

What kind of water quality testing is conducted on the Great Sand Lakes' ponds?

as of July 2023

This article will attempt to answer the following questions:

What is the purpose of testing?

Which ponds are tested and at what locations?

How often are tests conducted?

Who does the data gathering and where is the data analyzed?

How long does it take to get the testing results?

Where do the test results go?

How will the Great Sand Lakes community be notified when there is a problem?

Testing Procedures

Testing the water in the Great Sand Lakes is multifaceted and as a result multiple tests are conducted. Each test has its own objectives, methods, frequency and reporting processes. Therefore, this article answers the questions above based on the type of testing.

The most critical testing is conducted on Tuesdays from Memorial Day to Labor Day by the Harwich Board of Health. These tests look for E.coli bacteria, an indicator bacteria of feces that can carry other harmful bacteria. Its existence is an indication of nearby failing septic systems or excessive wildlife activity in the areas where people swim. The town tests at four beaches: the town beach at the end of Bucks Pond Rd which includes our beach at Pleasant Park Circle, Association Beach on Clearwater Drive, Lakeside Terrace (aka Paradise Path) and Vacation Lane. The Harwich Health Department takes water samples and brings them to the Barnstable County Health Department lab for analysis. If there were no issues, the official results are emailed to us a couple of weeks later. If the results are over the state mandated acceptable limit, the town does not notify us immediately. Due to occasional false positives, the scientific standard calls for retesting the following day. Only if the count is high two days in a row, will we receive instructions to close the beach. This has not happened in over 10 years so it is not clear exactly how our Beach Manager, currently Dave Callaghan, will be notified. As of July 15, 2023, all beaches are currently reporting less than 5% of the state limit so in this respect our ponds are in very good shape, even if at times large flocks of geese are present.

The second type of testing is conducted by the Association to Preserve Cape Cod (APCC) every other Wednesday. They are looking for cyanobacteria, some strains of which can be toxic, particularly for small children and pets. APCC began testing at Association and Vacation Lane beaches following the 2019 GLSA Annual meeting where Andrew Gottlieb, the Director of APCC, spoke about the growing issue with cyanobacteria in the Cape's freshwater ponds. The town pays for testing from Memorial Day to Labor Day. The last couple of years we've had suspected blooms after Labor Day so the GLSA board in 2023 decided to expand that testing to September and October for which the GLSA pays the fee. APCC interns collect the samples and bring them to the APCC headquarters in Brewster for analysis. The results of this testing is posted on the APCC web site. For more information on their testing program and current pond status, see [Cyanobacteria | Association to Preserve Cape Cod](#).

The third type of testing is a long term, longitudinal study of Cape Cod water bodies taken from July to September. The GSLA has two Water Quality teams that go out every other Thursday to do extensive data gathering of the water from the deepest parts of Bucks and John Joseph ponds. This involves measuring water clarity with a Secchi disk, temperature and oxygen saturation at specific depths and taking water samples near the surface (1/2 meter below) and at the bottom (1 meter above). The Natural Resources Officer for the Town of Harwich collects the waters samples and data from a number of ponds in town and brings them to the School for Marine Science & Technology (SMAST) at UMass Dartmouth for analysis. These results are returned to the Natural Resource Officer in April or May the following year and the GSLA has to request the data for updating our trend analysis.

Ann Frechette has analyzed much of the data collected from the E.Coli and SMAST data. Her presentation can be viewed at [Great Sand Lakes Association - Analysis of Water Quality Data Collected at Bucks Pond and John Joseph Pond, 1999-2021.](#)

Notification Procedures

The GSLA Board has approved the following notification procedures:

Scenario 1: APCC does their bi-weekly test that puts a given pond in the “Potential for Concern” category.

Signs will be printed and laminated on white paper and put up at all entrances of GSLA owned beaches on that specific pond.

Scenario 2: When a bloom has been observed and a **sample has been taken but not yet analyzed.** "Advisory" signs will be put up at all entrances of GSLA owned beaches on that specific pond.

Note: Reported but not sampled blooms will not have any signs placed on beaches.

Signs will be printed and laminated on white paper and put up at all entrances of GSLA owned beaches on that specific pond.

Scenario 3: APCC has conducted an evaluation of a water sample that puts it above the Massachusetts allowable standards for cyanobacteria. APCC recommends “use restriction” but the Harwich Board of Health has not required a beach closure.

Sign will be printed and laminated on white paper and will be put up at all beach entrances and on removable sign posts every 50’ near the water.

Scenario 4: Harwich Health Department closes our beaches to water based activities due to negative E.coli tests **or cyanobacteria blooms.**

A temporary “Beach Closed” sticker, provided by the Board of Health, will be applied to the existing Water Quality sign on the impacted beach. This is a requirement of our beach permit from the town.

Sign will be printed and laminated on white paper and will be put up at all beach entrances and on removable sign posts every 25' near the water.