STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JANET T. MILLS
GOVERNOR

GERALD D. REID
COMMISSIONER

July 10, 2020

Mr. Sean Ledwin
Dept. of Marine Resources
21 SHS
Augusta, ME. 04333
Sean.M.Ledwin@maine.gov

Sent via electronic mail
Delivery confirmation requested

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0002828
Maine Waste Discharge License (WDL) Application #W009239-6G-A-N
Proposed Draft MEPDES Permit Renewal

Dear Mr. Ledwin,

Attached is a proposed draft MEPDES permit and Maine WDL which the Department proposes to issue as a final document after opportunity for your review and comment. By transmittal of this letter, you are provided with an opportunity to comment on the proposed draft permit and its 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 July 10, 2020 and ends on Monday, August 10, 2020. 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, August 10, 2020. 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
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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

web site: www.maine.gov/dep

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

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

ec: Barry Mower, DEP
Pamela Parker, DEP
Clarissa Trasko, DEP
Lori Mitchell, DEP
Jay Clement, ACOE
Sean Mahoney, CLF
Kathleen Leyden, DACF
Environmental Review, DMR
Ellen Weitzler, USEPA
Alex Rosenberg, USEPA
Marelyn Vega, USEPA
Richard Carvalho, USEPA
Shelley Puleo, USEPA
Kirk F. Mohney, MHPC
Christine Vaccaro, NMFS
Dale Mitchell, Passamaquoddy Tribal Government
Anna Harris, USFWS
Crystal Canney, Protect Maine's Fishing Heritage

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

IN THE MATTER OF

STATE OF MAINE		)	MAINE POLLUTANT DISCHARGE
DEPARTMENT OF MARINE RESOURCES		)	ELIMINATION SYSTEM PERMIT
SEA RUN FISHERIES AND HABITAT		)	AND
CUTLER, WASHINGTON COUNTY, MAINE		)	WASTE DISCHARGE LICENSE
NET PEN AQUACULTURE		)	
#ME0002828		)	
#W009232-6G-A-N	**APPROVAL**	)	**NEW**

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 Maine Department of Environmental Protection (Department), and in consideration of supportive data, agency review comment and other related materials of file, the Department has considered the application for a Maine Pollutant Discharge Elimination System (MEPDES) / Maine Waste Discharge License (WDL) submitted by the DEPARTMENT OF MARINE RESOURCES (MeDMR) and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

On March 20, 2020, the Department received, an application from DMR for a new combination MEPDES permit #ME0002828/WDL #W009232-6G-A-N for the discharge(s) of wastes associated with the operation of a four-net pen aquaculture facility (25,997 fish maximum for the facility) for conservation efforts in the attempt to restore endangered Gulf of Maine Distinct Population Atlantic salmon. The proposed site is a 4-acre site located on the south side of Cutler Harbor, east of Western Head and west of Little River Island in Cutler, Maine, Class SB.

On August 23, 2004, the USEPA promulgated effluent guideline limitations (EGLs) for *Concentrated Aquatic Animal Production Point Source Category* at 40 CFR Part 451.40 CFR Part 451 Subpart B, *Net Pen Subcategory*, is applicable to discharges from net pen aquaculture facilities that produce 100,000 pounds or more per year of aquatic animals, and 40 CFR Part 451.21 establishes effluent limitations attainable by the application of the best practicable control technology currently available (BPT). Conditions established in this permit incorporate these BPT requirements.

Net pen system. "Net pen system" means a stationary, suspended or floating system of nets, screens, or cages in open waters of the State and located within the boundaries of a lease granted by the Department of Marine Resources. Net pen systems typically are located along a shore or pier or may be anchored and floating offshore. Net pens and submerged cages rely on tides and currents to provide a continual supply of high-quality water to the animals in production. 40 CFR Part 451.2(j).

Net pen aquaculture facility or facility. "Net pen aquaculture facility" or "facility" means a net pen system within the boundaries of a single lease granted by the Department of Marine Resources for the purpose of rearing finfish, including, but not limited to, Atlantic salmon.

PERMIT SUMMARY

This permitting action establishes:

1. Mixing zones associated with net pen aquaculture;

2. Sediment and benthic monitoring requirements and limitations within and outside the sediment mixing zone;

3. A requirement to demonstrate compliance with sulfide standards every other year that fish are on station, starting sampling in Year 3 of this Permit and continuing until a renewal Permit is issued;

4. Terms and conditions for use of drugs for disease control.

5. A requirement to maintain a current comprehensive operations and maintenance plan for the facility;

6. A requirement to maintain and report the number of fish on hand (or fish on station), using a method, and form approved by the Department; and

7. Best practicable treatment conditions for the operation of the net pens.

CONCLUSIONS

Based on the findings in the attached Fact Sheet, dated July 10, 2020, and subject to the special and standards conditions that follow, the Department makes the following **CONCLUSIONS**:

1. The discharge, either by itself or in combination with other discharges, will not lower the quality of any classified body of water below such classification.

2. The discharge, either by itself or in combination with other discharges, will not lower the quality of any unclassified body of water below the classification which the Department expects to adopt in accordance with state law.

3. The provisions of the State's antidegradation policy, *Classification of Maine waters*, 38 M.R.S. § 464(4)(F), will be met, in that:

   (a) Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;

   (b) Where high quality waters of the State constitute an outstanding natural resource, that water quality will be maintained and protected;

   (c) 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 water quality of any water body, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.

4. The discharges will be subject to effluent limitations that require application of best practicable treatment as defined in *Conditions of licenses*, 38 M.R.S. § 414-A(1)(D).

ACTION

THEREFORE, the Department APPROVES the above noted application of the DEPARTMENT OF MARINE RESOURCES, to discharge wastes associated with the operation of a four-net pen aquaculture facility (25,997 fish maximum for the facility) for conservation efforts in the attempt to restore endangered Gulf of Maine Distinct Population Atlantic salmon four net pens for a finfish aquaculture facility to the Atlantic Ocean, Class SB waters located in Cutler Harbor, Cutler, Maine, SUBJECT TO THE ATTACHED CONDITIONS, including:

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

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

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. § 10002, *Rules Concerning the Processing of Applications and Other Administrative Matters*, 06-096 CMR 2(21)(A) (last amended June 9, 2018).

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

DONE AND DATED AT AUGUSTA, MAINE THIS _____DAY OF _____, 2020.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:_____
For Gerald D. Reid, Commissioner

Date filed with Board of Environmental Protection_____

Date of initial receipt of application: March 17, 2020
Date of application acceptance: March 20, 2020
This Order prepared by Cindy L. Dionne, BUREAU OF WATER QUALITY

SPECIAL CONDITIONS

A. 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 March 20, 2020; 2) the terms and conditions of this permit; and 3) other pollutants incidental to the normal and proper operation of the facility, including, but not limited to, fish excrement, fish scales, fish carcasses unable to be retrieved, and the leaching of treatment compounds used on nets to limit marine growth, provided such discharges do not cause or contribute to a violation of an applicable water quality standard or condition of this Permit. Discharges of wastewater from any other point source(s) 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.

B. STOCKING NOTICE AND CONDITIONS

8. **Stocking notice.** ***No later than March 1 of each calendar year***, the permittee must notify the Department of its intent to stock fish (smolts or otherwise) in that calendar year. Stocking will take place in May/June of each year.

9. **Restocking conditions**. The permittee may not stock fish at the facility until the permittee demonstrates to the Department's satisfaction that sulfide levels within the mixing zone are equal to or less than 4,000 uM based on the mean of all samples at 5 meters, taken every other year starting with Year 3 of this Permit. See Appendix C of this Permit for sampling locations. The Department may impose conditions for restocking fish at this facility if it has exceeded the restocking sulfide threshold within the mixing zone (4,000uM) that are necessary to ensure compliance with this Permit and that sulfide levels within the mixing zone do not exceed 4,000 uM. Sample results obtained from monitoring required pursuant to Special Condition E.3 of this Permit may be submitted to satisfy this condition. Sample results obtained after completion of a grow cycle may be used provided results are submitted not less than 14 days prior to proposed restocking.

10. The permittee must maintain and report the number of fish on hand (or fish on station), using a method, and form approved by the Department. This report is due by the last day of the following month.

SPECIAL CONDITIONS

C. MIXING ZONE

Pursuant to 38 M.R.S. § 451, the Department may establish a mixing zone for any discharge.

This Permit designates two mixing zones: (1) a Water Column Mixing Zone, and (2) a Sediment Mixing Zone. Outside the designated Mixing Zones, discharges from the facility must not cause or contribute to conditions that are hazardous or toxic to aquatic life, or that would impair the uses designated by the classification of the receiving waters. Within the designated mixing zone, the discharge must not cause or contribute to conditions that are lethal to passing organisms indigenous to the receiving water.

1. **Water Column Mixing Zone.** The Water Column Mixing Zone is defined as the area within and extending 30 meters beyond the perimeter of a net pen in all directions on the surface, and down to the sea floor/water column interface.

   The dissolved oxygen concentration within the water column mixing zone must not be lower than 6 mg/L at any point from the surface down to the sea floor/water column interface. The Department reserves the right to require routine or periodic dissolved oxygen monitoring within the water column mixing zone. In the event that the permittee determines ambient DO within the water column mixing zone is less than 6 mg/L, the Department will take into consideration DO monitoring results from up-current and down-current monitoring stations in determining the permittee's contribution to low ambient DO. Except for dissolved oxygen percent saturation, water quality within the water column mixing zone must comply with the applicable standards specified at *Standards for classification of marine and estuarine waters*, 38 M.R.S. § 465-B. **The permittee may not cause non-compliance of numeric or narrative water quality standards outside the designated water column mixing zone at any time.**

2. **Sediment Mixing Zone.** The Sediment Mixing Zone is defined as the sea floor directly below a net pen and extending on the sea floor 30 meters beyond the perimeter of each net pen in all directions. Compliance monitoring associated with this Permit will be conducted at sampling locations that are 35 meters beyond the edge of the outermost net pens.

D. SEDIMENT AND BENTHIC MONITORING REQUIREMENTS AND LIMITATIONS

Growing cycle. "Growing cycle" means a period of time between the date when fish are stocked at a facility and the date when those fish, other than fish designated as brood stock, have been harvested from the facility.

1. Monitoring for sulfide at 35 meters must be conducted at a minimum frequency of once every other year starting with Year 3 of this permit and continuing while fish are present at this site or until a renewal Permit is issued.

2. Monitoring for benthic infauna to enable reporting of Shannon-Wiener Relative Diversity Index (*J*) and percent *Capitella capitata* is required only if the site-average sulfide test result is greater than 3,000 uM.

SPECIAL CONDITIONS

D. SEDIMENT AND BENTHIC MONITORING REQUIREMENTS AND LIMITATIONS (cont'd)

3. Monitoring for sulfide at 5 meters must be conducted at a minimum frequency of once per growing cycle during the period of July 1 – November 15 during Year 4 of the Permit. Results may be used to demonstrate compliance with the restocking threshold of 4,000 uM. Results greater than 4,000 uM do not constitute a violation of this Permit.

See Appendix A of this Permit for conditions of sediment and benthic monitoring requirements.

Table E.1.

Parameters	Limitations	Sample Location	Data Submission Deadline
CLASS SB	Shannon-Wiener Relative Diversity Index (J) ≤ 0.5 based on the mean of all samples across site AND ≥25% total abundance composed of *Capitella capitata* based on the mean of all samples across site AND Sulfide ≥ 3,000uM based on the mean of all samples across site	A, B, C, and D at edge of mixing zone (35 m from net pen) See Appendix B	Sulfides by December 31 of the sampling year Benthic infauna results by March 1 of the year following sample collection
Total species abundance and species richness	Report/0.1 m^2		
Total organic carbon	Report mg/g		
Percent solids	Report %		
Sand, silt, clay, gravel	Report %		

E. NARRATIVE LIMITATIONS

Outside the designated mixing zone, discharges from the facility must not cause or contribute to a violation of water quality standards, including the following narrative standards.

1. The permittee must not discharge pollutants that cause a visible oil sheen, foam, or floating solids at any time that would impair the uses designated by the classification of the receiving waters.

2. The permittee must not discharge pollutants that contain materials in concentrations or combinations that are hazardous or toxic to aquatic life, or that would impair the existing or designated uses of the receiving waters.

3. The permittee must not discharge pollutants that cause visible discoloration or turbidity in the receiving waters that causes those waters to be unsuitable for the designated uses and characteristics ascribed to their class.

SPECIAL CONDITIONS

E. NARRATIVE LIMITATIONS (cont'd)

4. The permittee must not discharge pollutants 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.

F. BEST PRACTICABLE TREATMENT

These conditions are consistent with effluent limitations attainable by the application of the best practicable control technology currently available (BPT) prescribed by 40 CFR Part 451.21.

1. **Feed management.** The permittee must employ efficient feeding strategies that limit feed input to the minimum amount reasonably necessary to achieve production goals and sustain targeted rates of aquatic animal growth. These strategies must minimize the accumulation of uneaten food beneath the pens through the use of real-time feed monitoring, including devices such as video cameras, digital scanning sonar, and upweller systems; monitoring of sediment quality beneath the pens; monitoring of benthic community quality beneath the pens; capture of waste feed and feces; or other good husbandry practices approved by the Department.

2. **Waste collection and disposal.** The permittee must collect, return to shore, and properly dispose of all feed bags, packaging materials, waste rope, netting and other solid waste.

3. **Transport or harvest discharge.** The permittee must minimize any discharge associated with the transport or harvesting of aquatic animals including blood, viscera, aquatic animal carcasses, or transport water containing blood.

4. **Carcass removal.** The permittee must remove and dispose of aquatic animal mortalities properly on a monthly basis to prevent discharge to waters of the State.

5. **Materials storage.** The permittee must ensure proper storage of drugs, pesticides and feed in a manner designed to prevent spills that may result in the discharge of drugs, pesticides or feed to waters of the State. The permittee must implement procedures for properly containing, cleaning, and disposing of any spilled material.

6. **Maintenance.** The permittee must inspect the net pen facility on a weekly basis in order to identify and promptly repair any damage and conduct regular maintenance of the net pen facility in order to ensure that it is properly functioning. The permittee must keep on-site, for Department inspection, records of net changes, inspections and repairs.

SPECIAL CONDITIONS

F. BEST PRACTICABLE TREATMENT (cont'd)

7. **Recordkeeping.** The permittee must maintain and report monthly, using a method and on a form approved by the Department, the following information.
   a) The number of net pens in use, including type, size (diameter and depth) and volume.
   b) The number of months each net pen has been stocked.
   c) The average weight of and total number of fish in each net pen.
   d) The total amount of feed added to each net pen.

   The report is due by the last day of the following calendar month.

8. **Training.** In order to ensure the proper implementation of best practicable treatment, the permittee must adequately train all relevant facility personnel in spill prevention and how to respond in the event of a spill, and the proper operation and cleaning of production systems, including but not limited to, training in feeding procedures. The permittee must keep, for Department inspection, training records for spill prevention and response, and feed management procedures.

G. OPERATIONS AND MAINTENANCE (O&M) PLAN

The permittee must have a current written comprehensive Operation & Maintenance (O&M) Plan for the net pen facility. The plan must provide a systematic approach by which the permittee must at all times, properly operate and maintain all facilities and systems of pollution control used by the permittee to achieve compliance with the conditions of this Permit. The O&M Plan must include provisions to maintain and implement all best practicable treatment requirements prescribed by this Permit. The O&M Plan must identify the existence of and date of a feed management plan detailing the permittee's feeding strategies and practices for each growing cycle. The feed management plan must be made available to Department personnel for review upon request.

By December 31 of each year, **or within 30 days of any significant change in operation of the net pen facility that has potential to affect compliance with this the terms and conditions of this Permit or applicable water quality standards,** the permittee must evaluate and modify the O&M Plan accordingly. The O&M Plan must be kept on-site at all times and made available to Department personnel upon request.

H. PREDATOR AND CONTAINMENT NETS

When in use, horizontal predator nets must be maintained at least one (1) meter above the sea floor at all times. Vertical predator nets may extend to the sea floor. Nets must not impede the current flow or tidal exchange so as to contribute to the deposition of solids that would cause a violation of this Permit or applicable water quality standard. The storage of predator control or containment nets on the sea floor is not authorized by this Permit. Any net dropped that is not recovered immediately must be tagged with a float, positioned using differential GPS, numbered, and reported to the Department ***within twenty-four (24) hours*** of becoming aware of the loss. The net must be recovered ***within thirty (30) days*** from the date lost, or as otherwise approved in writing by the Department.

SPECIAL CONDITIONS

H. PREDATOR AND CONTAINMENT NETS (cont'd)

The use of biocidal chemicals for cleaning nets on-site is only authorized by this Permit if expressly required in writing by the Maine Department of Marine Resources or U.S. Department of Agriculture and provided such discharges do not cause or contribute to a violation of an applicable water quality standard or condition of this Permit. On-site mechanical cleaning and pressure washing of nets is authorized by this Permit only if completed in accordance with a management plan to assure that solids from these practices do not accumulate on the sea floor or cause or contribute to a violation of this Permit or applicable water quality standards outside the mixing zone.

I. USE OF DRUGS FOR DISEASE CONTROL

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

Extralabel drug use. "Extralabel drug use" means actual use or intended use of a drug in an animal in a manner that is not in accordance with the approved labeling. This includes, but is not limited to, use in species not listed in the labeling, use for indications (disease or other conditions) not listed in the labeling, use at dosage levels, frequencies, or routes of administration other than those stated in the labeling, and deviation from the labeled withdrawal time based on these different uses. *Federal Food, Drug, and Cosmetic Act*, 21 CFR Part 530.

Investigational New Animal Drug (INAD). "Investigational new animal drug" means a drug for which there is a valid exemption in effect under section 512(j) of the *Federal Food, Drug, and Cosmetic Act*, 21 U.S.C. 360b(j), to conduct experiments. INADs are those drugs for which FDA has authorized use on a case-by-case basis to allow a way of gathering data for their approval process.

All Drugs authorized for use at this site are listed in Attachment A of this Permit. Drugs <u>not</u> listed in Attachment A of this Permit, or requests for extralabel or INAD use, are not permitted for use on this site and must be approved by the Department as described further in this section.

1. **General requirements.** All drugs used for disease prevention or control must be approved or authorized by the U.S. Food and Drug Administration (FDA), and all applications must comply with applicable FDA requirements, including FDA's requirement that all drug use follow state National Pollutant Discharge Elimination System permitting requirements.

2. **FDA-approved drugs.** Drugs approved by the FDA for net pen aquaculture purposes and listed in Attachment A of this Permit must be used consistent with label instructions.

   a) Preventative treatments. The discharge of any approved drug administered as a preventative measure is not authorized by this Permit, unless the following conditions are met: the drug must be approved by FDA, and the treatment and route of administration must be consistent with the drug's intended use. Discharges may occur through direct application of a drug or indirectly through feed, injection, ingestion, or immersion at the facility.

SPECIAL CONDITIONS

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

b) Drugs not identified in the application. When the need to treat or control diseases requires the use of an FDA-approved drug not identified in the applicant's application, the permittee must notify the Department verbally or by electronic mail prior to initial use of the drug.

1) The notification must include a description of the drug, its intended purpose, the method of application, the amount, the concentration, the duration of the use, and information on aquatic toxicity.

2) ***Within seven (7) days of*** the initial notification the permittee must submit a written report that includes all of the information outlined in Section J.2.b)1) above.

3) The Department may require a request for a Permit Modification, including public notice requirements, if the drug is to be used for more than a 30 consecutive day period.

4) If, upon review of information regarding the use of a drug pursuant to this section, the Department determines that significant adverse effects are likely to occur, it may restrict or limit use of the drug.

c) Monitoring. The Department may require sediment monitoring for a specific drug or metabolite(s) if data or literature adequately characterizing the environmental fate of the drug or metabolite(s) is not available.

3. **Extralabel drug use.** Extralabel drug use of any FDA-approved drug or those listed in Attachment A of this Permit, is not authorized by this Permit, unless in accordance with a specific prescription written for that use by a licensed veterinarian.

a) Notification. The permittee must notify the Department verbally or by e-mail prior to initial extralabel use of a drug.

1) The notification must include a description of the drug, its intended purpose, the method of application, the amount, concentration, and duration of the use, information on aquatic toxicity, and a description of how and why the use qualifies as an extralabel drug use under FDA requirements.

2) ***Within seven (7) days of*** the initial notification the permittee must submit a written report that includes all of the information outlined in Section N.3.a) 1) above. Notice must include documentation that a veterinarian has prescribed the drug for the proposed use. A copy of the veterinarian's prescription must be maintained on-site during treatment for Department review.

3) If, upon review of information regarding the extralabel use of a drug pursuant to this section, the Department determines that significant adverse effects are likely to occur, it may deny, restrict or limit use of the drug.

SPECIAL CONDITIONS

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

b) Monitoring. The Department may require sediment monitoring for a specific drug or metabolite(s) if data or literature adequately characterizing the environmental fate of the drug or metabolite(s) is not available.

4. **Investigational New Animal Drug (INAD).** The discharge of drugs authorized by the FDA for use during studies conducted under the INAD program is not authorized by this Permit, unless in accordance with specific prior consent given in writing by the Department.

a) Initial report. The permittee must provide a written report to the Department for the proposed use of an INAD ***within seven (7) days*** of agreeing or signing up to participate in an INAD study. The written report must identify the INAD to be used, method of use, dosage, and disease or condition the INAD is intended to treat.

b) Evaluation and monitoring. ***At least ninety (90) days prior to initial use*** of an INAD at a facility, the permittee must submit for Department review and approval a study plan for the use of the drug that:

1) Indicates the date the facility agreed or signed up to participate in the INAD study.

2) Demonstrates that the minimum amount of drug necessary to evaluate its safety, efficacy, and possible environmental impacts will be used.

3) Includes an environmental monitoring and evaluation program that at a minimum describes sampling strategies, analytical procedures, evaluation techniques and a timetable for completion of the program. The program must consider the possible effects on the water column, benthic conditions and organisms in or uses of the surrounding waters. Currently available data or literature that adequately characterize the environmental fate of the INAD and its metabolite(s) may be proposed for consideration in determinations of environmental monitoring and evaluation programs required by the Department pursuant to this section.

c) Notification. The permittee must notify the Department verbally or by electronic mail ***no more than forty-eight (48) hours after*** beginning the first use of the INAD under the approved plan.

SPECIAL CONDITIONS

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

5. **Monthly drug use report.** The permittee must report, using a method and on a form approved by the Department, the discharge of any drug or other disease control chemicals ***on a monthly basis*** concurrent with the monthly feed and fish monitoring report required by this Permit. The report must include the following information.

   a) The number of days of application.
   b) The drug or disease control chemical used.
   c) The concentration of drug or disease control chemical administered and total quantity used.
   d) The approximate number of fish as well as number of pens treated.
   e) The method of application.
   f) Condition treated.

6. **Sediment monitoring for drugs.** Sediment monitoring for drugs may be required and if so, must include analysis for the compound(s) used and any known primary metabolites. Core samples for drugs must consist of the top two (2) centimeters of the seafloor. The permittee must conduct monitoring ***not less than seven (7) days nor more than thirty (30) days following*** each use of a drug, unless otherwise specified by the Department. Prior to using a drug for which the Department has required sediment monitoring, the permittee must submit a sediment monitoring plan for Department review and approval. The plan must include a proposed schedule for submission of monitoring results following drug use. The permittee must not discharge a drug, for which sediment monitoring is required, without a Department-approved sediment monitoring plan.

7. **Signs.** The permittee must place signs at the perimeter of its leasehold to notify the public that drugs are or have been in use at that facility. The signs must be maintained for the duration of the use and any withdrawal period following termination of use. The signs must be at least 18 by 24 inches in size and contain the following text: "Medications are in use at this site. Contact the Maine Department of Environmental Protection or (company name) for details." and include a site designation.

8. **Well Boat Treatments.** Use of a well boat (rather than tarp containment methodology) must be employed when practicable to minimize and localize impacts to water quality and the biological community (*i.e.*, non-target organisms). The permittee must document, and retain for a period of at least three years, records describing conditions and circumstances that made use of a well boat for treatment not practicable.

   Release of treated water from well boat tanks must occur outside and down-current of the net pen arrays when practicable to minimize or avoid obstruction caused by the net pens and promote complete and rapid mixing of the treated water plume with the receiving water. The permittee must document, and retain for a period of at least three years, records describing conditions and circumstances that made discharges of treated well boat tank water from an alternate location, such as within the net pen array, not practicable.

SPECIAL CONDITIONS

J. PESTICIDES AND OTHER COMPOUNDS

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

   a. Pesticides identified in the permittee's application. The permittee is authorized to discharge the following pesticide in accordance with any label use directions **only if expressly required in writing by the MeDMR or U.S. Department of Agriculture**. A copy of the requirement must be forwarded to the Department within 15 days of receipt. The following pesticides were identified in the permittee's application (see Attachment A of the Permit for more information):

      FlexGard

   b. Other compounds identified in the permittee's application. The following compounds were identified in the permittee's application as currently being or potentially being in use. The permittee is authorized to discharge the following compounds in accordance with any label use directions. It is the Department's Best Professional Judgment (BPJ) that the incidental discharge of these chemicals will not cause or contribute to non-attainment of applicable water quality standards. See Attachment A of the Permit for more information regarding these compounds:

      Iodine
      Netminder LC (only authorized for use if expressly required in writing by the MeDMR or U.S. Department of Agriculture). A copy of the requirement must be forwarded to the Department within 15 days of receipt.
      Oxygen

K. SPILLS

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

SPECIAL CONDITIONS

L. QUALITY ASSURANCE FOR ENVIRONMENTAL MONITORING AND CONTAINMENT SYSTEMS

Prior to any environmental data collection, infauna identification, analysis work, or containment system assessment associated with this permit, the permittee must provide to the Department documentation of the employee's or contractor's demonstrated capabilities to conduct such work. Additionally, sampling techniques and analysis methods that differ from those identified in this Permit must be provided to the Department for review and approval.

M. MONITORING AND REPORTING

The permittee must submit all sample results and monitoring reports required by this Permit to the Department at the following address:

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

N. COMMENCEMENT OF OPERATIONS

The permittee must meet with the Department's permitting and/or compliance inspection staff **at a minimum of sixty (60) days prior to commencing production/operations** at the facility to review the applicability of the permit limitations, monitoring requirements, and reporting requirements. Should the Department determine that the proposed production/operations are significantly different from what was presented in past application materials or subsequently revised and included in permitting actions; the Department may require the applicable party to modify this permit or to file an application for a new permit. In addition, pursuant to Department Rule, Chapter 2 Rules *Concerning the Processing of Applications and Other Administrative Matters*, Section 21, *License Renewals, Amendments and Transfers*, Sub-section C, *Transfers*, a transferee must make application to the Department no later than two (2) weeks after transfer of ownership or entering into a licensee agreement to conduct business or said property. Pending determination on the application for approval of transfer the transferee shall abide by all of the conditions of this permit and is jointly or severally liable with the permittee for any violation of the terms and conditions thereof."

O. REOPENING OF PERMIT FOR MODIFICATION

In accordance with 38 M.R.S. § 414-A(5) and upon evaluation of the tests results or monitoring requirements specified in Special Conditions of this permitting action, new site specific information, or any other pertinent test results or information obtained during the term of this permit, the Department may, at any time and with notice to the permittee, modify this permit to: 1) include effluent limits necessary to control specific pollutants or whole effluent toxicity where there is a reasonable potential that the effluent may cause water quality criteria to be exceeded, (2) require additional monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information.

P. 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.

APPENDIX A – Sediment and benthic monitoring requirements

1. **Sediment and benthic infauna monitoring requirements.** Sediment and benthic infauna monitoring must be conducted at each of the sampling locations identified in the applicable of Appendices B or C (sulfides only for pre-stocking monitoring). The permittee must collect a minimum of three (3) field replicates from each sampling location. The permittee must report to the Department the mean of all samples collected across the facility as well as the results of individual replicates.

   Sediment sample collection, handling, preservation, storage, and analysis must be conducted in accordance with USEPA approved methods, where available, or as otherwise approved in writing by the Department. The permittee must maintain reference specimens for examination by Department staff or its designee for a period of at least five (5) years following collection.

   a) **Benthic infauna sample collection.** Single core samples of four (4) inches or larger in diameter must be collected from the sediment for benthic infauna evaluation and must be inserted to the point of resistance or fifteen (15) centimeters, whichever is less. If sediment grain size or sediment depth at one or more sampling locations does not allow for the collection of a sample for analyses, the permittee must provide a narrative describing the sampling impediments and efforts to collect a representative sample as close to the designated sampling location as possible. The Department reserves the right to require sampling at alternative location(s) if a sample cannot be collected at a designated sampling location. The permittee must report depth of each core sample. Infauna samples must be sieved through a 1.0 millimeter mesh sieve. Organisms must be fixed in 10% buffered formalin solution and stained with a 1% Rose Bengal staining solution. After one day or more in the formalin solution, the formalin must be replaced with 70% ethanol to preserve the sample.

   b) **Sediment chemistry sample collection.** Core samples for sediment chemistry must consist of the top two (2) centimeters of the seafloor. If sediment grain size or sediment depth at one or more sampling locations does not allow for the collection of a sample for analyses, the permittee must provide a narrative describing the sampling impediments and efforts to collect a representative sample as close to the designated sampling location as possible. The Department reserves the right to require sampling at alternative location(s) if a sample cannot be collected at a designated sampling location. The Department reserves the right to require sediment sampling for copper if copper-containing compounds are used on the nets or related appurtenances that contact the receiving water.

2. **Sediment and benthic monitoring reports.** The permittee must submit a report of sediment and benthic monitoring in an electronic format approved by the Department that includes the following information, as it applies based on the type of monitoring conducted.

   a) The date(s) and time(s) of the sampling and the results of the sample analyses.

   b) A site schematic of the sample locations located with latitude and longitude to the nearest one tenth second and by GPS in accordance with Department standards, including but not limited to, an accuracy of less than ten (10) meters.

APPENDIX A – Sediment and benthic monitoring requirements (cont'd)

c) Site conditions including: prevailing current direction in relation to true north, tidal stage to the nearest one half meter above or below mean low water and depth of water.

d) Mean values for sulfide based on the mean of all individual samples collected across a facility. Results of individual replicates must also be provided.

e) A summary that identifies all organisms to the lowest practical taxonomic level.

f) Raw numbers of organisms and the number per square meter or 0.1 m^2.

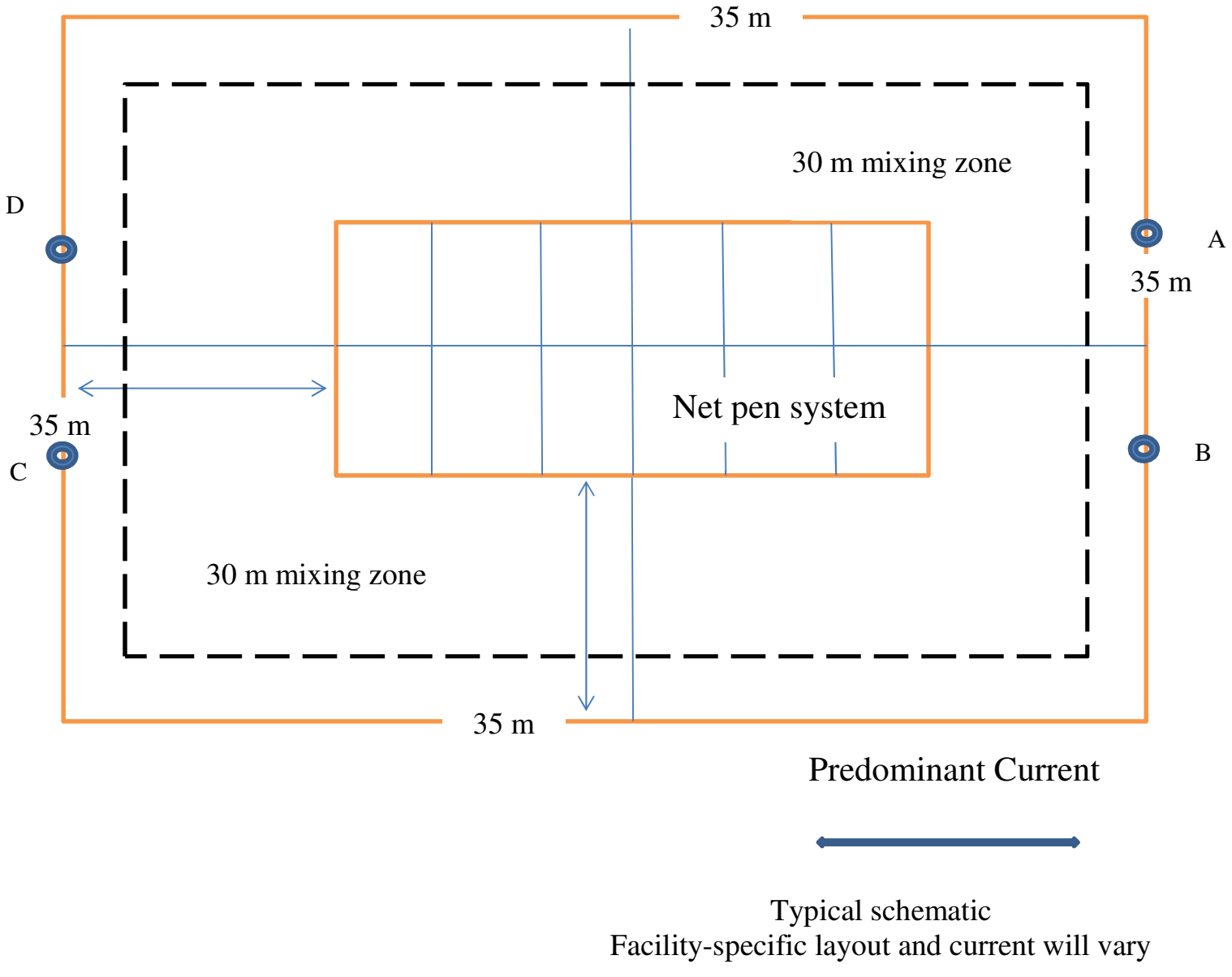
g) Mean value for Shannon-Wiener Relative Diversity Index (J) based on the mean of all individual samples collected across a facility. Results of individual replicates must also be provided.

h) Mean value for percent *Capitella capitata* based on the mean of all individual samples collected across a facility. Results of individual replicates must also be provided.

i) A narrative describing inability to collect a sample at any sampling location and efforts to obtain a representative sample in close proximity to the default sampling location.

APPENDIX B – Sediment and Benthic Monitoring

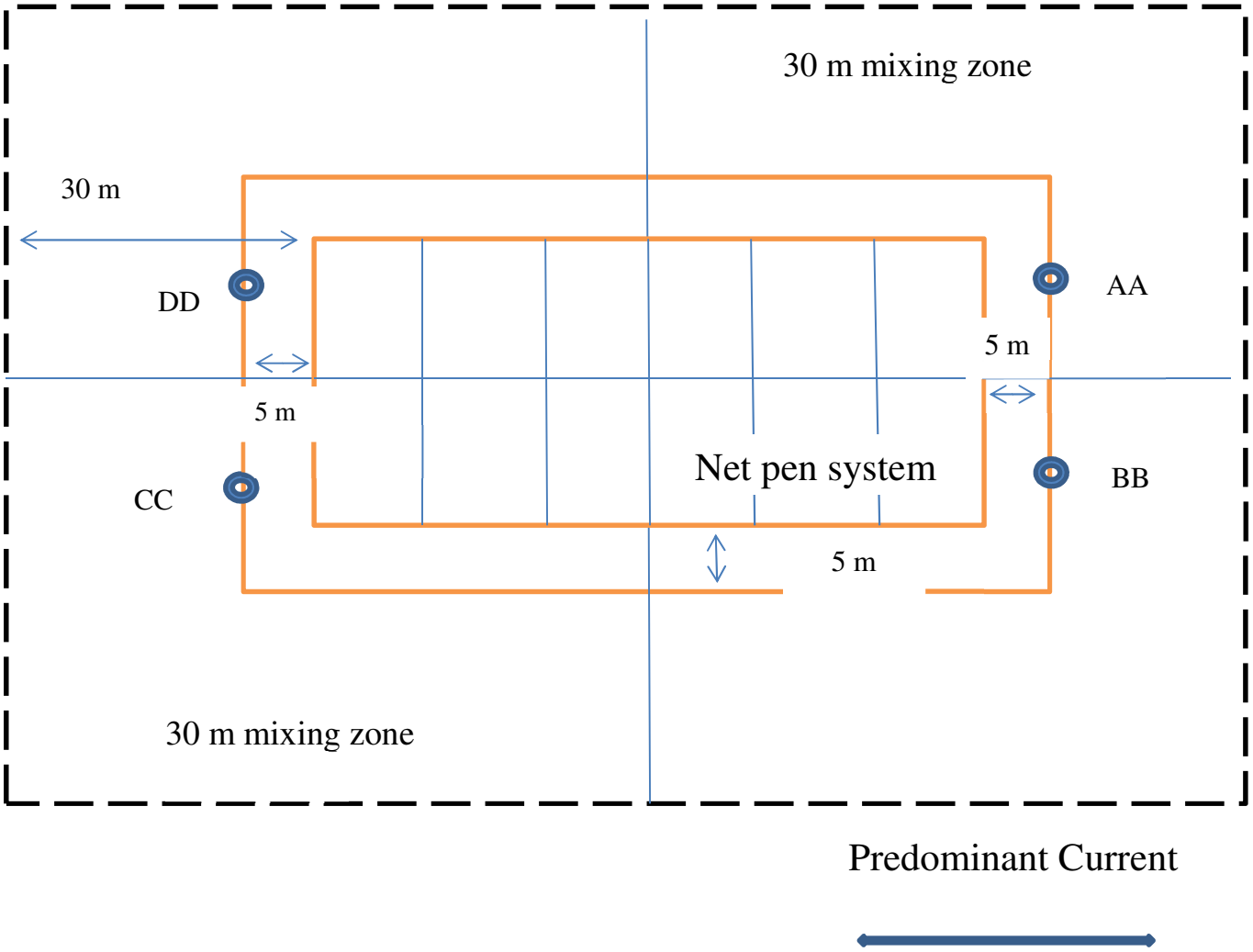
The permittee must collect a minimum of three (3) field replicates from A, B, C, and D (35 meters from edge of net pen system in line with prevailing current or other Department-approved sampling location if a more representative sampling location is appropriate) to satisfy sediment and benthic monitoring requirements of the Permit.



Typical schematic
Facility-specific layout and current will vary

APPENDIX C – Restocking Monitoring

The permittee must collect a minimum of three (3) field replicates from AA, BB, CC, and DD (5-meters from edge of net pens in line with prevailing current), or other Department-approved sampling location if a more representative sampling location is appropriate, prior to restocking the facility.



Typical schematic
Facility-specific layout and current will vary

CONTENTS

A. GENERAL PROVISIONS

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

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

(a) They are not

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

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

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

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

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

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

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

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

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

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

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

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

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

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

B. OPERATION AND MAINTENACE OF FACILITIES

1. General facility requirements.

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

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

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

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

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

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

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

2. Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

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

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

5. Bypasses.

(a) Definitions.

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

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

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

(c) Notice.

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

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

(d) Prohibition of bypass.

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

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

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

6. Upsets.

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

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

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

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

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

C. MONITORING AND RECORDS

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

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

3. Monitoring and records.

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

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

(c) Records of monitoring information shall include:

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

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

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

D. REPORTING REQUIREMENTS

1. Reporting requirements.

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

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

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

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

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

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

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

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

(ii) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Department.

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

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

(f) Twenty-four hour reporting.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

5. Publicly owned treatment works.

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

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

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

E. OTHER REQUIREMENTS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Maximum daily discharge limitation means the highest allowable daily discharge.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ATTACHMENT A

Appendix B

4. Chemical Use

Name of Compound	Purpose	Quantity Used per Application	Frequency of Use
Flex Guard (cuprous oxide)	Antifoulant	0.07 to 0.13 oz/sq ft	New nets 1 x 2 years
Shell iodine	Disinfectant/footbath	8 oz/5 gallons; 25 gallons dilute/week	Daily
Netminder LC (PUD, BPR25; ZnO, USP1; Silicone, DC85)	Photoactive Release Coating	75-125um per dip; dry film thickness	New nets 1 x 2 years
Oxygen	Respiration	As needed	As needed (seldom)

5. Medication Use

Name of Compound	Dosage	Duration of Use	Frequency of Use	Route of Administration	Prophylactic Use (Yes/No)
Oxytetracycline	82.5 mg/kg/bm/day	10 days	As needed	Feed	No
Formalin	Per label 250 ppm	To effect	As needed	Bath	No
MS-222: tricaine methanesulfonate	15-330 mg/l	To effect	As needed (anesthetic)	Bath (container)	No
35% H2O2	1000-1800 ppm	10-30 minutes	Once per month	Bath/immersion	No
Aquaflor (florfenicol)	10 mg/kg/day	10 days	As needed	Feed	No

6. Baseline Monitoring

A baseline report, dated 02-14-2020, was submitted with this application. An updated version of this report was submitted to the Department on 04-16-2020.

8. Additional Submissions Required

a) Submit a site map of the leasehold area which contains the following information:

□ direction of prevailing currents
□ local landmarks
□ representative water depths (as MLW)
□ lease boundaries
□ location of mooring systems
□ location of support platforms
□ configuration and location of net pens
□ proposed net pen and reference site sampling locations and GPS coordinates

See attached site map and designs in Appendix E.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
MAINE WASTE DISCHARGE LICENSE

Draft FACT SHEET

DATE: **July 10, 2020**

PERMIT NUMBER: **#ME0002828**

WASTE DISCHARGE LICENSE: **#W009232-6G-A-N**

NAME AND ADDRESSS OF APPLICANT:

DEPARTMENT OF MARINE RESOURCES
21 STATE HOUSE STATION
AUGUSTA, MAINE 04333

COUNTY: **WASHINGTON**

NAME AND ADDRESS WHERE DISCHARGE(S) OCCUR(S):

CUTLER HARBOR
CUTLER, MAINE

RECEIVING WATER CLASSIFICATION: **CUTLER HARBOR/ATLANTIC OCEAN/CLASS SB**

COGNIZANT OFFICIAL CONTACT INFORMATION:

SEAN LEDWIN
DEPARTMENT OF MARINE RESOURCES
21 STATE HOUSE STATION
AUGUSTA, MAINE 04333
Phone: (207) 624-6348
Email: Sean.M.Ledwin@maine.gov

1. APPLICATION SUMMARY

On March 20, 2020, the Department received, an application from DMR for a new combination MEPDES permit #ME0002828/WDL #W009232-6G-A-N for the discharge(s) of wastes associated with the operation of a four-net pen aquaculture facility (25,997 fish maximum for the facility) for conservation efforts in the attempt to restore endangered Gulf of Maine Distinct Population Atlantic salmon. The proposed site is a 4-acre site located on the south side of Cutler Harbor, east of Western Head and west of Little River Island in Cutler, Maine, Class SB.

1. APPLICATION SUMMARY (cont'd)

On August 23, 2004, the USEPA promulgated effluent guideline limitations (EGLs) for *Concentrated Aquatic Animal Production Point Source Category* at 40 CFR Part 451.40 CFR Part 451 Subpart B, *Net Pen Subcategory*, is applicable to discharges from net pen aquaculture facilities that produce 100,000 pounds or more per year of aquatic animals, and 40 CFR Part 451.21 establishes effluent limitations attainable by the application of the best practicable control technology currently available (BPT). Conditions established in this permit incorporate these BPT requirements.

2. PERMIT SUMMARY

This permitting action establishes:

1. Mixing zones associated with net pen aquaculture;

2. Sediment and benthic monitoring requirements and limitations within and outside the sediment mixing zone;

3. A requirement to demonstrate compliance with sulfide standards every other year that fish are on station, starting sampling in Year 3 of this Permit and continuing until a renewal Permit is issued;

4. Terms and conditions for use of drugs for disease control.

5. A requirement to maintain a current comprehensive operations and maintenance plan for the facility;

6. A requirement to maintain and report the number of fish on hand (or fish on station), using a method, and form approved by the Department; and

7. Best practicable treatment conditions for the operation of the net pens.

History: This section provides a summary of significant licensing actions and milestones that have been completed for this permit:

Historically, the USEPA did not issue NPDES permits for finfish aquaculture facilities in Maine.

Enacted in 1987, 38 M.R.S. § 413(2-F) exempted aquaculture facilities from the need to obtain a Maine Waste Discharge License. The law did require that the Department certify to the Maine Department of Marine Resources (MeDMR) that a proposed aquaculture facility would not have a significant adverse effect on water quality before a lease could be issued.

In 1998, a new subsection (10) was added to 38 M.R.S. § 413 requiring discharge licenses for aquaculture activities after the State received authorization from the USEPA to administer the NPDES program.

2. PERMIT SUMMARY (cont'd)

In November 1999, the State applied to the USEPA for authorization to administer the NPDES program in Maine. Included in the application was a Memorandum of Agreement (MOA) between the Department and USEPA, Region I (subsequently revised in April 2000). Section III (10) of the MOA specifically addresses the permitting of aquaculture facilities and recognizes the Department's need to take appropriate action in MEPDES permits to protect the Atlantic salmon as an endangered species under Federal law.

On November 19, 1999, a Gulf of Maine distinct population of Atlantic salmon was listed as an endangered species. 64 Federal Register 62627.

In July 2000, citizens' groups filed suit under Federal law against three large Maine finfish aquaculture operators for violation of the Clean Water Act by discharging without a NPDES permit.

On January 12, 2001, the Department received authorization from the USEPA to administer the NPDES permit program in Maine.

March 17, 2020 – The permittee submitted a General Application to the Department for a new aquaculture net pen site. The application was accepted for processing on March 20, 2020, and was assigned MEPDES ME0002828/WDL W009232-6G-A-N.

Source Description: Finfish aquaculture activities are conducted by placing fish in a system of one or more free-floating net pens moored in the open ocean. Most fish are introduced as juveniles and raised to adult size for harvest. Some fish may be maintained as brood stock. The fish are grown or maintained by adding fish food and, as necessary, medications to the water. Atlantic salmon (*Salmo salar*) is the predominate species to be reared on the Cutler Harbor site. The following summary is an excerpt from the permittee's application:

> "The explicit purpose of this net pen facility is to fulfill a conservation need for restoration of the endangered Gulf of Maine Distinct Population of Atlantic salmon. Atlantic salmon, a NOAA "Species in the Spotlight", are critically endangered and bold actions are required to recover this iconic species. With federal hatchery resources at capacity and significant areas of habitat for wild spawning and rearing fish left underutilized or vacant, the need for increased numbers of spawning adults is critical to jumpstart recovery. This project would utilize net pen aquaculture to rear Atlantic salmon and deliver them to largely underutilized priority habitats in the Penobscot and Machias Rivers. This work would directly exploit the gains in connectivity to upriver habitat through the actions of the Penobscot River Restoration Program. This project would stimulate recover by (1) allowing marine reared salmon to spawn in large numbers in high quality habitats, producing large numbers of wild origin naturally reared offspring, and (2) provide the public an opportunity to experience the scale and grandeur of a biologically relevant number of adult Atlantic salmon in the wild. Integration of public outreach strategies will build a stronger constituency for salmon recovery. If successful, this work will "move the needle" toward recovery by increasing the numbers of natural origin returns and encouraging adaptive traits for improved fitness.

2. PERMIT SUMMARY (cont'd)

This net pen facility will differ from commercial operations in many ways. One key difference that is relevant to biomass and feeding at the site is that the site will be stocked and adult fish will be removed on a yearly, staggered schedule. A commercial operation would traditionally be stocked once and 'harvested' over a relatively short period of time once fish meet market size. At this conservation site, we will stock smolts in May-June each year, 8,400 per year. The fish will be assessed for signs of maturity after 14 months in the net pens and, if they are maturing, will be removed from the net pen after spending 18 months in the net pen. We estimate that 35% of fish, 6,660 per year, will mature at 18 months. The fish that do not mature will be held for an addition 12 months, 30 months total in net pens, and will be removed the following October. Once mature, fish will be removed and transported to high quality spawning habitat with the Gulf of Maine."

See **Attachment A** of the Fact Sheet for a schematic and map of the facility.

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 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. § 420 and 06-096 CMR 530 require the regulation of toxic substances not to exceed levels set forth in *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR 584 (last amended July 29, 2012), and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

4. RECEIVING WATER QUALITY STANDARDS

Classification of estuarine and marine waters, 38 M.R.S. §469 (7) classifies the waters of Cutler Harbor as Class SB water. *Standards for classification of estuarine and marine waters,* 38 M.R.S. § 465-B(2) describes the standards for classification of Class SB waterways.

5. RECEIVING WATER QUALITY CONDITIONS

The State of Maine 2016 Integrated Water Quality Monitoring and Assessment Report, prepared by the Department pursuant to Sections 303(d) and 305(b) of the Federal Water Pollution Control Act, lists marine waters at the permittee's site in Cutler Harbor as "Category 5-B-1(a): Estuarine and Marine Water Impaired for Bacteria Only −TMDL Required" for elevated fecal indicators.

The Maine Department of Marine Resources (MeDMR) closes shellfish harvesting areas if there are known sources of discharges with unacceptable bacteria levels (thresholds established in the National Shellfish Sanitation Program) or maintains shellfish harvesting closure areas due to lack of updated information regarding ambient water quality conditions and current shoreline surveys.

5. RECEIVING WATER QUALITY CONDITIONS (cont'd)

Shellfish harvesting area #55-D, Little Machias Bay (Cutler, Trescott Twp) is the area of the net pen project is open to the harvesting of shellfish. The are directly to the west of the projects site is restricted to shellfish harvesting. The shellfish closure area can be found at http://www.maine.gov/dmr/shellfish-sanitation-management/closures/pollution.html

Category 5-D*: Estuarine and Marine Waters Impaired by Legacy Pollutants*. All estuarine and marine waters capable of supporting American lobster are listed in Category 5-D, partially supporting fishing ("shellfish" consumption) due to elevated levels of polychlorinated biphenyls (PCBs) and other persistent, bioaccumulating substances in lobster tomalley.

6. MIXING ZONES

Pursuant to *Enforcement generally*, 38 M.R.S. § 451, the Department may establish a mixing zone for any discharge at the time of application for a waste discharge license. The law states, in part,

> The purpose of a mixing zone is to allow a reasonable opportunity for dilution, diffusion or mixture of pollutants with the receiving waters before the receiving waters below or surrounding a discharge will be tested for classification violations. In determining the extent of any mixing zone to be established under this section, the department may require from the applicant testimony concerning the nature and rate of the discharge; the nature and rate of existing discharges to the waterway; the size of the waterway and the rate of flow therein; any relevant seasonal, climatic, tidal and natural variations in such size, flow, nature and rate; the uses of the waterways in the vicinity of the discharge, and such other and further evidence as in the department's judgment will enable it to establish a reasonable mixing zone for such discharge. An order establishing a mixing zone may provide that the extent thereof varies in order to take into account seasonal, climatic, tidal and natural variations in the size and flow of, and the nature and rate of, discharges to the waterway.

The mixing zone established in this Permit includes the area within and beneath the net pen system and extends thirty (30) meters beyond the edge of the outermost net pens in all directions. Compliance monitoring associated with this Permit will be conducted at sampling locations that are 35 meters beyond the edge of the outermost net pens.

Within the mixing zone, the Permit allows some changes in fauna and physical characteristics of the sediment, but does not contemplate unlimited changes or the loss of all types of organisms. The Net Pen Aquaculture General Permit establishes numeric "impact limitations" for sulfide, benthic infauna and *Beggiatoa* within the designated mixing zone. However, the law clearly identifies that the *"purpose of a mixing zone is to allow a reasonable opportunity for dilution, diffusion or mixture of pollutants with the receiving waters before the receiving waters below or surrounding a discharge will be tested for classification violations."* (Emphasis added.) In its Response to Comments associated with the June 19, 2003 General Permit, the Board of Environmental Protection stated, *"While some lowering of normal standards is allowed within that area, [mixing zones] do not permit unchecked degradation, nor are the waters rendered unsuitable to support any uses."*

6. MIXING ZONES (cont'd)

In this permitting action the Department concludes that requiring compliance with water quality-based numeric permit limitations within the mixing zone is inconsistent with the intent and purpose of a mixing zone and the governing statute. The intent of creating a mixing zone for net pen aquaculture was to allow a reasonable opportunity for diffusion of pollutants while avoiding unchecked degradation of benthic conditions. To ensure operation of a facility does not result in unchecked, long-term impacts to the sea floor and that between grow-out cycles benthic conditions are capable of supporting all estuarine and marine species indigenous to the receiving water without detrimental changes in the resident biological community in Class SB waters, the Department is making a best professional judgment determination that establishing a requirement for the permittee to demonstrate that sulfide levels within the mixing zone are equal to or less than 3,000 uM following exceedance of a sediment and benthic limit established in Table E.1 of the Permit for Shannon-Wiener Diversity Index, *Capitella capitata* or sulfide. The permittee may not restock the facility with fish until sulfide levels within the mixing zone are equal to or less than 4,000 uM, a threshold, above which, is considered by the Department and supported by scientific literature[1] as a reasonable threshold for conditions that may not be capable of meeting narrative water quality standards for indigenous or resident estuarine and marine species.

The Department believes this regulatory approach strongly encourages the permittee to operate and manage the net pen facility for optimal environmental results so as to avoid delays in restocking the site due to permit violations beyond the mixing zone. In addition, the Department believes eliminating permit limitations within the mixing zone in favor of a restocking threshold is consistent with the concept of a mixing zone.

7. DISCHARGE LIMITATIONS & CONTROLS

Concentrated Aquatic Animal Production Point Source Category at 40 CFR Part 451 Subpart B, *Net Pen Subcategory,* is applicable to discharges from net pen aquaculture facilities that produce 100,000 pounds or more per year of aquatic animals. It is noted that this facility is proposing to have a total biomass of >100,000 pounds/year and is therefore categorically subject to regulation under this subpart.

40 CFR Part 451.21, *Effluent limitations attainable by the application of the best practicable control technology currently available (BPT)*, states that existing point sources provide BPT. This Permit contains a condition that incorporates all BPT requirements of the code, including: feed management; waste collection and disposal; transport and harvest discharges; carcass removal; materials storage; maintenance; recordkeeping; and training.

The new source performance standards (NSPS) for this subcategory are the same as the limitations specified in 40 CFR Part 451.21.

h

[1] Hargrave, B. T. (2010) "Empirical relationships describing benthic impacts of salmon aquaculture." Aquaculture Environment Interactions. Vol. 1: Pp 33-46.

7. DISCHARGE LIMITATIONS & CONTROLS (cont'd)

This Permit requires the facility utilize real-time control methods to monitor the amount of uneaten feed lost from the net pens. The most commonly used method is installation of video cameras in the water to observe feed falling through the water column. The amount of feed used at any given time varies on a number of factors, including fish size, water temperature, husbandry objectives, tidal action and observations of fish feeding activity.

This Permit is also carrying forward conditions for protection of Atlantic salmon requested by the National Marine Fisheries Service and U.S. Fish and Wildlife Service (collectively, the Services) and terms and conditions for the use of drugs in accordance with U.S. Food and Drug Administration rules and regulations.

Net pen aquaculture is unlike most conventional wastewater treatment facilities in that analytical measurements of wastewater quality from a discrete conduit cannot be collected. Rather, discharges from net pen facilities are controlled through imposition of siting criteria, best management practices, real-time feeding observations and establishing limitations on the amount of adverse impact that may occur outside the mixing zone. In this permitting action, the Department's objective is to reduce or eliminate subjectivity associated with compliance evaluations. Key points regarding permit and water quality compliance include the following.

a. Monitoring structure. This permitting action establishes a default monitoring scheme by establishing a three-tiered approach. The permittee must conduct Screening Monitoring outside the mixing zone when fish are at the maximum biomass. If the mean sulfide result is > 3,000uM, the permittee must then conduct Exceedance Monitoring outside the mixing zone for benthic infauna to obtain results for Shannon Wiener diversity index and percent *Capitella capitata*. The third tier is restocking monitoring within the mixing zone if the permittee exceeds an Exceedance Limit for Shannon Wiener diversity index, percent *Capitella capitata*, or sulfide. Fish may only be restocked if the sulfide level within the mixing zone is less than 4,000 uM, and the permittee provides a restocking plan for approval. This monitoring structure achieves three objectives: 1) it requires and promotes careful operation and maintenance of the facility by the permittee to ensure compliance with permit limitations when samples are collected at the end of a fish grow-out cycle so as to avoid more costly and intensive benthic infauna sampling and delays in restocking; 2) it establishes a clear, consistent and objective method for evaluating compliance; and 3) when there is impact beyond the mixing zone, it requires that the permittee demonstrate that benthic conditions within the mixing zone have recovered to levels that are considered normal to avoid cumulative, long-term impacts within the mixing zone.

b. Mixing zone. The intent of creating a mixing zone for net pen aquaculture was to allow a reasonable opportunity for diffusion of pollutants while avoiding unchecked degradation of benthic conditions. The Department is establishing an action level for sulfide of > 3,000 uM within the mixing zone. If the permittee exceeds one or more numeric Exceedance Monitoring limitations established in this Permit, fish may not be restocked at that site until the permittee demonstrates that the sulfide levels are below 3,000 uM and may only be restocked in accordance with an approved restocking plan. The Department believes this approach adequately provides for a reasonable opportunity for diffusion of pollutants while avoiding unchecked degradation of benthic conditions.

7. DISCHARGE LIMITATIONS & CONTROLS (cont'd)

c. Sulfide. The Department is establishing the sulfide limitation of ≥3,000 uM based on best professional judgement and available scientific literature. If sulfide monitoring results exceed or are equal to 3,000uM, the permittee is required to conduct further monitoring of benthic conditions to provide data necessary to assess receiving water quality standards, namely the narrative standards for the designated use of habitat.

This Permit is applying the sulfide standard to all samples taken across the facility due to the variability of sampling and oceanographic conditions. The Department believes it is appropriate to use site average rather than sampling station average to since the determination of compliance is applied to the entire site, not just a sampling station.

d. *Capitella capitata*. This permit is establishing the standard for abundance of *C. capitata* as >25% total abundance for Class SB waters as the limitation above which this pollution-tolerant species is considered to represent too high a percentage of the total abundance to meet applicable water quality criteria for indigenous and resident species. The standard is based on site average rather than sample station average.

e. Shannon-Wiener Diversity Index. This permitting action is establishing limitations of <0.5 for Class SB waters based on a correlation of this diversity value with net pen facilities that have experienced benthic impacts in the past.

8. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

Net pen aquaculture facilities can cause changes in the immediate area of the net pens. Some deposition of material, primarily uneaten feed, on the sea floor directly beneath and adjacent to net pens can be expected and has been documented through compliance monitoring. This Permit makes provisions for some adverse impacts within the benthic mixing zone, but all classification standards must be maintained outside that area. The deposition of organic materials on the sea floor can, through decomposition, result in depletion of oxygen in the sediments composing the sea floor. This, in turn, can render the area unsuitable for a normal number and diversity of natural organisms. Such conditions, which may occur in varying degrees, may be evidenced by the formation of gas in the sediment, the predominance of pollution-tolerant organisms or the loss of certain species. Since most of the accumulating material is biodegradable through natural processes, the reduction or suspension of aquaculture activities will allow mitigation of benthic impacts without long-term impacts.

There are concerns that an aquaculture facility may harbor diseases or parasites that could spread to wild or other aquaculture facilities. The use of disinfectants is a necessary part of preventative practices, and the Department supports their use consistent with recommendations of fish health authorities. However, the use of medications and disinfectants pose potential concerns for toxicity if discharged in excessive amounts. These effects include acute toxicity to non-target aquatic organisms in the immediate area of the use, chronic effects on benthic organisms and bioaccumulation in the food chain.

8. DISCHARGE IMPACT ON RECEIVING WATER QUALITY (cont'd)

The placement of net pens in the water does limit certain narrative uses of the waterbody. These concerns include fishing and navigation. These arise from the physical placement of the pens, not discharge activities, and therefore are not subject to regulation as pollutant discharges under this Permit. However, the MeDMR lease approval process and the US Army Corps of Engineers permits for net pen aquaculture facilities consider these potential issues. By requiring evidence of other permits, this Permit assures that the placement of the net pens does not violate the designated uses for the waterbody.

As permitted, the Department has determined the existing water uses will be maintained and protected and the discharge will not cause or contribute to the failure of the water body to meet standards for Class SB classification.

9. PUBLIC COMMENTS

Public notice of this application was made in the *Machias Valley News Observer* newspaper on or about February 26, 2020. 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).

10. DEPARTMENT CONTACTS

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

Cindy L. Dionne
Division of Water Quality Management
Bureau of Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone: (207) 287-7823 Fax: (207) 287-3435
e-mail: cindy.l.dionne@maine.gov

11. RESPONSE TO COMMENTS

Reserved until the end of the comment period.

ATTACHMENT A

Appendix E

Net Pen Aquaculture: Supplemental Application Form
Form DEPLW0105-B2003

Maps and Site Drawings

VICINITY MAP

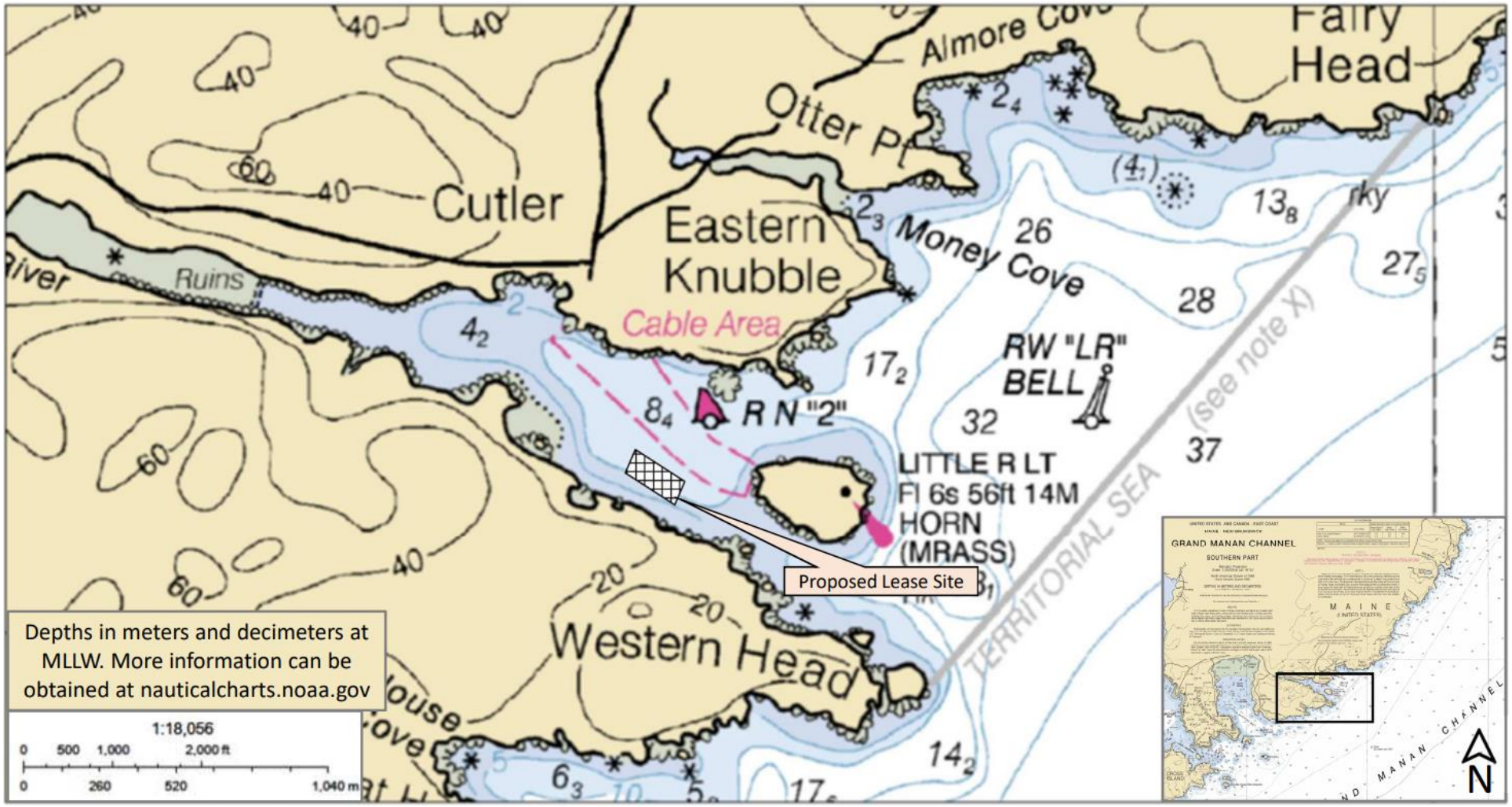


Figure 1: Vicinity map of Cutler harbor with proposed lease site shown. Inset of map from Grand Manan Channel NOAA nautical navigation chart. Bathymetry shown is depth (meters and decimeters) at mean lower low tide.

Appendix E

BOUNDARY DRAWING

Cutler Harbor Site Coordinates		
Site Corners	Lat (DMS)	Long (DMS)
CH NW	44 39' 08.1072"	-67 12' 05.6376"
CH SW	44 39' 05.4252"	-67 12' 06.8472"
CH SE	44 39' 02.2823"	-67 11' 59.8560"
CH NE	44 39' 04.7880"	-67 11' 58.1784"
Sampling Locations		
CH A	44°39'03.33"	-67°11'57.25"
CH B	44°39'02.26"	-67°11'57.84"
CH C	44°39'06.83"	-67°12'07.83"
CH D	44°39'07.94"	-67°12'07.30"