



STATE OF MAINE  
DEPARTMENT OF  
ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE  
GOVERNOR

PAUL MERCER  
COMMISSIONER

June 14, 2018

Ms. Tanya Rucosky  
Downeast Salmon Federation  
EMARC 13 Willow St.  
East Machias, ME 04630  
[tanya@mainesalmonrivers.org](mailto:tanya@mainesalmonrivers.org)

*Sent via electronic mail  
Delivery confirmation requested*

**RE:** *Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0002747  
Maine Waste Discharge License (WDL) Application #W009187-5Z-A-N  
Proposed Draft MEPDES Permit - New*

Dear Ms. Rucosky:

Attached is a proposed draft MEPDES permit and Maine WDL which the Department proposes to issue for your experimental discharge as a final document after opportunity for your review and comment. By transmittal of this letter, you are provided with an opportunity to comment on the proposed draft permit and its special and standard conditions. If it contains errors or does not accurately reflect present or proposed conditions, please respond to this Department so that changes can be considered.

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

The comment period begins on June 14, 2018 and ends on July 16, 2018. All comments on the proposed draft permit must be received in the Department of Environmental Protection office on or before the close of business Monday, July 16, 2018. Failure to submit comments in a timely fashion will result in the proposed draft/license permit document being issued as drafted.

AUGUSTA  
17 STATE HOUSE STATION  
AUGUSTA, MAINE 04333-0017  
(207) 287-7688 FAX: (207) 287-7826

BANGOR  
106 HOGAN ROAD, SUITE 6  
BANGOR, MAINE 04401  
(207) 941-4570 FAX: (207) 941-4584

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

PRESQUE ISLE  
1235 CENTRAL DRIVE, SKYWAY PARK  
PRESQUE ISLE, MAINE 04769  
(207) 764-0477 FAX: (207) 760-3143

Downeast Salmon Federation  
June 14, 2018  
Page 2 of 2

Comments in writing should be submitted to my attention at the following address:

Maine Department of Environmental Protection  
Bureau of Water Quality  
Division of Water Quality Management  
17 State House Station  
Augusta, ME 04333-0017  
[Cindy.L.Dionne@maine.gov](mailto:Cindy.L.Dionne@maine.gov)

If you have any questions regarding the matter, please feel free to contact me.

Sincerely,



Cindy L. Dionne  
Division of Water Quality Management  
Bureau of Water Quality  
ph: 207-287-7823

Enc.

cc: Barry Mower, DEP  
Pamela Parker, DEP  
Clarissa Trasko, DEP  
Lori Mitchell, DEP  
Jay Clement, USACOE  
Sean Mahoney, CLF  
Kathleen Leyden, DACF  
Environmental Review, DMR  
Ellen Weitzler, USEPA  
Alex Rosenberg, USEPA  
Olga Vergara, USEPA  
Solanch Pastrana-Del Valle, USEPA  
Marelyn Vega, USEPA  
Richard Carvalho, USEPA  
Shelley Puleo, USEPA  
Environmental Review, IFW  
Earle Shettleworth, MHPC  
Dale Mitchell, Passamaquoddy Tribal Government



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

**IN THE MATTER OF**

DOWNEAST SALMON FEDERATION	)	MAINE POLLUTANT DISCHARGE
WATER QUALITY IMPROVEMENT PROJECT	)	ELIMINATION SYSTEM PERMIT
RICHARDSON BROOK, T19 ED BPP	)	AND
WASHINGTON COUNTY, MAINE	)	WASTE DISCHARGE LICENSE
#ME0002747	)	EXPERIMENTAL PERMIT
#W-009187-5Z-A-N	)	<b>NEW</b>
		<b>APPROVAL</b>

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

**APPLICATION SUMMARY**

On December 17, 2017, the Department accepted as complete for processing an application from DSF for an experimental Maine Pollutant Discharge Elimination System (MEPDES) Permit / Maine Waste Discharge License (WDL) for a water quality improvement project in Richardson Brook in the East Machias River watershed in T19 ED BPP, Washington County, Maine. The project involves the deposition of clam shells in Richardson Brook as a calcium source to attempt to mitigate for the impacts of episodic acidification of streams. Episodic acidification creates water quality conditions stressful for salmonids and other fish species and may be contributing to low survival in freshwater and estuarine environments. The use of agricultural lime is also proposed for dead water and terrestrial application adjacent to Richardson Brook. The subject stream is a Class A waterbody with a watershed of 5.2 square miles.

This permitting action establishes operational, monitoring, and reporting requirements. Information and data obtained will be used to assess the potential for larger scale water quality improvement projects of similar nature. Control sites for the project are located in Creamer and Barney Brooks as well as Beaverdam Stream.

## CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated June 14, 2018, 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, *Classification of Maine waters*, 38 M.R.S. § 464(4)(F), will be met, in that:
  - (a) Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;
  - (b) Where high quality waters of the State constitute an outstanding national resource, that water quality will be maintained and protected;
  - (c) Where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification;
  - (d) Where the actual quality of any classified receiving water body exceeds the minimum standards of the next highest classification, that higher water quality will be maintained and protected;  
and
  - (e) Where a discharge will result in lowering the existing quality of any water body, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.
4. The discharge will be subject to effluent limitations that require application of best practicable treatment (BPT) as defined in *Conditions of licenses*, 38 M.R.S. § 414-A(1)(D).

**ACTION**

THEREFORE, the Department APPROVES the above noted application of DOWNEAST SALMON FEDERATION to conduct a water quality improvement project by depositing clam shells in Richardson Brook, Class A, as well as the use of agricultural lime in dead water and terrestrial applications adjacent to Richardson Brook located in T19 ED BPP, Washington County, Maine, SUBJECT TO ALL APPLICABLE STANDARDS AND REGULATIONS AND THE FOLLOWING CONDITIONS:

1. *“Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable to All Permits,”* revised July 1, 2002, copy attached.
2. The attached Special Conditions, including any effluent limitations and monitoring requirements.
3. This permit becomes effective upon the date of signature below and expires at midnight five (5) years after that date. If a renewal application is timely submitted and accepted as complete for processing prior to the expiration of this permit, the terms and conditions of this permit and all subsequent modifications and minor revisions thereto remain in effect until a final Department decision on the renewal application becomes effective. *Maine Administrative Procedure Act, 5 M.R.S. § 10002 and Rules Concerning the Processing of Applications and Other Administrative Matters, 06-096 CMR 2(21)(A)* (amended October 19, 2015).

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

DONE AND DATED AT AUGUSTA, MAINE, THIS \_\_\_\_ DAY OF \_\_\_\_\_ 2018.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: \_\_\_\_\_  
PAUL MERCER, Commissioner

Date of initial receipt of application January 16, 2018  
Date of application acceptance January 17, 2018

Date filed with Board of Environmental Protection \_\_\_\_\_

This Order prepared by Cindy L. Dionne, Bureau of Water Quality

**SPECIAL CONDITIONS**

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

The permittee is authorized to conduct a water quality improvement project by depositing clam shells in Richardson Brook. Control sites for the project are located in Creamer and Barney Brooks as well as Beaverdam Stream. The permittee is also authorized to use agricultural lime in dead water and terrestrial applications adjacent to Richardson Brook. Such discharges are limited and must be monitored by the permittee as specified below.

<b>Method</b>	<b>Measurements</b>	<b>Analysis</b>	<b>When</b>	<b>Who</b>
Data sonde	pH Temperature Dissolved Oxygen	Before, during, and after treatment Up and down stream	Hourly (May-November)	USFWS / DEP Division of Environmental Assessment (DEA)
Grab Sample / Lab Analysis	Acid Neutralization Capacity (ANC) Aluminum Species Calcium Dissolved Organic Carbon	Before, during, and after treatment Up and down stream	Monthly (June, August, October)	DEP DEA
DEP Biomonitoring Protocol	Macroinvertebrates	Up and down stream	1/3 Years	DEP DEA
Electrofishing	Fish abundance Fish diversity	Before, during, and after treatment Up and down stream	Yearly (September)	Department of Marine Resources (DMR)

## **SPECIAL CONDITIONS**

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

The permittee must conduct all effluent sampling and analysis in accordance with; a) methods approved by 40 Code of Federal Regulations (CFR) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, or c) as otherwise specified by the Department. ANC analysis must follow USEPA's Handbook of Methods for Acid Deposition Studies (1987). Samples that are sent out for analysis must be analyzed by a laboratory certified by the State of Maine's Department of Health and Human Services.

The permittee must post signs at all treatment sites to explain the nature and purpose of the project and to provide contact information for people having questions or concerns.

The permittee must use shells that have been aged for a minimum of 2 years to reduce the potential transmittal of pathogens to the receiving waters. Shells will also be cleaned of organic material reduce biochemical loading due to decomposition in the receiving waters.

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

1. The permittee must not discharge effluent that contains a visible oil sheen, foam or floating solids at any time which would impair the uses designated for the classification of the receiving waters.
2. The permittee must not discharge effluent that contains materials in concentrations or combinations which are hazardous or toxic to aquatic life, or which would impair the uses designated for the classification of the receiving waters.
3. The permittee must not discharge effluent that causes visible discoloration or turbidity in the receiving waters or otherwise impairs the uses designated for the classification of the receiving waters.
4. The permittee must not discharge effluent that lowers the quality of any classified body of water below such classification, or lowers the existing quality of any body of water if the existing quality is higher than the classification.

### **C. AUTHORIZED DISCHARGES**

The permittee is authorized to discharge only in accordance with: 1) the permittee's General Application for Waste Discharge Permit, accepted for processing on January 17, 2018; 2) the terms and conditions of this permit; and 3) only in areas and with materials and methods approved by this permitting action. Discharges of wastewater from any other point source are not authorized under this permit, and must be reported in accordance with Standard Condition D(1)(f), *Twenty-four hour reporting*, of this permit.

## SPECIAL CONDITIONS

### D. NOTIFICATION REQUIREMENT

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

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

### E. MONITORING AND REPORTING

**On or before January 15 of each year**, the permittee must submit to the Department a report that provides a detailed description of the treatment activities conducted at the study sites for that calendar year. The annual report will also include and evaluate the results of all monitoring conducted in that year, a narrative of lessons learned from the results, and the permittee's plans for the sites for the next year. *[ICIS code ANNRP]*.

Annual reports must be submitted to the Department on or before January 15 of each year. A signed copy of all reports required herein must be submitted to the Department assigned compliance inspector (unless otherwise specified by the Department) and to the permitting staff at the following addresses, respectively:

Department of Environmental Protection  
Bureau of Water Quality  
Division of Water Quality Management Compliance  
106 Hogan Road  
Bangor, Maine 04401

Department of Environmental Protection  
Bureau of Water Quality  
Division of Water Quality Management Permitting  
17 State House Station  
Augusta, Maine 04333-0017

## **SPECIAL CONDITIONS**

### **F. PROTECTION OF HABITAT**

If adverse effects are observed or indicated at any of the project sites during the year, the permittee will verbally notify the Department's compliance inspector **within one working day of discovery**. As necessary, or as instructed by the Department, the permittee will also notify the organizations noted below, requesting input on appropriate responses to discovered effects.

Maine Department of Marine Resources  
Maine Department of Inland Fisheries and Wildlife  
US Fish and Wildlife Service  
University of Maine at Orono  
NOAA Fisheries  
University of Maine at Machias

### **G. REOPENING OF PERMIT FOR MODIFICATIONS**

In accordance with 38 M.R.S. § 414-A(5) and upon evaluation of the test results in the Special Conditions of this permitting action, new site specific information, or any other pertinent test results or information obtained during the term of this permit, the Department may, at any time and with notice to the permittee, modify this permit to: (1) include effluent limitations 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.

### **H. 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 must remain in full force and effect, and must be construed and enforced in all aspects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

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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

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**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

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**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

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- 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

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- (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

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**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

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**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

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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

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- (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

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**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

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**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

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**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.

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

**PROPOSED DRAFT FACT SHEET**

DATE: **June 14, 2018**

PERMIT NUMBER **#ME0002747**  
WASTE DISCHARGE LICENSE **#W-009187-5Z-A-N**

NAME AND ADDRESS OF APPLICANT:

**DOWNEAST SALMON FEDERATION  
187 MAIN STREET  
COLUMBIA FALLS, MAINE 04623**

COUNTY: **WASHINGTON**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

**RICHARDSON BROOK, EAST MACHIAS RIVER  
WATERSHED, T19 ED BPP**

RECEIVING WATER CLASSIFICATION:

**CLASS A**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER:

**TANYA RUCOSKY  
EMARC 13 WILLOW ST.  
EAST MACHIAS, MAINE 04630  
(207) 263-7072  
[tanya@mainesalmonrivers.org](mailto:tanya@mainesalmonrivers.org)**

## 1. APPLICATION SUMMARY

Application: On December 17, 2017, the Department of Environmental Protection (Department) accepted as complete for processing an application from Downeast Salmon Federation (DSF) for an experimental Maine Pollutant Discharge Elimination System (MEPDES) Permit / Maine Waste Discharge License (WDL) for a water quality improvement project in Richardson Brook in the East Machias River watershed in T19 ED BPP, Washington County, Maine. The project involves the deposition of clam shells in Richardson Brook as a calcium source to attempt to mitigate for the impacts of episodic acidification of streams. Episodic acidification creates water quality conditions stressful for salmonids and other fish species and may be contributing to low survival in freshwater and estuarine environments. The use of agricultural lime is also proposed for dead water and terrestrial application adjacent to Richardson Brook. The subject stream is a Class A waterbody with a watershed of 5.2 square miles. A locus map is included as Fact Sheet **Attachment A**.

This permitting action establishes operational, monitoring, and reporting requirements. Information and data obtained will be used to assess the potential for larger scale water quality improvement projects of similar nature. Control sites for the project are located in Creamer and Barney Brooks as well as Beaverdam Stream.

## 2. PERMIT SUMMARY

### a. Regulatory

On January 12, 2001, the State of Maine received authorization from the USEPA to administer the NPDES permitting program. From that date forward, the permitting program has been referred to as the MEPDES permit program.

*Experiments and scientific research in the field of pollution and pollution control, 38 M.R.S. § 362-A, states, “Notwithstanding any other law administered or enforced by the department, the board is authorized to permit persons to discharge, emit or place any substances on the land or in the air or waters of the State, in limited quantities and under the strict control and supervision of the commissioner or the commissioner's designees, exclusively for the purpose of scientific research and experimentation in the field of pollution and pollution control. The research and experimentation conducted under this section is subject to such terms and conditions as the board determines necessary in order to protect the public's health, safety and general welfare, and may be terminated by the board or commissioner at any time upon 24 hours' written notice.”*

## 2. PERMIT SUMMARY (cont'd)

### b. History

August 1, 2008 – The Department reviewed and approved as a de minimus pollutant discharge, a pilot study of experimental calcium enhancement in the Machias River watershed by Project Share. The pilot study involved placement of a contained quantity of clam shells in five streams. The purpose of the study was to determine degradation rates and ambient water chemistry changes for use in designing future larger scale projects to enhance buffering capacities in waters experiencing significant effects from acid rain.

June 24, 2009 – Project Share submitted to the Department a report of the findings of the 2008 pilot study. The results indicated that the shells dissolved rapidly, but that the small amounts used did not have a detectable effect on downstream water chemistry. Project Share viewed the pilot study as a success, indicating the potential for use of lessons learned in larger water quality improvement efforts.

August 26, 2009 – Project Share submitted an application to the Department for an experimental discharge permit for placement of clam shells in tributaries of up to three streams in the Machias River watershed to investigate the feasibility of reversing effects from episodic acidification of the streams and improving water quality and habitat value for salmonids. The application was assigned MEPDES Permit #ME0002704 and WDL #W-009049-5Z-A-N. That permit expired on November 30, 2014.

### c. Permittee Information

According to materials submitted with the permittee's application, "Downeast Salmon Federation (DSF) is a fishery conservation organization and a land trust...DSF will manage the overall project and will be contributing stocked fish and staff/volunteer time."

### d. Project Proposal

The project involves the deposition of clam shells in Richardson Brook as a calcium source to attempt to mitigate for the impacts of episodic acidification of streams. Episodic acidification creates water quality conditions stressful for salmonids and other fish species and may be contributing to low survival in freshwater and estuarine environments. The use of agricultural lime is also proposed for dead water and terrestrial application adjacent to Richardson Brook.

The following summary of the project proposal has been partially copied from the permittee's application with edits from DEA personnel where appropriate.

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

We propose to use direct application of clam shells for in-stream water quality restoration for Richardson Brook. Shell applications will start at road crossing at the 19-00-0 logging road. Expansions and modifications of the experimental design will be on a year-by-year basis with DEP permit modifications and with input for our agency and academic partners.

The experimental design is called BACI (before-after-control impact assessment). Water quality will be examined before and after shells are applied at the experimental sites coupled with comparisons with control streams. The control streams (Creamer, Barney, and Beaverdam) will be used to detect natural seasonal and year-to-year variations. Sondes will be monitoring pH, specific conductance, water temperature and water depth at one-hour intervals from May-November. Water grab samples will be collected every other month during the field season (Jun, Aug and Oct). Fish abundance and species diversity will be evaluated once a year by DMR. Macroinvertebrates will be tended with the assistance of DEP and USFWS.

### **Clam Shell Application Specifications**

Application rates were determined by watershed size, current summer baseflow stream pH, and a model published for sand-sized agricultural lime applications in West Virginia streams (Clayton et al. 1998). The pH goal is to keep pH above 6.5 during high flows.

The watershed size of the treatment stream, Richardson Brook, is 12 square miles (3329 hectares). The West Virginia model predicts that 12 tons of calcium carbonate will be enough to treat a stream the size of Richardson Brook. Multiple sources (including USFWS) suggest a double dose should be used for the first year, and no overdosing problems have been documented (Clayton et al. 1998). We proposed to double the dose with a terrestrial application of 13 tons/ha following the recommendations of Sterling et al. (2014). Groundwater is the dominant input into streams even during storm events (Peters et al. 2004). The terrestrial application should enhance the calcium concentration in groundwater before it reaches the stream, thus improving stream pH during high flows in the spring and fall.

Clam shells will be scattered lightly on the stream bottom by hand from buckets. The goal is to get the shells about one shell thick, covering approximately 80% of the stream bottom, just along the stream margins. The shells will be applied into water that is deep enough so that only a little of the natural salmon habitat is covered, and avoiding covering freshwater mussels or aquatic plants altogether. The dose is adjusted by spreading the treatment over more linear meters of stream. For instance, if the calculated dose is 2 metric tons, this amount of shell is distributed over enough linear meters of stream bottom to use up that amount of shells.

## 2. PERMIT SUMMARY (cont'd)

### **Applications in salmon habitat**

Application of clam shells for in-stream application will minimize filling of habitat, displacement of fish, and risk of injury to Atlantic salmon by: 1) in juvenile habitat, leaving the deep channel untreated (usually the center of the stream, but also the outside curve of a river bend), 2) in juvenile habitat, applying shells along the stream shore (the shells go where the water depth is less than 12 cm and water velocity is less than 10 cm/sec or greater than 40 cm/sec), 3) in adult holding pools, applying shells along the shore in the shallower one-third of pool. Since juvenile salmon habitat is generally greater than 10 cm in depth, the shell applications will just barely intrude on occupied habitat. Shells will be scattered by hand so as to not create piles. Applications on the edges of juvenile habitat will cover no more than 80 % of the bottom. Shells will be applied from one shore initially (the fish are anticipated to move to the other side and go upstream/downstream to get out of the way). When one side is done, shells will be applied from the opposite shore. Walking in the stream while applying shells will be limited as much as possible (but we will need to walk across the stream to access the opposite shore). For juvenile habitat, the deep middle of the stream will not have any applied shells.

We want to have some shells in occupied juvenile habitat because we want some shells to be submerged even in summer low flows. This is to provide water improvement and because we suspect that juvenile salmon will use shells for cover. Animals of a certain size (small fish, salamanders, tadpoles) are known to use the shells of freshwater mussels for cover (Grabarkiewicz & Davis 2008), so we expect that young of the year (YOY) salmon will also benefit.

Salmon fry are not currently stocked in Richardson Stream. However, we propose that it would be safe to apply shells in the spring wherever fry are stocked - using the restrictions noted above. The fry will be down in the gravel and the curved surfaces of the shells should prevent them from being buried. However, wading in the stream in the spring would be destructive and will be limited only to stream crossings.

In adult holding areas (deep cold water pools) shells will be spread along the edges extending one-third of the way across the pool. Thus, the shallowest one-third of the pool will be treated covering no more than 80% of the bottom, while the deepest part of the pool will be initially free of shells (the shells do move to some extent in high flows).

We propose that shells can be applied to seasonal channels and seasonal tributaries by covering no more than 80% of the stream bottom. Applications during the dry period are preferred. Applications when the channel is wet will be subject to the restrictions above for salmon habitat.

Applications to spawning area are not proposed at this time. However, crushed shell should be safe and effective, covering no more than 50% of the bottom provided the applications are done before September 15.

## 2. PERMIT SUMMARY (cont'd)

We propose that shells could be applied in sandy or muddy runs and dead waters by hand, scattering shells to cover about 50% of the bottom and avoiding piles. In addition, we think that dead waters with sandy or muddy bottom could also receive light applications of sandy agricultural lime or pelletized lime. Since the organisms that live here are generally burrowers this should not be harmful. A “light” application of ag-lime about 1 mm thick covering no more than 50% of the bottom should not be an unreasonable impact. Small particles should dissolve faster and might be more effective than shell. We want to find out. Sandy riffles will not be treated due to their value as brook trout spawning areas.

### **Stream Bed Impact Calculations**

Richardson Brook should get 12 metric tons of shell. The clam shells weigh 465 kg/m<sup>3</sup>, so one metric ton (1000 kg) is 2.15 m<sup>3</sup>. Thus 12 metric tons is 26 m<sup>3</sup>. The total impact to the stream bottom is 1,500 m<sup>2</sup> with approximately one shell thick with 80% cover on the stream sides.

### **Odor Control Plan**

The aged shells proposed for the Pilot Project have little detectable odor.

### **Pathogens**

Our plans for using a licensed composting program will address this issue. We expect that no fish or human pathogens will be associated with the clean aged shells.

## 3. CONDITIONS OF PERMIT

*Conditions of licenses*, 38 M.R.S. § 414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require the application of best practicable treatment (BPT), be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, *Certain deposits and discharges prohibited*, 38 M.R.S. § 420 and Department rule *Surface Water Toxics Control Program*, 06-096 CMR 530 (effective March 21, 2012), require the regulation of toxic substances not to exceed levels set forth in *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR 584 (effective July 29, 2012), and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

### 3. CONDITIONS OF PERMIT (cont'd)

*Experiments and scientific research in the field of pollution and pollution control*, 38 M.R.S. § 362-A, states, “Notwithstanding any other law administered or enforced by the department, the board is authorized to permit persons to discharge, emit or place any substances on the land or in the air or waters of the State, in limited quantities and under the strict control and supervision of the commissioner or the commissioner's designees, exclusively for the purpose of scientific research and experimentation in the field of pollution and pollution control. The research and experimentation conducted under this section is subject to such terms and conditions as the board determines necessary in order to protect the public's health, safety and general welfare, and may be terminated by the board or commissioner at any time upon 24 hours' written notice.”

### 4. RECEIVING WATER QUALITY STANDARDS

*Classification of major river basins*, 38 M.R.S. § 467 (3)(B) classifies the East Machias River tributaries as Class A unless otherwise specified. Richardson Brook is a tributary of the East Machias River and is not specified in the statute. *Standards for classification of fresh surface waters*, 38 M.R.S. § 465(2) describes the standards for Class A waters.

*Standards for classification of fresh surface waters*, 38 M.R.S. § 465 (2)(C)(2) states that:

This paragraph does not apply to a discharge to Class A waters that are or once were populated by a distinct population segment of Atlantic salmon as determined pursuant to the United States Endangered Species Act of 1973, Public Law 93-205, as amended, if, in addition to satisfying all the requirements of this article, the applicant, prior to issuance of a discharge license, objectively demonstrates to the department's satisfaction that the discharge is necessary, that there are no other reasonable alternatives available and that the discharged effluent is for the purpose of and will assist in the restoration of Atlantic salmon and will return the waters to a state that is closer to historically natural chemical quality.

(a) The department may issue no more than a total of 3 discharge licenses pursuant to this subparagraph and subsection 1, paragraph C, subparagraph (2).

(b) A discharge license issued pursuant to this subparagraph may not be effective for more than 5 years from the date of issuance.

The Department has made the determination that this discharge is necessary in the recovery effort of the endangered Atlantic salmon.

## 5. RECEIVING WATER QUALITY CONDITIONS

The *State of Maine 2016 Integrated Water Quality Monitoring and Assessment Report* (Report), prepared by the Department pursuant to Sections 303(d) and 305(b) of the Federal Water Pollution Control Act lists the East Machias River and its tributaries as ADB Assessment Unit ID ME0105000204\_509R in “Category 2: Rivers and Streams Attaining Some Designated Uses-Insufficient Information for Other Uses.” It should be noted that the 2016 Report lists the entire assessment unit as Class AA, however, this assessment unit has not yet been split out to include a Class A segment (Richardson Stream is Class A), and a Class B segment. Future Reports will amend this assessment unit to reflect the updated attainment classes.

The Report lists all of Maine’s fresh waters as, “Category 4-A: Waters Impaired by Atmospheric Deposition of Mercury.” Impairment in this context refers to a statewide fish consumption advisory due to elevated levels of mercury in some fish tissues. The Report states, “All freshwaters are listed in Category 4A (Total Maximum Daily Load (TMDL) Completed) due to USEPA approval of a Regional Mercury TMDL.” Maine has a fish consumption advisory for fish taken from all freshwaters due to mercury. Many fish from any given waters do not exceed the action level for mercury. However, because it is impossible for someone consuming a fish to know whether the mercury level exceeds the action level, the Maine Department of Human Services decided to establish a statewide advisory for all freshwater fish that recommends limits on consumption.

The Department has no information that the discharge from the permittee, as conditioned, causes or contributes to non-attainment of applicable Class A water quality standards.

## 6. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As permitted, the Department has determined in the long-term that the existing water uses will be maintained and protected and the discharge will not cause or contribute to the failure of the waterbody to meet standards for Class A classification.

## 7. PUBLIC COMMENTS

Public notice of this application was made in the *Ellsworth American* newspaper on December 4, 2017 and the *Machias Valley News Observer* newspaper on December 13, 2017. The Department receives public comments on an application until the date a final agency action is taken on the application. Those persons receiving copies of draft permits must have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to *Application Processing Procedures for Waste Discharge Licenses*, 06-096 CMR 522 (effective January 12, 2001).

Additionally, the permittee held a public presentation on the project at the Peter Gray Hatchery in East Machias on Saturday, January 13, 2018.

## **8. DEPARTMENT CONTACTS**

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

Cindy L. Dionne  
Division of Water Quality Management  
Bureau of Water Quality  
Department of Environmental Protection  
17 State House Station  
Augusta, Maine 04333-0017 Telephone: (207) 557-5950  
e-mail: [Cindy.L.Dionne@maine.gov](mailto:Cindy.L.Dionne@maine.gov)

## **9. RESPONSE TO COMMENTS**

*Reserved until the end of the public comment period.*

# **ATTACHMENT A**

