



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

IN THE MATTER OF

TOWN OF YARMOUTH	)	MAINE POLLUTANT DISCHARGE
YARMOUTH, CUMBERLAND COUNTY, ME	)	ELIMINATION SYSTEM PERMIT
PUBLICLY OWNED TREATMENT WORKS	)	AND
ME0102377	)	WASTE DISCHARGE LICENSE
W002234-6B-I-R	)	RENEWAL
APPROVAL	)	

In compliance with the applicable provisions of Pollution Control, 38 M.R.S. §§ 411 – 424-C, Water Classification Program, 38 M.R.S. §§ 464 – 470 and Federal Water Pollution Control Act, Title 33 U.S.C. § 1251-et seq, and applicable rules of the Department of Environmental Protection (“Department”), the Department has considered the application of the TOWN OF YARMOUTH (“Town”), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

On January 24, 2022, the Department accepted as complete for processing, a renewal application from the Town for the renewal of Waste Discharge License (WDL) W002234-6B-H-R/Maine Pollutant Discharge Elimination System (MEPDES) permit ME0102377, which was issued on July 20, 2017, and authorized the Town to discharge a monthly average of 0.028 million gallons per day (MGD) of secondary treated municipal wastewater from a publicly owned treatment works (POTW) to Casco Bay, Class SB, in Yarmouth, Maine.

PERMIT SUMMARY

This permit carries forward all the terms and conditions of the previous permit, except that this permit:

1. Establishes a monthly average and daily maximum limits of 8 CFU or MPN/100 mL and 54 CFU or MPN/100 mL for Enterococci bacteria from April 15th – October 31st with a 1/Month monitoring frequency pursuant to Standards for Classification of Estuarine and Marine Waters, 38 M.R.S. §465-B (2).
2. Establishes a year-round testing requirement for fecal coliform bacteria pursuant to Standards for Classification of Estuarine and Marine Waters, 38 M.R.S. §465-B (2) and The National Shellfish Sanitation Program (NSSP) Guide for the Control of Molluscan Shellfish – 2023 Revision.
3. Establishes seasonal effluent monitoring for total nitrogen to be conducted each month between the dates of May 1st and October 31st for a period of two years beginning on May 1st, 2026, and ending on October 31, 2027.

CONCLUSIONS

Based on the findings summarized in the attached and incorporated PROPOSED DRAFT Fact Sheet dated August 21, 2026, and subject to the special and standard 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. Where the standards of classification of the receiving waterbody are not met, the discharge will not cause or contribute to the failure of the waterbody to meet the standards of classification.
 - d. Where the actual quality of any classified receiving waterbody 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 waterbody, 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

Based on the findings and conclusions as stated above, the Department APPROVES the above noted application of the Town of Yarmouth to discharge a monthly average of 0.028 MGD of secondary treated wastewater to Casco Bay, Class SB, in Yarmouth, Maine, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations including:

1. Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable To All Permits, revised July 1, 2002, copy attached.
2. The attached Special Conditions, including any effluent limitations and monitoring requirements.
3. This permit becomes effective upon the date of signature below and expires 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 terms and conditions of this permit and all subsequent modifications and minor revisions remain in effect until final Department decision on the renewal application becomes effective. [Maine Administrative Procedure Act, 5 M.R.S. § 10002 and Department Rule Concerning the Processing of Applications and Other Administrative Matters, 06-096 C.M.R. ch. 2 § 20(A) (effective September 15, 2024)]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

DONE AND DATED AT AUGUSTA, MAINE, THIS ____ DAY OF _____ 2026.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____

for MELANIE LOYZIM, Commissioner

Date of initial receipt of application: January 14, 2022

Date of application acceptance: January 24, 2022

This Order prepared by Rod Robert, BUREAU OF WATER QUALITY

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- The permittee is authorized to discharge secondary treated municipal sanitary wastewater from Outfall #001A to Casco Bay, Class SB, in Yarmouth. Such discharges are limited and must be monitored by the permittee as specified below (1):

Effluent Characteristic	Discharge Limitations						Minimum Monitoring Requirements	
	<u>Monthly Average</u> as specified	<u>Weekly Average</u> as specified	<u>Daily Maximum</u> as specified	<u>Monthly Average</u> as specified	<u>Weekly Average</u> as specified	<u>Daily Maximum</u> as specified	<u>Measurement Frequency</u> as specified	<u>Sample Type</u> as specified
Flow [50050]	0.028 MGD [03]	---	Report MGD [03]	---	---	---	Continuous [99/99]	Recorder [RC]
BOD ₅ [00310]	3.0 lbs./day [26]	4.5 lbs./day [26]	5.0 lbs./day [26]	30 mg/L [19]	45 mg/L [19]	50 mg/L [19]	1/Month [01/30]	Composite [24]
BOD ₅ Percent Removal ⁽²⁾ [81010]	---	---	---	85% [23]	---	---	1/Month [01/30]	Calculate [CA]
TSS [00530]	3.0 lbs./day [26]	4.5 lbs./day [26]	5.0 lbs./day [26]	30 mg/L [19]	45 mg/L [19]	50 mg/L [19]	1/Month [01/30]	Composite [24]
TSS Percent Removal ⁽²⁾ [81011]	---	---	---	85% [23]	---	---	1/Month [01/30]	Calculate [CA]
Settleable Solids [00545]	---	---	---	---	---	0.3 ml/L [25]	1/Month [01/30]	Grab [GR]
Fecal Coliform Bacteria ⁽³⁾ [31616]	---	---	---	14CFU or MPN/100 ml [13]	---	31CFU or MPN/100 ml [13]	1/Month [01/30]	Grab [GR]
Enterococci Bacteria ⁽⁴⁾ (April 15 th -October 31 st) [61211]	---	---	---	8 CFU or MPN / 100 mL [13]	---	54 CFU or MPN/100 mL [13]	1/Month [1/30]	Grab [GR]
Total Residual Chlorine ⁽⁵⁾ [00665]	---	---	---	---	---	1.0 mg/L [19]	1/Week [01/07]	Grab [GR]
Mercury (Total) ⁽⁶⁾ [71900]	---	---	---	8.1 ng/L [3M]	---	12.2 ng/L [3M]	1/Year [01/YR]	Grab [GR]
pH [00400]	---	---	---	---	---	6.0 – 9.0 SU [12]	1/Week [01/07]	Grab [GR]

The italicized numeric values bracketed in the table and in subsequent text are code numbers that Department personnel utilize to code the monthly Discharge Monitoring Reports. **FOOTNOTES:** See Pages 6 - 7 of this permit for applicable footnotes.

SPECIAL CONDITIONS

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

Outfall #001A – Effluent

Effluent Characteristic	Discharge Limitations					Minimum Monitoring Requirements		
	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Daily Maximum</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Daily Maximum</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Nitrate + Nitrite (as N) [00630] <i>May 15 through Oct. 31)</i> <i>calendar years 2026 and 2027</i>	Report lbs./day [26]	---	Report lbs./day [26]	Report mg/L [19]	---	Report mg/L [19]	1/Month [01/30]	24-Hour Composit e [24]
Total Kjeldahl Nitrogen (as N) [00625] <i>(May 15 through Oct. 31)</i> <i>calendar years 2026 and 2027</i>	Report lbs./day [26]	---	Report lbs./day [26]	Report mg/L [19]	---	Report mg/L [19]	1/Month [01/30]	24-Hour Composit e [24]
Total Nitrogen (as N) ⁽⁷⁾ [00600] <i>(May 1 through Oct 31) calendar</i> <i>years 2026 and 2027</i>	Report lbs./day [26]		Report lbs./day [26]	Report mg/L [19]		Report mg/L [19]	1/Month [01/30]	Calculate [CA]

The italicized numeric values bracketed in the table and in subsequent text are code numbers that Department personnel utilize to code the monthly Discharge Monitoring Reports

FOOTNOTES: See Pages 6 – 7 of this permit for applicable footnotes.

SPECIAL CONDITIONS

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

FOOTNOTES

1. Sampling – All effluent monitoring shall be conducted at a location following the last treatment unit in the treatment process as to be representative of end-of-pipe effluent characteristics. The permittee must conduct sampling and analysis in accordance with; a) methods approved by 40 Code of Federal Regulations (C.F.R.) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 C.F.R. Part 136, or c) as otherwise specified by the Department. Samples that are sent out for analysis must be analyzed by a laboratory certified by the State of Maine's Department of Health and Human Services for wastewater. Samples that are sent to a POTW pursuant to Waste discharge licenses, 38 M.R.S. § 413 are subject to the provisions and restrictions of Maine Comprehensive and Limited Environmental Laboratory Accreditation Rules, 10-144 C.M.R. Ch. 263 (amended March 15, 2023). Laboratory facilities that analyze compliance samples in-house are subject to the provisions and restrictions of 10 – 144 C.M.R. Ch. 263. If the permittee monitors any pollutant more frequently than required by the license using test procedures approved under 40 C.F.R. Part 136 or as specified in this license, the results of this monitoring must be included in the calculation and reporting of the data submitted in the discharge monitoring report (DMR). Any change in sampling location must be approved by the Department in writing.

In accordance with 40 C.F.R. § 122.44(i)(1)(iv), the permittee must monitor according to sufficiently sensitive test procedures (i.e., methods) approved under 40 C.F.R. Part 136 or required under 40 C.F.R. chapter I, subchapter N or O, for the analysis of pollutants or pollutant parameters (except WET). A method is “sufficiently sensitive” when: 1) The method minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter; or 2) The method has the lowest ML of the analytical methods approved under 40 C.F.R. Part 136 or required under 40 C.F.R. chapter I, subchapter N or O for the measured pollutant or pollutant parameter. The term “minimum level” refers either to the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL), whichever is higher. Minimum levels may be obtained in the following ways: they may be published in a method; they may be based on the lowest acceptable calibration point used by a laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a laboratory, by a factor.

SPECIAL CONDITIONS

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

2. Percent Removal – The permittee must achieve a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand for all flows receiving secondary treatment. The percent removal is calculated based on influent and effluent concentration values. For influent concentrations an assumed value of 300 mg/L will be used for total suspended solids and biochemical oxygen demand.
3. Fecal coliform bacteria – Limits apply on a year-round basis. The monthly fecal coliform average limitation is a geometric mean limitation, and results must be calculated and reported as such.
4. Enterococcus Bacteria Reporting – Enterococcus bacteria limitation is a geometric mean and monitoring requirements are seasonal running from April 15th – October 31st, annually
5. Total residual chlorine (TRC) – Limitations and monitoring requirements are applicable whenever elemental chlorine or chlorine-based compounds are being used to disinfect the discharge. The permittee must utilize approved test methods that are capable of bracketing the limitations in this permit. For instances when a facility has not disinfected with chlorine-based compounds for an entire reporting period, the facility must report “N9” for this parameter on the monthly DMR.
6. Mercury – The permittee must conduct all mercury monitoring required by this permit or required to determine compliance with interim limitations established pursuant to 06-096 C.M.R. Ch. 519 in accordance with the USEPA’s “clean sampling techniques” found in USEPA Method 1669, Sampling Ambient Water for Trace Metals At EPA Water Quality Criteria Levels. All mercury analysis must be conducted in accordance with USEPA Method 1631, Determination of Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Fluorescence Spectrometry. Go to https://www.maine.gov/dep/water/wd/municipal_industrial/index.html and click on “Whole Effluent Toxicity, Chemistry, and Mercury Reporting Forms” for a reporting form for mercury test results. Compliance with the monthly average limitation established in Special Condition A of this permit will be based on the cumulative arithmetic mean of all mercury tests results that were conducted utilizing sampling Method 1669 and analysis Method 1631E on file with the Department for this facility.

SPECIAL CONDITIONS

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

7. Total Nitrogen: Total nitrogen (as N) – Monthly – The permittee is required to report the monthly average and daily maximum mass and concentrations for each month (May 1 through October 31) by adding the total kjeldahl nitrogen values to the nitrate + nitrite nitrogen values during calendar years 2026 and 2027.

B. NARRATIVE EFFLUENT LIMITATIONS

1. The permittee must not discharge effluent that contains a visible oil sheen, foam or floating solids at any time which would impair the uses designated by the classification of the receiving waters.
2. The permittee must not discharge effluent that contains materials in concentrations or combinations which are hazardous or toxic to aquatic life, or which would impair the uses designated by the classification of the receiving waters.
3. The permittee must not discharge effluent that imparts color, taste, turbidity, toxicity, radioactivity or other properties which cause those waters to be unsafe for the designated uses and characteristics ascribed to their classification.
4. The permittee must not discharge effluent that lowers the quality of any classified body of water below such classification or lowers the existing quality of any body of water if the existing quality is higher than the classification.

C. TREATMENT PLANT OPERATOR

The person who has the management responsibility over the treatment facility must hold a Maine Grade I (or higher) Biological Treatment certificate (or higher) or must be a Maine Registered Professional Engineer pursuant to Wastewater Treatment Plant Operators, 32 M.R.S. § 4171-4182 and Wastewater Treatment Plant Operator Certification, 06-096 C.M.R. Ch. 531 (effective July 24, 2023). All proposed contracts for facility operation by any person must be reviewed by the Department before the Permittee may engage the services of the contract operator.

SPECIAL CONDITIONS

D. LIMITATIONS FOR INDUSTRIAL USERS

Pollutants introduced into the wastewater collection and treatment system by a non-domestic source (user) must not pass through or interfere with the operation of the treatment system. The permittee must conduct an Industrial Waste Survey (IWS) any time a new industrial user proposes to discharge within its jurisdiction; an existing user proposes to make a significant change in its discharge; or at an alternative minimum once every permit cycle and submit the results to the Department. The IWS must identify, in terms of character and volume of pollutants, any Significant Industrial Users discharging into the POTW subject to Pretreatment Standards under section 307(b) of the federal Clean Water Act, 40 CFR Part 403 (general pretreatment regulations) or Pretreatment Program, 06-096 CMR Chapter 528 (last amended March 17, 2008).

E. AUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with 1) the permittee's General Application for Waste Discharge Permit, accepted for processing on January 24, 2022; 2) the terms and conditions of this permit; and 3) only from Outfall #001A. 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.

SPECIAL CONDITIONS

F. NOTIFICATION REQUIREMENT

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

1. Any introduction of pollutants into the wastewater collection and treatment system from an indirect discharger in a primary industrial category discharging process wastewater; and
2. Any substantial change in the volume or character of pollutants being introduced into the wastewater collection and treatment system by a source introducing pollutants to the system at time of permit issuance.
3. For the purposes of this section, notice regarding substantial change must include information on:
 - a. the quality and quantity of wastewater introduced to the wastewater collection and treatment system; and
 - b. any anticipated impact caused by the change in the quantity or quality of the wastewater to be discharged from the treatment system.

G. WET WEATHER MANAGEMENT PLAN

The treatment facility staff must have a current written Wet Weather Flow Management Plan to direct the staff on how to operate the facility effectively during periods of high flow. The Department acknowledges that the existing collection system may deliver flows in excess of the monthly average design capacity of the treatment plant during periods of high infiltration and rainfall.

The plan must conform to Department guidelines for such plans and must include operating procedures for a range of intensities, address solids handling procedures (including septic waste and other high strength wastes if applicable) and provide written operating and maintenance procedures during the events.

The permittee must review their plan at least annually and record any necessary changes to keep the plan up to date. The Department may require review and update of the plan as it is determined to be necessary.

SPECIAL CONDITIONS

H. OPERATIONS AND MAINTENANCE PLAN

The permittee must maintain a current written comprehensive Operation & Maintenance (O&M) Plan for the 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 treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit.

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

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

I. MONITORING AND REPORTING

Electronic Reporting

NPDES Electronic Reporting, 40 C.F.R. 127, requires MEPDES permit holders to submit monitoring results obtained during the previous month on an electronic discharge monitoring report to the regulatory agency utilizing the USEPA electronic system.

Electronic Discharge Monitoring Reports (DMRs) submitted using the USEPA NetDMR system, must be:

1. Submitted by a facility authorized signatory; and
2. Submitted no later than midnight on the 15th day of the month following the completed reporting period.

Documentation submitted in support of the electronic DMR may be attached to the electronic DMR. Documentation submitted electronically to the Department in support of the electronic DMR must be submitted no later than midnight on the 15th day of the month following the completed reporting period.

SPECIAL CONDITIONS

J. REOPENING OF PERMIT FOR MODIFICATION

In accordance with Conditions of licenses, 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.

K. SEVERABILITY

In the event that any provision(s), 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.

ATTACHMENT A

Maine Department of Environmental Protection

Effluent Mercury Test Report

Name of Facility: _____

Federal Permit # ME _____

Purpose of this test:

☐

Initial limit determination

☐

Compliance monitoring for: year _____ calendar quarter _____

☐

Supplemental or extra test

SAMPLE COLLECTION INFORMATION

Sampling Date:

mm	dd	yy
----	----	----

Sampling time:

_____ AM/PM

Sampling Location:

Weather Conditions:

Please describe any unusual conditions with the influent or at the facility during or preceding the time of sample collection:

Optional test - not required but recommended where possible to allow for the most meaningful evaluation of mercury results:

Suspended Solids

_____ mg/L

Sample type:

_____ Grab (recommended) or
_____ Composite

ANALYTICAL RESULT FOR EFFLUENT MERCURY

Name of Laboratory:

Date of analysis:

Result: _____ ng/L (PPT)

Please Enter Effluent Limits for your facility

Effluent Limits:

Average = _____ ng/L

Maximum = _____ ng/L

Please attach any remarks or comments from the laboratory that may have a bearing on the results or their interpretation. If duplicate samples were taken at the same time please report the average.

CERTIFICATION

I certify that to the best of my knowledge the foregoing information is correct and representative of conditions at the time of sample collection. The sample for mercury was collected and analyzed using EPA Methods 1669 (clean sampling) and 1631 (trace level analysis) in accordance with instructions from the DEP.

By:

Date:

Title:

PLEASE MAIL THIS FORM TO YOUR ASSIGNED INSPECTOR

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

MAINE WASTE DISCHARGE LICENSE

FACT SHEET

DATE: August 21, 2026

PERMIT NUMBER: ME0102377

WASTE DISCHARGE LICENSE: W002234-6B-I-R

NAME AND ADDRESS OF APPLICANT:

TOWN OF YARMOUTH

200 MAIN STREET

YARMOUTH, ME 04096

COUNTY: CUMBERLAND

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

TOWN OF YARMOUTH

SEA MEADOWS WASTEWATER TREATMENT FACILITY

YARMOUTH, ME 04096

RECEIVING WATER CLASSIFICATION: Casco Bay/Class SB

COGNIZANT OFFICIAL CONTACT INFORMATION:

Mr. Chris Cline

(207)-846-2415

ccline@yarmouth.me.us

1. APPLICATION SUMMARY

On January 24, 2022, the Department accepted as complete for processing, a renewal application from the Town of Yarmouth for the renewal of Waste Discharge License (WDL) W002234-6B-H-R/Maine Pollutant Discharge Elimination System (MEPDES) permit ME0102377, which was issued on July 20, 2017, and authorized the Town to discharge a monthly average of 0.028 million gallons per day (MGD) of secondary treated municipal wastewater from a publicly owned treatment works (POTW) to Casco Bay, Class SB, in Yarmouth, Maine.. See Attachment A of this Fact Sheet for a location map.

2. PERMIT SUMMARY

- a. This permit carries forward all the terms and conditions of the previous permit, except that this permit:
 1. Establishes a monthly average and daily maximum limits of 8 CFU or MPN/100 mL and 54 CFU or MPN/100 mL for Enterococci bacteria from April 15th – October 31st with a 1/Month monitoring frequency pursuant to Standards for Classification of Estuarine and Marine Waters, 38 M.R.S. §465-B (2).
 2. Establishes a year-round testing requirement for fecal coliform bacteria pursuant to Standards for Classification of Estuarine and Marine Waters, 38 M.R.S. §465-B (2) and The National Shellfish Sanitation Program (NSSP) Guide for the Control of Molluscan Shellfish – 2023 Revision.
 3. Establishes seasonal effluent monitoring for total nitrogen to be conducted each month between the dates of May 1st and October 31st for a period of two years beginning on May 1st, 2026, and ending on October 31, 2027.
- b. History: This section provides a summary of significant permitting actions and milestones that have been completed for the permittee.

April 12, 1996 – The United States Environmental Protection Agency (USEPA) issued a letter to the facility owner John G. Gibson notifying him that his renewal application for a National Pollutant Discharge Elimination System (NPDES) permit was accepted as complete. The USEPA never issued a NPDES permit for this facility.

2. PERMIT SUMMARY (cont'd)

May 23, 2000 – Pursuant to Waters and Navigation, 38 M.R.S. §420 and §413 and 06-096 CMR Chapter 519, Interim Effluent Limitations and Controls for the Discharge of Mercury, the Department issued a Notice of Interim Limits for the Discharge of Mercury to the permittee that administratively modified WDL W002234-58-B-R and established interim monthly average and daily maximum effluent concentration limits of 8.1 parts per trillion (ppt) and 12.2 ppt.

January 12, 2001 – The Department received authorization from the U.S. Environmental Protection Agency (USEPA) to administer the National Pollutant Discharge Elimination System (NPDES) permit program in Maine. The facility was assigned a Maine Pollution Elimination Permit number of ME0102377.

June 27, 2001 – The Department issued WDL W002234-5L-C-R / MEPDES permit ME0102377 to the Town for a five-year term.

December 22, 2006 – The Department issued WDL W002234-5L-D-R / MEPDES permit ME0102377 to the Town for a five-year term.

October 12, 2011 – The Department issued WDL W002234-6B-E-R / MEPDES permit ME0102377 to the Town of Yarmouth Sea Meadows facility for a five-year term.

August 15, 2012 – The Department issued a minor revision WDL W002234-6B-E-R / MEPDES permit ME0102377 to replace the monthly average and daily maximum technology-based concentration limits of 0.1 mg/L and 0.3 mg/L respectively, for TRC with a daily maximum technology-based limit of 1.0 mg/L for the Sea Meadows wastewater treatment facility on the Eben Hill Road in Yarmouth, Maine.

January 8, 2013 – The Department issued a minor revision to WDL W002234-6B-G-R pursuant to 38 M.R.S. § 420(1)(B)(F) and Interim Effluent Limitations and Controls for the Discharge of Mercury, 06-096 CMR 519 (last amended October 6, 2001) to reduce the monitoring frequency for mercury to once per year.

June 17, 2016 – The applicant submitted a timely and complete application for the renewal of combination WDL/MEPDES permit W002234-6B-E-R/ME0102377 that was received by the Department on June 17, 2016, and accepted for processing on June 21, 2016.

July 20, 2017 – The Department issued WDL W002234-6B-H-R / MEPDES permit ME0102377 to the Town of Yarmouth Sea Meadows facility for a five-year term.

2. PERMIT SUMMARY (cont'd)

January 14, 2022 – The applicant submitted a timely and complete application for the renewal of combination WDL/MEPDES permit W002234-6B-H-R/ME0102377 and was accepted for processing on January 24, 2022.

- c. **Source Description:** The Town of Yarmouth Sea Meadows Wastewater Treatment Facility receives residential sanitary wastewater from a 40-lot subdivision located on the east side of Cousins Island. Based on information provided by the permittee, the facility currently services 38 residential dwellings on the island. The previous MEPDES permit stated that there is one small grinder pump station (McAvoy pump station) on the collection system, which serves approximately six houses. A gravity flow line service the rest of the system. There are no significant industrial or commercial users, and no combined sewer overflow (CSO) points associated with the collection and treatment systems. The Town has not applied for, nor is it authorized to accept transported wastes into the treatment process.
- d. **Wastewater Treatment:** The Town provides a secondary level of wastewater treatment at the Sea Meadows Wastewater Treatment Facility via two 7,200-square foot sand filters. The facility provides primary wastewater treatment (i.e. settling) via a 10,000-gallon septic tank up-gradient of the sand filter. Treated effluent from the sand filter is chlorinated for disinfection for compliance with the year-round fecal coliform bacteria limits and is conveyed for discharge to Casco Bay at Yarmouth, which is Class SB water. The outfall structure is a 4-inch diameter pipe extending out 100 feet beyond the mean high tide mark. Effluent is discharged for up to 2 hours on the outgoing high tide each day. Based on review of the outfall extension plans, the Department's Division of Environmental Assessment has determined that this outfall structure provides improved mixing of the effluent with the receiving waters and improved dilution. See Section 6.b of this fact sheet for applicable dilution calculations.

3. CONDITIONS OF PERMIT

Conditions of licenses, 38 M.R.S. § 414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require the application of best practicable treatment (BPT), be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, *Certain deposits and discharges prohibited*, 38 M.R.S. § 420 and Department rule *Surface Water Toxics Control Program*, 06-096 C.M.R. Ch. 530, require the regulation of toxic substances not to exceed levels set forth in *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 C.M.R. Ch. 584 (last amended February 16, 2020), 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 classifies Casco Bay at the point of discharge as Class SB waters. Standards for classification of estuarine and marine waters, 38 M.R.S. § 465-B (2), describes the standards for Class SB waters as follows:.

2. Class SB waters. Class SB waters shall be the 2nd highest classification.

- A. Class SB waters must be of such quality that they are suitable for the designated uses of recreation in and on the water, fishing, aquaculture, propagation and harvesting of shellfish, industrial process and cooling water supply, hydroelectric power generation, navigation and as habitat for fish and other estuarine and marine life. The habitat must be characterized as unimpaired.

4. RECEIVING WATER QUALITY STANDARDS (cont'd)

- B. Class SB waters must be of sufficient quality to support all estuarine and marine species indigenous to those waters without detrimental changes in the resident biological community. The dissolved oxygen content of Class SB waters may not be less than 85% of saturation. Between April 15th and October 31st, the number of enterococcus bacteria in these waters may not exceed a geometric mean of 8 CFU or MPN per 100 milliliters in any 90-day interval or 54 CFU or MPN per 100 milliliters in more than 10% of the samples in any 90-day interval. The number of total coliform bacteria or other specified indicator organisms in samples representative of the waters in shellfish harvesting areas may not exceed the criteria recommended under the National Shellfish Sanitation Program, United States Food and Drug Administration as set forth in its publication "Guide for the Control of Molluscan Shellfish" (2019 revision) or any successor publication.
- C. Discharges to Class SB waters may not cause adverse impact to estuarine and marine life in that the receiving waters must be of sufficient quality to support all estuarine and marine species indigenous to the receiving water without detrimental changes in the resident biological community. There may be no new discharge to Class SB waters that would cause closure of open shellfish areas by the Department of Marine Resources. For the purpose of allowing the discharge of aquatic pesticides approved by the department for the control of mosquito-borne diseases in the interest of public health and safety, the department may find that the discharged effluent will not cause adverse impact to estuarine and marine life as long as the materials and methods used provide protection for nontarget species. When the department issues a license for the discharge of aquatic pesticides authorized under this paragraph, the department shall notify the municipality in which the application is licensed to occur and post the notice on the department's publicly accessible website.

5. REASONABLE POTENTIAL

Pursuant to 33 U.S.C. § 1311(b)(1)(C) and 40 C.F.R. § 122.44(d)(1), NPDES permits must contain any requirements in addition to technology based effluent limitations (TBELs) that are necessary to achieve water quality standards established under 33 U.S.C. § 1311(b)(1)(C). In addition, limitations “must control any pollutant or pollutant parameter (conventional, non-conventional, or toxic) which the permitting authority determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any water quality standard (WQS), including state narrative criteria for water quality,” 40 C.F.R. § 122.44(d)(1)(i). To determine if the discharge causes, or has the reasonable potential to cause, or contribute to an excursion above any WQS, EPA considers: 1) existing controls on point and non-point sources of pollution; 2) the variability of the pollutant or pollutant parameter in the effluent; 3) the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity); and 4) where appropriate, the dilution of the effluent by the receiving water. See 40 C.F.R. § 122.44(d)(1)(ii).

If the permitting authority determines that the discharge of a pollutant will cause, has the reasonable potential to cause, or contribute to an excursion above WQSs, the permit must contain water quality-based effluent limitations (WQBELs) for that pollutant. See 40 C.F.R. § 122.44(d)(1)(i).

6. RECEIVING WATER QUALITY CONDITIONS

The State of Maine 2018/2020/2022 Integrated Water Quality Monitoring and Assessment Report, prepared pursuant to Sections 303(d) and 305(b) of the Federal Water Pollution Control Act, lists the estuarine and marine waters of Casco Bay (Assessment Unit ID ME010600010605_SB_WI_PE), McKenney Point (Cape Elizabeth) to Stockbridge Point (Freeport) which includes the point of discharge as Category 3: Estuarine and Marine Waters with Insufficient Data or Information to Determine if Shellfish Harvesting Designated Use is Attained.

The Report also lists this segment as 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 biphenyl (PCBs) and other persistent, bioaccumulating substances in lobster tomalley.

6. RECEIVING WATER QUALITY CONDITIONS (cont;d)

The Maine Department of Marine Resources (MEDMR) lists the area of the outfall as Growing Area WI and Growing Area Section P6. The MEDMR closes areas by default in the vicinity of outfall pipes associated with treated sanitary wastewater discharges in the event of a failure of the disinfection system. The shellfish closure area can be found at <http://www.maine.gov/dmr/shellfish-sanitation-management/closures/pollution.html>.

7. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- a. Flow: This permit carries forward, a monthly average discharge flow limit of 0.028 MGD based on the dry weather capacity for the treatment facility, and a daily maximum discharge flow reporting requirement.

The Department reviewed Discharge Monitoring Reports (DMRs) that were submitted for the period August 2017 – May 2024 (N=80). A review of the data indicates the following:

Value	Limit (MGD)	Range (MGD)	Mean (MGD)
Monthly Average	0.028	0.0 – 0.02	0.010
Daily Maximum	Report	0.0 – 0.27	0.030

It is noted that the June 30, 2023, flow report of 0.27 MGD was erroneous. The correct data point should read 0.0165 MGD. With the inclusion of the correct data point, the facility was in 100% compliance with its permitted flow limitation of 0.028 MGD.

7. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

- b. Dilution Factors: 06-096 CMR 530(4)(A)(2)(a) states that, "For discharges to the ocean, dilution must be calculated as near-field or initial dilution, or that dilution available as the effluent plume rises from the point of discharge to its trapping level, at mean low water level and slack tide for the acute exposure analysis, and at mean tide for the chronic exposure analysis using appropriate models determined by the Department such as MERGE, CORMIX or another predictive model." With a permitted flow limitation of 0.028 MGD and the location and configuration of the outfall structure, the Department has established dilution factors as follows:

Acute = 87:1 Chronic = 198:1 Harmonic mean⁽¹⁾ = 594:1

⁽¹⁾The harmonic mean dilution factor is approximated by multiplying the chronic dilution factor by three (3). This multiplying factor is based on guidelines for estimation of human health dilution presented in the USEPA publication, "Technical Support Document for Water Quality-Based Toxics Control" (Office of Water; EPA/505/2-90-001, page 88), and represents an estimation of harmonic mean flow on which human health dilutions are based in a riverine 7Q10 flow situation.

- c. Biochemical Oxygen Demand (BOD5) and Total Suspended Solids (TSS): The previous permitting action established, and this permitting action is carrying forward, technology based monthly and weekly average BOD5 and TSS concentration limits of 30 mg/L and 45 mg/L, respectively, based on secondary treatment requirements found in Department Rule, 06-096 CMR, Chapter 525(3)(III). The previous permitting action established, and this permitting action is carrying forward, technology-based daily maximum BOD5 and TSS concentration limits of 50 mg/L based on a Department best professional judgment (BPJ) of best practicable treatment (BPT).

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

6-096 CMR Chapter 523(6)(f) states that all pollutants limited in permits must have limitations, standards or prohibitions expressed in terms of mass. The previous permitting action established, and this permitting action is carrying forward, monthly average, weekly average, and daily maximum mass limits based on calculations using the average design flow for the facility of 0.028 MGD and the appropriate concentration limits as follows:

Monthly average: $(0.028)(8.34 \text{ lbs./gallon})(30 \text{ mg/L}) = 3.0 \text{ lbs./}$

day Weekly average: $(0.028)(8.34 \text{ lbs./gallon})(45 \text{ mg/L}) = 4.5$

lbs./day Daily Maximum: $(0.028)(8.34 \text{ lbs./gallon})(50 \text{ mg/L}) = 5.0$

lbs./day

This permit carries forward a requirement for a minimum of 85% removal of BOD5 and TSS as required by 06-096 CMR Ch.525(3)(III)(a)(3) and (b)(3) of the Department's rules. This permitting action is allowing a provision to calculate the percent removal value based on an assumed influent value in since the Sea Meadows Wastewater Treatment Facility does not contain a representative influent sampling location. According to the USEPA's Onsite Wastewater Treatment Systems Manual, dated February 2002, table 3-7 entitled "Constituent Mass Loadings and Concentrations in Typical Residential Wastewater" high end range of values, influent values for BOD5 and TSS may be assumed to be 300 mg/L. Therefore, this permitting action authorizes the Town to assume an influent BOD5 and TSS concentration value of 300 mg/L for purposes of calculating the monthly percent removal value until such time that the infrastructure is modified or replaced such that collection of a representative raw influent sample is practical. See Special Condition A Footnote #2 of this permit.

The Department reviewed DMRs that were submitted for the period August 2017 – May 2024. A review of the data indicates the following:

BOD5 Mass (N=80)

Value	Limit (lbs./day)	Range (lbs./day)	Mean (lbs./day)
Monthly Average	3.0	0.01 – 2.00	0.28
Weekly Average	4.5	0.01 – 2.00	0.28
Daily Maximum	5.0	0.01 – 2.00	0.28

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

BOD Concentration

Value	Limit (mg/L)	Range (mg/L)	Mean (mg/L)
Monthly Average	30	0.07 – 7.0	2.82
Weekly Average	45	0.07 – 7.0	2.75
Daily Maximum	50	0.07 – 7.0	2.81

TSS Mass

Value	Limit (lbs./day)	Range (lbs./day)	Mean (lbs./day)
Monthly Average	3.0	0.0 – 1.00	0.13
Weekly Average	4.5	0.0 – 2.00	0.17
Daily Maximum	5.0	0.0 – 1.00	0.14

TSS Concentration (N=80)

	Limit (mg/L)	Range (mg/L)	Mean (mg/L)
Monthly Average	30	0.03 – 5.00	1.42
Weekly Average	45	0.0 – 5.00	1.31
Daily Maximum	50	0.03 – 5.00	1.42

This permit carries forward a minimum monitoring frequency for BOD5 and TSS of one time per month (1/Month) based on the Department best professional judgment. Minimum monitoring frequency requirements in MEPDES permits are prescribed by 06-096 CMR Chapter 523(5)(i). The USEPA has published guidance entitled, Interim Guidance for Performance Based Reductions of NPDES Permit Monitoring Frequencies (USEPA Guidance April 1996). In addition, the Department has supplemented the USEPA guidance with its own guidance entitled, Performance Based Reduction of Monitoring Frequencies - Modification of EPA Guidance Released April 1996 (Maine DEP May 22, 2014). Both documents are being utilized to evaluate the compliance history for each parameter regulated by the previous permit to determine if a reduction in the monitoring frequencies is justified.

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

- d. **Settleable Solids:** This permit carries forward a daily maximum technology-based concentration limit of 0.3 ml/L. An evaluation of data from the monitoring period of August 2017 – May 2024 indicates the following:

Settleable Solids Concentration (N=55)

Value	Limit (ml/L)	Range (ml/L)	Average (ml/L)
Daily Maximum	0.3	0.01 – 0.1	<0.09

The previous permitting action established a daily maximum technology-based concentration limit of 0.3 ml/L and a minimum monitoring frequency requirement of 3/Week for settleable solids. This permitting action is carrying forward the technology-based daily maximum concentration limit of 0.3 ml/L as it is considered by the Department to be best practical treatment (BPT) for secondary treated sanitary wastewater. A review of the monitoring data for settleable solids indicates the ratio (expressed in percent) of the daily maximum limits can be calculated as 33%. According to Table I of the USEPA Guidance, a 1/Month monitoring requirement can be reduced to 1/Quarter. However, Department Guidance does not allow for greater than a fifty percent reduction. In order to better ascertain compliance, the Department is carrying forward the 1/Month monitoring frequency for Settleable Solids.

- e. **Fecal Coliform Bacteria:** This permit establishes a year-round fecal coliform monthly average limitation of 8 CFU/100 mL (geometric mean) and a daily maximum limitation of 54 CFU/100 mL to be consistent with the limits established in Standards for Classification of Estuarine and Marine Waters, 38 M.R.S. §465-B (2), and The National Shellfish Sanitation Program (NSSP) Guide for the Control of Molluscan Shellfish – 2023 Revision and USEPA guidance pursuant to 40 CFR §122, 44(h)(i)(2).

A summary of effluent fecal coliform bacteria limits and data as reported on the DMRs for the period of August 2017 – May 2024 is as follows:

Value	Limit (col/100 mL)	Range (col/100 mL)	Mean (col/100 mL)
Monthly Average	15	1 – 9.07	1.46
Daily Maximum	50	1 – 2,419	67.53

During this time period, the permittee reported eight (8) excursions from the numeric bacteria limits.

7. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

- f. Total Residual Chlorine: This permit carries forward a technology-based daily maximum of 1.0 mg/L. Limitations on TRC are specified to ensure that ambient water quality standards are maintained and that BPT technology is being applied to the discharge. With modified and chronic dilution factors associated with the discharge water quality-based concentration thresholds the discharge may be calculated as follows:

Calculated

Acute (A) Criterion	Chronic (C) Criterion	A & C Acute Dilution Factors	Acute Threshold	Chronic Threshold
0.013 mg/L	0.0075 mg/L	87:1 (A) 198:1 (C)	1.31 mg/L	1.49 mg/L

Although USEPA's 1996 Guidance recommends evaluation of the most current two-years of effluent data for a parameter, the Department is considering data reported monthly on DMRs for the period of August 2017 – May 2024. The previous permitting action established a minimum monitoring frequency of 1/Week for TRC. A review of the TRC monitoring data indicates the ratio (expressed in percent) of the monthly average limit can be calculated as 20% respectively. According to Table I of the USEPA Guidance and Department Guidance, a 1/Week monitoring requirement can be reduced to 1/2 Months. However, the Department has determined that a reduction in the minimum monitoring frequency to 1/2 Month is not sufficient to assess compliance. At the request of the Maine Department of Marine Resources (MEDMR) TRC limits and monitoring requirements are in effect year-round in order to protect local shellfish resources near the outfall and to protect the health, safety and welfare of the public.

The Department reviewed 80 DMRs that were submitted for the period August 2017 – May 2024. A review of data indicates the following:

Total Residual Chlorine (N=55)

Value	Limit (mg/L)	Range (mg/L)	Mean (mg/L)
Daily Maximum	1.0	0.03 – 2.57	0.48

During this time period, the permittee reported one (1) excursion from the numeric water quality standards for Daily Maximum Total Residual Chlorine.

7. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

- g. pH: The previous permitting action established, and this permitting action is carrying forward, a technology-based pH limit of 6.0 – 9.0 standard units (SU), which is based on 06-096 CMR Ch.525(3)(III) and a minimum monitoring frequency requirement of 1/Week.

A summary of pH data as reported on the monthly DMRs for the period of August 2017 – May 2024 (N = 80) indicates the effluent pH has ranged from 5.90 SU to 6.2 standard units (SU).

pH (N=80)

Value	Limit (SU)	Range (SU)	Maximum (SU)
Range	6.0 – 9.0	5.30 – 6.20	6.2

During this time period, the permittee reported 50 excursions from the numeric water quality standards for pH. The facility has historically been challenged with naturally occurring low pH. The permittee reports that neither inorganic chemicals nor industrial sources contribute to the system. 40 CFR 133.102 sets conditions to waive pH excursions for systems like the permittee's. The Department has determined that the waiver is appropriate for the facility.

- h. Mercury: Pursuant to Certain deposits and discharges prohibited, 38 M.R.S. § 420 and Waste Discharge Licenses, 38 M.R.S. § 413 and Interim Effluent Limitations and Controls for the Discharge of Mercury, 06-096 CMR Ch.519 (last amended October 6, 2001), the Department issued an interim average and daily maximum effluent concentration limits of 24 parts per trillion (ppt) and 36 ppt, respectively, and a minimum monitoring frequency requirement of two (2) tests per year for mercury. 38 M.R.S. § 420(1-B)(B)(1) provides that a facility is not in violation of the Ambient Water Quality Criteria (AWQC) for mercury if the facility is in compliance with an interim discharge limit established by the Department. A review of the Department's database for the period August 2017 – May 2024 for calendar indicates the permittee has been in compliance with the interim limits for mercury as results have been reported as follows:

7. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Mercury (N=6)

Value	Limit (ng/L)	Range (ng/L)	Mean (ng/L)
Average	8.1	2.84 – 9.0	5.13
Daily Maximum	12.2		

Pursuant to 38 M.R.S. § 420(1-B) (F), the Department issued a minor revision on February 6, 2012, to the October 12, 2011, permit thereby revising the minimum monitoring frequency requirement from twice per year to once per year given the permittee has maintained at least 5 years of mercury testing data. Pursuant to 38 M.R.S. § 420(1-B) (F), this permitting action is carrying forward the 1/Year monitoring frequency established in the October 12, 2011, permit modification.

- i. Nitrogen: The USEPA requested the Department evaluate the reasonable potential for the discharge of total nitrogen to cause or contribute to non-attainment of applicable water quality standards in marine waters, namely dissolved oxygen (DO) and marine life support. As of the date of this permitting action, the State of Maine has not promulgated numeric ambient water quality criteria for total nitrogen. According to several studies in USEPA's Region 1, numeric total nitrogen criteria have been established for relatively few estuaries, but the criteria that have been set typically fall between 0.35 mg/L and 0.50 mg/L to protect marine life using dissolved oxygen as the indicator. While the thresholds are site-specific, nitrogen thresholds set for the protection of eelgrass habitat range from 0.30 mg/L to 0.39 mg/L. Based on studies in USEPA's Region 1 and the Department's best professional judgment of thresholds that are protective of Maine water quality standards, the Department is utilizing a threshold of 0.45 mg/L for the protection of aquatic life in marine waters using dissolved oxygen as the indicator, and 0.32 mg/L for the protection of aquatic life using eelgrass as the indicator.

Five known surveys have been completed within the vicinity of the Yarmouth Sea Meadows discharge that document presence/absence of eelgrass. The surveys were conducted by the Maine Department of Marine Resources (DMR) in 1993 and 2001, and by the Department in 2013, 2018 and 2022. In 1993, eelgrass of varying percent cover was mapped in the subtidal environment, predominantly near the mouth of the cove. Eelgrass acreage in 2001 was comparable to 1993 but distributed more notably in shallower water within the cove.

7. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

The 2013 survey mapped only approximately 14 acres of sparse and patchy eelgrass within the shallow subtidal portions of the cove, marking an overall decline in the shallow water distribution that was similarly noted on the same time scale in the larger Casco Bay. Eelgrass areal losses occurring between 2001 and 2013 have been attributed predominantly to indirect effects of foraging of invasive green crabs. Reestablished eelgrass was apparent within the cove by 2018 as in other parts of inner Casco Bay, followed by another decline by 2022. In summary, eelgrass coverage has declined since the first survey in 1993, with the only dynamic area of cover remaining at the mouth of the cove by 2022. Based on the historic mapped presence of eelgrass in close proximity to the discharge, the use of 0.32 mg/L as a threshold value is appropriate for this receiving water.

With the exception of ammonia, nitrogen is not acutely toxic; thus, the Department is considering a far-field dilution to be more appropriate when evaluating impacts of total nitrogen to the marine environment. Based on facility-specific effluent total nitrogen data from 2017 ($n = 3$) for the Yarmouth Sea Meadows facility, the Department is using an average total nitrogen value of 34.8 mg/L. The permittee's facility has a chronic near-field dilution of 198:1. Far field dilutions are significantly higher than the near-field dilution, depending on the location of the outfall pipe and nature of the receiving waterbody. The permittee's facility discharges via a single pipe outlet located 100 feet out from mean high water to the 324-acre cove at the east ends of Cousins Island and Littlejohn Island. Daily discharges of up to 28,000 gallons and lasting up to two hours occur during outgoing tides. The receiving embayment is very shallow and exposed only to Casco Bay on the east, with an intertidal channel to the south separating Cousins Island from the immediately adjacent Littlejohn Island.

7. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

For these conditions, far-field dilutions are estimated to be 28,700:1. The increase in total nitrogen concentration within the cove as a result of the discharge is estimated to be 0.0006 mg/L.

Total nitrogen concentrations in effluent = 34.8 mg/L

Far-field dilution factor = 28,700:1

In-stream concentration after dilution: $34.8 \text{ mg/L} = 0.0012 \text{ mg/L}$

28,700

The Department and external partners have been collecting ambient total nitrogen data along Maine's coast. For the cove to which the Sea Meadows effluent discharges, the Department utilized data from the Friends of Casco Bay's monitoring site at the Cousins Island Wharf approximately 1.5 km to the south along the eastern shore of Cousins Island. The Cousins Island Wharf site is in shallow water and adjacent to existing eelgrass and can be considered comparable to the receiving water at the location of the discharge. Based on surface water data collected annually from 2016 until 2021 at the Cousins Island Wharf, the calculated median background concentration of total nitrogen is 0.22 mg/L (n=30).

Based on the calculated ambient value for this receiving water, the estimated increase in ambient total nitrogen after reasonable opportunity for mixing in the far-field is $0.22 \text{ mg/L} + 0.0012 \text{ mg/L} = 0.2212 \text{ mg/L}$. The in-stream concentration value of 0.2212 mg/L is less than the Department and USEPA's best professional judgment based total nitrogen threshold of 0.32 mg/L for the protection of aquatic life using eelgrass as an indicator.

The Department finds that accurately quantifying the load of total nitrogen from the permittee's facility is an important step to understanding the impact of nitrogen loading on the receiving water. Seasonal (May – October) monitoring and reporting requirements for total nitrate + nitrite, total kjeldahl nitrogen (TKN) and total nitrogen are being established in the permit to gather the appropriate data to be able to perform reasonable potential calculations. The monitoring frequency has been established at once per month for the first two years permit. The permit also includes calculating and reporting total nitrogen at the same frequency as total nitrate + nitrite and TKN. The effluent data required by this permit will provide the Department with necessary information on the loading of nitrogen and its impact to Western Casco Bay.

7. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

In the absence of any information that the receiving water is not attaining standards, the Department has determined that the discharge of total nitrogen from the Yarmouth Sea Meadows outfall does not exhibit a reasonable potential to exceed applicable water quality standards for Class SB waters.

8. ANTI-BACKSLIDING

Federal regulation 40 C.F.R. §122.44(l) contains the criteria for what is often referred to as the anti-backsliding provisions of the Federal Water Pollution Control Act (Clean Water Act). In general, the regulation states that except for provisions specified in the regulation, effluent limitations, standards, or conditions must be at least as stringent as the final effluent limitations, standards or conditions in the previous permit.

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

9. ANTI-DEGRADATION

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

10. PUBLIC COMMENTS

Public notice of this application was made in the Forcaster newspaper on or about December 30, 2021. 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 Ch.522 (effective January 12, 2001).

11. DEPARTMENT CONTACTS

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

Rod Robert
Bureau of Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone: (207) 680-0576
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12. RESPONSE TO COMMENTS

Reserved until the end of the formal thirty-day comment period.

ATTACHMENT A

