

# **Title 5 Updates and Watershed Permitting**

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# What is the Problem?



- Nitrogen discharged into the estuaries have resulted in eutrophication causing growth of nuisance plants and algae, depleting the oxygen in the water, forcing out finfish, shellfish, and indigenous plant species
- Water bodies impacted by nitrogen are visually displeasing, emit unpleasant odors, and are unable to support uses that estuaries have historically offered
- If not addressed it is likely to harm the Cape's economy through a decline in fishing, shellfishing, tourism, and property values

# Nitrogen Sensitive Areas



On July 7, 2023, areas of the Cape Cod were designated as a Natural Resource Area (NRA) Nitrogen Sensitive Areas (NSA) upon promulgation of the regulations

Natural Resource Area NSAs are any embayment with:

- An EPA Approved Nitrogen Total Maximum Daily Load (TMDL), and
- Is subject to the 2015 Cape Cod Commission 208 Plan



# Barnstable Watersheds

- **Lewis Bay**

- Barnstable, Yarmouth
- Sentinel Species: Eel Grass
- Sentinel Station TN Target: 0.38 mg/L
- Proposed removal of 15.8 kg/day-N (64%)

- **Centerville River**

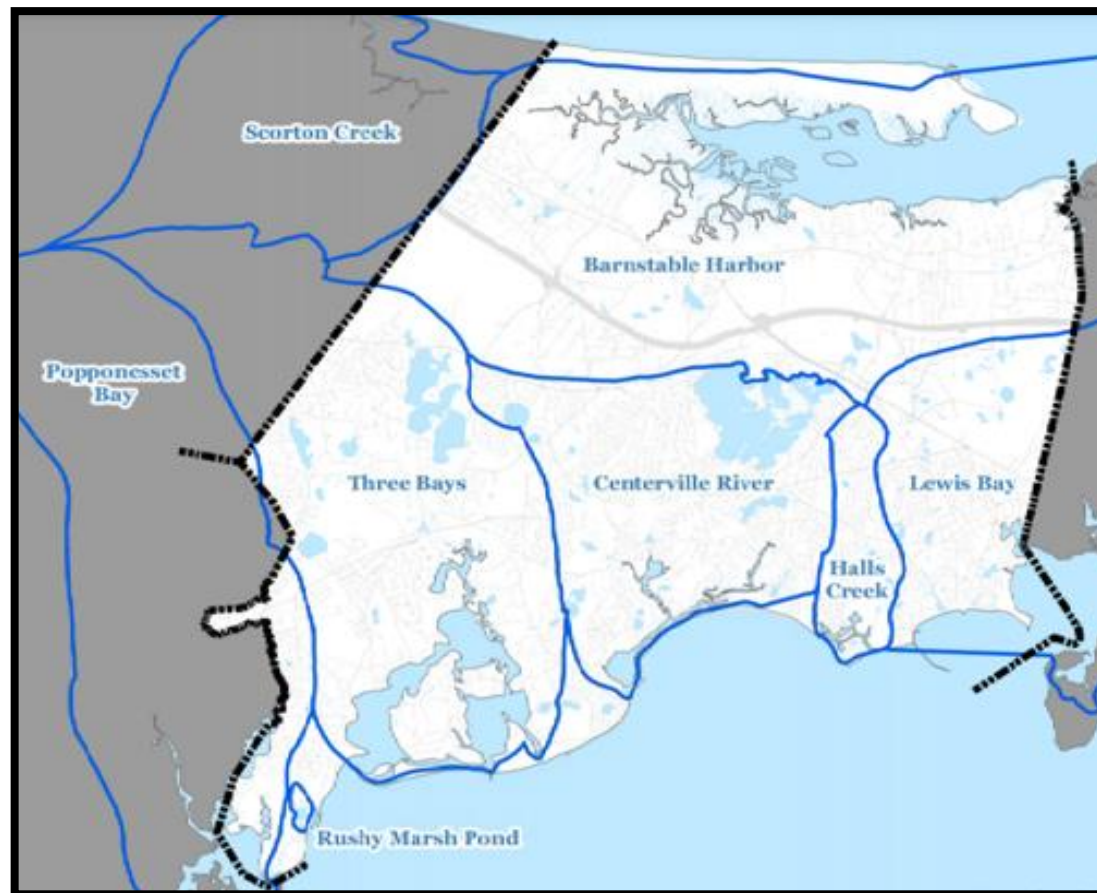
- Barnstable
- Sentinel Species: Eel Grass
- Sentinel Station TH Target: 0.395 mg/L
- Proposed removal of 71.6kg/day-N (54%)

- **Three Bays**

- Barnstable, Mashpee
- Sentinel Species: Eel Grass
- Sentinel Station Target: 0.38 mg/L
- Proposed removal of 74.9 kg/day-N (61.7%)

- **Popponesset Bay**

- Mashpee, Sandwich, Barnstable
- Sentinel Species: Eel Grass
- Sentinel Station Target: 0.38 mg/L
- Proposed removal of 8.4 kg/day-N (52%)



- **Rusby Marsh**

- Barnstable
- No TMDL
- Adaptive Management

- **Halls Creek**

- Barnstable
- No TMDL
- Sewers installed

- **Barnstable Harbor**

- Primarily Barnstable
- No TMDL
- Proposed 65% reduction in septic load for Millway sub-watershed

# Regulatory Framework

## Requirements for Natural Resource Area NSAs:

- Septic systems must be upgraded to Best Available Nitrogen Reducing Technology (BANRT)
  - **New Construction:** shall incorporate BANRT 6 months after the effective date of the regulations (was extended to 12 months to July 8th, 2024)
  - **Existing Systems:** shall upgrade within 5 years of NSA designation effective date to incorporate BANRT, after *2-year NOI and Application Period* ends, or within 7 years

OR

- Community(ies) operate under a **Watershed Permit**

OR

- Town files for De Minimis Nitrogen Load Exemption



# Watershed Permit

- 20-year permit instead of the traditional five-year permit
- Issued to Local Government Unit, Regional Local Government Unit, Multiple local government
- Provide communities the opportunity to employ a greater range of solutions to address their water quality needs, including alternative or innovative approaches
- Watershed Permit is based on a Town approved “Watershed Management Plan”



# Watershed Management Plan

- Necessary maps as described in 314 CMR 21.03
- Current and past water quality conditions
- Planning approaches prior to application
- Watershed TMDLs, Massachusetts Estuary Project (MEP) report, Scientific Evaluation
  - Nitrogen load, projected loads, necessary nitrogen load reductions
  - Conventional and alternative technologies proposed
  - Nitrogen loads each conventional and alternative technology will reduce
  - implementation schedule for technologies
- Proposed Nitrogen reduction strategy and apportionment of reduction for each strategy
- Maps depicting location of conventional and alternative technologies
  - e.g. core sewer area



# Watershed Management Plan (cont.)

- Documentation of actions and schedule for actions
- Backup plan if alternative and conventional technologies do not function as predicted
- Plan to reduce each pollutant
- Cost estimates for proposed actions
- Implementation schedule in 5-year increments and within 20 years accounting for growth
- Watershed monitoring plan with sampling plan and Quality Assurance Program Plan
- Information sources e.g. citations for data sourcing
- If cannot meet nitrogen load reductions during permit term, need documentation explaining





# Status of Barnstable's Watershed Permit Application

- Barnstable submitted the first Watershed Permit Application
- Watershed Permit Application submitted on September 1, 2023
- Administrative Completeness Review completed
  - Determined to be Administratively Complete
- Technical Review is on-going



# Issuance of Watershed Permit

The Department will issue a Watershed Permit if the Watershed Management Plan:

- Provides for the Necessary Nitrogen Load Reductions
- Includes an Adaptive Management Framework
  - addresses nitrogen buildout load with plan adjustments if needed and a contingency plan
- Includes an Implementation Schedule
- Proposes the necessary Water Quality and Implementation Strategy Monitoring and Reporting
- Identifies Other Permits Incorporated by Reference
- Specific and General Permit Conditions



# Watershed Permit Flexibility

- MassDEP can provide technical assistance meetings to guide Watershed Management Plan development and implementation
- Towns can utilize existing approved Comprehensive or Targeted Watershed Management Plans
- Towns can present data for acknowledgement of ongoing nitrogen removal projects
- Towns can choose to use one permit to cover multiple watersheds
- Towns can address other pollutants aside from nitrogen



# Funding Opportunities

- Southeast New England Program Watershed Implementation Grant funding - <https://estuaries.org/snep-watershed-grant/>
- State Revolving Fund/ Clean Water Trust - <https://www.mass.gov/service-details/srf-clean-water-program>
- MassDEP [Grants & Financial Assistance: Watersheds & Water Quality | Mass.gov](#)
  - 319 Nonpoint Source Grants (prevention, control, and abatement of nonpoint source pollution)
  - 604b Water Quality Management Planning (water quality assessment and management planning)



# Technical Assistance

General information

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For questions on Title 5 requirements and other groundwater discharge program inquiries:

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[samantha.berlo@mass.gov](mailto:samantha.berlo@mass.gov) (857) 408-0439

For hydrogeological determination related inquiries:

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For questions on Watershed Permitting Program and Wastewater Management Plans:

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An aerial photograph of a wetland or marsh area. The image shows a complex network of waterways and dense vegetation. The water is dark, and the surrounding land is a mix of green and brown, indicating different types of plants and possibly some dry areas. The overall scene is a natural, undisturbed landscape.

**Thank You !**