Watershed Planning Program Lake Surveys 2025

Why?

The federal Clean Water Act (CWA) requires states to report on the condition of their surface waters. MassDEP's Watershed Planning Program (WPP) conducts monitoring to fulfill this requirement on a seven-year rotating watershed schedule. WPP has developed a general approach for prioritizing waters to be monitored that focuses on strengthening the categorization of waters (i.e., assessment units or AU) included in Massachusetts' CWA section 305(b)/303(d) Integrated Reports. Highest priority is given to gathering data and information on AUs currently listed as impaired that may not be and, therefore, could be delisted, as well as on AUs that are not currently identified as impaired, but there is some evidence to suggest that they may

be impaired and should be listed as such. WPP has prioritized watersheds in central and southeastern Massachusetts for monitoring in 2025. WPP plans to collect enough water quality and biomonitoring data from six selected lakes and ponds to assess the status of their aquatic life, fish consumption and recreational uses.

What?

The health or condition of a waterbody is determined using chemical, physical, and biological data collected at sites within that waterbody. Data collected for lakes can include:

- Bathymetry (depth)
- Vertical water column profiles (dissolved oxygen, temperature, pH, conductivity)
- Secchi disk transparency
- Nutrients (total phosphorus, total nitrogen, dissolved organic carbon)
- Water chemistry (true color, alkalinity, hardness, turbidity, chloride)
- Chlorophyll *a*
- Pathogens (using E. *coli* as an indicator)
- Phytoplankton community, including cyanobacteria
- Littoral macroinvertebrate community
- Fish tissue (mercury, arsenic, cadmium, and selenium)
- Macrophytes (percent cover, biovolume, exotics)
- Aesthetics and human disturbance observations

The lake surveys consist of water sampling, weed mapping, macroinvertebrate sampling and fish toxics monitoring. The results of the surveys will be used to assess the condition of each individual lake.

How?

Monitoring crews visit the lakes approximately 10 times over the course of the summer. Sampling for bacteria is conducted from shore. Water column profiles and water quality sampling are conducted from a small boat at the deepest point in the lake. A buoy will be deployed at this spot with a string of water quality probes collecting dissolved oxygen and temperature data through the water column. Macroinvertebrate sampling, macrophyte mapping, and bathymetry data collection require driving the boat along transects across the lake. Finally, fish are collected using a specialized electrofishing boat in the shallow areas of the lake to capture target species for analysis.
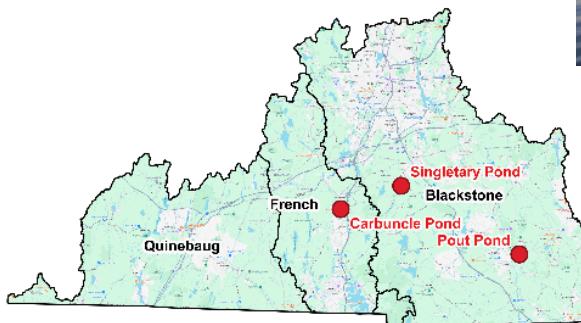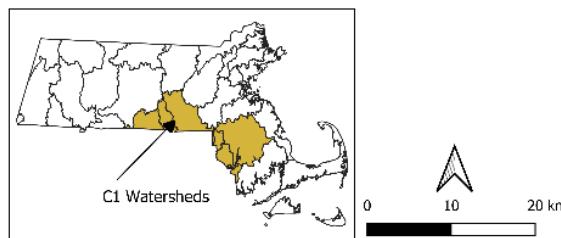
When?

The TAM lakes survey will be implemented over a seven-year period (2021-2027), with each year focused on a different region of the state. The goal is to cover the entire state in that time. Monitoring is conducted from early May through October.
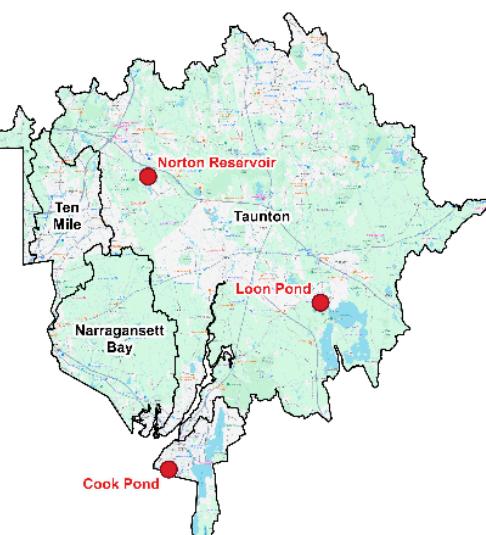
Where?

The target sample size in each region and year will be 6-8 lakes. Candidate lakes are identified and evaluated every winter to determine their suitability for the project. Candidate lakes for monitoring in 2025 are listed in the table and illustrated in the figure below.

TAM Lakes for 2025*

Site ID	Waterbody Name	Description
TAM-022	Carbuncle Pond	Oxford
TAM-023	Cook Pond	Fall River
TAM-024	Loon Pond	Lakeville
TAM-025	Norton Reservoir	Norton
TAM-026	Pout Pond	Uxbridge
TAM-027	Singletary Pond	Sutton/Millbury
*Each Site ID is linked to a lake location map when viewed online.		

Contact Information:

Contact staff in MassDEP's Watershed Planning Program with questions about the 2025 TAM lakes project.

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