



The Problem

For the purposes of the §208 Plan Update, areas of wastewater need are primarily defined by the amount of nitrogen reduction required as defined by the Total Maximum Daily Load (TMDL) or Massachusetts Estuaries Project (MEP) technical report. An MEP report has not yet been completed for the Barnstable Harbor watershed. Due to its large tidal flow it is not expected to be severely overloaded with respect to nitrogen except for some of the upper reaches.

- **MEP TECHNICAL REPORT STATUS:** Data Collection Phase
- **TMDL STATUS:** In Progress
- **TOTAL WASTEWATER FLOW:** 291 MGY (million gal per year)
- **UNATTENUATED SEPTIC NITROGEN LOAD:** 28,964 Kg/Y (kilograms per year)
- **ATTENUATED NITROGEN LOAD:** Not assessed

CONTRIBUTING TOWNS

- BARNSTABLE
- SANDWICH
- YARMOUTH

BARNSTABLE HARBOR ESTUARY

- **EMBAYMENT AREA:** 2,793 acres
- **EMBAYMENT VOLUME:** Unknown
- **2012 INTEGRATED LIST STATUS:** Category 5 for fecal coliform
 - Category 5: Waters requiring a TMDL
 - www.mass.gov/eea/docs/dep/water/resources/07v5/12list2.pdf

BARNSTABLE HARBOR WATERSHED

- **ACRES:** 17,043
- **PARCELS:** 5,542
- **% DEVELOPED RESIDENTIAL PARCELS:** 70%
- **PARCEL DENSITY:** 3 acres per parcel
- **WASTEWATER TREATMENT FACILITIES:** 0
 - Approximately 18% of the watershed wastewater is collected and treated at Barnstable's Water Pollution Control Facility in Hyannis (in the Lewis Bay watershed).

Freshwater Sources

PONDS

- **IDENTIFIED SURFACE WATERS:** 63
- **NUMBER OF NAMED FRESHWATER PONDS:** 18

The Barnstable Harbor estuary and embayment system is an estuary with its shoreline primarily located in the Town of Barnstable with a portion in Yarmouthport. Barnstable Harbor is a large embayment that receives tidal flow from Cape Cod Bay, with a 9-foot fluctuation, and extends nearly 5 miles towards the extensive Barnstable marsh. The bay supports a variety of recreational uses including boating, swimming, shell fishing and fin fishing.

WATERSHEDS: MID CAPE

■ PONDS WITH PRELIMINARY TROPIC

CHARACTERIZATION: 8

(Listed In Appendix 4C, Ponds With Water Quality Data)

■ 2012 INTEGRATED LIST STATUS FOR NUTRIENTS:

None listed

STREAMS

■ SIGNIFICANT FRESHWATER STREAM OUTLETS: 3

- Scorton Creek, Sandwich
- Bridge Creek, Barnstable
- Brickyard Creek, Barnstable

■ **DISCUSSION:** These will likely have measurements and nitrogen concentrations available through the MEP technical report.

DRINKING WATER SOURCES

■ WATER DISTRICTS: 4

- Barnstable Fire District
- Centerville Osterville Marstons Mills Fire District
- Hyannis Water Division
- Yarmouth Water Division

■ GRAVEL PACKED WELLS: 3

- 1 has nitrate concentrations between 0.5 and 1 mg/L
- 1 has nitrate concentrations between 1 and 2.5 mg/L
- 1 has no nitrate concentration data

■ SMALL VOLUME TRANSIENT WELLS: 5

- West Barnstable and East Sandwich are served exclusively by private wells.

BARNSTABLE HARBOR

Degree of Impairment

Since there is no evidence of water quality impairment at this time, wastewater needs are determined based upon other factors, such as Title5 compliance.

Barnstable Harbor is listed as a Category 5 impaired water body for fecal coliform on the 2012 Integrated List of Impaired Waters.

LOCAL PROGRESS

BARNSTABLE

The Town of Barnstable submitted a Draft Comprehensive Wastewater Management Plan (CWMP) in 2012, which characterized the wastewater needs of the Town in terms of required nitrogen reduction according to MEP technical reports and TMDLs. The CWMP could not indicate the degree of nitrogen reduction required in Barnstable Harbor watershed because the MEP technical report has not yet been completed.

In 1979 the Town completed a new sewer extension to hook-up the County Complex and the Barnstable village Area including Millway and Commerce Road to the East

and Rendezvous Lane to the west. The 2007 Wastewater Facilities Plan (WWFP) and its predecessor, the 1993 Needs Assessment identified other wastewater needs according to Title 5 conditions. The 2007 WWFP also identified and assessed a potential future wastewater disposal site in the Barnstable Harbor watershed adjacent to Route 132. The site was approved for permitting through the Joint Massachusetts Environmental Policy Act (MEPA)/Development of Regional Impact (DRI) review process.

YARMOUTH

Funding for the initial phase of the Yarmouth CWMP was voted down by Town Meeting in 2011. The CWMP

proposed phased sewerage throughout much of the southern portions of town. At the time, the MEP technical reports for Bass River and Barnstable Harbor had not been published, so the plan emphasized nitrogen reduction needs in the Parkers River and Lewis Bay watersheds.

SANDWICH

The Town of Sandwich has completed a Comprehensive Wastewater Management Plan (CWMP) Needs Assessment. The Sandwich CWMP Needs Assessment lists 147 parcels with an annual flow of 21,600 gallons per day flow in the Barnstable Harbor watershed.

Local efforts in these towns are described in Chapter 6.