



The Problem

The Massachusetts Estuaries Project (MEP) technical report (available at www.oceanscience.net/estuaries) indicates the Salt Pond system exceeds its critical threshold for nitrogen, resulting in impaired water quality. While the MEP report has been completed, a total maximum daily load (TMDL) for nitrogen has not been established by MassDEP and US EPA.

- **MEP TECHNICAL REPORT STATUS:** Final
- **TMDL STATUS:** TMDL Not Required
- **TOTAL WASTEWATER FLOW:** 28 MGY (million gal/year)
 - Treated WW Flow: 0 MGY
 - Septic Flow: 28 MGY
- **UNATTENUATED TOTAL NITROGEN LOAD (MEP):**
2,048 kg/Y (kilograms per year)
- **ATTENUATED TOTAL NITROGEN LOAD (MEP):**
2,021 kg/Y
- **SOURCES OF CONTROLLABLE NITROGEN (MEP):**
 - 76% Septic Systems
 - 7% Lawn Fertilizer
 - 16% Stormwater from Impervious Surfaces
 - 1% Landfill

CONTRIBUTING TOWN

- **FALMOUTH**

THE MEP RESTORATION SCENARIO

- **WATERSHED TOTAL NITROGEN REDUCTION TARGET:** 73%
- **WATERSHED SEPTIC REDUCTION TARGET:** 100%
(The scenario represents the aggregated sub-embayment percent removal targets from the MEP technical report)

SALT POND ESTUARY

- **EMBAYMENT AREA:** 62 acres
- **EMBAYMENT VOLUME:** 3.1 million cubic feet
- **2012 INTEGRATED LIST STATUS:** Not listed
 - www.mass.gov/eea/docs/dep/water/resources/07v5/12list2.pdf

SALT POND WATERSHED

- **ACRES:** 1,674
- **PARCELS:** 628
- **% DEVELOPED RESIDENTIAL PARCELS:** 69%
- **PARCEL DENSITY:** 2.7 acres per parcel (approx.)
- **WASTEWATER TREATMENT FACILITIES:** 0

The Salt Pond system is a coastal embayment with shoreline located entirely in the Town of Falmouth. The inlet to Salt Pond, which is armored on the ocean side, is restricted by a culvert located beneath Surf Drive. The estuary supports a variety of recreational uses including boating, swimming, shell fishing and fin fishing.

Freshwater Sources

PONDS

- IDENTIFIED SURFACE WATERS: 9
- NUMBER OF NAMED FRESHWATER PONDS: 3
- PONDS WITH PRELIMINARY TROPHIC CHARACTERIZATION: 0
(Listed In Appendix 4C, Ponds With Water Quality Data)
- 2012 INTEGRATED LIST STATUS: None listed
- DISCUSSION: Long Pond is monitored regularly for drinking water quality, but data has not been collected for other ponds that contribute to Salt Pond.

STREAMS

- SIGNIFICANT FRESHWATER STREAM OUTLETS: 0
- DISCUSSION: Salt Pond is fed entirely by groundwater.

DRINKING WATER SOURCES

- WATER DISTRICTS: 1
 - Falmouth Water Department
- GRAVEL PACKED WELLS: 0
- SMALL VOLUME WELLS: 0
- DISCUSSION: Long Pond is Falmouth's primary drinking water supply. There are no public water supply wells located in the Salt Pond watershed.

Degree of Impairment and Areas of Need

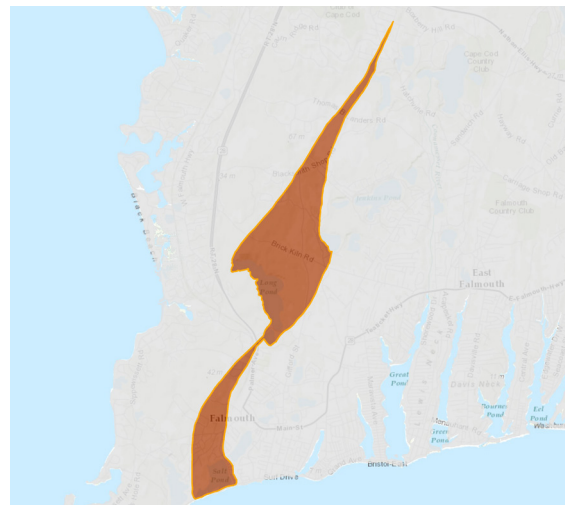
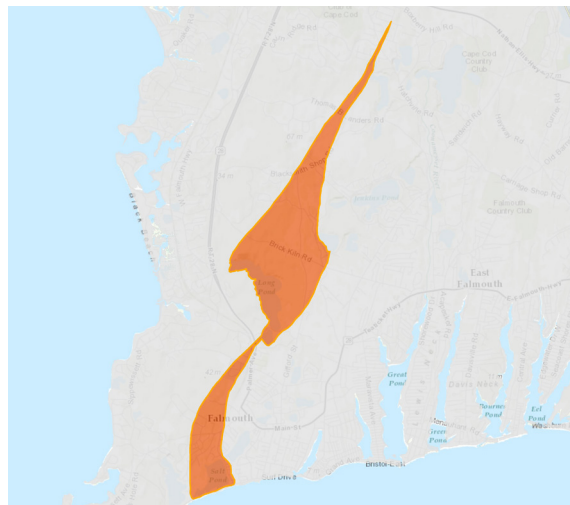
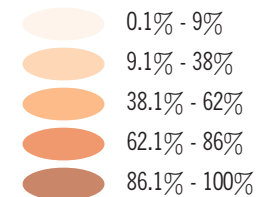
For the purposes of the §208 Plan Update areas of need are primarily defined by the amount of nitrogen reduction required as defined by TMDL and/or MEP technical report. Watersheds that have MEP technical reports, but lack a finalized TMDL are defined by the critical nitrogen loading values identified by the MEP. These were referred to above as 100% of the septic nitrogen load or 73% of the total nitrogen load. The

MEP technical report also provides a specific targeted amount of nitrogen reduction required by sub-watershed, as shown in Figure 4-1 SP Subwatersheds with Total Nitrogen Removal Targets and Figure 4-2 SP Subwatersheds with Septic Nitrogen Removal Targets.

The nitrogen load from the watershed exceeds the threshold for Salt Pond, resulting in impaired water quality. The ecological health of a water body is determined from water quality, extent of eelgrass, assortment of benthic fauna, and dissolved oxygen and ranges from 1-severe degradation, 2-significantly impaired, 3-moderately impaired, 4- healthy habitat conditions.

MEP ECOLOGICAL CHARACTERISTICS AND WATER QUALITY

- OVERALL ECOLOGIC CONDITION: Moderately Impaired to Significantly Impaired
- CHANNEL TO INLET: Significantly Impaired



Subwatersheds with Total Nitrogen Removal Targets

Figure 4-1 SP

Subwatersheds with Septic Nitrogen Removal Targets

Figure 4-2 SP

SALT POND

- **MAIN BASIN SHALLOW:** Moderately Impaired
- **MAIN BASIN DEEP:** Significantly Impaired
- **SENTINEL STATIONS:**
 - Total Nitrogen Concentration Threshold: 0.919 mg/L
 - Total Nitrogen Concentration Existing: 0.5 mg/L
(As reported at the MEP sentinel water-quality monitoring stations)

LOCAL PROGRESS

FALMOUTH

The Town of Falmouth Comprehensive Wastewater Management Plan (CWMP) was approved under Joint Massachusetts Environmental Policy Act (MEPA)/Development of Regional Impact (DRI) review in early 2014 and received town meeting and ballot vote approval in Spring 2014. The first phase is to implement the sewerage of Little Pond, upgrade the wastewater facility and construct a new discharge site outside of the West Falmouth Harbor watershed.

The plan also includes a series of pilot projects that will be conducted concurrently with the sewerage project over the next 5 years, at which time the Town will re-evaluate its options for comprehensive wastewater management.

Local efforts in the town of Falmouth are described in more detail in Chapter 6.

WATERSHEDS: UPPER CAPE