
2024-2025
ANNUAL REPORT
125
Anniversary
1899
2024
FLATHEAD LAKE
BIO STATION
UNIVERSITY OF
MONTANA

Greetings from FLBS!

In early 2024, we launched ***FLBS125: An Anniversary Initiative*** to commemorate the Bio Station's 125th year of advancing world-class aquatic research, monitoring, education, and outreach from the shores of Flathead Lake. Little did we know how truly remarkable our 125th anniversary would be.

It was a year that included many memorable accomplishments, recognitions, and events that were often accompanied with superlatives like *MOST*, *LARGEST*, and *BEST*. We are excited to highlight a number of these wonderful achievements, which you can read about in greater detail in the following pages.

In 2024—a year in which FLBS had an all-time high 40 full-time employees on payroll—FLBS scientists received two of the station's largest research grants ever, a $9.5 million grant from Schmidt Sciences Ocean Biogeochemistry Virtual Institute to FLBS Microbial Aquatic Ecology Professor **Matt Church** and a $6.6 million grant from the EPA to FLBS Research Assistant Professor **Rachel Malison**. Together, these grants will fund important aquatic research from the renowned streams and lakes of Montana to the deepest depths of the world's oceans.

Our excellent FLBS researchers also received international and regional recognitions in 2024. FLBS Stream Ecology Professor **Bob Hall** was named a Fellow of the Society for Freshwater Science, and FLBS AIS Specialist **Phil Matson** received the Flathead Lakers Stewardship Award.

During the 2024 FLBS Summer Session, which is deftly overseen by FLBS Summer Session Program Manager **Hannah Gerhard**, students representing an all-time high 32 different universities from across the US attended courses at FLBS. Thanks to the generosity of our Bio Station community, these students benefited from a record $95,500 in scholarships. Philanthropic investment also helped support our four PhD students who graduated in 2024, the most ever in a single year.

Over the past year, the FLBS Flathead Lake Aquatic Research and Education (FLARE) K-12 program hosted more young learners than ever before. Nearly 1100 students had the opportunity to engage in interactive science education through field trips to FLBS, and FLBS educators interacted with over 2000 additional students during classroom visits, after-school programs, and community activities. We also had the good fortune of welcoming our new FLBS Education Coordinator **Kelly Minear**, who joins FLBS Education Liaison **Monica Elser** in spearheading our impactful interactions with K-12 students and their teachers in western Montana.

A recent public opinion survey conducted by Salish Kootenai College and the University of Minnesota named the Bio Station the most trusted information source about water in the Flathead region. This degree of trust is something that we do not take lightly as we strive to sustain the world-renowned water quality and healthy aquatic ecosystems of the Flathead Watershed—both of which are rare, priceless public resources and primary drivers of the region's economy.

In addition to celebrating our 125th anniversary, ***FLBS125: An Anniversary Initiative*** also entails a multi-year fundraising effort to benefit the future of our waters, students, and communities through impactful support in five areas: Monitoring our Waters; Aquatic Research and Professorships; Facilities Modernization; Advancing K-12 Education; and Investing in Student Success. We are overwhelmed to announce that by the end of 2024, our **Bio Station community had already contributed over $8.5 million towards our FLBS125 goal of $12.5 million, including a record-breaking $3.5 million raised in 2024 alone!**

This past year has truly been one for the record books. We are deeply grateful for the powerful role our generous community has played in making our 125th anniversary our busiest, biggest, and best year to date. Bio Station researchers, educators, students, and staff are more inspired and committed than ever to sustain and protect the vital waters of our state, country, and world. Through your support, we can rise to the challenges of the future and continue our journey as a world-class aquatic biological station for the next 125 years, keeping our waters blue for generations to come!

Thank you for helping to make 2024 our biggest year ever!

Grateful for our Bio Station Community!

EPA Press Conference Features FLBS Pesticide Program

In 2024, FLBS hosted a press conference featuring the Environmental Protection Agency's (EPA) Toxic Reduction Lead Grants awarded to FLBS and the Western Montana Conservation Commission. The conference highlighted the funding of the FLBS Montana Pesticide Stewardship Partnership Program, which aims to establish a robust network of organizations and individuals, facilitating communication to make the strongest impact in protecting the waters of the Upper Columbia River basin.

Community Investment Making an Impact on FLBS

The community of Polson, MT played a pivotal role in supporting FLBS student opportunities in 2024. The Polson Rotary Club created a new Polson Rotary Scholarship to benefit future FLBS summer college students, and the Greater Polson Community Foundation provided critical funding to the FLBS FLARE K-12 Program that will enrich immersive education experiences for local K-12 students and educators. We are deeply grateful for the continued investment, generosity, and support from our local communities.

Owl Research Institute Continues Monitoring at FLBS

In the fall of 2024, the Owl Research Institute (ORI) continued an impactful long-term Saw-whet Owl migration study at FLBS. ORI scientists captured 210 owls, up from 180 owls banded in the 2023 season. The team also introduced over 150 members of the public to the wonders of wild owls through a public Visitor Nights program, providing attendees a front row seat to the significant research being done to advance understanding about Montana's owl populations.

FLBS 4th of July Parade Float Earns Third-Place Prize

To help commemorate the Bio Station's 125th anniversary, 2024 FLBS Marketing Intern Esme Yarbrough and a team of FLBS interns, scientists, staff, and family earned a third-place recognition for their FLBS125 Anniversary Initiative-themed float during the Bigfork Chamber of Commerce's 4th of July Parade celebration in Bigfork, MT!

IN THIS ISSUE

**Point your phone's camera at the QR code above, tap the link notification that appears on your screen, and view your 2024 FLBS Holiday Card to learn why 2024 was a year to remember at FLBS!*

FLBS Awarded $9.5 Million Grant to Help Advance Understanding of Ocean Systems in a Changing World

A new research project led by FLBS is expanding the impact of the Bio Station's renowned expertise beyond the Flathead Watershed and into the depths of the ocean.

Dubbed SUBSEA—which stands for Subtropical Underwater Biogeochemistry and Subsurface Export Alliance—the project is one of five global science and technology projects selected by the Schmidt Sciences Ocean Biogeochemistry Virtual Institute (OBVI), which aims to address gaps in ocean data and modeling efforts by improving the breadth of research and expanding the capacity to understand ocean resources.

Led by FLBS Aquatic Microbial Ecology Professor Matt Church and FLBS Stream Ecology Professor Bob Hall, the international SUBSEA research team will spend the next five years working to refine details of ocean carbon cycling and ecosystem resilience.

Specifically, the team will focus on subtropical ocean gyres. Defined as large, circular currents propelled by wind and the Earth's rotation, subtropical ocean gyres are some of the largest ecosystems on Earth. Algal production in these gyres consumes significant amounts of carbon dioxide, and sinking of these algal cells moves large quantities of carbon to the deep sea.

The SUBSEA project will examine how marine organisms in the photic zone—the area from sea surface to approximately 200 meters below the surface—affect the gyres' absorption and circulation of carbon dioxide from the North Pacific to the South Atlantic.

While scientists currently have a broad understanding of how the ocean is the largest driver of the Earth's climate, the project aims to improve knowledge of the processes that govern carbon cycling and storage in the ocean, connections between carbon and other elemental cycles, and the roles that marine microbes and animals play in shaping those relationships.

In addition to the $9.5 million grant, which is the largest in the Bio Station's 125-year history, the research team will receive access to the OBVI research vessel, the ***Falkor (too).*** They will receive expert shipboard assistance to tackle the challenges associated with collecting large amounts of biological, chemical, geological and physical oceanography data.

This data will help the team develop accurate modeling across ocean systems to address ocean processes in climate projections and mitigation.

FLBS Named Most Trusted Source of Information about our Waters

FLBS was voted the most trusted information source about our waters by 84% of Northwest Montana residents who took part in Community Relationships with Water in the Flathead River Valley—a public survey conducted by the University of Minnesota's Center for Changing Landscapes and Salish Kootenai College. Additional top trusted information sources revealed by the survey included family members (80%), university research and extension programs (81%), Montana Fish, Wildlife & Parks (80%), Montana Department of Natural Resources and Conservation (80%), and the Confederated Salish Kootenai Tribes Natural Resource Department (77%).

FLBS and Karuk Tribe Study Finds Presence of Toxin-Producing Cyanobacteria in Rivers Higher than Previously Thought

In a study published in the scientific journal, *Freshwater Science*, a team of scientists led by 2024 FLBS PhD graduate Laurel Genzoli worked in close partnership with the Karuk Tribe to increase understanding of toxin-producing cyanobacteria found in lake and river bottoms by surveying sites within the Klamath River Watershed in Northern California.

Utilizing visual surveys, cyanobacteria-dominated mat samples, and water samples, the scientists were able to quantify benthic cyanobacteria (also known as blue-green algae) and the extent of the production of anatoxins—potent neurotoxins that are harmful to animals. The resulting data revealed a widespread prevalence of anatoxins throughout the middle and lower Klamath Watershed, adding to a growing body of evidence that anatoxins from benthic cyanobacteria may be more common than previously thought.

Interestingly, sites with higher apparent water quality—including clear, low-nutrient tributaries—supported anatoxin concentrations as high as, and in some cases higher than, the nutrient-polluted mainstem of the Klamath River.

One of the biggest takeaways for scientists was that the widespread detection of anatoxins from benthic cyanobacteria in this study and previous work suggests that benthic habitats, even in large rivers, can drive ecological processes relevant to public health.

Blooms of toxin-producing cyanobacteria are an enduring public health threat in lakes and rivers around the world. When ingested, cyanobacterial toxins can cause illness and even death to humans, livestock, pets, and wildlife. Anatoxins are of particular concern because they are neurotoxins that act very quickly. While reports of human illness from anatoxins are rare, if ingested in large quantities they can cause convulsions, paralysis, and death from respiratory failure.

However, cyanobacteria are a natural part of river and stream ecosystems, and in small quantities are not a public health concern. Additionally, scientists aren't sure if high levels of anatoxin-producing benthic cyanobacteria in rivers have been around for a long time, or if they are a more recent phenomenon. Additional research is needed to better understand and predict changes in benthic anatoxins that affect the health of the public, wildlife, and ecosystems associated with freshwater streams and rivers.

FLBS Professor Bob Hall Named Fellow of the Society for Freshwater Science

In 2024, the Society for Freshwater Science (SFS) named FLBS stream ecology professor Bob Hall a Fellow of the Society for Freshwater Science. The Society for Freshwater Science is a premier international organization of aquatic scientists. SFS Fellows are leaders in their disciplines who have dedicated substantial time and resources to benefit the field of freshwater science and the Society.

Hall's current research links geomorphology to stream metabolism and nitrogen cycling, time-series analyses of river metabolism, food webs, isotope tracers, statistical modeling, and dissolved organic and inorganic carbon dynamics in rivers. He is a lead researcher at FLBS's renowned long-term river research site, the Nyack floodplain of the Middle Fork Flathead River.

Alongside his excellence in research and substantial contributions to freshwater science, colleagues cite Hall's collaborative spirit and widespread generosity in mentorship, and credit these for his influence in fostering the next generation of freshwater scientists.

His teaching portfolio includes a field-based summer course on stream ecology taught on the Middle Fork Flathead, and a graduate course on ecological models and data. Additionally, Hall trains young scientists, serving as a supervisor of summer interns at FLBS and advising PhD and Masters students through the Ecology and Evolution program at UM, where he is currently the program's director.

With his selection, Hall joins previous Society for Freshwater Science Fellows FLBS professor emeritus Ric Hauer and former FLBS director and professor emeritus Jack Stanford.

125 Anniversary
1899 2024
FLATHEAD LAKE BIO STATION
UNIVERSITY OF MONTANA

In 2024, we formally announced *FLBS125: An Anniversary Initiative* to commemorate the Bio Station's 125th anniversary advancing world-class research, monitoring, education, and outreach for cutting-edge aquatic science. This initiative included many wonderful celebratory events, culminating in a tremendous FLBS125 Anniversary Open House. ***FLBS125: An Anniversary Initiative*** also includes a multi-year fundraising effort to benefit the future of our waters by building impactful support in five major areas at FLBS: Aquatic Research and Professorships; Monitoring our Waters; Facility Modernization; Advancing K-12 Education Opportunities; and Investing in Student Success at the College Level.

Thanks to your overwhelming generosity, we are excited to announce that **FLBS received a record-breaking $3.5 million** in philanthropic support in 2024. **By the end of 2024, we raised over $8.5 million toward our current FLBS125 fundraising goal of $12.5 million!**

May 2024 - Gathering for FLBS Education Opportunities

Graciously hosted by Andy's Crafthouse in Bigfork, MT, with additional complimentary beverages provided by Ronan Co-op Brewery, the dinner to benefit FLBS education programs made for a truly wonderful evening highlighting past, present, and future impacts of FLBS education programs.

March 2024 - Gathering for FLBS Monitoring Programs

Generously hosted by Harbor Grille in Lakeside, MT, the evening of philanthropy was filled with incredible food, warm conversation, and meaningful shared memories highlighting the foundational importance the waters of the Flathead have on all of our lives.

July 2024 - Flathead Lake Run

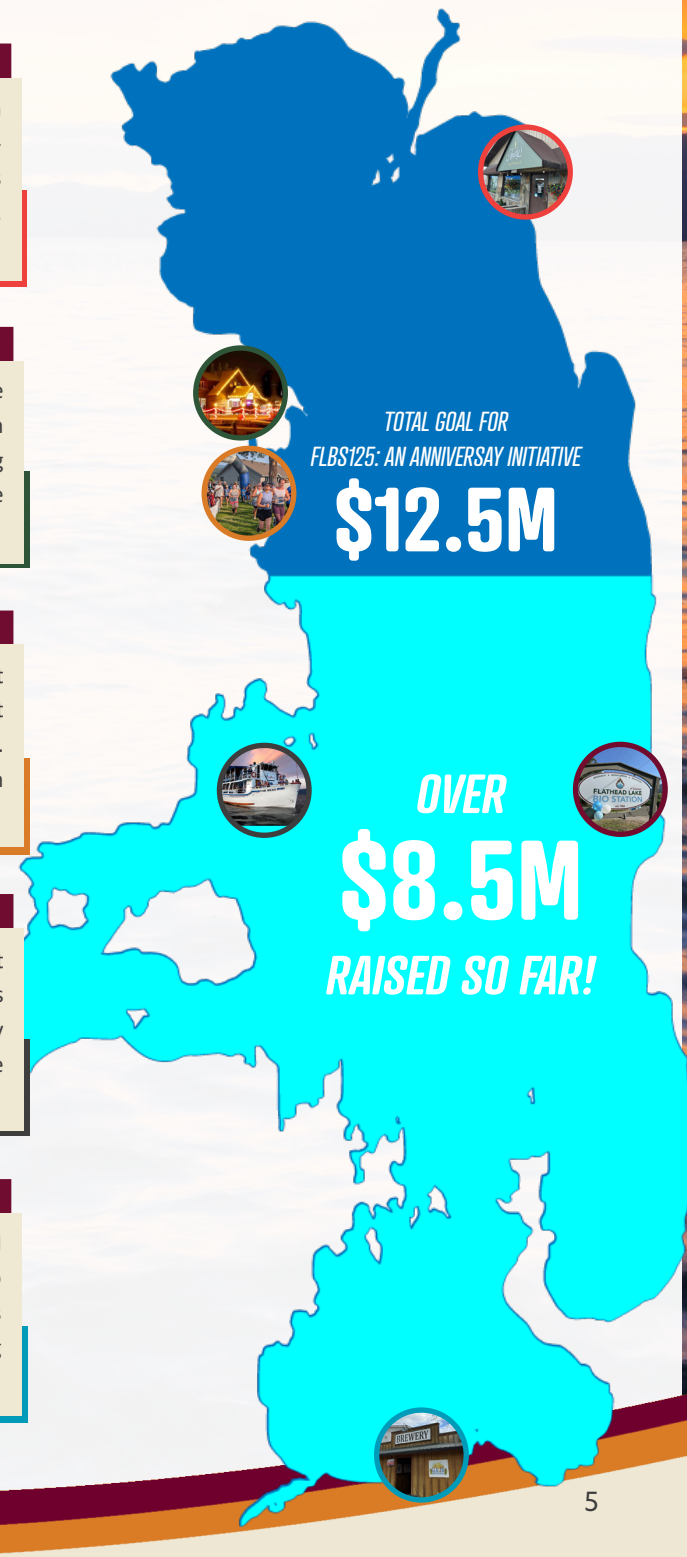
The Flathead Lake Run is an annual family-friendly event hosted by the Lakeside-Somers Chamber of Commerce that supports the preservation and protection of Flathead Lake. For the second consecutive year, a portion of proceeds from the run was generously donated to FLBS.

July 2024 - FLBS125 Research Cruise

With the support of Flathead Harbor at Lakeside and Far West Boat Tours, the FLBS125 Research Cruise provided attendees the opportunity to cruise Flathead Lake, converse directly with FLBS researchers, learn about FLBS programs, and raise critical funding for the modernization of FLBS facilities.

April 2024 - Brewery Bingo to Benefit FLBS

FLBS and Glacier Brewing Company in Polson, MT partnered to co-host four Bio Station Bingo Nights in April 2024 to connect with our local community, celebrate the Bio Station's anniversary, and raise funds for FLBS research and monitoring programs in the Flathead Watershed.



FLBS125 Anniversary Open House:

An Anniversary Celebration 125 Years in the Making

The Flathead Lake Bio Station's 125th anniversary celebrations culminated in 2024 with a special FLBS125 Anniversary Open House. This commemorative event provided an excellent opportunity for FLBS scientists, educators, interns, and more to meet and engage with attendees. Complimentary food and live music set the stage for a warm and welcoming atmosphere, while former and current FLBS directors highlighted the impactful past, present, and future of FLBS.

Throughout the day-long event, visitors had the opportunity to partake in family-friendly science activities, learn about the many ways FLBS scientists are working to address the potential threats to our waters, and enjoy boat tours aboard the *Jessie B.* research vessel. Special guests and FLBS collaborators were also on-hand to help create an interactive and educational experience filled with sunshine, science, and fun on the shores of Flathead Lake.

After 125 years, we cherish every opportunity to connect with our Bio Station community, and look forward to continuing our role as your world-renowned biological station on the shores of Flathead Lake for the next 125 years and beyond. Be sure to mark those calendars for the next FLBS Open House, coming your way Friday, August 8, 2025!

Local Communities Vote FLBS Among the Best

In 2024, FLBS was voted Best Social Media to Follow, Runner-Up Best Attraction, and Third Best Place to Take a Visitor in the *Lake County Leader's* 2024 Best of Lake County competition. FLBS was also voted Runner-Up Best Social Media to Follow in Bigfork, MT in the *Bigfork Eagle's* 2024 Best of Bigfork competition.

Look for us on Social Media!

406.872.4500

flbs@flbs.umt.edu

https://flbs.umt.edu

Cutting-Edge Innovation on the Front Lines of AIS Prevention and Mitigation

Now in its eighth consecutive year partnering with the Confederated Salish and Kootenai Tribes and working closely with Montana Fish, Wildlife & Parks, the FLBS Aquatic Invasive Species (AIS) program successfully completed a wide range of AIS prevention activities to expand the effectiveness of one of Montana's most important lines of AIS defense—early detection.

Led by FLBS AIS specialist Phil Matson, the FLBS AIS team completed three rounds of early detection sampling for zebra and quagga mussels at 31 different sites on Flathead Lake and six additional Flathead Watershed lakes.

All samples collected by FLBS have either already been processed by researchers at state and Bio Station laboratories. To date, none of the processed samples have tested positive for the presence of invasive mussels or their DNA.

In addition to sampling, the FLBS AIS Program hosted an AIS identification and surveillance training in conjunction with FWP and the US Geological Survey, focusing on the use of environmental DNA for early detection.

The training was attended by representatives from federal, tribal, and state agencies and local watershed associations. Attendees benefited from learning native and non-native aquatic species identification and collection techniques including early detection sampling for environmental DNA.

During the training, a new rapid detection technology called Loop-mediated isothermal amplification (LAMP) was presented. Point of use technology like LAMP allows its user to obtain presence or absence results at the sample site rather than leaving the site and waiting weeks before knowing the test results. Knowing whether or not to continue sampling or move on to a new spot enhances early detection capabilities and helps make management decisions timelier and much more efficient.

After nearly a decade helping to prevent the spread of AIS in Montana's waters, Matson's continued efforts have not gone unnoticed. Recently, Matson joined FLBS Director Jim Elser as representatives on the newly formed Western Montana Conservation Commission, a State of Montana organization that facilitates coordination between resource managers to best sustain and protect water quality and water resources across western Montana.

While AIS boat inspections have done a great job decreasing the threat from out-of-state boaters in Montana, neighboring states haven't been so lucky. In recent years, invasive mussels have been detected in Idaho, South Dakota, and Colorado. Montana remains fortunate that a mussel-infested boat hasn't slipped through and introduced invasive mussels into our waters yet, which is why continued collaboration and vigilance is vital to the long-term success of Montana's invasive mussel prevention.

Tax Savvy Ways to Support FLBS!

For more information, contact: **Alison Schultz**
UM Foundation Sr. Dir. of Planned Giving
Phone: **406-243-7449** *Email:* **alison.schultz@supportum.org**

Qualified Endowment Credit (Commonly referred to as the Montana Endowment Tax Credit)

- In addition to receiving a federal income tax charitable deduction, Montana taxpayers who make a qualifying gift to support FLBS may be eligible to receive a state tax credit of up to $15,000 per individual or $30,000 per couple.

Tax ***deductions*** lower your taxable income. Tax ***credits*** provide a dollar-for-dollar reduction of your state income tax liability. This means that a $15,000 tax credit saves you $15,000 in taxes.

Qualified Charitable Distributions – *New Limits for 2025!*

Generally, for those 70 ½ or older, up to $108,000 can be transferred directly from your traditional individual retirement account to support the FLBS in 2025. Amounts given in this way are not counted as income for federal income tax purposes, making this a tax-efficient way to give.

Giving in these ways is easy to do, and we are here to help!

"Empowering students with the thought that they can be protectors of our natural resources for generations to come is always a joy. It's inspiring to know they take our messages about protecting our waters to heart."

Phil Matson
FLBS AIS Specialist

FLBS AIS Specialist Phil Matson Receives Flathead Lakers Stewardship Award

In 2024, FLBS Aquatic Invasive Species (AIS) Specialist Phil Matson received the prestigious Flathead Lakers Stewardship Award during the Flathead Lakers Annual Meeting in Polson, MT. The Flathead Lakers Stewardship Award is given in recognition of those who demonstrate extraordinary achievements in their work to protect Flathead Lake and its watershed.

Matson oversees the FLBS AIS monitoring efforts, and is the Geographic Information System database manager for the Crown Managers Partnership (CMP). He is also involved in the CMP Large Landscape Conservation Design project; maintains a network of long-term environmental sensors on the Middle Fork Flathead River and on Flathead Lake; assists in the long-term Flathead Monitoring Program; and engages in various education outreach programs to local schools, student groups, and the general public.

From the Archives:
The Lasting Legacy of an FLBS Alum

In the summer of 1921, a young woman named Jessie Bierman stepped off a steamship and onto the shores of the FLBS campus. Born and raised near Kalispell, Bierman was eager to spend her summer researching and studying ecology in the Flathead Watershed.

Her experiences at the Bio Station sparked a passion for biology that would eventually take her into the field of public health. Upon receiving her degree from the University of Montana, she would go on to obtain a medical degree from University of Chicago, and return to Montana to serve as the Director of Maternal and Child Health in the Montana Department of Health.

Under her direction, Montana launched a series of well-baby clinics throughout the state that were dedicated specifically to prenatal and postnatal healthcare. Later, Bierman advanced maternal and pediatric care internationally, serving as the head of the maternal and child care bureau for the World Health Organization in Switzerland.

Today, Bierman is recognized as a trailblazing pioneer in maternal and pediatric care in underprivileged communities. Her research was among the first of its kind to examine the impacts that cultural and societal factors have on pregnancy, childbirth, and postnatal care for both mother and child. Her contributions played a significant role in the reduction of maternal death rates and infant mortality rates nationwide.

At FLBS, the Bio Station's 30-foot research vessel, the *Jessie B.*, is named after Bierman, and the Jessie M. Bierman Professorship in Ecology currently held by FLBS Director Jim Elser was the first endowed professorship at FLBS. Additionally, the Bierman Research Scholars program provides financial support for FLBS graduate students and postdoctoral scholars who are working to blaze their own trails of innovation and discovery as students and alumni of FLBS.

FLBS Research Vessels Through the Years...

The *Missoula*
c. early-1900s

The *Daphnia*
c. 1960

FLBS alum Jessie Bierman christens her namesake, the *Jessie B.*
c. 1989

Students embark on a day of sampling aboard the *Jessie B.*
c. 2018

FLBS Monitoring Continues to Play Vital Role in Protecting Montana Waters

Overseen by FLBS professor Matt Church, the Bio Station's long-term Flathead Monitoring Program (FMP) is honored to report after another year of rigorous monitoring, Flathead, Whitefish, and Swan Lakes all remain clean, clear, and blue. While threats to water quality in the Flathead remain, scientists like FLBS Research Scientist Tyler Tappenbeck and the FMP team continue to play a vital role as the first line of defense against the degradation of our pristine waters and impacts to the fish and wildlife that depend upon our healthy ecosystems.

Since 1977, the program's flagship activities have included monitoring and research on Flathead Lake, monitoring of Whitefish Lake, tracking nutrient inputs to our waters, and conducting river and floodplain research on the Middle Fork Flathead River.

These activities have uncovered dramatic changes in Flathead Lake's community following the arrival of *Mysis* shrimp, documented the importance of free-flowing rivers and intact floodplains for fish and wildlife, and resulted in significant conservation successes such as a ban of phosphorus detergents, the upgrade of sewage treatment systems, and prevention of mining along the North Fork Flathead River.

FLBS scientists once again produced a number of significant water quality-related accomplishments this year. These accomplishments included the continued growth and development of the Bio Station's Monitoring Montana Waters program, and the first impactful year of the FLBS Pesticide Stewardship Partnership Program.

Additionally, long-term research and monitoring in the Elk-Kootenai River watershed played a prominant role in a historic agreement between U.S. and Canadian federal governments to ask for International Joint Commission intervention to protect US waters from transboundary mine pollution.

Though the Flathead Watershed continues to be free from impacts of widespread nutrient pollution that are degrading almost all other freshwater lakes and rivers around the world, we need to be more vigilant and collaborative than ever to ensure the health of our waters.

FMP is largely funded through philanthropic investment, and your support remains the driving force sustaining our ability to keep watch over our waters. Support from our FLBS community has strengthened our ability to monitor, understand, and protect Flathead Lake, its watershed, and waters across Montana for future generations.

Monitoring Montana Waters Expands Impact in 2024

The FLBS Monitoring Montana Waters (MMW) team had another busy year in 2024. In addition to dedicating time, personnel, and funding to assist citizen-led water quality monitoring in Montana, MMW took part in a tour of Montana watersheds to share, learn, and network while engaging on-the-ground projects that demonstrate the unique resources, challenges, and diverse conservation partnership strategies.

During one stop, MMW joined the Montana Watershed Coordination Council and Sun River Watershed Group to discuss challenges and highlight the importance of scientifically sound citizen science water quality monitoring.

In addition to the 2024 Watershed Tour, MMW welcomed in a group of 16 incoming first year students from the University of Montana to Yellow Bay. The MMW team engaged students in stream macroinvertebrate sampling at Yellow Bay Creek. The group received hands-on experience collecting and identifying macroinvertebrates in the morning, and spent the afternoon learning about MMW and the importance of volunteer water quality monitoring in the state of Montana.

Montana's waters are world-renowned for their beauty, clarity and wild nature. MMW is honored to play a part in helping Montana better detect environmental changes and pollutants through the collection of scientifically sound and credible data.

Photos from the Field: FLBS Monitoring Examines Transboundary Mining Impacts

FLBS research associate Danie Frevola and FLBS senior scientist Erin Sexton embarked on a 3-year monitoring program in the headwaters of the Elk and Flathead watersheds in 2024, replicating a study completed by Sexton and others in the early 2000s. The program consists of sampling 23 monitoring sites on mine impacted and unimpacted rivers and tributaries once each month from June through October. Samples are analyzed for a suite of nutrients and metals (including selenium). Insects and algae are also sampled from a subset of sites to be analyzed for metals and identified to determine community composition.

Replicating the original study will provide an opportunity to determine any changes in toxic pollutants from historic and on-going mining activities, characterize existing levels in toxic pollutants, quantify changes in mine-sourced pollutants over a 15-year period, and highlight future gaps in the basin for future data collection. This project is being done in close collaboration with the transboundary Ktunaxa Nation, and with the full support of the Confederated Salish and Kootenai Tribes.

FLBS Named Lakeside-Somers Chamber of Commerce 2024 Business of the Year

FLBS was honored to receive the 2024 Chamber Business of the Year Award during the Lakeside-Somers Chamber of Commerce's 16th Annual Captain's Celebration at the beautiful Somers Mansion in Somers, MT. Our FLBS team had a wonderful time celebrating and connecting with our fellow Lakeside-Somers Chamber members throughout a truly remarkable evening. A tremendous thank you to the Lakeside-Somers Chamber of Commerce for this incredible honor and for hosting such an amazing event. The passion of our local communities to sustain our pristine waters is at the very heart of all that we accomplish.

FLBS Cabin Sponsorship Opportunity

For more information, contact: **Tom Bansak**
FLBS Associate Director
Email: **tom.bansak@flbs.umt.edu**

You can help invest in the future of FLBS facilities and infrastructure by sponsoring one of the Bio Station's 40 historic residential cabins through the ***FLBS Cabin Sponsorship Program****. Montana residents can take advantage of the generous tax benefits associated with the* ***Montana Endowment Tax Credit*** *by investing in the FLBS Facilities Endowment.*

FLARE K-12 Program Engages More Students and Teachers than Ever Before

In 2024, the FLBS Flathead Lake Aquatic Research Education (FLARE) K-12 Program completed its busiest year to date. More than 1000 students visited FLBS through in-person class field trips, and the program engaged nearly 2000 additional students through a variety of activities that included the powwows, local school science nights, and more.

Funded entirely through philanthropic support, and led by FLBS education liaison Monica Elser, the FLARE K-12 Program experienced continued traditions and exciting new beginnings in 2024, including the arrival of FLBS education coordinator Kelly Minear.

Additionally, the program embarked on a new partnership with the Boy Scouts of America Camp on Melita Island. This collaboration brought high school-aged scouts from across the country to FLBS for immersive science education experiences during the summer months. FLARE K-12 educators also helped host students taking part in the University of Montana's summer experience opportunities.

With the help of 2024 FLBS Big Sky Watershed Corps member Shane Urban, who provided essential educational programming to students across the Flathead Watershed, FLARE K-12 once again partnered with educators from the Confederated Salish and Kootenai Tribes, the Flathead Lakers, and Montana State Parks to increase invasive mussel awareness through four Mussel Walk events. Utilizing Aquatic Invasive Species curriculum that FLARE K-12 educators helped create and pilot, the Mussel Walk culminated in hands-on learning activities with over 200 middle school students on the shores of Flathead and Whitefish Lakes.

FLARE K-12 educators also worked with Montana State Parks to expand on a successful table talk program for kids and families around Flathead Lake, and partnered with the Flathead Community of Resource Educators to host a teacher workshop entitled "Learning by the Lake" in the fall. This workshop included FLBS-developed dynamic equilibrium beach curricula that teachers were able to immediately implement in their classrooms.

As we look to the future of K-12 education at FLBS, the popularity of the program has never been higher, and opportunities to collaborate with the program are filling up fast. If you are a K-12 educator and are interested in working with the FLBS FLARE K-12 program, visit the FLBS website and contact our FLARE K-12 educators today.

Introducing FLBS Education Coordinator Kelly Minear

Growing up in Iowa, Kelly Minear attended Loras College where she received her B.A. in English literature and secondary education. After accepting an AmeriCorps position with Montana State Parks, Kelly fell in love with the area. She later taught at The Glacier Institute, educating guests about the Crown of the Continent ecosystem.

Kelly is thrilled to join FLBS as the new education coordinator. She's excited to learn from the dedicated researchers at the Bio Station, pass along their knowledge to local students, encourage the protection of local lakes and rivers, and open doors to potential career opportunities for area youth. When she isn't educating local students or teachers at FLBS, Kelly can be found reading literary classics, running, skiing, and eating copious amounts of ice cream.

Are you interested in learning more about the FLBS FLARE K-12 Program? Contact Kelly by email at kelly.minear@flbs.umt.edu.

Philanthropic Support a Difference-Maker for the Development of Scientists at FLBS

Philanthropic investment helped support four PhD students who graduated in 2024, the most PhD students ever to graduate in a single year at FLBS.

Kate Evans, PhD
Biogeochemist

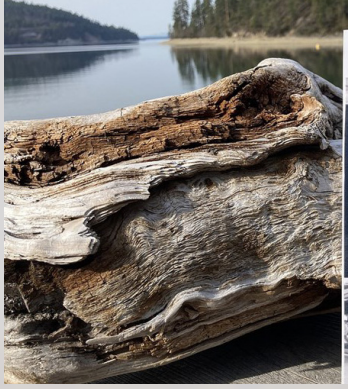
Laurel Genzoli, PhD
Aquatic Ecologist

Sam Pannoni, PhD
Microbiologist

Joe Vanderwall, PhD
Natural Resource Manager

A Home for the Future of Aquatic Science and Education

All areas of the FLBS mission depend upon the quality, functionality, and safety of our facilities. Though rustically endearing, the aging facilities at FLBS highlight a growing need for infrastructure investment and modernization. With your help, we can make new facilities like the **Flathead Discovery Center** a reality for our ever-expanding education programs, accommodate increased productivity of a growing research staff, and support critical administration for sustainability of operations.



From the Archives:
Honoring a Legacy of Learning at FLBS

In the early 1900s, when University of Montana scientists were first exploring and conducting research at FLBS, they had plenty of hypotheses about the vast and breathtaking Crown of the Continent. But in spite of their academic training and credentials, they had very little practical knowledge of the indigenous plants and animals of Northwest Montana.

To get them up to speed, they needed the expertise and educational generosity of the Native Americans who were living in the Flathead Watershed long before any University of Montana researcher first stepped on Flathead Lake's shores. One of the most prominent educators of early UM scientists was Lassaw Red Horn. A revered elder of the Q̓ispé (Pend d'Oreille) tribe, in the early 1900s Red Horn provided critical information to FLBS researchers about regional plants and animals and their medicinal and cultural uses.

Red Horn was highly respected and appreciated by FLBS scientists for his generosity in sharing his extensive knowledge, and he was often invited to FLBS to consult on scientific studies. Red Horn's impact on Montana science, culture, and history is so great that Montana State University's Museum of the Rockies—world-renowned for its vast collection of one-of-a-kind dinosaur fossils—considers a shirt worn by Red Horn to be among its most treasured items.

Today, the relationship between the Confederated Salish and Kootenai Tribes (CSKT) and FLBS carries on, as CSKT researchers and managers frequently work side by side with FLBS scientists. This collaborative effort to understand and protect the ecosystems of the Flathead includes conducting Aquatic Invasive Species (AIS) monitoring and joint research projects, such as the investigation of mercury levels in the fishes of Flathead Lake.

FLBS Facilities Through the Years...

Original Laboratory
c. early-1900s

Old Brick Laboratory
c. 1950s

Newly Constructed Elrod Laboratory Building
c. 1967

Elrod Building after remodel
c. 2012

FLBS Celebrates Record-Breaking Year for 2024 Student Opportunities

For 125 years, FLBS has offered an immersive, world-class education in the Flathead Watershed. In 2024, students from an all-time high 32 universities attended the FLBS summer program, where they had the opportunity to take one or more of our immersive, field-based ecology courses. The 2024 course offerings featured place-based educational experiences that included outings to Wild Horse Island, midnight Flathead Lake samplings, whitewater rafting down the Middle Fork Flathead River, and more.

Overseen by FLBS summer session program manager Hannah Gerhard—with support from 2024 summer session assistants Sebastian Driver, Emma Little, and Kylie Marks—the FLBS 2024 summer courses offered students hands-on learning and real-world research opportunities alongside world-renowned FLBS scientists through overnight field trips to Glacier National Park and other ecologically significant locations.

We are extremely honored to announce that over $95,000 in philanthropically-funded scholarships were awarded to 2024 FLBS students, which covered the costs of nearly 50% of summer student fees. Many of these financial awards are possible thanks in large part to the named and endowed scholarships created by our generous Bio Station community, which continues to play a vital role in expanding access to FLBS courses for college students in Montana and throughout the country.

In addition to our summer academic program, FLBS hosted twelve interdisciplinary interns from Montana and around the nation. FLBS internship opportunities are also made possible through philanthropic support, and each intern played a crucial part in advancing all areas of the Bio Station's mission, leaving a lasting and positive impact on FLBS research, monitoring, education, and outreach for years to come.

From the Archives:
Providing World-Class Education for 125 Years

The *Klondike* steamship drops off students and scientists for a summer of research and education at FLBS (c. 1914).

FLBS students take a break during an immersive field trip while attending summer courses at FLBS (c. 1930).

FLBS Mammology students packing up to depart Camas Creek in Glacier National Park during a summer course field trip (c. 1953).

FLBS students and scientists analyze water samples in newly constructed Elrod Laboratory Building at Yellow Bay (c. 1967).

FLBS students and scientists collecting samples during a field trip to Glacier National Park (c. 1987).

Former FLBS director Jack Stanford leads Field Ecology students on a field trip through Glacier National Park (c. 2008).

FLBS Aquatic Microbial Ecology students hop aboard the *Jessie B.* to learn about foundational organisms of the Flathead Lake food web (c. 2024).

"We've gained an intimate understanding of how special this place is. It's just pure magic."

Stew Weis
Montana Business Owner & Friend of FLBS

DONATE TO FLBS TODAY! YOU CAN MAKE A DIFFERENCE!

Another Impactful Year for Open AIR Artists-in-Residence at FLBS

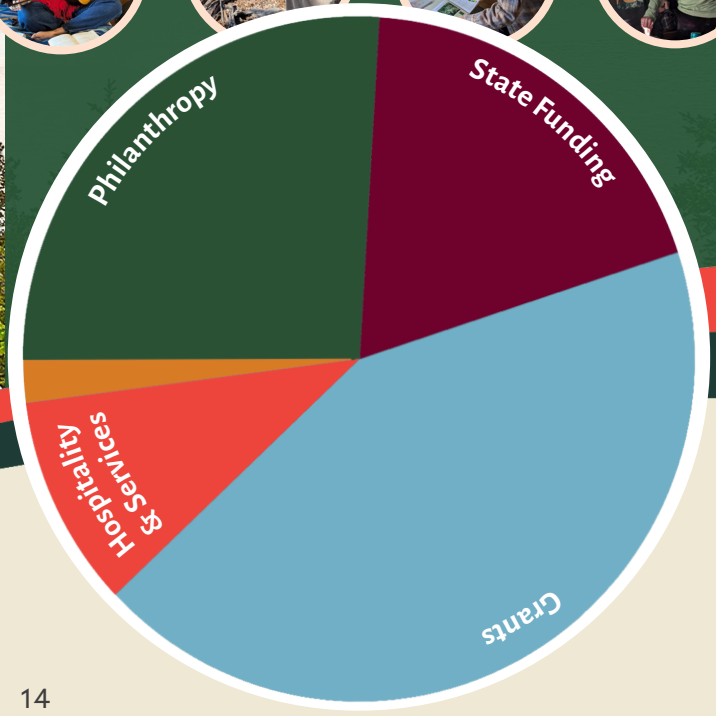
Now in its seventh year, the FLBS and Open AIR collaborative Artist-in-Residence program continues to play a significant role highlighting the important intersection of art and science at FLBS. This year's program culminated with Inquiry: A Day of Art and Science at FLBS.

Co-hosted by FLBS and Open AIR, this day-long conference featured artists, scientists, and educators leading various sessions, including hands-on activities, demonstrations, and art-making that engage audiences in conversations on place, art, and science. The 2024 Inquiry event included presentations from 2024 Artists-in-Residence **Arwen Baxter**, **Jiayi Chen**, **Eliza Weber**, and **Cameron Worden**.

Montana Business Owners Find Magic in Supporting FLBS

Stew and Meg Weis moved from Chicago to Montana more than 30 years ago, developing a deep and immediate connection with the state's natural beauty and community – and a strong desire to give back. After being introduced to Flathead Lake and the surrounding area while visiting friends, the Weises were inspired to purchase a lakeside property – a decision that would ultimately be the catalyst for their philanthropy.

Through the Qualified Endowment Credit, the Weises support the Flathead Lake Biological Station to promote year-round monitoring of Flathead Lake, student opportunities and research. Their generosity bolsters the Bio Station's work to maintain world-renowned water quality and healthy aquatic ecosystems—both of which are rare, priceless public resources and primary drivers of the region's economy—while also allowing them to reduce their Montana state tax liability.



PHILANTHROPIC SUPPORT

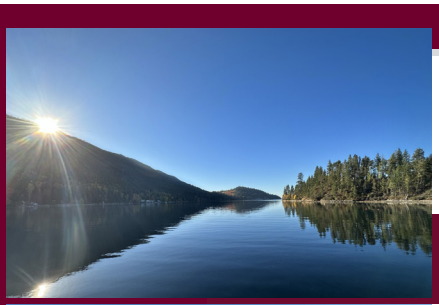
Now the Second Highest Funding Source for FLBS

2024 FLBS Funding Sources

- Grants (43%)
- Philanthropic Support (26%)
- State Funding (19%)
- Hospitality and Services (10%)
- Academic Tuition/Fees (2%)

125 Anniversary 1899 2024
FLATHEAD LAKE BIO STATION
UNIVERSITY OF MONTANA
32125 Bio Station Ln
Polson, MT 59860

NON PROFIT
U.S. POSTAGE
PAID
KALISPELL MT
PERMIT #93



UNIVERSITY OF MONTANA

2025 FLBS EVENTS:

MARK YOUR CALENDARS!

VISIT OUR FLBS NEWS BLOG FOR UP-TO-DATE NEWS & EVENTS

FLBS Open House Celebration - August 8, 2025

We invite you to come to our beautiful Yellow Bay facilities to engage in hands-on science activities; meet our faculty, staff, and students; listen to informative presentations on the State of the Lake and Bio Station programs; and more! Come early and get a boat ride on the *Jessie B.*!

FLBS125 Research Cruise - July 15, 2025

Hop aboard the *Far West* in Lakeside, MT for a cruise that features great food, refreshing beverages, and an ample dose of innovative science. You'll learn directly from our scientific staff and students as we discuss how to Keep Our Waters Blue.

Science on Tap Flathead

We're excited to partner with the Flathead Lakers to host informal science presentations at the Flathead Lake Brewing Company Pubhouse in Bigfork, MT. Join us for topics that range from grizzly bears to water quality to aquatic invasive species!

Data and Donuts

During the first four Mondays of our summer program, scientists from FLBS, Montana, and around the world give a one-hour lecture on a fascinating research topic. This is a great opportunity to learn while enjoying a tasty pastry or two!