



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 will not be developed for the Quivett Creek 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:** 35 MGY (million gal per year)
- **UNATTENUATED SEPTIC NITROGEN LOAD:** 3,544 Kg/Y (kilograms per year)
- **ATTENUATED NITROGEN LOAD:** Not assessed

CONTRIBUTING TOWNS

- **BREWSTER**
- **DENNIS**

QUIVETT CREEK ESTUARY

- **EMBAYMENT AREA:** 12 acres
- **EMBAYMENT VOLUME:** Unknown
- **2012 INTEGRATED LIST STATUS:** Category 4a for fecal coliform
 - Category 4a: TMDL is completed
 - www.mass.gov/eea/docs/dep/water/resources/07v5/12list2.pdf

QUIVETT CREEK WATERSHED

- **ACRES:** 1,396
- **PARCELS:** 733
- **% DEVELOPED RESIDENTIAL PARCELS:** 72%
- **PARCEL DENSITY:** 1.9 acres per parcel (approx.)
- **WASTEWATER TREATMENT FACILITIES:** 0

Freshwater Sources

PONDS

- **IDENTIFIED SURFACE WATERS:** 4
- **NUMBER OF NAMED FRESHWATER PONDS:** 2
- **PONDS WITH PRELIMINARY TROPHIC CHARACTERIZATION:** 1
(Listed In Appendix 4C, Ponds With Water Quality Data)
- **2012 INTEGRATED LIST STATUS:** None Listed

Quivett Creek is an estuary with shoreline located entirely in the Town of Brewster. Quivett Creek receives tidal flow from Cape Cod Bay that has a 9-foot fluctuation. The Creek extends nearly a mile through extensive salt marsh area to its groundwater fed stream. The Creek is nearly totally flushed during the tidal cycle. The estuary supports a variety of recreational uses including kayaking, swimming, shell fishing and fin fishing.

STREAMS

- **SIGNIFICANT FRESHWATER STREAM OUTLETS:** 1
 - Quivett Creek
- **DISCUSSION:** Quantitative data unavailable.

DRINKING WATER SOURCES

- **WATER DISTRICTS:** 2
 - Brewster Water Department
 - Dennis Water District
- **GRAVEL PACKED WELLS:** 0
- **SMALL VOLUME TRANSIENT WELLS:** 0

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.

The 2012 Integrated list of Impaired Waters lists Quivett Creek as being a Category 4a impaired water body for fecal coliform.

LOCAL PROGRESS

BREWSTER

The Town of Brewster contributes 77% of the unattenuated nitrogen load to Quivett Creek. The town is presently developing an Integrated Water Resources Management Plan. The Final Draft Phase II report was issued in 2012 with assessments and recommendations

addressing nitrogen loading to Pleasant Bay, existing and future drinking water, and stormwater and freshwater pond needs.

DENNIS

The Town of Dennis contributes 23% of the unattenuated nitrogen load to the Quivett Creek watershed. To date, the town has submitted a Needs Assessment (2005) listing

areas of concern (AOCs) for drinking and wastewater related infrastructure. Dennis identified the AOCs through an analysis of factors including onsite septic system failures and site constraints, shellfish closure areas and, as the Massachusetts Estuaries Project (MEP) reports for watersheds within town were not published, possible MEP nitrogen loading findings.

Local efforts in these towns are described in Chapter 6.

