



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE  
GOVERNOR

PATRICIA W. AHO  
COMMISSIONER

December 19, 2011

Mr. Jamie Bray  
MDIFW Palermo Rearing Station  
200 Gore Road  
Palermo, Maine 04354

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0001074  
Maine Waste Discharge License (WDL) Application # W-002035-6F-E-R  
**Final MEPDES Permit/Maine WDL, MDIFW Palermo Rearing Station, Palermo, Maine**

Dear Jamie:

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](mailto:Robert.D.Stratton@maine.gov).

Sincerely,

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

Enc./cc: Denise Behr, Lori Mitchell (MEDEP); Todd Langevin, Russ Danner (MDIFW);  
Sandy Mojica (USEPA)

AUGUSTA  
17 STATE HOUSE STATION  
AUGUSTA, MAINE 04333-0017  
(207) 624-6550 FAX: (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](http://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  
PALERMO REARING STATION ) ELIMINATION SYSTEM PERMIT  
PALERMO, WALDO COUNTY, ME ) AND  
FISH HATCHERY )  
#ME0001074 ) WASTE DISCHARGE LICENSE  
#W-002035-6F-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 PALERMO FISH REARING STATION (hereinafter MDIFW Palermo), 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 #ME0001074 / Maine Waste Discharge License (WDL) #W-002035-5Q-B-R, which was issued on February 20, 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 the Sheepscot River, Class B, from a state fish rearing facility in Palermo, Maine.

**PERMIT SUMMARY**

This permitting action is similar to the February 20, 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. establishing accurate dilution factors and resulting revised effluent limits for monthly average BOD mass, monthly average phosphorus concentration, and daily maximum formalin concentrations;
2. revising minimum monitoring frequency requirements for total phosphorus, fish on hand, formalin, and effluent dissolved oxygen;
3. eliminating monitoring requirements for effluent pH, ambient dissolved oxygen, and ambient water temperature;
4. updating requirements related to diseases, pathogens, therapeutic agents, Biosecurity and Disease Contingency Plans, and disinfecting/sanitizing agents; and
5. establishing requirements for macroinvertebrate biomonitoring.

## CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated November 16, 2011, revised December 16, 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 PALERMO FISH REARING STATION to discharge fish hatchery wastewater consisting of a monthly average flow of 4.75 MGD to the Sheepscot River, 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)*]

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**

- The permittee is authorized to discharge **fish rearing facility wastewater from Outfall #005A** to the Sheepscot River. 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 6 and 7.

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 <i>[50050]</i>	4.75 MGD <i>[03]</i>	---	---	---	---	Daily <i>[01/01]</i>	Measured <i>[MS]</i>
BOD <sub>5</sub> <i>[00310]</i>	238 lbs/day <i>[26]</i>	396 lbs/day <i>[26]</i>	6 mg/L <i>[19]</i>	10 mg/L <i>[19]</i>	---	1/Month <i>[01/30]</i>	Composite <sup>1</sup> <i>[CP]</i>
TSS <i>[00530]</i>	65 lbs/day <i>[26]</i>	396 lbs/day <i>[26]</i>	6 mg/L <i>[19]</i>	10 mg/L <i>[19]</i>	---	1/Month <i>[01/30]</i>	Composite <sup>1</sup> <i>[CP]</i>
Total Phosphorus <sup>2</sup> <i>[00665]</i>	Report total lbs/month <i>[76]</i>	Maximum 197 lbs/year <i>[50]</i>	0.049 mg/L <i>[19]</i>	report mg/L <i>[19]</i>	---	2/month <sup>3</sup> <i>[02/30]</i>	Composite <sup>1</sup> <i>[CP]</i>
Fish on Hand <i>[45604]</i>	report lbs/day <i>[26]</i>	report lbs/day <i>[26]</i>	---	---	---	2/month <sup>3</sup> <i>[02/30]</i>	Calculated <i>[CA]</i>
Formalin <sup>4</sup> 1-Hour Treatment Maximum <i>[51064]</i>	report lbs/day <i>[26]</i>	41 lbs/day <i>[26]</i>	report mg/L <i>[19]</i>	49 mg/L <i>[19]</i>	---	Once per occurrence <i>[01/OC]</i>	Calculated <i>[CA]</i>
Formalin <sup>4</sup> 24-Hour Treatment Maximum <i>[51064]</i>	report lbs/day <i>[26]</i>	41 lbs/day <i>[26]</i>	report mg/L <i>[19]</i>	27 mg/L <i>[19]</i>	---	Once per occurrence <i>[01/OC]</i>	Calculated <i>[CA]</i>
Dissolved Oxygen <sup>5</sup> From June 1 – Sept 30 yearly <i>[00300]</i>	---	---	report mg/L <i>[19]</i>	report mg/L <i>[19]</i>	7.5 mg/L <i>[19]</i>	2/month <sup>3</sup> <i>[02/30]</i>	Measured <i>[MS]</i>

**SPECIAL CONDITIONS**

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

2. The permittee is authorized to discharge **fish rearing facility wastewater from Outfall #006A (emergency bypass)**<sup>6</sup> to the Sheepscot River. Such discharges shall be limited and monitored by the permittee as specified below.

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]	4.75 MGD [03]	---	---	---	---	Daily [01/01]	Measured [MS]
BOD <sub>5</sub> [00310]	238 lbs/day [26]	396 lbs/day [26]	6 mg/L [19]	10 mg/L [19]	---	1/Month [01/30]	Composite <sup>1</sup> [CP]
TSS [00530]	65 lbs/day [26]	396 lbs/day [26]	6 mg/L [19]	10 mg/L [19]	---	1/Month [01/30]	Composite <sup>1</sup> [CP]
Total Phosphorus <sup>2</sup> [00665]	Report total lbs/month [76]	Maximum 197 lbs/year [50]	0.049 mg/L [19]	report mg/L [19]	---	2/month <sup>3</sup> [02/30]	Composite <sup>1</sup> [CP]
Fish on Hand [45604]	report lbs/day [26]	report lbs/day [26]	---	---	---	2/month <sup>3</sup> [02/30]	Calculated [CA]
Dissolved Oxygen <sup>5</sup> From June 1 – Sept 30 yearly [00300]	---	---	report mg/L [19]	report mg/L [19]	7.5 mg/L [19]	2/month <sup>3</sup> [02/30]	Measured [MS]

## SPECIAL CONDITIONS

### A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS FOOTNOTES:

Effluent Monitoring: Effluent values shall be collected at Outfall #005A following all means of wastewater treatment or at Outfall #006A, the facility emergency facility outfall, 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 concentration** limits and monitoring requirements (mg/L) are seasonal and are only in effect from June 1 through September 30 each year. **Phosphorus mass** limits and monitoring requirements (lbs) are in effect year-round. **The permittee is cautioned that compliance with concentration limits will not necessarily result in compliance with mass limits.** 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 Conditions E.
6. Emergency Bypass Outfall #006A: All wastewater discharges during normal operation of the facility and when the facility drum filter or other equipment is undergoing maintenance or is otherwise inoperable, shall be discharged through Outfall #005A, pursuant to all requirements established in this Permitting Action. Wastewater is only to be discharged through the Emergency Bypass, Outfall #006A, during extreme events when use of Outfall #005A is anticipated likely to result in the release to the receiving water of significant numbers of fish housed at the facility, significant amounts of settled waste materials, or otherwise result in significant damage to the receiving water and/or the facility.

## **SPECIAL CONDITIONS**

### **B. NARRATIVE EFFLUENT LIMITATIONS:**

1. The effluent shall not contain a visible oil sheen, foam or floating solids at any time which would impair the usages designated by the classification of the receiving waters.
2. The effluent shall not contain materials in concentrations or combinations which are hazardous or toxic to aquatic life, or which would impair the usages designated by the classification of the receiving waters.
3. The discharges shall not cause visible discoloration or turbidity in the receiving waters which would impair the usages designated by the classification of the receiving waters.
4. Notwithstanding specific conditions of this permit the effluent must not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

### **C. UNAUTHORIZED DISCHARGES:**

The permittee is authorized to discharge only in accordance with: 1) the permittee's General Application for Waste Discharge Permit, accepted for processing on December 16, 2010; 2) the terms and conditions of this permit; and 3) only from Outfall #005A or Outfall #006A, the facility emergency outfall. 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.

## SPECIAL CONDITIONS

### 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 (13<sup>th</sup>) 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 (15<sup>th</sup>) 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  
17 State House Station  
Augusta, Maine 04333-0017

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 15<sup>th</sup> 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 (13<sup>th</sup>) 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 (15<sup>th</sup>) 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 15<sup>th</sup> 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.

## SPECIAL CONDITIONS

### F. OPERATION & MAINTENANCE (O&M) PLAN (cont'd)

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

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

### G. 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.

## SPECIAL CONDITIONS

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

**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.**

### I. BIOSECURITY AND DISEASE CONTINGENCY PLAN

This facility shall have a current written comprehensive Biosecurity and Disease Contingency Plan (Biosecurity Plan). The Biosecurity Plan shall provide a systematic approach by which the permittee shall insure the significant reduction in, or elimination of, the threat of disease transmission from MDIFW Palermo to the Sheepscot River and potential impacts to Atlantic salmon contained therein.

The Biosecurity Plan shall generally identify rules/requirements, operational practices and procedures to be identified and/or developed to insure attainment of the disease transmission reduction/elimination purpose stated above. The Biosecurity Plan shall identify opportunities for disease transmission and introductions of new pathogens, identify and provide for closure of any gaps left by the "Maine Fish Health Rules" especially related to initial steps for managing outbreaks of diseases of concern, address practices for handling affected fish, and methods for the isolation, containment, and treatment of contaminated water prior to its disposal or discharge to the receiving water. MDIFW is encouraged to consult with USFWS and NOAA Fisheries as it plans for and develops the Biosecurity and Disease Contingency Plans.

**By December 31 of each year, or within 90 days of any process changes or minor equipment upgrades,** the permittee shall evaluate and, if necessary, modify the Biosecurity Plan to ensure that it is up-to-date and well suited to attain the above stated purpose. The Biosecurity 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 in processes or equipment at the facility,** the permittee shall submit the updated Biosecurity Plan to their Department inspector for review and comment.

## SPECIAL CONDITIONS

### J. 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 de minimus 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.**

### K. MINIMUM TREATMENT TECHNOLOGY REQUIREMENT:

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

### L. AMBIENT MACROINVERTEBRATE BIOMONITORING:

Based on limited available data from 2011 macroinvertebrate biomonitoring as noted in Fact Sheet Section 5, *Receiving Water Quality Conditions*, and Department concerns with potential effects of the facility's effluent discharges on the aquatic life in the Sheepscot River, this permitting action requires MDIFW Palermo to conduct additional macroinvertebrate biomonitoring to determine aquatic life conditions in the Sheepscot River **during the summer of 2013**, consistent with "*Methods for Biological Sampling and Analysis of Maine's Rivers and Streams*" (DEP #LW0387-B2002, August 2002). The permittee shall submit results to MEDEP DEA and to the Department Compliance Inspector in a biomonitoring report **by December 15, 2013** for review and approval [90199]. If results indicate that the Sheepscot River below the MDIFW Palermo facility is attaining its Class B water quality standards and designated uses, this requirement shall cease. If results indicate that the non-attainment conditions suspected from the 2011 monitoring persist, this permitting action may be reopened pursuant to Permit Special Condition N to establish requirements for modification of MDIFW Palermo's infrastructure, Operation and Maintenance practices, and/or other factors potentially causing or contributing to non-attainment, followed by resumed macroinvertebrate biomonitoring.

## SPECIAL CONDITIONS

### M. SALMON GENETIC TESTING AND ESCAPE PREVENTION:

The US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) formally listed the Gulf of Maine Distinct Population Segment (GOM DPS) of Atlantic salmon as an endangered species on November 17, 2000. On June 19, 2009, the two agencies expanded the geographic range of the listed GOM DPS. On June 19, 2009, NMFS also designated critical habitat for Atlantic salmon in certain watersheds within the GOM DPS. 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.

In review of MEPDES Permit / Maine WDLs since the 2000 listing and continuing with the 2009 listing expansion, the USFWS and NMFS 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. MDIFW Palermo discharges its effluent to the Sheepscot River, which is within the Gulf of Maine DPS and is within designated critical habitat. These issues resulted in establishment of escape prevention / containment management requirements for MDIFW Palermo.

MDIFW Palermo is a state brook trout and brown trout rearing facility that produces fish for stocking in Maine waters as part of MDIFW's responsibilities in managing fisheries. MDIFW Palermo does not raise salmon and thus is not subject to genetic testing requirements. However, despite an active brown trout fishery and former stocking program in this water, the rearing of Brown trout in the Sheepscot River is of concern to USFWS and NMFS because brown trout is a non-native species that preys on salmon and also competes with salmon for resources.

Based on requirements established in Maine's Aquaculture General Permit (#MEG130000, Part II, Section I), individual MEPDES Permits for marine aquaculture facilities, and guidance developed by the Maine Aquaculture Association, this permitting carries forward the requirement that **the permittee shall employ a fully functional Containment Management System (CMS) at the facility** designed, constructed, and operated so as to prevent the accidental or consequential escape of fish to open water. The CMS plan shall include a site plan or schematic with specifications of the particular system. The permittee shall develop and utilize a CMS consisting of management and auditing methods to describe or address the following: site plan description, inventory control procedures, predator control procedures, escape response procedures, unusual event management, severe weather procedures and training. The CMS shall contain a facility specific list of critical control points (CCP) where escapes have been determined to potentially occur. Each CCP must address the following: the specific location, control mechanisms, critical limits, monitoring procedures, appropriate corrective actions, verification procedures that define adequate CCP monitoring, and a defined record keeping system.

## SPECIAL CONDITIONS

### M. SALMON GENETIC TESTING AND ESCAPE PREVENTION (cont'd)

The CMS site specific plan shall describe the use of effective containment barriers appropriate to the life history of the fish. The facility shall have in place both a three-barrier system for fish up to 5 grams in size and a two barrier system for fish 5 grams in size or larger. The three-barrier system shall include one barrier at the incubation/rearing unit, one barrier at the effluent from the hatch house/fry rearing area and a third barrier placed inline with the entire effluent from the facility. Each barrier shall be appropriate to the size of fish being contained. The two-barrier system shall include one barrier at the individual rearing unit drain and one barrier inline with the total effluent from the facility. Each barrier shall be appropriate to the size of fish being contained. Barriers installed in the system may be of the screen type or some other similarly effective device used to contain fish of a specific size in a designated area. Barriers installed in the system for compliance with these requirements shall be monitored daily. Additional requirements include:

1. The CMS shall be audited **at least once per year and within 30 days of a reportable escape** (more than 50 fish) by a party other than the facility operator or owner qualified to conduct such audits and approved by the Department [63899]. A written report of these audits shall be provided to the permittee and the Department for review and approval **within 30 days of the audit being conducted**. If deficiencies are identified during the audit, the report shall contain a corrective action plan, including a timetable for implementation and re-auditing to verify deficiencies are addressed as in the corrective action plan approved by the Department. Additional third party audits to verify correction of deficiencies shall be conducted in accordance with the corrective action plan or upon request of the Department. The permittee shall notify the Department upon completion of corrective actions.
2. Facility personnel responsible for routine operation shall be properly trained and qualified to implement the CMS. **Prior to any containment system assessment** associated with this permit, the permittee shall provide to the Department documentation of the employee's or contractor's demonstrated capabilities to conduct such work.
3. The permittee shall maintain complete records, logs, reports of internal and third party audits and documents related to the CMS on site for a period of 5 years.
4. For new facilities, a CMS shall be prepared and submitted to the Department for review and approval prior to fish being introduced into the facility.

**The permittee shall report any known or suspected escapes of more than 50 fish within 24 hours to the Maine Dept of Marine Resources Bureau of Sea-Run Fisheries and Habitats at 207-941-9973 (Pat Keliher and Joan Trial), Maine Department of Inland Fisheries and Wildlife at 207-287-5202 (Commissioner's office), USFWS Maine Field Office at 207-866-3344, and NOAA Fisheries Maine Office at 207-866-4172. During off-hours, the reports can be called to 800-432-7381.**

## **SPECIAL CONDITIONS**

### **N. 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.

### **O. 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<sub>2</sub>SO<sub>4</sub> 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: November 16, 2011  
Revised: December 16, 2011

MEPDES PERMIT NUMBER: # ME0001074  
MAINE WDL NUMBER: # W-002035-6F-E-R

NAME AND ADDRESS OF APPLICANT:

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

COUNTY: WALDO

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

**PALERMO REARING STATION**  
200 Gore Road  
Palermo, Maine 04354

RECEIVING WATER / CLASSIFICATION: Sheepscot River, Class B; Long Pond, Class GPA

COGNIZANT OFFICIAL AND TELEPHONE NUMBER:

Mr. Jamie Bray Facility Manager (207) 993-2361, [Jamie.bray@maine.gov](mailto:Jamie.bray@maine.gov)  
Mr. Todd Langevin, MDIFW Hatchery Supervisor (207) 287-5261, [todd.langevin@maine.gov](mailto:todd.langevin@maine.gov)

**1. APPLICATION SUMMARY**

The applicant has applied for a renewal of Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0001074 / Maine Waste Discharge License (WDL) #W-002035-5Q-B-R, which was issued on February 20, 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 the Sheepscot River, Class B, from a state fish rearing facility in Palermo, 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 #ME0001074 will be utilized as the primary reference number for the Palermo facility.
- b. Terms and conditions – This permitting action is similar to the February 20, 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. establishing accurate dilution factors and resulting revised effluent limits for monthly average BOD mass, monthly average phosphorus concentration, and daily maximum formalin concentrations;
  2. revising minimum monitoring frequency requirements for total phosphorus, fish on hand, formalin, and effluent dissolved oxygen;
  3. eliminating monitoring requirements for effluent pH, ambient dissolved oxygen, and ambient water temperature;
  4. updating requirements related to diseases, pathogens, therapeutic agents, Biosecurity and Disease Contingency Plans, and disinfecting/sanitizing agents; and
  5. establishing requirements for macroinvertebrate biomonitoring.
- c. History: The most recent relevant regulatory actions include the following:

February 20, 1975 – The USEPA issued NPDES Permit #ME0001074 to the Maine Department of Inland Fisheries and Game for the discharge of an unspecified volume of wastewater from the Palermo Rearing Station to the Sheepscot River. The Permit was valid through February 15, 1980.

March 3, 1975 – The Maine Department of Environmental Protection issued WDL #659 to the Maine Department of Inland Fisheries and Game for the discharge of an average of 3.26 MGD of fish hatchery wastewater from the Palermo Rearing Station to the Sheepscot River, Class B-1. The WDL was valid until February 12, 1978.

## 2. PERMIT SUMMARY (cont'd)

September 28, 1977 – The Maine Board of Environmental Protection ordered WDL #659 amended based on effluent monitoring data conducted since issuance of the WDL. Although not identified as part of the intended modification, Department files indicate an inconsistency in the discharge flow limits in the WDL and amendment. The amendment listed the discharge flow as a daily average of 2.4 MGD from the “old line” outfall and 1.6 MGD from the “new line” outfall.

March 8, 1978 – The Maine Department of Environmental Protection issued WDL # 2035 to MDIFW for the discharge of a daily maximum of 2.9 MGD from the “old line” outfall and 2.0 MGD from the “new line” outfall of treated fish hatchery wastewater from the MDIFW Palermo hatchery to the Sheepscot River, Class B-1. The WDL was issued for a five-year term.

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

May 11, 1983 – The Maine Board of Environmental Protection issued WDL #2035 for the discharge of a daily maximum of 2.9 MGD of treated fish hatchery wastewater from the MDIFW Palermo hatchery to the Sheepscot River, Class B-1. The WDL was issued for a five-year term.

July 21, 2000 – The Department issued # W-002035-5Q-A-R to MDIFW Palermo hatchery for the discharge of a daily maximum of 3.9 MGD of treated fish hatchery wastewater. The WDL was issued for a five-year term.

September 10, 2001 – The Department suspended monitoring requirements established in WDL # W-002035-5Q-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 flow-through water through the west line of raceways respectively, 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 #001A, #001B, and #002A. However, Department files contain no subsequent monitoring results for Outfall #003A.

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.

## 2. PERMIT SUMMARY (cont'd)

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-002035-5Q-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.

July 5, 2005 - The Department received an application from MDIFW for renewal of the WDL for the discharge of fish hatchery wastewater from the Palermo facility. The application was assigned WDL # W-002035-5Q-B-R and MEPDES permit #ME0001074.

February 20, 2006 - The Department issued MEPDES Permit #ME0001074 / Maine WDL #W-002035-5Q-B-R to MDIFW Palermo for the discharge of a monthly average of 4.75 MGD of fish rearing facility wastewater to the Sheepscot River, Class B, in Palermo. The Permit / WDL was issued for a five-year term.

October 10, 2008 - The Department issued Minor Revision #W-002035-5Q-C-M / MEPDES Permit #ME0001074 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-002035-5Q-D-M / MEPDES Permit #ME0001074 to revise effluent BOD<sub>5</sub> 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.

December 15, 2010 – MDIFW Palermo submitted a timely application for renewal of its MEPDES Permit / WDL. The application was assigned MEPDES Permit #ME0001074 / WDL #W-002035-6F-E-R.

**2. PERMIT SUMMARY (cont'd)**

d. Source Description/ Facility Operation:

The MDIFW Palermo facility was constructed in 1949 as a state aquaculture facility. The facility underwent significant upgrades in 2005 and further upgrades in 2009 and 2010. MDIFW Palermo is a fish rearing station, raising brook trout and brown trout 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. In May-June of each year, MDIFW Palermo obtains brook trout fingerlings from the Dry Mills (Gray) and Governor Hill (Augusta) hatcheries and brown trout fingerlings from the New Gloucester hatchery for rearing as described below. MDIFW Palermo is also housing broodstock for a limited period, as noted in the table and text below.

SPECIES	MDIFW HATCHERY DONOR	MONTH RECEIVED	APPROX SIZE WHEN RECEIVED	FF	SY	FY	Brood
Brook Trout	Dry Mills / Gov. Hill	May / June	2 - 3"	48%	38%	14%	0%
Brown Trout	New Gloucester	May	2 - 3"	0%	25%	75%	0%
Brook Trout Brood	Palermo / Gov. Hill	May	2 - 3"	0%	0%	0%	100%
Brown Trout Brood	Palermo / New Gloucester	May	2 - 3"	0%	0%	0%	100%

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

**Influent Water:** Source water for the MDIFW Palermo facility is obtained from Sheepscot Lake through two intake pipes, a deep water (50-foot deep) 24-inch diameter iron pipe and a shallow water (20-foot deep) 16-inch diameter iron pipe. Influent pipe screens exclude wild fish and debris, and influent strainers prevent silt and finer debris from entering the station. MDIFW Palermo blends influent water in a head box at the head of the facility raceway system, as needed to meet temperature requirements (58-60 degrees F) for its fish. Excess lake water flows are discharged to the Sheepscot River prior to contact with any station fish. MDIFW reports distances of approximately 800-feet from the Sheepscot Lake dam to the head of the Palermo facility and an additional approximately 600-feet to its wastewater outfall #005A. MDIFW Palermo is a flow-through facility with flows through each of two parallel raceway lines to the Sheepscot River, which in turn flows to Long Pond approximately four miles downstream.

**Broodstock Facilities:** For a short-term period based on needs at other MDIFW facilities, MDIFW Palermo is maintaining a broodstock supply of approximately 1,000 Maine Hatchery Strain brook trout and 700 brown trout. At this point, MDIFW Palermo anticipates maintaining the brown trout broodstock on station until 2013 and the brook trout broodstock until 2014. As needed by other MDIFW facilities, the broodstock eggs will be stripped, fertilized, and sent to the other facility for incubation and hatching. Some fry may be returned to MDIFW Palermo for rearing in future years.

## 2. PERMIT SUMMARY (cont'd)

Rearing Facilities: MDIFW Palermo's rearing facilities consist of two lines of covered concrete raceways referred to as the east side (10-block) and west side (21-block) raceways because of their orientation on the site and size. Influent water is blended at the head of the raceways and diverted down each line. The east side (10-block) raceways consist of five sets of two raceway pools for a total of 10 individual raceway pools. Each of the east side (10-block) raceway pools is 8-feet wide by 100-feet long. The west side (21-block) raceways consist of 7 sets of three raceway pools for a total of 21 raceway pools. Each of the west side (21-block) raceway pools is 5-feet wide by 100-feet long. All raceways are operated at a depth of 16 to 20-inches. Feeding is conducted manually and with demand and belt feeders. MDIFW Palermo indicates using an average of 118 pounds of food per day, a maximum of 300 lbs/day, and a period of peak feeding during July, August, and September.

MDIFW Palermo has a dissolved oxygen management system for the flow-through water with bulk liquid oxygen and low head oxygen contact chambers placed at the head of every other set of raceway pools. Typically, brook trout are kept in the east side (10-block) raceways and brown trout are kept in the west side (21-block) raceways. New fingerlings are placed in the upper most raceway pools, with the lower raceway pools reserved for 2-year old fish. Fingerlings are raised for both spring and fall stocking. In the spring, MDIFW stocks one-year old, 8-10-inch long brook trout and 8-9-inch long brown trout. New fingerlings are then brought on station for rearing as outlined above. In the fall (October-November), MDIFW stocks approximately 21-month old, 12-13-inch long brook trout and 12-inch long brown trout. MDIFW Palermo indicates a maximum quantity of fish on station of 115,000 first year fish weighing 15,333 lbs, 75,000 second year fish weighing 41,333 lbs, and 1,000 broodstock weighing 3,000 lbs.

- e. Wastewater Treatment: All flows leaving the rearing facility, the broodstock facility, and the flow-through (non-cleaning) flows from the rearing facilities (raceways) are routed to a 60-micron drum filter for filtration prior to discharge to the receiving water. Wastewater from raceway cleaning activities is treated as described below.

To clean the raceways, MDIFW staff has a two step process involving a vacuum system and traditional scrubbing. Prior to scrubbing, the fish waste collected in the quiescent zone is removed using a vacuum. A vacuum hose is located at the bottom of each row of three raceways and each vacuum is connected to the common wastewater pipeline. The vacuum pipeline connects to a pump in the effluent building. The pump moves the fish waste to the facility clarifier. MDIFW Palermo indicates that it takes 15 minutes to clean a row of quiescent zones. After the quiescent zones have been vacuumed, MDIFW staff scrub the sides and bottoms from the top end of the raceway pool moving down-flow toward the bottom end. At the bottom of all raceway pools is located a screened 10-foot long "quiescent zone" with a covered discharge pipe. After a raceway is cleaned, the discharge pipe "plug" is removed, sending cleaning flows via a common wastewater pipeline to the effluent microscreen drum filter. After the raceway pool and quiescent zone screen are cleaned, the quiescent zone plug is replaced and the cleaners move to the next raceway pool. All raceway pools are cleaned 2-3 times per week during the summer when fingerlings are on station

## 2. PERMIT SUMMARY (cont'd)

and weekly during the winter when numbers of fish are reduced. MDIFW Palermo indicates that it takes approximately 10 minutes to clean each raceway pool and 2-3 hours to clean all pools.

All raceway cleaning wastewaters, vacuum wastewaters, and the backwash of captured solids from the microscreen filter are routed via the common wastewater pipe to an approximately 20-foot by 20-foot by 16-foot (47,872-gallon) clarifier, during which time excess clarifier water (supernatant) is routed back to the microscreen filter for filtration and discharge. Solids in the clarifier are constantly raked and automatically or manually pumped to an adjoining approximately 20-foot by 20-foot by 16-foot (47,872-gallon) sludge storage/dewatering tank designed to provide a minimum of 6-months of storage capacity. Sludge tank supernatant is routed back to the clarifier unit for additional treatment. Accumulated sludge is removed for proper disposal as needed to insure permit compliance and proper facility operations.

After it exits the drumfilter, MDIFW Palermo's treated wastewater is discharged through Outfall #005A, a 36-inch diameter pipe outletting into the side of the Sheepscot River. MDIFW Palermo has designed for a bypass of the facility drum filter in the event of routine filter maintenance or in the case of unforeseen filter equipment malfunction and necessary major repairs. During such times, MDIFW Palermo will not clean the facility or feed its fish so that all effluent discharges will consist of flow-through water only. Additionally, MDIFW Palermo has maintained a separate emergency bypass to be used only during a catastrophic facility event such as a major flood. This function is served by the 36-inch diameter outfall pipe designated as Outfall #006A. Based on the elevation of Outfall #005A and the potential for severe river flood events to back up the discharge pipe into the facility and wash its fish stock into the river, Outfall #006A is being maintained in an inactive state unless it becomes necessary to temporarily shut off flow through the main facility outfall (#005A) and reroute it through Outfall #006A. Regardless of the scenarios described, MDIFW Palermo's discharge is at all times subject to the effluent limitations and monitoring requirements established in this permitting action. Additional details may be provided in the facility Operations and Maintenance Plan.

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 467.17.A(2) classifies the “*Sheepscot River, main stem. From Sheepscot Lake to Route 17 - Class B. Further, the Legislature finds that the free-flowing habitat of this river segment provides irreplaceable social and economic benefits and that this use must be maintained.*” This segment includes MDIFW Palermo’s point of discharge. Maine law, 38 M.R.S.A., Section 465.3, describes the standards for Class B waters.

Long Pond is classified as a Class GPA water pursuant to Maine law, 38 M.R.S.A., Section 465-A. Therefore, the Sheepscot River at the point of discharge, being approximately 4 miles upstream of Long Pond, entails a tributary to a GPA water. Maine law, 38 M.R.S.A., Section 464.4.A states, “...*the department may not issue a water discharge license for...*” (3) “*Any discharge into a tributary of GPA waters that by itself or in combination with other activities causes water quality degradation that would impair the characteristics and designated uses of downstream GPA waters or causes an increase in the trophic state of those GPA waters*”.

### 5. RECEIVING WATER QUALITY CONDITIONS:

The State of Maine 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 *Sheepscot River below Sheepscot L(ake)* (Assessment Unit ME0105000305\_528R08\_02), 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 “*Oxygen, Dissolved*” for a 5.67 mile segment of Class B water. The listing further provides comments, “*Listed for dissolved oxygen; hatchery permit issued 2/20/06; Expected to attain standards*”, and lists an ‘Expect To Attain Date’ of “2010”.

## 5. RECEIVING WATER QUALITY CONDITIONS (cont'd)

All freshwaters in Maine are listed as only partially attaining the designated use of recreational fishing due to a fish consumption advisory (Category 4-A, Waters Impaired by Atmospheric Deposition of Mercury). 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 Palermo facility causes or adversely contributes to non-attainment of standards in the Sheepscot River related to the fish consumption advisory. However, other factors necessitate Department action. The Department notes that macroinvertebrate biomonitoring conducted in 2007 indicated that the receiving water below the MDIFW Palermo facility was attaining Class B aquatic life standards. The MEDEP Division of Environmental Assessment (DEA) conducted macroinvertebrate biomonitoring in the Sheepscot River below MDIFW Palermo in 2011. Though results of this investigation are pending, preliminary indications point to significant enrichment in the Sheepscot River below the MDIFW Palermo facility, with MDIFW Palermo suspected as causing or contributing to nonattainment of water class standards. Though indications are preliminary, the Department is taking steps in this permitting action to address the situation.

## 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.

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 Palermo and other facilities since issuance of the previous

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

permitting actions. As described herein, MDIFW Palermo discharges its wastewater to a Class B river that is a tributary to a Class GPA water and 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 and a required daily minimum measurement frequency, both of which are being carried forward in this permitting action, consistent with Department guidelines for wastewater treatment facility discharges. Permit Special Conditions A.1 and A.2 contain Effluent Limitations and Monitoring Requirements tables for two Outfalls: #005A and #006A. As noted previously, Outfall #005A is the regular outfall for MDIFW Palermo, whereas Outfall #006A is an emergency bypass for use when severe river flood events risk backing up through Outfall #005A and washing the fish stock into the river.

A review of the Discharge Monitoring Report (DMR) data for the IFW Palermo facility for the period of March 2006 through January 2011 indicates the following.

OUTFALL #005A  
 EFFLUENT FLOW

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	4.75 MGD	2.23 MGD	3.70 MGD	2.79 MGD	58

OUTFALL #006A (EMERGENCY BYPASS)  
 EFFLUENT FLOW

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	4.75 MGD	0.08 MGD	1.70 MGD	0.283 MGD	8

- 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 Palermo facility discharges its treated facility effluent via a discharge pipe into the side of the Sheepscot River. 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.

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

As noted in the previous permitting action, MDIFW owns the dam on Sheepscot Lake, however there is no formal water level order or agreement on Sheepscot Lake nor is there any formal requirement specifying a minimum flow that must be passed over or through the dam to the Sheepscot River. MDIFW Palermo reports that the Sheepscot River has at times been completely dewatered between the dam and the head of the MDIFW Palermo facility. At those times, the MDIFW Palermo discharge constitutes the only flow in that portion of the Sheepscot River. Based on this information, in the previous permitting action, the Department assumed a seasonal low flow of 0 cubic feet per second in the Sheepscot River and acute (1Q10), chronic (7Q10) and harmonic mean dilution factors of 1:1, representative of the fact that the MDIFW Palermo discharge sometimes constitutes the only river flow. In this permitting action, the Department is calculating ambient to effluent dilution factors assuming “run of the river” through the Sheepscot Lake Dam and weighted watershed data from the USGS gage in Whitefield. With a monthly average flow limitation of 4.75 MGD and based on Department analysis conducted pursuant to the methods outlined above, the dilution factors associated with the MDIFW Palermo facility are calculated as follows:

$$\text{Mod. Acute: } \frac{1}{4} \text{ 1Q10} = 0.675 \text{ cfs} \quad \Rightarrow \frac{(0.675 \text{ cfs})(0.6464) + 4.75 \text{ MGD}}{4.75 \text{ MGD}} = 1.09:1$$

$$\text{Acute: } \text{1Q10} = 2.7 \text{ cfs} \quad \Rightarrow \frac{(2.7 \text{ cfs})(0.6464) + 4.75 \text{ MGD}}{4.75 \text{ MGD}} = 1.37:1$$

$$\text{Chronic: } \text{7Q10} = 2.9 \text{ cfs} \quad \Rightarrow \frac{(2.9 \text{ cfs})(0.6464) + 4.75 \text{ MGD}}{4.75 \text{ MGD}} = 1.39:1$$

$$\text{Harmonic Mean} = 8.7 \text{ cfs} \quad \Rightarrow \frac{(8.7 \text{ cfs})(0.6464) + 4.75 \text{ MGD}}{4.75 \text{ MGD}} = 2.18:1$$

06-096 CMR 530.4.B(1) states that analyses using numeric acute criteria for aquatic life must be based on  $\frac{1}{4}$  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. As stated above, MDIFW Palermo’s discharges do not achieve rapid and complete mixing, thus the Department is utilizing the default stream flows of  $\frac{1}{4}$  of the 1Q10 pursuant to 06-096 CMR 530 in acute evaluations. If MDIFW wishes to establish a guaranteed minimum flow from the Sheepscot Lake dam in the future, this determination may be revisited.

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

- c. Biochemical Oxygen Demand (BOD<sub>5</sub>) 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<sub>5</sub> 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<sub>5</sub>, and consideration of effluent quality from facilities utilizing the Department's BPJ of minimum treatment technology. In the previous permitting action, the daily maximum mass limits were calculated based on the 4.75 MGD monthly average flow limit, the appropriate concentration limit, and a standard conversion factor. The Department interpreted the Sheepscot River's status as a tributary to Long Pond and the restriction in 38 M.R.S.A., Section 464.4.A, "...the department may not issue a water discharge license for..." (2) a "New direct discharge of domestic pollutants to tributaries of Class-GPA waters", as prohibiting an increase in the monthly average BOD and TSS mass limits above those represented by preceding (2000) limits. Thus, in the previous (2006) permitting action, the Department utilized the preceding WDL monthly average concentration limits of 2 mg/L (ppm), the preceding maximum flow limit of 3.9 MGD, and a conversion factor of 8.34 lbs/gallon to yield monthly average mass limits of 65 lbs/day. The Department has revisited this determination and, as the levels of BOD and TSS in fish hatchery and rearing facility effluent are significantly below those levels found in sanitary wastewater, it no longer considers them to constitute *domestic pollutants*, as defined at 38 MRSA, Section 466.6. Therefore, to be legally correct, both monthly average and daily maximum BOD and TSS mass limits could be calculated pursuant to the method previously used and described above for the daily maximum limits, assuming that the receiving waters are attaining and would continue to attain classification standards. As noted in Fact Sheet 5, *Receiving Water Quality Conditions*, preliminary indications of 2011 macroinvertebrate biomonitoring point to significant enrichment in the Sheepscot River below the MDIFW Palermo facility, with MDIFW Palermo suspected as causing or contributing to nonattainment of water class standards. Maine law, 38 MRSA, Section 464.4.A(3) states that the department may not issue a water discharge license for "*any discharge into a tributary of GPA waters that by itself or in combination with other activities causes water quality degradation that would impair the characteristics and designated uses of downstream GPA waters or causes an increase in the trophic state of those GPA waters.*" Though results are preliminary, MEDEP DEA believes that the conditions observed are likely the result of excess TSS and nutrients and that any increases in the discharge of these pollutants at this time could negatively impact the GPA water downstream. MEDEP DEA does not believe that BOD causes or contributes to the nonattainment conditions described at this time. Therefore, at this time, this permitting action is revising the monthly average BOD effluent mass limit from 65 lbs/day to 238 lbs/day, based on the method of calculation described. This permitting action is carrying forward the previously established monthly average effluent mass limit for TSS. If appropriate water quality improvements are noted in the future or further

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

inspection of the current conditions indicate that TSS is not a contributory factor, the monthly average mass limit may be reexamined based on the provisions above. A review of the DMR data for the IFW Palermo facility for the period of March 2006 through January 2011 indicates the following.

### OUTFALL #005A BOD MASS

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	65 lbs/day	<37 lbs/day	210 lbs/day	<51 lbs/day	58
Daily Max.	396 lbs/day	<37 lbs/day	376 lbs/day	<56 lbs/day	58

4 exceedences of the monthly average BOD mass limit.

### BOD CONCENTRATION

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	6 mg/L	<2 mg/L	9.5 mg/L	<2.2 mg/L	58
Daily Max.	10 mg/L	<2 mg/L	17 mg/L	<2.4 mg/L	58

1 exceedence of the monthly average BOD concentration limit.

1 exceedence of the daily maximum BOD concentration limit.

### TSS MASS

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	65 lbs/day	<37 lbs/day	<67 lbs/day	<47 lbs/day	58
Daily Max.	396 lbs/day	<37 lbs/day	<112 lbs/day	<48 lbs/day	58

1 exceedence of the monthly average TSS mass limit.

### TSS CONCENTRATION

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	6 mg/L	<2 mg/L	<2.7 mg/L	<2.0 mg/L	58
Daily Max.	10 mg/L	<2 mg/L	<4.8 mg/L	<2.1 mg/L	58

### OUTFALL #006A (EMERGENCY BYPASS)

#### BOD MASS

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	65 lbs/day	<1 lbs/day	<28 lbs/day	<4.5 lbs/day	8
Daily Max.	396 lbs/day	<1.3 lbs/day	<28.4 lbs/day	<4.8 lbs/day	8

#### BOD CONCENTRATION

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

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

**TSS MASS**

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	65 lbs/day	<1 lbs/day	<28 lbs/day	<4.5 lbs/day	8
Daily Max.	396 lbs/day	<1.3 lbs/day	<28.4 lbs/day	<4.8 lbs/day	8

**TSS CONCENTRATION**

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

The previous permitting action established minimum monitoring requirements of once per two weeks for effluent BOD<sub>5</sub> 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. Any increase in the phosphorus content in a receiving water has the potential to cause or contribute to non-attainment of classification standards. Phosphorus concerns for the MDIFW Palermo facility are two-fold in that the facility discharges its effluent to the Sheepscot River (Class B) that serves as a tributary to Long Pond (Class GPA). Both types of waters are sensitive to phosphorus, but must be managed differently to avoid adverse effects. 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*". The amount of any pollutant, including phosphorus, in a discharge must not contribute, now or in the future, to an increase in the trophic state of the lake or otherwise cause or contribute to nonattainment of the class standards. As noted in Fact Sheet 5, *Receiving Water Quality Conditions*, preliminary indications of 2011 macroinvertebrate biomonitoring point to significant enrichment in the Sheepscot River below the MDIFW Palermo facility, with MDIFW Palermo suspected as causing or contributing to nonattainment of water class standards. As further noted in Fact Sheet

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

Section 6.c above, though results are preliminary, MEDEP DEA believes that the conditions observed are likely the result of excess TSS and nutrients.

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

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

### **IF&W Hatchery, Palermo, Sheepscot River, tributary to Long Pond**

According to the Department's Division of Watershed Management at the time of development of the previous permitting action, Long Pond in Somerville and Windsor is a shallow, moderately productive warmwater fishery lake, with relatively high natural dissolved color. Its water quality category is moderate/stable and its recommended level of protection is medium. The acceptable increase in lake phosphorus concentration is 1.25 ppb (from Table 3-2 in the phosphorus technical guide), and the resulting allowable increase in phosphorus load to the lake is 147.6 kg/yr (325.4 lbs/yr). The growth rate in this watershed is fairly low now, but as the Augusta and Belfast growth centers continue to expand, growth in this watershed is likely to increase, so the appropriate growth rate for the watershed is moderate. Given these values, the resulting allocation for point source discharges would be  $0.15 \times 147.6 \text{ kg/yr}$  or 22.1 kg/yr (48.7 lbs/yr), equivalent to the annual mass limit in the previous WDL. According to MEDEP's DWM, the facility is currently discharging about 10 times this amount, so a very substantial reduction in the discharge would be required. However, because of the high dissolved color in the lake and the resulting reduction in sensitivity to phosphorous, the Department believes there may be capacity to add a small amount of additional phosphorus to the lake, increasing the acceptable increase in P concentration from 1.25 ppb to 1.5 ppb. If the additional 0.25 ppb is all allocated to MDIFW Palermo, then the resulting allocation would be 51.7 kg/yr

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

(114 lbs/yr) above background, rather than 22.1 kg/yr (48.7 lb/yr). This is still considerably less than the current discharge and would require substantial treatment, but it may at least be technically feasible. This may seem severe, but the Department must also consider that the water leaving Long Pond feeds the Sheepscot River, a Salmon Conservation Plan River. The Sheepscot has exhibited low diurnal dissolved oxygen concentrations downstream probably resulting from excessive plant respiration, and the only means of addressing this stress is nutrient reduction. So limitation of this discharge is not only important to Long Pond, but to the Sheepscot River as well.

The 114 lbs/year water quality based total phosphorus mass limit entails MDIFW Palermo's allowable total phosphorus discharge contribution to Long Pond per year. The Department recognizes that the water source, the Sheepscot River, contains ambient levels of phosphorus that would naturally enter Long Pond (83 lbs/year, 37 kg/year). The Department calculated MDIFW Palermo's total allowable phosphorus discharge, including background levels of phosphorus in the source waters, to be 197 lbs/yr (89 kg/yr). As noted in Fact Sheet 5, *Receiving Water Quality Conditions*, preliminary indications of 2011 macroinvertebrate biomonitoring point to significant enrichment in the Sheepscot River below the MDIFW Palermo facility, with MDIFW Palermo suspected as causing or contributing to nonattainment of water class standards. As further noted in Fact Sheet Section 6.c above, though results are preliminary, MEDEP DEA believes that the conditions observed are likely the result of excess TSS and nutrients. This annual phosphorus mass limit became effective on February 20, 2006, and is being carried forward in this permitting action. A daily maximum mass limit is not being established to provide MDIFW Palermo with management flexibility to meet the yearly mass limits. However, this permitting action is continuing the requirement for MDIFW Palermo to report the mass of phosphorus discharged per month to provide for short term phosphorus management, as well as to identify either trends or effluent fluctuations related to seasonal and/or operational changes. The monitoring frequency of once per two weeks (twice / month) is designed to ensure that representative facility and effluent conditions are captured and is being carried forward based on the sensitivity of the receiving water.

River Concerns: 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 Palermo's assumed chronic dilution factor of 1:1. This permitting action utilizes the 0.035 mg/L AWQ threshold and the revised chronic dilution of 1.39:1 described in Fact Sheet Section 6b above, resulting in a monthly average limit of 0.049 mg/L. This permitting action establishes this revised monthly average limit and carries forward the previously established daily maximum concentration monitoring requirement. Based on Department research, the AWQ threshold 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, the 7Q10 dilution of 1:39 described in Fact Sheet Section 6b, Dilution Factors, is utilized in calculation of a water quality based effluent concentration limit. In free flowing rivers and streams, phosphorus

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

is typically a summer time concern for water quality. Therefore, the effluent concentration 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 (twice per month) was established based on the Department's BPJ of monitoring frequencies necessary to more accurately characterize facility effluent conditions. Each of these factors is carried forward in this permitting action.

Both the Sheepscot River and Long Pond will receive phosphorus discharged from the Palermo facility. Both receiving waters are sensitive to the effects of this pollutant, therefore the discharge must be managed according to receiving water specific needs. This permitting action is continuing annual phosphorus mass limits based on water quality specific needs in Long Pond and seasonal phosphorus concentration limits based on water quality specific needs in the Sheepscot River. Limits and monitoring requirements are expressed in gross end-of-pipe values.

It should be noted that as the concentration and mass limits are calculated based on different receiving waters, compliance with the established concentration limit will not necessarily result in compliance with the established mass limit. The permittee will need to actively manage its phosphorus discharge to achieve compliance and prevent adverse impacts in the receiving waters. It must be noted that all new proposed discharges of pollutants or increases in pollutants in the existing discharge, excluding flow, are subject to the provisions for discharges to tributaries to GPA waters contained in 38 M.R.S.A., Section 464.4.A (2) and (3). Therefore, if MDIFW Palermo wishes to increase the number and mass of fish on station, it will likely need to provide additional wastewater treatment that will hold effluent quality constant.

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 Palermo facility for the period of March 2006 through January 2011 indicates the following.

### OUTFALL #005A PHOSPHORUS MASS

Value	Limit	Minimum	Maximum	Average	# Values
Total lbs/month	report lbs/month	10.7 lbs/mn	69.2 lbs/mn	21.6 lbs/mn	57
Max lbs/year	197 lbs/year	196.7 lbs/yr	304.4 lbs/yr	252.4 lbs/yr	5

4 exceedences of the annual phosphorus mass limit.

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

**PHOSPHORUS CONCENTRATION**

<b>Value</b>	<b>Limit</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b># Values</b>
Monthly Avg.	0.035 mg/L	0.024 mg/L	0.078 mg/L	0.041 mg/L	20
Daily Max.	report mg/L	0.024 mg/L	0.092 mg/L	0.050 mg/L	20

12 exceedences of the monthly average phosphorus concentration limit.

**ORTHO-PHOSPHORUS MASS**

<b>Value</b>	<b>Limit</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b># Values</b>
Monthly Avg.	report lbs/day	0.3 lbs/day	0.4 lbs/day	0.3 lbs/day	4
Daily Max.	report lbs/day	0.3 lbs/day	0.5 lbs/day	0.4 lbs/day	4

**ORTHO-PHOSPHORUS CONCENTRATION**

<b>Value</b>	<b>Limit</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b># Values</b>
Monthly Avg.	report mg/L	0.011 mg/L	0.015 mg/L	0.013 mg/L	4
Daily Max.	report mg/L	0.011 mg/L	0.018 mg/L	0.015 mg/L	4

**OUTFALL #006A (EMERGENCY BYPASS)**

**PHOSPHORUS MASS**

<b>Value</b>	<b>Limit</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b># Values</b>
Total lbs/month	report lbs/month	0.2 lbs/mn	5.1 lbs/mn	1.0 lbs/mn	8
Max lbs/year	197 lbs/year	1.5 lbs/yr	5.1 lbs/yr	2.7 lbs/yr	3

**PHOSPHORUS CONCENTRATION**

<b>Value</b>	<b>Limit</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b># Values</b>
Monthly Avg.	0.035 mg/L	0 mg/L	0 mg/L	0 mg/L	0
Daily Max.	report mg/L	0 mg/L	0 mg/L	0 mg/L	0

**ORTHO-PHOSPHORUS MASS**

<b>Value</b>	<b>Limit</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b># Values</b>
Monthly Avg.	report lbs/day	0 lbs/day	0 lbs/day	0 lbs/day	0
Daily Max.	report lbs/day	0 lbs/day	0 lbs/day	0 lbs/day	0

**ORTHO-PHOSPHORUS CONCENTRATION**

<b>Value</b>	<b>Limit</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b># Values</b>
Monthly Avg.	report mg/L	0 mg/L	0 mg/L	0 mg/L	0
Daily Max.	report mg/L	0 mg/L	0 mg/L	0 mg/L	0

**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 Chapter 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 Palermo facility for the period of March 2006 through January 2011 indicates the following.

OUTFALL #005A  
 FISH ON HAND

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	report lbs/day	10,076 lbs/day	39,173 lb/day	21,937 lb/day	58
Daily Max.	report lbs/day	10,088 lbs/day	40,600 lb/day	22,937 lb/day	58

OUTFALL #006A (EMERGENCY BYPASS)  
 FISH ON HAND

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	report lbs/day	13,600 lbs/day	38,150 lb/day	21,209 lb/day	8
Daily Max.	report lbs/day	13,600 lbs/day	40,600 lb/day	22,366 lb/day	8

- 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 Palermo reports that approximately 55 gallons of formalin are used at the Palermo facility annually, an equivalent amount as that 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

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

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.

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 5<sup>th</sup> 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 5<sup>th</sup> percentile level. Based on this research, the Department revised MDIFW Palermo'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 effluent to ambient acute dilution applicable to this facility and its receiving water. In the 2008 Permit Minor Revision, the Department utilized MDIFW Palermo's assumed acute dilution factor of 1:1. This permitting action utilizes the revised acute ¼ 1Q10 dilution of 1.09:1 described in Fact Sheet Section 6b above, as shown below.

45 mg/L (1-hour acute criteria) x 1.09 (effluent dilution) = 49 mg/L formalin limit.  
25 mg/L (24-hour acute criteria) x 1.09 (effluent dilution) = 27 mg/L formalin limit.

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

The previously established daily maximum formalin mass limit of 41 lbs/day, developed pursuant to 06-096 CMR 523.6(f) based on projected use at MDIFW Palermo, 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 Palermo 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 Palermo facility for the period of March 2006 through January 2011 indicates the following.

**OUTFALL #005A  
 FORMALIN MASS**

<b>Value</b>	<b>Limit</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b># Values</b>
<u>Monthly Avg.</u>					
1-hr treatment	report lbs/day	26 lbs/day	41 lbs/day	37.4 lbs/day	23
24-hr treatment	report lbs/day	0 lbs/day	0 lbs/day	0 lbs/day	0
<u>Daily Max.</u>					
1-hr treatment	41 lbs/day	26 lbs/day	41 lbs/day	37.7 lbs/day	23
24-hr treatment	41 lbs/day	0 lbs/day	0 lbs/day	0 lbs/day	0

**FORMALIN CONCENTRATION**

<b>Value</b>	<b>Limit</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b># Values</b>
<u>Monthly Avg.</u>					
1-hr treatment	report mg/L	1.4 mg/L	42.0 mg/L	32.4 mg/L	23
24-hr treatment	report mg/L	0 mg/L	0 mg/L	0 mg/L	0
<u>Daily Max.</u>					
1-hr treatment	13.5 mg/L / 45 mg/L	1.4 mg/L	44.0 mg/L	32.9 mg/L	23
24-hr treatment	13.5 mg/L / 25 mg/L	0 mg/L	0 mg/L	0 mg/L	0

13 exceedences of the daily maximum formalin concentration limits prior to permit revision.  
 0 exceedences of the daily maximum formalin concentration limits after permit revision.

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

OUTFALL #006A (EMERGENCY BYPASS)

FORMALIN MASS

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	report lbs/day	1.1 lbs/day	1.1 lbs/day	1.1 lbs/day	1
Daily Max.	41 lbs/day	1.1 lbs/day	1.1 lbs/day	1.1 lbs/day	1

FORMALIN CONCENTRATION

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	report mg/L	1.1 mg/L	1.1 mg/L	1.1 mg/L	1
Daily Max.	13.5 mg/L	1.1 mg/L	1.1 mg/L	1.1 mg/L	1
	1.6 mg/L				

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.

$$31,250\text{-gal wastewater} / 1.03\text{ gal formalin} = 30,340:1\text{ dilution}$$

$$1,000,000\text{ ppm (undiluted) formalin} / 30,340 = 33\text{ ppm formalin discharged}$$

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

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

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:

$$\begin{aligned} 125,000\text{-gal rearing facility wastewater} / 6 \text{ gal formalin} &= 20,833:1 \text{ dilution} \\ 1,000,000 \text{ ppm (undiluted) formalin} / 20,833 &= 48 \text{ ppm formalin discharged} \end{aligned}$$

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.

$$\begin{aligned} 125,000\text{-gal rearing facility wastewater} / 6 \text{ gal formalin} &= 20,833:1 \text{ dilution} \\ 500,000\text{-gal basin volume} / 125,000 \text{ combined waste-stream} &= 4:1 \text{ dilution} \\ 1,000,000 \text{ ppm (undiluted) formalin} / 20,833 / 4 &= 12 \text{ ppm formalin discharged} \end{aligned}$$

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 Palermo facility for the period of March 2006 through January 2011 indicates the following.

**OUTFALL #005A**

**EFFLUENT DISSOLVED OXYGEN CONCENTRATION**

<b>Value</b>	<b>Limit</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b># Values</b>
Monthly Avg.	report mg/L	8.7 mg/L	10.3 mg/L	9.2 mg/L	20
Daily Max.	report mg/L	8.8 mg/L	10.6 mg/L	9.3 mg/L	20
Daily Min.	7.5 mg/L	8.4 mg/L	9.7 mg/L	8.9 mg/L	20

**OUTFALL #006A (EMERGENCY BYPASS)**

**EFFLUENT DISSOLVED OXYGEN CONCENTRATION**

<b>Value</b>	<b>Limit</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b># Values</b>
Monthly Avg.	report mg/L	n/a	n/a	0 mg/L	0
Daily Max.	report mg/L	n/a	n/a	0 mg/L	0
Daily Min.	7.5 mg/L	n/a	n/a	0 mg/L	0

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 Palermo facility for the period of March 2006 through January 2011 indicates the following.

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

OUTFALL #005A

pH RANGE

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	---	6.3 s.u.	7.2 s.u.	---	35
Daily Max.	6.0-8.5 s.u.	6.5 s.u.	7.3 s.u.	---	35

OUTFALL #006A (EMERGENCY BYPASS)

pH RANGE

Value	Limit	Minimum	Maximum	Average	# Values
Monthly Avg.	---	6.5 s.u.	6.7 s.u.	---	5
Daily Max.	6.0-8.5 s.u.	6.5 s.u.	6.7 s.u.	---	5

The Department observes that MDIFW Palermo 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. ANTI-BACKSLIDING**

Federal regulation 40 CFR, §122(l) and Department rules 06-096 CMR 523.5(1) contain the criteria for what is often referred to as the anti-backsliding provisions of the Federal Water Pollution Control Act (Clean Water Act). In general, the regulation states that except for provisions specified therein, effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards or conditions in the previous permit. Allowable exceptions to the anti-backsliding provisions include when:

- (1) material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation and
- (2) information is available which was not available at the time of the permit issuance (other than revised regulations, guidance or test methods) and which would justify the application of less stringent effluent limitations at the time of permit issuance.

In this permitting action, the Department calculates new ambient to effluent dilution factors, enabling more accurate, site specific effluent limits for parameters upon which dilution is dependent. The Department has also reinterpreted statute pertaining to tributaries to Class GPA waters in terms of the discharge of domestic pollutants. This permitting action revises the following: monthly average effluent mass limit for BOD<sub>5</sub>, total phosphorus monthly average concentration limit, and the daily maximum formalin concentration limits. The justification for each of these actions is detailed in Fact Sheet Section 6 pursuant to the pollutant. The Department believes that these actions are consistent with the anti-backsliding provisions.

## 8. ANTI-DEGRADATION

Maine's anti-degradation policy is included in 38 M.R.S.A., Section 464(4)(F) and addressed in the *Conclusions* section of this permit. Pursuant to the policy, where a new or increased discharge is proposed, the Department shall determine whether the discharge will result in a significant lowering of existing water quality. Increased discharge means a discharge that would add one or more new pollutants to an existing effluent, increase existing levels of pollutants in an effluent, or cause an effluent to exceed one or more of its current licensed discharge flow or effluent limits, after the application of applicable best practicable treatment technology. As this permitting action is revising the monthly average effluent BOD<sub>5</sub> mass limit, the monthly average effluent total phosphorus concentration limit, and the daily maximum formalin concentration limits, the Department is addressing the implications under the anti-degradation policy.

As noted in Fact Sheet Section 7 above, the revisions described are undertaken in response to establishment of new ambient to effluent dilution factors and reinterpretation of statute pertaining to tributaries to Class GPA waters. Though non-attainment conditions are suspected in the receiving water for aquatic life standards, the parameters and their forms (hereafter parameters) that are being revised are not implicated in this condition. Parameters suspected of causing or contributing to non-attainment are not being revised.

The permittee has committed significant infrastructural and operational improvements at the facility in attempts to properly manage its effluent quality in the previous five years. The Department expects and has received every indication that this level of effort and performance will continue. Therefore, the Department does not expect that the revised limitations "*will result in a significant lowering of existing water quality*". The Department considers the Anti-Degradation provisions to be satisfied.

## 9. 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.

## 10. 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 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

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

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

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.

Fish-eeZZZ fish anesthetic to allow for close examination including fin clippings and vaccinations. Active ingredients spearmint oil, wintergreen oil, and emulsifying agents. Approximately 32 oz (1 liter) 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 2,000 pounds per year is used, with a maximum of 100 pounds of salt per day applied between June 1 and September 30 in one raceway line dedicated for housing broodstock. The Department has determined that effluent salt concentrations are anticipated to fall significantly below the level of concern in the aquatic environment and as such considers this to be a de minimus discharge.

Limestone, Calcium Carbonate ground calcium carbonate is added in the bottom of raceways that house broodstock to provide for proper fish development by ensuring that calcium levels within the rearing structures approximate those normally found in Maine waters.

## **10. DISEASES, PATHOGENS, AND THERAPEUTIC AGENTS (cont'd)**

MDIFW reports that only small amounts are used and that levels are not permitted to exceed the natural range of calcium currently found in Maine waters. MDIFW Palermo uses 800 pounds of carbonate of lime per year, applied at approximately two pounds of calcium carbonate per week at the Palermo facility. Residual calcium levels in the flow-through water are diluted in the full facility wastewater stream prior to entering the receiving water. The Department anticipates de minimus levels of calcium discharged and thus is not establishing limitations or monitoring requirements in this permitting action. Instead, use of calcium carbonate shall be consistent with the use and record keeping requirements specified above.

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.

## **11. BIOSECURITY AND DISEASE CONTINGENCY PLAN**

Based on concerns of the potential for disease transmission from the MDIFW Palermo facility to the Sheepscot River and impacts to Atlantic salmon contained therein, the previous permitting action required that the permittee develop and submit for review and approval, a final Biosecurity and Disease Contingency Plan that insures the significant reduction in, or elimination of, the threat of disease transmission from MDIFW Palermo to the Sheepscot River. This permitting action carries forward this requirement in that this facility shall have a current written comprehensive Biosecurity and Disease Contingency Plan (Biosecurity Plan). The Biosecurity Plan shall provide a systematic approach by which the permittee shall insure the significant reduction in, or elimination of, the threat of disease transmission from MDIFW Palermo to the Sheepscot River and potential impacts to Atlantic salmon contained therein.

The Biosecurity Plan shall generally identify rules/requirements, operational practices and procedures to be identified and/or developed to insure attainment of the disease transmission reduction/elimination purpose stated above. The Biosecurity Plan shall identify opportunities for disease transmission and introductions of new pathogens, identify and provide for closure of any gaps left by the "Maine Fish Health Rules" especially related to initial steps for managing outbreaks of diseases of concern, address practices for handling affected fish, and methods for the isolation, containment, and treatment of contaminated water prior to its disposal or discharge to the receiving water. MDIFW is encouraged to consult with USFWS and NOAA Fisheries as it plans for and develops the Biosecurity and Disease Contingency Plans.

By December 31 of each year, or within 90 days of any process changes or minor equipment upgrades, the permittee shall evaluate and, if necessary, modify the Biosecurity Plan to ensure that it is up-to-date and well suited to attain the above stated purpose. The Biosecurity 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 in processes or equipment at the facility, the permittee shall submit the updated Biosecurity Plan to their Department inspector for review and comment.

## 12. DISINFECTING/SANITIZING AGENTS:

MDIFW Palermo indicates that the following disinfecting/sanitizing agents may be used at the Palermo 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 (92%). Approximately 6 gallons used per year at a concentration of 2.6 oz per 1 gallon of water.

Argentyne for disinfection of nets, utensils, boots, stocking trucks, eggs, etc. Active ingredients polymeric-iodine complex (10%), inert ingredients (90%). Approximately 4 gallons used per year at a concentration of 1.4 oz (40 ml) per 1 gallon of 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 de minimus 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.

## 13. 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 Palermo 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 Palermo 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.

#### **14. 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 Palermo facility. Based on limited available data and Department concerns with potential effects of the facility's effluent discharges on the aquatic life in the Sheepscot River, 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.

As noted in Fact Sheet Section 5 above, macroinvertebrate biomonitoring conducted in 2007 indicated that the receiving water below the MDIFW Palermo facility was attaining Class B aquatic life standards. The MEDEP DEA conducted additional macroinvertebrate biomonitoring in the Sheepscot River below MDIFW Palermo in 2011. Though results of this investigation are pending, preliminary indications point to significant enrichment in the Sheepscot River below the MDIFW Palermo facility, with MDIFW Palermo suspected as causing or contributing to nonattainment of water class standards. Though indications are preliminary, the Department is taking steps in this permitting action to address the situation.

This permitting action requires MDIFW Palermo to conduct additional macroinvertebrate biomonitoring to determine aquatic life conditions in the Sheepscot River and time to facilitate changes at the facility prior to repeating the monitoring. MDIFW Palermo shall conduct macroinvertebrate biomonitoring in the Sheepscot River during the summer of 2013, consistent with "*Methods for Biological Sampling and Analysis of Maine's Rivers and Streams*" (DEP #LW0387-B2002, August 2002). The permittee shall submit results to MEDEP DEA and to the Department Compliance Inspector in a biomonitoring report by December 15, 2013 for review and approval. If results indicate that the Sheepscot River below the MDIFW Palermo facility is attaining its Class B water quality standards and designated uses, this requirement shall cease. If results indicate that the non-attainment conditions suspected from the 2011 monitoring persist, this permitting action may be reopened to establish requirements for modification of MDIFW Palermo's infrastructure, Operation and Maintenance practices, and/or other factors potentially causing or contributing to non-attainment, followed by resumed macroinvertebrate biomonitoring.

**15. 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 Palermo’s effluent on the water quality of its receiving water, the previous permitting action required the permittee to seasonally monitor ambient dissolved oxygen and temperature levels at two locations in the Sheepscot River. 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 Sheepscot Lake dam and the head of the MDIFW Palermo facility in an area representing free-flowing conditions and (2) below the MDIFW Palermo outfalls in an area representing the dissolved oxygen sag point, unless revised by the Department. A review of the DMR data for the IFW Palermo facility for the period of March 2006 through January 2011 indicates the following.

**AMBIENT LOCATION 1 – UPSTREAM MONITORING  
 AMBIENT DISSOLVED OXYGEN CONCENTRATION**

<b>Value</b>	<b>Limit</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b># Values</b>
Monthly Avg.	report mg/L	7.0 mg/L	9.4 mg/L	8.0 mg/L	20
Daily Max.	report mg/L	7.7 mg/L	9.9 mg/L	8.5 mg/L	20
Daily Min.	report mg/L	6.4 mg/L	8.9 mg/L	7.6 mg/L	20

**AMBIENT WATER TEMPERATURE**

<b>Value</b>	<b>Limit</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b># Values</b>
Monthly Avg.	report deg C	15.5 degrees C	24.5 degrees C	20.2 degrees C	20
Daily Max.	report deg C	17.3 degrees C	26.2 degrees C	22.1 degrees C	20
Daily Min.	report deg C	12.8 degrees C	22.9 degrees C	18.3 degrees C	20

**AMBIENT LOCATION 2 – DOWNSTREAM MONITORING  
 AMBIENT DISSOLVED OXYGEN CONCENTRATION**

<b>Value</b>	<b>Limit</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b># Values</b>
Monthly Avg.	report mg/L	8.0 mg/L	9.6 mg/L	8.8 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	7.7 mg/L	9.2 mg/L	8.5 mg/L	20

**AMBIENT WATER TEMPERATURE**

<b>Value</b>	<b>Limit</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b># Values</b>
Monthly Avg.	report deg C	13.8 degrees C	22.9 degrees C	17.7 degrees C	20
Daily Max.	report deg C	14.6 degrees C	23.8 degrees C	19.2 degrees C	20
Daily Min.	report deg C	12.5 degrees C	22.2 degrees C	16.4 degrees C	20

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

## 16. SALMON GENETIC INTEGRITY AND HATCHERY ESCAPE PREVENTION:

The US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) formally listed the Gulf of Maine Distinct Population Segment (GOM DPS) of Atlantic salmon as an endangered species on November 17, 2000. On June 19, 2009, the two agencies expanded the geographic range of the listed GOM DPS. The Atlantic salmon GOM DPS encompasses all naturally spawned and conservation hatchery populations of anadromous Atlantic salmon whose freshwater range occurs in the watersheds from the Androscoggin River northward along the Maine coast to the Dennys River and wherever these fish occur in the estuarine and marine environment. Also included in the GOM DPS are all associated conservation hatchery populations used to supplement these natural populations. Excluded are landlocked Atlantic salmon and those salmon raised in commercial hatcheries for aquaculture. On June 19, 2009, NMFS also designated critical habitat for Atlantic salmon in certain watersheds within the GOM DPS. 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...*" GOM DPS "*...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*

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

*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."*

In review of MEPDES Permit / Maine WDLs since the 2000 listing and continuing with the 2009 listing expansion, the USFWS and NMFS 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 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 Palermo discharges its effluent to the Sheepscot River, which is within the Gulf of Maine DPS and is within designated critical habitat for Atlantic salmon.

**Genetic Integrity:** MDIFW Palermo is a state brook trout and brown trout rearing facility that produces fish for stocking in Maine waters as part of MDIFW's responsibilities in managing fisheries. MDIFW Palermo does not raise salmon and thus is not subject to genetic testing requirements.

**Escapement:** Despite an active brown trout fishery and former stocking program in this water, the rearing of brown trout, a non-native fish species, in the Sheepscot River is of concern to USFWS and NMFS. The USFWS previously reported, "*The escape of brown trout into the Sheepscot River is a very serious threat to native Atlantic salmon populations and would result in a take of salmon, which is illegal under the federal Endangered Species Act. The draft Recovery Plan for Atlantic Salmon identified the introduction of non-native fish species, including brown trout, as a high level threat to salmon and a highest priority for action to address the threat.*" NMFS previously reported, "*Brown trout are known to impact Atlantic salmon through several mechanisms including: (1) Predation - Brown trout predation has been implicated in the decline of several native salmonid populations in North America. In Maine, brown trout have been documented consuming large numbers of stocked Atlantic salmon fry. (2) Competition for habitat - Most evidence suggests that brown trout will displace or otherwise outcompete Atlantic salmon from pool habitats in both summer and winter. (3) Redd superimposition - Brown trout and Atlantic salmon demonstrate similar spawning site preferences and spawn at about the same time in the fall. Evidence also suggests that brown trout females may prefer to spawn on existing redd sites. (4) Competition for food - It is expected that juvenile salmon and trout would compete for similar food items in the river. (5) Genetic impacts - Brown trout are capable of hybridizing with other salmonids. Studies in Sweden have documented brown trout/Atlantic salmon hybrids. Hybridization was also documented in the Connecticut River.*"

MDIFW Palermo reports that the upgraded facility employs effluent screens at the ends of both lines of raceways, which serve to block fish from entering both the facility wastewater treatment infrastructure and the emergency outfall (Outfall #006A). Further, the facility

## **16. SALMON GENETIC INTEGRITY AND HATCHERY ESCAPE PREVENTION (cont'd)**

drum filter and associated wing walls provide fish escape prevention. All screens are sized according to the size of the fish and are inspected regularly. Any escapees would have to elude these measures to enter the receiving water.

Based on requirements established in Maine's Aquaculture General Permit (#MEG130000, Part II, Section I), individual MEPDES Permits for marine aquaculture facilities, and guidance developed by the Maine Aquaculture Association, this permitting action carries forward the requirement that the permittee shall employ a fully functional CMS at the facility designed, constructed, and operated so as to prevent the accidental or consequential escape of fish to open water. The CMS plan shall include a site plan or schematic with specifications of the particular system. The permittee shall develop and utilize a CMS consisting of management and auditing methods to describe or address the following: site plan description, inventory control procedures, predator control procedures, escape response procedures, unusual event management, severe weather procedures and training. The CMS shall contain a facility specific list of critical control points (CCP) where escapes have been determined to potentially occur. Each CCP must address the following: the specific location, control mechanisms, critical limits, monitoring procedures, appropriate corrective actions, verification procedures that define adequate CCP monitoring, and a defined record keeping system.

The CMS site specific plan shall describe the use of effective containment barriers appropriate to the life history of the fish. The facility shall have in place both a three-barrier system for fish up to 5 grams in size and a two barrier system for fish 5 grams in size or larger. The three-barrier system shall include one barrier at the incubation/rearing unit, one barrier at the effluent from the hatch house/fry rearing area and a third barrier placed inline with the entire effluent from the facility. Each barrier shall be appropriate to the size of fish being contained. The two-barrier system shall include one barrier at the individual rearing unit drain and one barrier inline with the total effluent from the facility. Each barrier shall be appropriate to the size of fish being contained. Barriers installed in the system may be of the screen type or some other similarly effective device used to contain fish of a specific size in a designated area. Barriers installed in the system for compliance with these requirements shall be monitored daily. Additional requirements include:

1. The CMS shall be audited at least once per year and within 30 days of a reportable escape (more than 50 fish) by a party other than the facility operator or owner qualified to conduct such audits and approved by the Department. A written report of these audits shall be provided to the facility and the Department for review and approval within 30 days of the audit being conducted. If deficiencies are identified during the audit, the report shall contain a corrective action plan, including a timetable for implementation and re-auditing to verify deficiencies are addressed as in the corrective action plan approved by the Department. Additional third party audits to verify correction of deficiencies shall be conducted in accordance with the corrective action plan or upon request of the Department. The permittee shall notify the Department upon completion of corrective actions.

## **16. SALMON GENETIC INTEGRITY AND HATCHERY ESCAPE PREVENTION (cont'd)**

2. Facility personnel responsible for routine operation shall be properly trained and qualified to implement the CMS. Prior to any containment system assessment associated with this permit, the permittee shall provide to the Department documentation of the employee's or contractor's demonstrated capabilities to conduct such work.
3. The permittee shall maintain complete records, logs, reports of internal and third party audits and documents related to the CMS on site for a period of 5 years.
4. For new facilities, a CMS shall be prepared and submitted to the Department for review and approval prior to fish being introduced into the facility.

The permittee shall report any known or suspected escapes of more than 50 fish within 24 hours to the Maine Dept of Marine Resources Bureau of Sea-Run Fisheries and Habitats at 207-941-9973 (Pat Keliher and Joan Trial), Maine Department of Inland Fisheries and Wildlife at 207-287-5202 (Commissioner's office), USFWS Maine Field Office at 207-866-3344, and NMFS Maine Office at 207-866-4172. During off-hours, the reports can be called to 800-432-7381.

## **17. 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 the Sheepscot River to meet standards for Class B classification or Long Pond to meet the standards for its GPA classification.

## **18. 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.

## **19. 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

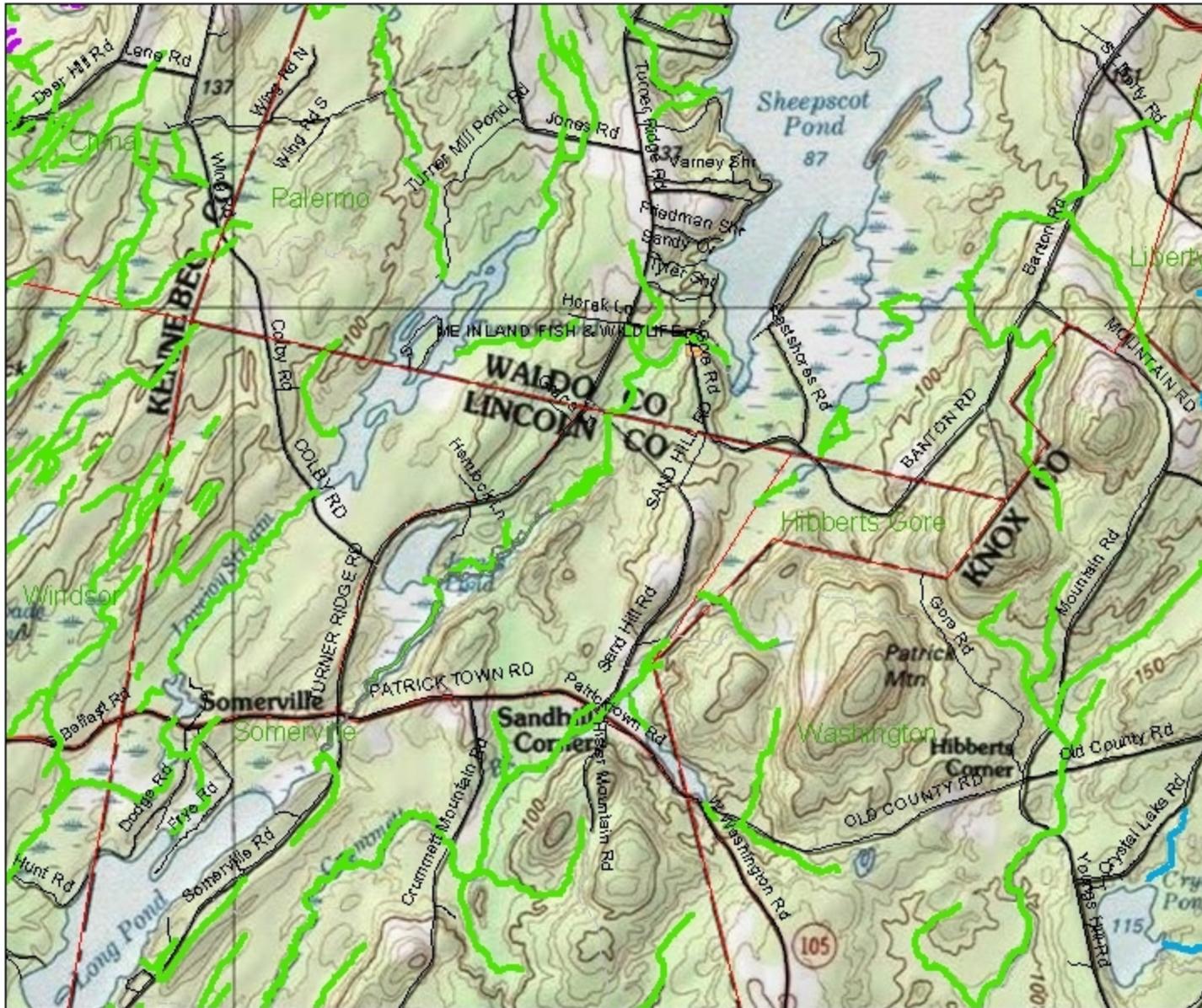
Telephone: (207) 215-1579  
Fax: (207) 287-3435  
email: Robert.D.Stratton@maine.gov

## **20. RESPONSE TO COMMENTS:**

During the period of November 16, 2011 through December 16, 2011, the Department solicited comments on the proposed draft Maine Pollutant Discharge Elimination System Permit / Maine Waste Discharge License to be issued to MDIFW Palermo for the proposed discharge. The Department did not receive any comments that resulted in significant revisions to the permit. Therefore, no response to comments has been prepared.

**ATTACHMENT A**  
*(Facility Location Maps)*

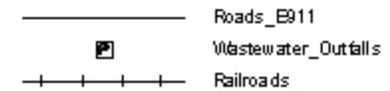
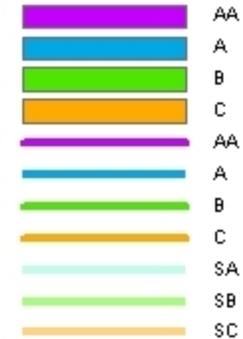
**ATTACHMENT B**  
*(Facility Site Plans)*



**Legend**

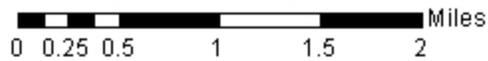
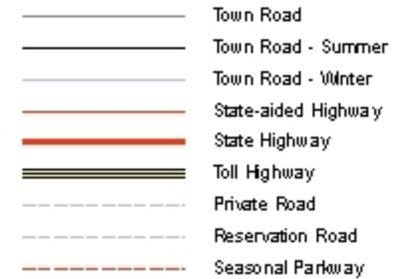
**River\_polygons**

RIVCLASS



Roads

JURISDICTION



**MDIFW Palermo Rearing Station**  
**Palermo, ME**

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



# Palermo Pool Size and Arrangement

## 10-Block Raceways

8' x 100'  
(EAST SIDE)


## 21-Block Raceways

5' x 100'  
(WEST SIDE)


NOTE - 3<sup>rd</sup> line  
Present, not shown  
↓

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

---

CONTENTS

SECTION	TOPIC	PAGE
A	GENERAL PROVISIONS	
1	General compliance	2
2	Other materials	2
3	Duty to Comply	2
4	Duty to provide information	2
5	Permit actions	2
6	Reopener clause	2
7	Oil and hazardous substances	2
8	Property rights	3
9	Confidentiality	3
10	Duty to reapply	3
11	Other laws	3
12	Inspection and entry	3
B	OPERATION AND MAINTENANCE OF FACILITIES	
1	General facility requirements	3
2	Proper operation and maintenance	4
3	Need to halt reduce not a defense	4
4	Duty to mitigate	4
5	Bypasses	4
6	Upsets	5
C	MONITORING AND RECORDS	
1	General requirements	6
2	Representative sampling	6
3	Monitoring and records	6
D	REPORTING REQUIREMENTS	
1	Reporting requirements	7
2	Signatory requirement	8
3	Availability of reports	8
4	Existing manufacturing, commercial, mining, and silvicultural dischargers	8
5	Publicly owned treatment works	9
E	OTHER PROVISIONS	
1	Emergency action - power failure	9
2	Spill prevention	10
3	Removed substances	10
4	Connection to municipal sewer	10
F	DEFINITIONS	10

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

---

**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).

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

---

**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 of 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 MAINTENANCE 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

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

---

- 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.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

---

- (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.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

---

**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.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

---

**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

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

---

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).

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

---

- (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.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

---

**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 contaminants 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.

# MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

## STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

---

**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.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

---

**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.**

---