

Surface Water

- On the Vineyard, 98 fresh and coastal ponds cover about 9,000 acres, an area roughly equivalent to one sixth of the land area of the Island.
- On the south side of the Island are shallow ponds, 12' or less in depth, with seaward shorelines that are barrier beaches. The ponds behind these barrier beaches are closed to the sea except for transitory breaching by storms or by human management activities. Main uses of the ponds themselves include commercial and recreational shellfish harvest, wildlife habitat and passive recreation.
- The ponds that are found in the hilly morainal areas are deeper; they are used extensively for boating and structures have been built to keep inlets open. Examples are Lake Tashmoo, Lake Anthony (Oak Bluffs Harbor) and Lagoon Pond (Drawbridge opening).
- Several Vineyard ponds show signs of degradation; including Edgartown Great Pond, Lagoon Pond, Oak Bluffs Harbor, Poucha Pond, Squibnocket Pond, Tisbury Great Pond, and Lower Chilmark Pond. Others are somewhat impacted: Farm Pond, Sengekontacket Pond, and Lake Tashmoo. Only Cape Poge Bay and Menemsha Pond exhibit good condition. A number of other ponds have unconfirmed water quality.

Groundwater

- On our Island, groundwater is the only source of drinking water and is replenished by excess rainfall percolating down to the water table. Glacial outwash deposits, consisting of thick layers of sand and gravel (excellent aquifer materials) occupy about 60% of the Island. Groundwater flow in the outwash plain has a large west to east component, away from the hilly western moraine.
- Of the 46.9 inches of annual precipitation, recharge is estimated to be 22.2 inches. The rest is consumed by trees and other vegetation, evaporates to the air or runs overland into the ponds, streams and ocean.
- Public water supply is delivered to approximately 2,700 residences in Edgartown, 4,122 in Oak Bluffs and 2,557 in Tisbury. Remaining residences are served by private wells.
- Areas where housing density exceeds one dwelling per acre are at risk for private well contamination with the nutrients and pollutants found in wastewater. These areas include Ocean Heights, Arbutus Park, Mattakeset Point and Edgartown Meadows in Edgartown, areas outside the Menemsha Village water service area in Chilmark and the Music Street area in West Tisbury.

Wastewater

- Of the 15,000 homes found on the Vineyard today, over 90% dispose of their wastewater using on-site septic systems, in some cases older cesspools. A fully functional and Title V-approved septic system may remove 20% of the nitrogen, discharging wastewater with a nitrogen concentration of about 35 ppm. The safe drinking water standard is 10 ppm, and safe limits for Vineyard ponds tend to be much lower.
- There are about 150 small, single-home or business treatment systems on the Vineyard that offer nitrogen removal. These systems may reduce the nitrogen in the effluent from about 35 ppm down to about 19 ppm, a 45% reduction. For a single-family system, the added cost is on the order of \$7,000 and the annual maintenance cost is about \$1,250.
- The Edgartown, Oak Bluffs and Tisbury plants reduce nitrogen concentration to 10 ppm (the safe drinking water standard) or less. There are collection and treatment systems for the Wampanoag Tribe's housing and headquarters buildings, the Martha's Vineyard Hospital, and one for the Airport and business park.
- The Edgartown plant serves about 600 residences and businesses, treating about 65 million gallons each year, about half from June through August. It has a capacity of 750,000 gallons per day and discharges wastewater with a nitrogen concentration of 2-3 milligrams per liter. The plant takes septage from 4 towns.
- Tisbury's plant has a capacity to treat 100,000 gallons per day of sewage and 4,000 gpd of septage. As of March, 2006, the seasonal average peak (over a 90-day period), was about 53,000 gpd, and 95 properties were hooked up to the system, of a total of 135 properties designated for hookup.
- The Oak Bluffs system served 475 residential and 113 commercial customers in 2005, discharging about 22 million gallons in that year with an average summer flow of 126,253 gpd. The plant does not take septage.