

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

DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE OF MAINE

ATTACHMENT "A"
(Rearing Tanks)

Facility Name: ELA Rearing Station **NPDES#: ME 0001139**



NOTE!! All 30 pools are 20 feet in diameter and average approx. 34" of water depth.

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.