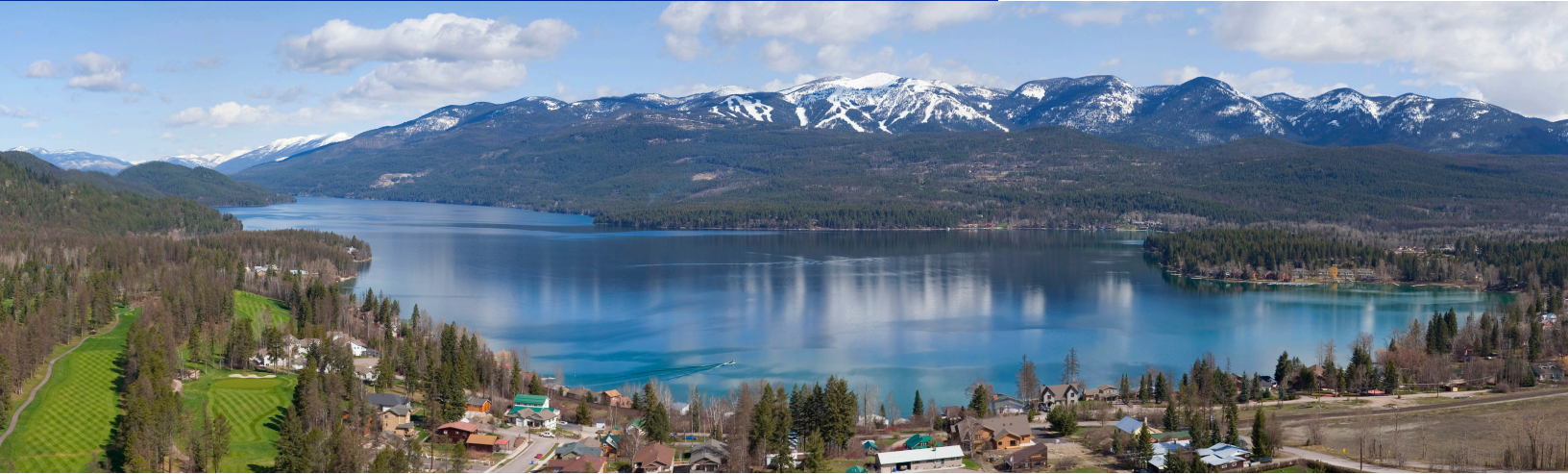




A Day in the Life of a Lake Scientist

Cassie Roberts has been the on-staff limnologist with the Whitefish Lake Institute since 2023. Here she shares what field day looks like.

A day in the life of a lake scientist starts early. So early that when I start my field days, I can't help but remember my college advisor's feedback when I complained about all the 8 am science classes: if you want to be a scientist, you have to wake up early.

He was right about that one. Sometimes early starts help avoid afternoon lake wind, sometimes they allow for 2+ hour drives to collect samples, and other times they allow us to get back in time to drop samples at the post office before they close.

The day starts at the office, where the team packs the work truck. Waders, nets, specialty sensors, cables to drop equipment down in the lake, bottles for samples, coolers and ice, and anything else we might need to gather more information about a lake get loaded. Depending on how large the lake is or if we will be meeting a volunteer to access the lake, we might bring a motor boat, a canoe, or an inflatable pontoon.

Once we arrive at the lake and load all our equipment onto the boat, we head out. Usually, we start in the middle of the lake by taking a "profile" using our sensor. We lower the sensor from the top of the lake to the bottom, capturing data as we go. We take measurements every meter for the first fourteen meters, every two meters for meters fourteen to thirty, every three meters for meters thirty to forty-five, and every five meters from meter forty-five until we reach the lake's bottom. This gives a full picture of temperature and dissolved oxygen levels in a lake. Both temperature and dissolved oxygen are important for fish habitat, as warm water and low oxygen are undesirable to many fish species. Next, we take a chemistry sample, including nutrients and chlorophyll. These parameters tell us about algae levels in the lake. After all the samples are taken, they are kept on ice and mailed in coolers to local labs and analyzed.

In the summer, we might also drag a net through the water to sample aquatic invasive species. We usually do this type of sampling near public boat launches since this is where a new invasive species is most likely to show up.

Each day is different on the lake, which keeps field sampling fun but unpredictable. It's a lot of effort for a couple of bottles of water, but the knowledge we gain offers insight and helps keep our community stay one step ahead, allowing us to identify new threats to water quality and to catch invasive species as early as possible. And if you ask me, those are worthy reasons to get up early.

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Past issues of LakeFront at www.whitefishlake.org



WLI Limnologist Cassie Roberts fields questions about turbidity at the Great Fish Community Challenge launch party.

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Founded in 2005

Mission Statement

The Whitefish Lake Institute is committed to science, education, and aquatic resource initiatives to protect and improve Whitefish Lake and Whitefish area water resources today, while providing a collective community vision for tomorrow.

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Whitefish Lake Institute

Where Science Meets the Next Generation

Fostering the next generation of watershed stewards is central to our mission at Whitefish Lake Institute. Over the course of two days at the end of May, we hosted our 11th annual Education Days at Averill's Viking Creek Wetland Preserve for 5th graders from Whitefish and Kalispell.

Our fantastic partners from Montana Fish, Wildlife & Parks, Flathead Audubon, Glacier Institute, Western Montana Conservation Commission, and Wild Wings Recovery Center joined us to immerse more than 200 students in hands-on learning experiences at seven activity stations spread across the preserve.

This year, the kids dived into topics like non-point-source pollution and impervious surfaces, wetland food webs, living in harmony with bears, fisheries science and techniques, raptor biology, and the different plants and animals that live in a wetland. Eric and Cassie ran the aquatic macroinvertebrate station, explaining how those little "big water bugs" play an important role in the ecosystem and teaching the kids about the different ways they have adapted to thrive in the lakes and streams of northwest Montana. Mike and Jen were on hand to manage the logistics of the day.

This year's stations were a hit! It was great to overhear the kids talking to each other about all the different activities and see their enthusiasm for nature and science. Thanks to all our partners for coming out to make the Wetland Days great, and to the Whitefish and Kalispell middle school groups for braving the heat!



Save the Date - Fall Science Quencher

Are you interested in learning more about the work underway at Whitefish Lake Institute? Or are you curious to learn more about emerging issues in the Flathead Valley?

The 2026 Fall Science Quencher is an opportunity to learn, connect, and celebrate science in the Flathead Valley. Mark your calendars for:

October 9 at 5-7 PM
Whitefish Lake Lodge

WLI's Science Quenchers bring local science to the community through engaging presentations from scientists, researchers, and educators. Held twice a year, these events explore topics ranging from water quality and wildlife to innovative research and conservation.

From Research to Impact: Chemicals in our Waters

Water quality monitoring related to public health is a top priority at WLI. Unfortunately, in today's modern world, chemical contamination in water is a common problem. Chemical contamination in water can come from various sources, so we've been tracking a few to inform the community about risk. Public health can be compromised by these contaminants via recreational contact exposure or in drinking water.

Beyond monitoring chemical contaminants, the work of WLI has resulted in mitigation projects with measurable benefits to protect public health. Here's a look at past and current chemical contaminate projects at WLI.

RESEARCH: WHAT WLI FOUND	ACTION	IMPACT/STATUS
2006 - Elevated gasoline constituents found at City Beach	→ 2014 - Collaboration with city led to installing interceptor trench at the City Beach boat ramp (see photo on page 4)	→ 2024 testing confirmed reduced levels of gasoline constituents at City Beach
2011 - High levels of petroleum hydrocarbons found along Whitefish Lake's Mackinaw Bay	→ 2012 - Data prompted the EPA to conduct a second clean-up of 1989 train derailment, removing 450 cubic meters of material	→ Follow-up testing found near elimination in contaminant levels
2011 - Shoreline investigation of Whitefish Lake show septic leachate effluent	→ 2013- City Council created an ad-hoc Whitefish Community Wastewater Committee to address the issue	→ Study prompted further investigation of pharmaceuticals, synthetic DNA, and a septic risk model housed at the Western Montana Conservation Commission
2024 - Found perchlorate at City Beach and Les Mason after July 4 fireworks	→ 2026 follow-up testing at City Beach, Les Mason, and the boat launch at State Park (see photo on page 4)	→ Significantly elevated levels of perchlorate at City Beach after fireworks, compared to 2024
2025 - PFAS detected in Whitefish Lake, Whitefish River, and First, Second, and Third Creeks	+ Separately, DEQ begins to mandate PFAS testing at public water supply sites in Whitefish	→ Information now available for the community to make informed decisions



Whitefish Community Foundation Spotlight



The Whitefish Lake Institute is here for our community. Many of the projects above were undertaken in response to community concern or emerging science. But as we know in the scientific world, a good question needs financial support to be pursued.

Over the years, the Whitefish Community Foundation has been a valued supporter of WLI's work. This year, we received a community grant to launch near-shore

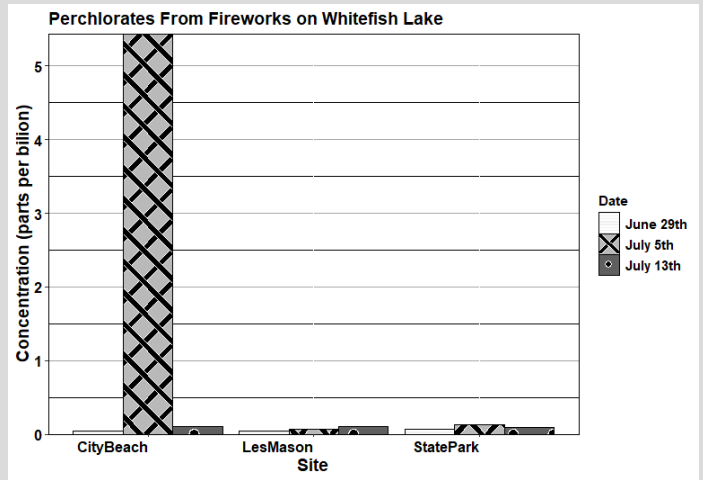
testing that will complement the long-term sampling already taking place in the middle of Whitefish Lake. We are grateful for the chance to pilot this program.

We are also grateful to be one of the 89 local nonprofits participating in the **Great Fish Community Challenge**. The Great Fish Community Challenge is an incredible opportunity to support the nonprofits that keep our community strong. If you haven't yet, please consider making a gift today!





The interceptor trench installed in 2014 at the boat launch is designed to capture contaminants before they reach the swimming public at Whitefish City Beach.



2026 perchlorate concentrations show a significant spike on July 5. Perchlorate is a chemical commonly associated with fireworks that can interfere with the thyroid's ability to absorb iodide, among other health effects.



WLI Limnologist Cassie Roberts collects water samples on Lake Blaine, one of the forty-one lakes in the Northwest Montana Lakes Network (NMLN).



Program Coordinator Eric Parker and volunteer Jim Cutting collect a suite of samples on Rogers Lake for the NMLN.



WLI's one-person raft on Loon Lake awaits NMLN data collection. WLI utilizes various watercraft depending on lake size, ensuring each is decontaminated after each use.



A plankton tow uses a fine-mesh net to collect tiny organisms in the water. This Holland Lake sample will be used for eDNA analysis and microscopy to detect invasive zebra mussels.

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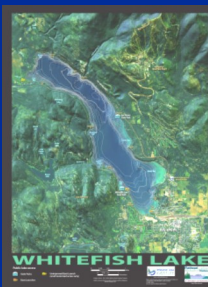


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