

WATERSHEDS: LOWER CAPE
Boat Meadow River



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) and/or Massachusetts Estuaries Project (MEP) technical report. An MEP report has not been developed for the Boat Meadow River watershed and other Cape watersheds where nitrogen is not believed to be a critical issue due to tidal flushing, low intensity development, or geomorphology.

- **MEP TECHNICAL REPORT STATUS:** Not Being Studied
- **TMDL STATUS:** Not Being Studied
- **TOTAL WASTEWATER FLOW:** 19 MGY (million gal per year)
- **UNATTENUATED SEPTIC NITROGEN LOAD:** 1,907 Kg/Y (kilograms per year)
- **ATTENUATED NITROGEN LOAD:** Not Assessed
 - **DISCUSSION:** The Boat Meadow River watershed has ample opportunity for natural attenuation, most of which is achieved through the marsh in the upper reaches of the watershed.

CONTRIBUTING TOWNS

- EASTHAM
- ORLEANS

BOAT MEADOW RIVER ESTUARY

- **EMBAYMENT AREA:** 17 acres
- **EMBAYMENT VOLUME:** Unknown
- **2012 INTEGRATED LIST STATUS:** Category 5 for fecal coliform and estuarine bioassessments
 - Category 5: requires a TMDL
 - www.mass.gov/eea/docs/dep/water/resources/07v5/12list2.pdf

BOAT MEADOW RIVER WATERSHED

- **ACRES:** 623
- **PARCELS:** 390
- **% DEVELOPED RESIDENTIAL PARCELS:** 81%
- **PARCEL DENSITY:** 1.6 acres per parcel (approx.)
- **WASTEWATER TREATMENT FACILITIES:** 0

The Boat Meadow River embayment system has shoreline located entirely in the Town of Eastham. It is a small tidal creek that empties into Cape Cod Bay and extends about a mile to its drainage headwaters, which is comprised of extensive marsh. Most of the watershed is located in Eastham, with a small portion located in Orleans near the Route 6 rotary. The estuary supports a variety of recreational uses including kayaking, swimming, shell fishing and fin fishing.

Freshwater Sources

PONDS

- IDENTIFIED SURFACE WATERS: 1
- NUMBER OF NAMED FRESHWATER PONDS: 0
- PONDS WITH PRELIMINARY TROPHIC CHARACTERIZATION: 0
(Listed In Appendix 4C, Ponds With Water Quality Data)
- 2012 INTEGRATED LIST STATUS: None listed

STREAMS

- SIGNIFICANT FRESHWATER STREAM OUTLETS:
Fresh water streams in the Boat Meadow River watershed are small marsh drainage segments without any quantitative information on flow.

DRINKING WATER SOURCES

- WATER DISTRICTS: 0
- GRAVEL PACKED WELLS: 0
- SMALL VOLUME WELLS: 3

- There are three 3 non-community small volume wells in the watershed belonging to the Whale Walk Inn and Youth Hostel. There is no available water quality data.

Degree of Impairment and Areas of Need

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

The 2012 Integrated list of Impaired Waters lists Boat Meadow River as being a Category 5 impaired water body for fecal coliform and estuarine bioassessments.

LOCAL PROGRESS

EASTHAM

Eastham completed a wastewater Needs Assessment in 2007 without the benefit of a Massachusetts Estuaries Project (MEP) technical report or Total Maximum Daily Load (TMDL). The Town did not identify the Boat Meadow River watershed as requiring wastewater infrastructure. The drinking water quality in the private and non-

community small volume wells in Eastham are impacted by septic systems, stormwater runoff and fertilizer. The Town of Eastham recently voted to construct a limited water supply system to serve the residents down gradient of the landfill and uses along the Route 6 corridor.

ORLEANS

The Town of Orleans comprises 3% of the unattenuated wastewater nitrogen load to the Boat Meadow River

watershed. The Orleans Comprehensive Wastewater Management Plan (CWMP) was approved in 2011. The CWMP characterizes nitrogen reduction needs pursuant to the MEP and TMDL reports available for watersheds within the town. The Needs Assessment completed in 2009 did not identify Boat Meadow River as requiring wastewater management.

Local efforts in these towns are described in Chapter 6.