



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 Chase Garden 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:** 262 MGY (million gal per year)
 - Treated Wastewater: 24 MGY
 - Septic Flow: 238 MGY
- **UNATTENUATED SEPTIC NITROGEN LOAD:** 24,611 Kg/Y (kilograms per year)
- **ATTENUATED NITROGEN LOAD:** Not assessed

CONTRIBUTING TOWNS

- DENNIS
- YARMOUTH

CHASE GARDEN CREEK ESTUARY

- **EMBAYMENT AREA:** 93 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

CHASE GARDEN CREEK WATERSHED

- **ACRES:** 4,514
- **PARCELS:** 3,512
- **% DEVELOPED RESIDENTIAL PARCELS:** 84%
- **PARCEL DENSITY:** 1.3 acres per parcel (approx.)
- **WASTEWATER TREATMENT FACILITIES:** 1
 - King's Way, Yarmouthport

The Chase Garden Creek estuary and embayment system has shoreline located entirely in the Town of Yarmouth. It receives tidal flow from Cape Cod Bay that has a 9 foot fluctuation and extends approximately 1.5 miles to the groundwater fed drainage streams that comprise its headwaters. The Creek is almost totally flushed during the tidal cycle and supports a variety of recreational uses including boating, swimming, shell fishing and fin fishing.

Freshwater Sources

PONDS

- **IDENTIFIED SURFACE WATERS:** 13

WATERSHEDS: MID CAPE

CHASE GARDEN CREEK

- NUMBER OF NAMED FRESHWATER PONDS: 5
- PONDS WITH PRELIMINARY TROPHIC CHARACTERIZATION: 4
(Listed In Appendix 4C, Ponds With Water Quality Data)
- 2012 INTEGRATED LIST STATUS: None listed

- GRAVEL PACKED WELLS: 1
 - 1 has nitrate concentrations between 1 and 2.5 mg/L
- SMALL VOLUME WELLS: 0

STREAMS

- SIGNIFICANT FRESHWATER STREAM OUTLETS: 2
 - White Brook
 - Chase Garden Creek

DRINKING WATER SOURCES

- WATER DISTRICTS: 2
 - Yarmouth Water Department
 - Dennis Water District

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 Chase Garden Creek as being a Category 4a impaired water body for fecal coliform.

LOCAL PROGRESS

YARMOUTH

The Town of Yarmouth contributes approximately 47% of the nitrogen load to Chase Garden Creek. The Yarmouth Comprehensive Wastewater Management Plan (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 the Bass River and Barnstable Harbor watersheds had not been published, so the plan emphasized nitrogen reduction needs in the Parkers River and Lewis Bay watersheds.

DENNIS

The Town of Dennis contributes 53% of the nitrogen load to the Chase Garden 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 MEP report for Sesuit Harbor has not been published, possible MEP nitrogen loading findings.

Local efforts in these towns are described in Chapter 6.