



The Problem

For the purposes of the §208 Plan Update, areas of need are primarily defined by the amount of nitrogen reduction required as defined by the Total Maximum Daily Load (TMDL) and/or Massachusetts Estuaries Project (MEP) technical report. An MEP report has not yet been completed for the Megansett Harbor watershed.

- **MEP TECHNICAL REPORT STATUS:** Data Collection Phase
- **TMDL STATUS:** In Progress
- **TOTAL WASTEWATER FLOW:** 41 MGY (million gal year)
- **UNATTENUATED SEPTIC NITROGEN LOAD:** 4,147 kg/Y (kilograms per year)
- **ATTENUATED NITROGEN LOAD:** Not assessed

CONTRIBUTING TOWNS

- **BOURNE**
- **FALMOUTH**
- **SANDWICH (JBCC)**
- **DISCUSSION:** The land area in Sandwich, and a portion of the land area in Bourne, is not in the control of the town as it is part of Joint Base Cape Cod (JBCC), which is served by a wastewater treatment facility and discharged outside of the watershed.

MEGANSETT HARBOR ESTUARY

- **EMBAYMENT AREA:** 377 acres
- **EMBAYMENT VOLUME:** Unknown
- **2012 INTEGRATED LIST STATUS:**
 - Megansett Harbor: Category 2 for nutrients
 - Squeteague Harbor: Category 5 for nutrients
 - Category 2: attaining some uses; other uses not assessed, Category 5: Waters requiring a TMDL
 - www.mass.gov/eea/docs/dep/water/resources/07v5/12list2.pdf

MEGANSETT HARBOR WATERSHED

- **ACRES:** 2,739
- **PARCELS:** 945
- **% DEVELOPED RESIDENTIAL PARCELS:** 77%
- **PARCEL DENSITY:** 2.9 acres per parcel (approx.)
- **WASTEWATER TREATMENT FACILITIES:** 0
- **DISCUSSION:** The Megansett Harbor watershed has been delineated by the Cape Cod Commission. The watershed will be re-delineated by the MEP.

The Megansett Harbor system is an embayment with shoreline located in the Towns of Bourne and Falmouth. It receives tidal flow from Buzzards Bay. Megansett Harbor is a large open embayment that is defined by ScrAggy Neck to the north and Falmouth Nye Neck to the south. Squeteague Harbor is a large constrained cove that feeds into Megansett Harbor. Megansett Harbor supports a variety of recreational uses including swimming, shell fishing, boating and fin fishing.

Freshwater Sources

PONDS

- **IDENTIFIED SURFACE WATERS:** 6
- **NUMBER OF NAMED FRESHWATER PONDS:** 4
- **PONDS WITH PRELIMINARY TROPHIC CHARACTERIZATION:** 1
(Listed In Appendix 4C, Ponds With Water Quality Data)
- **2012 INTEGRATED LIST STATUS:** None listed
- **DISCUSSION:** There are 4 named freshwater ponds in the watershed including Osbourne and Spit Ponds within the JBCC, and Long and Cuff's Ponds. The Towns of Falmouth and Bourne have not fully engaged in the Pond and Lake Stewardship (PALS) program that has helped establish baseline pond water quality Cape wide.

STREAMS

- **SIGNIFICANT FRESHWATER STREAM OUTLETS:**
Long and Cuff Ponds, originally delineated in the Pocasset Harbor watershed, drain via a stream that discharges to Megansett Harbor. The stream potentially provides opportunities for the MEP to gauge stream-flows and measure nitrogen concentration.

DRINKING WATER SOURCES

- **WATER DISTRICTS:** 2
 - Bourne Water District
 - Falmouth Water Department
- **GRAVEL PACKED WELLS:** 2
 - 2 have nitrate concentrations between 0 and 0.5 mg/L
- **SMALL VOLUME WELLS:** 0

Degree of Impairment and Areas of Need

An MEP report is pending for the Megansett Harbor watershed. Since there is no evidence of water quality impairment at this time, wastewater needs are determined based upon other factors, such as Title5 compliance.

LOCAL PROGRESS

BOURNE

Based on the watershed delineated by the Cape Cod Commission, the Town of Falmouth contributes 34% of the watershed nitrogen load to Megansett Harbor. The Town of Bourne has not engaged in wastewater planning in the Megansett Harbor watershed beyond the 2007 Needs Assessments/Wastewater Management Study, which identified wastewater needs, including drinking and surface water quality, and Title 5 needs.

Presently, Buzzards Bay is the only sewered area in the Town of Bourne. The town does not own or operate a wastewater treatment facility. All wastewater collected in Buzzards Bay is transferred to the Town of Wareham for treatment and disposal.

FALMOUTH

Based on the watershed delineated by the Cape Cod Commission, the Town of Falmouth contributes 66% of the watershed nitrogen load to Megansett Harbor. The Town of Falmouth has an approved Comprehensive

Wastewater Management Plan (CWMP) (2014) that proposes Targeted Watershed Management including a combination of traditional and non-traditional approaches to reduce nitrogen loading to coastal waters on Falmouth's south side. It is anticipated that pilot projects associated with evaluating non-traditional approaches in other watersheds will inform potential application of these non-traditional approaches in watersheds such as the Megansett Harbor watersheds.

Local efforts in these towns are described in Chapter 6.