



# LakeFront

Quarterly Newsletter of the Whitefish Lake Institute

Spring 2020



## What's New in 2020

Watercraft users and the community can expect a number of improvements to our local AIS strategy this year.

**Exit Seals**—new exit seal color (blue) to reduce confusion with the inspection seal (white). **Late Boater Program**—a boater can request an orange seal from inspection staff to be self-applied if they will exit the lake after 10pm. The user must return to Whitefish Lake within 24 hours to avoid inspection/decontamination. **Non-Motorized Hand-Launched Sticker Program**—stickers for non-motorized users will now be valid for five years instead of the current annual requirement. **City Beach Inspection Station Operation Hours**—the City Beach Inspection Station will open later at 7am all season. **Prevention & Decontamination Station Upgrade**—WLI was awarded a Montana DNRC AIS grant to provide infrastructure needs for the Prevention & Decontamination site location at the City Beach Overflow Parking Lot. Task items include site improvements and a permanent building donated by Montana FWP. **Preparedness and Rapid Response Strategy**—includes a continued early detection and monitoring strategy for waterbodies, a management strategy for planning and prevention efforts, and a local response if AIS are detected. **Whitefish Lake Economic Analysis**—WLI received a Cadeau Foundation grant to study the economic impact of an AIS invasion to Whitefish and Flathead Lake.

## Whitefish Water Quality Monitoring Program

In 2006, WLI developed the Whitefish Water Quality Monitoring Program. The program, now in its 15<sup>th</sup> year, concentrates on Whitefish Lake and its six perennial tributaries, as well as Cow Creek, Haskill Creek, Walker Creek and the Upper Whitefish River. By consistently gathering physical, chemical, and biological data, WLI can gain a comprehensive understanding of local watershed processes. WLI can also compare seasonal and annual lake and tributary dynamics against an established baseline to identify long term trends to inform local and watershed level resource management decisions.

Every month from roughly April through November, WLI staff visit Whitefish Lake, nine area streams and the Whitefish River to collect (*continued on Page 3...*)

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*Back issues of LakeFront available at [www.whitefishlake.org](http://www.whitefishlake.org)*



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### *Founded in 2005*

*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 vision for tomorrow.*

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Cover Photo:

*Looking toward Whitefish Lake from  
the City of Whitefish.*

*Courtesy gravityshots.com*

## Volunteer Efforts Protect Montana's Lakes

For those of us who live, work or play on lakes, changes in lake conditions are becoming apparent. Increasing pressures on Montana's lakes from aquatic invasive species (AIS), climate change, recreation, and increased human development, highlight the need to gather consistent, accurate information on lakes. WLI has been a proponent of volunteer based water quality monitoring for over a decade, recognizing that citizen scientists build community awareness of pollution problems, become advocates for their lakes, and increase the amount of needed water-quality information.

WLI currently coordinates two volunteer lake monitoring programs, the Northwest Montana Lakes Volunteer Monitoring Network (NWMTLVMN) and the Upper Columbia Lakes Network (UCLN). Both programs support websites which serve as a clearing houses for program protocols, AIS resources and volunteer data forms.

The NWMTLVMN, [www.nwmtlvmn.org](http://www.nwmtlvmn.org) is a partnership between Montana Fish, Wildlife & Parks (MFWP) and WLI. Its mission is to recruit and train citizen scientist volunteers to monitor water quality, identify and report AIS, and promote watershed stewardship in northwest Montana. The program began in 2011 and currently has more than fifty volunteers that monitor a total of fifty-three locations on forty-one lakes in Flathead, Lake, Lincoln, and Missoula counties. Among the most important parameters monitored by the volunteers are water clarity, temperature, and the presence/absence of AIS. The project coordinator from WLI collects additional water quality data on each lake during the summer to help address the question of whether nutrients are on the rise due to anthropogenic activity around the lakes. Microscopy samples for AIS early detection monitoring are also collected at this time. In addition to being the primary source of lake data in northwest MT, our volunteers benefit their local lakes by playing key stewardship roles in their lake communities.

The UCLN, [www.ucln.net](http://www.ucln.net) is a new initiative that supports MFWP's statewide AIS early detection monitoring efforts by engaging additional lake groups and citizens. The UCLN program supports existing lake monitoring programs in the Montana portion of the upper Columbia region while incorporating new partner groups, adding to the volunteer base, and allowing more high priority lakes that are not currently sampled to be monitored. UCLN identifies interested groups within the region, provides equipment and training, including monitoring and decontamination protocols.

Volunteers are often the first people to get their boats in the water in the spring and the last to wrap up in the fall. WLI is grateful to the army of dedicated citizen scientists that are our eyes and ears on the ground, allowing us to understand and monitor lakes across a large geographical region. With their countless volunteer hours, we are gaining valuable information to help protect water quality and our fight against AIS so that we can adapt and inform lake and watershed management decisions.

(WLI's Water Quality Monitoring Program *continued from Page 1...*) physical water parameters using a Hydro-lab multiprobe and send water chemistry samples to the Flathead Lake Biological Station's Freshwater Research Laboratory for analysis.

WLI also conducts streamflow measurements on all its monitored streams and the Whitefish River. This involves measuring stream stage—the height of the water surface using a staff gauge. We also collect discharge measurements—the volume of water flowing in cubic feet per second (cfs). With these two measurements, we have developed a stage-discharge relationship to maintain a continuous discharge record providing useful streamflow information on our local streams.

The cumulative influences of development and other activities associated with increasing human population are of concern with respect to water quality in Whitefish Lake. Water quality changes over the past 30-40 years has resulted in the re-classification of Whitefish Lake from oligotrophic, which is the cleanest, clearest category for lakes, to oligo-mesotrophic, a slightly more nutrient impacted lake with more plant and algae growth.

The nearshore area is where the greatest and most visible impacts of human development first manifest in a lake. Shoreline development can remove much of the natural vegetation, reducing the cleansing and buffering capacity of this zone. Increased impervious surfaces such as roofs, sidewalks and driveways reduce water infiltration and often-times concentrate flow patterns that can lead to erosion and nutrient loading. Fertilizers, pesticides and other chemicals, along with septic leachate from aging systems further degrade the nearshore environment.

Changes in nearshore conditions at Whitefish Lake have become evident to both visitors and residents. Anecdotal accounts from a number of long-time Whitefish community members indicate that the rocks along the shoreline of the lake used to be crisp and clean. Now, most rocks appear greenish-grey and fuzzy due to attached algae. There is an increasing interest to determine and mitigate factors that contribute to the visual deterioration of water quality.

WLI hopes to expand the Whitefish Water Quality Monitoring Program, if funding can be secured, to include more shoreline areas to better describe changes to the lake and to promote best management practices. By partnering with the City of Whitefish and local citizens, we hope to promote best management practices and address potential issues before they develop into larger problems.

## Welcome New Board Member Mitch Robinson

WLI is excited to welcome Mitch Robinson to the board of directors. Mitch is a former resident of Edina, Minnesota, and San Diego, California, with long-standing ties to the great state of Montana.

Having completed his undergraduate studies at the University of Montana in 1984 he went on to earn his law degree from the University of San Diego in 1987. Mitch founded, managed and subsequently sold his law firms in San Diego in 1997 and Minneapolis in 2019.



*Mitch Robinson*

After successfully launching two children into adulthood, the beauty of Montana and its opportunities motivated Mitch, his wife Jennifer, and young son Brooks, to relocate to the Flathead Valley in 2019 where they have owned a home since 2016. Mitch and Jennifer are Montana Real Estate Professionals working with Glacier Sotheby's International Realty in Whitefish.

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## Ripple Effect Scholarship Recipients

WLI offers a \$500 scholarship for tuition to a high school student as they enter college. Applicants for the scholarship must express their intent to major in a field related to water quality, such as biology, ecology, environmental science/ studies, hydrology, limnology, or other approved by WLI. This year, WLI is proud to award a scholarship to three recipients and wish them the best of luck on their educational journey.

### *Sam Menicke*

Sam will attend Macalester College and plans to major in Environmental Science with a minor in Biochemistry.

### *Casey Schneider*

Casey will attend Montana State University where he plans to major in Environmental Science or Environmental Engineering.

### *Colter Upton*

Colter will attend either Montana State University or Washington State University and major in Environmental Science or Wildlife Biology.

## Spring Photos



*Cynthia Ingelfinger trained new volunteers and groups to participate in the Upper Columbia Lakes Network last fall. Training that was scheduled this spring is COVID-19 postponed.*



*Mike Koopal samples Beaver Creek, a tributary to Whitefish Lake. Although small in size, Beaver Creek contributes a relatively high nitrogen load to Whitefish Lake.*



*Cynthia Ingelfinger measures the Whitefish River discharge in cubic feet per second. WLI has established a stage height to discharge relationship for all local streams. This allows WLI to accurately estimate annual total discharge by a stream.*



*The Lazy Creek staff gauge and stilling well that houses a pressure transducer continuously measures stream level. Local lowland streams like Lazy Creek, Cow Creek, and Walker Creek typically see peak discharge in late April.*



*On April 29th, Montana Fish, Wildlife & Parks donated and delivered a watercraft inspection station for use at the Whitefish AIS Prevention and Decontamination Station.*



*WLI received a Montana Department of Natural Resources and Conservation AIS grant for costs associated with station site and infrastructure improvements. Work is scheduled to start in May.*

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# Whitefish Lake INSTITUTE

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