Partnerships

Since 2015, we have partnered with the Freshwater Studies program through Western Michigan University. Dr. Steve Kohler and his students collect data on Leelanau's seven major lakes and tributaries with our water parogram volunteers and staff. Data is incorporated into our water quality database and the Leelanau Clean Water (LCW) database. For years, we have partnered with the Lake Associations to share data. We prioritize protecting lands most important to Leelanau's water quality.

Conservancy staff also sit on the Leelanau Clean Water board, an advisory committee to the County Commissioners, providing outreach on water quality topics.

Volunteer Program

Did you know our streams are sampled by dedicated Volunteers? Call the office to learn more and ask for Yarrow.

We also rely on lake association volunteers' help to drive boats and coordinate sampling with the Freshwater Studies Program.

How can you help?

- Join your lake association and sign up for the Leelanau Clean Water email list (https://www.leelanau.cc/lcw.asp)
- Limit phosphorus additions into waterways by minimizing the use of lawn fertilizers, or by using those free of phosphorus.
- Plant buffer vegetation near shorelines to absorb runoff.
- Make sure your septic system is functioning properly and is inspected regularly by the health department.

Our water quality data is available on our website including an interactive map of where we sample in the County.

Visit www.leelanauconservancy.org and go to OUR WORK, WATER

Cover photo by Philip Stinson

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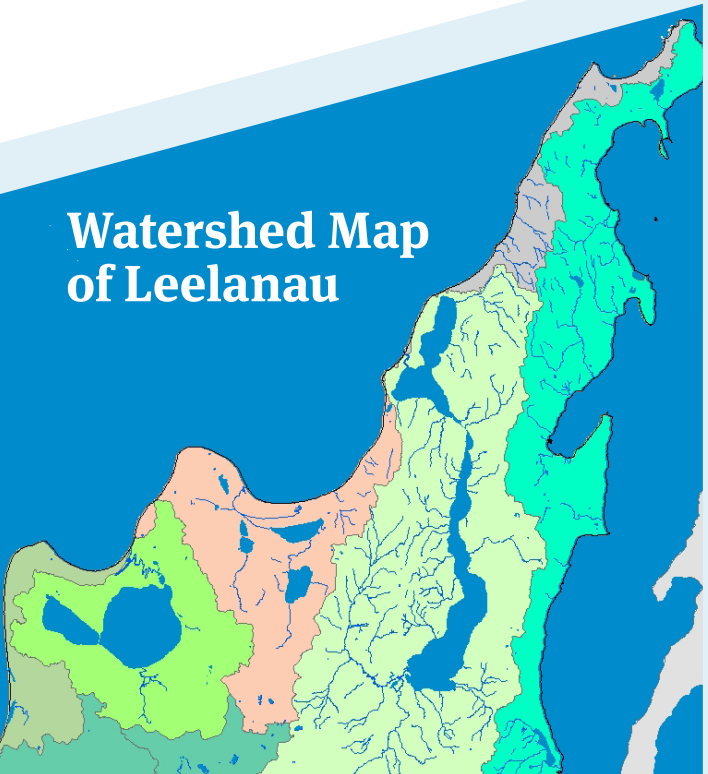
Leelanau Conservancy Water Program

Our Mission: To conserve the land, water and scenic character of Leelanau County

What is our water program?

Water is a vital part of our work at the Leelanau Conservancy. Every land protection project involves looking at the impact to water quality and how we can further protect our water resources in Leelanau County. Not only do we focus on projects with wetlands, water frontage, and stream corridors, but we also protect upland recharge areas that are important to overall watershed health. We sit on the Leelanau Clean Water Board and participate in the local discussion about water quality.

The Leelanau Conservancy has worked with volunteers, stakeholders and lake associations over the last 28+ years to ensure our water quality monitoring program continues to provide baseline data on our major lakes and their tributaries. The goal is to provide a water quality program that can show long term trends and help guide lake associations in management decisions. We share the data annually with lake associations and the general public. We also make our data available on the Leelanau Clean Water database (http://watermeasures.com)



What data do we collect?

We sample the seven major lakes and their tributaries from May to October using the same location, lab and sampling techniques that have been used since 1990.

Lake water samples are analyzed for: total phosphorus, nitrates/nitrites and chlorophyll-a. We also measure pH, temperature, dissolved oxygen, conductivity and chlorophyll-a using a Secchi disk which measures light penetration.

Tributary or stream sampling includes flow or discharge, temperature and total phosphorus.

2,300

acres of wetlands protected in Leelanau County

49

miles of stream/lake frontage have been protected

42

pounds of total Phosphorus are estimated to be kept out of water bodies per year by protecting natural land and wetlands

Lake Trophic State	*Water Quality Measurement*		
	Total Phosphorus	Chlorophyll-a	Secchi Disk Depth
Eutrophic	↑	↑	↓
Mesotrophic			
Oligotrophic			

What is 28 years of data telling us?

Professor Megan Woller- Skar from Grand Valley State University looked at the Conservancy data from 1990 to 2018. The results show significant trends that can help guide lake associations and the county as we address the ways humans can reduce our influence on adding nutrients to our water bodies. The full report is available on our website. Values in 2018 represent single water samples. Although they are reliable (analyzed by a laboratory that specializes in water chemistry), they are only single samples and should be used to encourage mitigation and understanding, as opposed to being viewed as a red flag.

In 2018, some Leelanau lakes contained total phosphorus values that exceeded the long-term "mean" (or average) values.

The same lakes also had total phosphorus concentrations that exceeded the maximum range for oligotrophic systems (10 ug/L).

Often these high values occurred in the month of September. This coincides with the end of the tourist and growing seasons, but also fall turn-over (before the lakes mix from top to bottom).

Higher concentrations of total phosphorus will support greater concentrations of phytoplankton, and perhaps different types of phytoplankton. High densities of phytoplankton negatively effect water clarity. Increasing phosphorus favors green algae and ultimately bluegreen algae.