



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 Herring River Eastham 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:** 21 MGY (million gal per year)
- **UNATTENUATED SEPTIC NITROGEN LOAD:** 2,079 Kg/Y (kilograms per year)
- **ATTENUATED NITROGEN LOAD:** Not Assessed
 - **DISCUSSION:** The Herring River watershed has significant opportunities for natural attenuation through the upper reaches of the marsh drainage.

CONTRIBUTING TOWN

- **EASTHAM**

HERRING RIVER (EASTHAM) ESTUARY

- **EMBAYMENT AREA:** 11 acres
- **EMBAYMENT VOLUME:** Unknown
- **2012 INTEGRATED LIST STATUS:** Not Listed
 - www.mass.gov/eea/docs/dep/water/resources/07v5/12list2.pdf

HERRING RIVER (EASTHAM) WATERSHED

- **ACRES:** 655
- **PARCELS:** 406
- **% DEVELOPED RESIDENTIAL PARCELS:** 86%
- **PARCEL DENSITY:** 1.6 acres per parcel (approx.)
- **WASTEWATER TREATMENT FACILITIES:** 0

Freshwater Sources

PONDS

- **IDENTIFIED SURFACE WATERS:** 2
- **NUMBER OF NAMED FRESHWATER PONDS:** 2
 - Flax Pond
 - Herring Pond
- **PONDS WITH PRELIMINARY TROPHIC CHARACTERIZATION:** 2
(Listed In Appendix 4C, Ponds With Water Quality Data)

The Herring River embayment system has a shoreline located entirely in the Town of Eastham. It is comprised of a tidal river that extends approximately 0.6 miles from Cape Cod Bay to numerous drainage channels cut into the upper salt marsh. The estuary supports a variety of recreational uses including kayaking, swimming, shell fishing and fin fishing.

- **2012 INTEGRATED LIST STATUS:** 1
 - Herring Pond; Category 3: No uses assessed
- **DISCUSSION:** Herring Pond received an alum treatment in 2012. The Town of Eastham has been a participant in the Pond and Lake Stewardship (PALS) program that has helped establish baseline pond water quality. The Town has an active Water Quality Advisory Board that has pursued additional fresh water pond data. A Town of Eastham ponds report was completed and provides detailed information and recommendations for a number of Eastham ponds.

STREAMS

- **SIGNIFICANT FRESHWATER STREAM OUTLETS:**
None
- **DISCUSSION:** Fresh water streams in the Herring 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:** 0
- **DISCUSSION:** All residents are served by private wells.

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.

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). It did not identify the Herring River watershed as requiring sewerage. The drinking water quality in the private and non-community small volume wells in Eastham are impacted from septic systems,

stormwater runoff and fertilizer. The Town of Eastham recently voted to construct a limited water supply system to serve the residents downgradient of the landfill and uses along the Route 6 corridor.

Local efforts in Eastham are described in Chapter 6.