



Storm Drain Art Project

Partnership with Whitefish High School brings storm drains to life

The Whitefish High School advanced art class was busy around downtown Whitefish refreshing storm drain murals that were originally painted in 2022. The murals are meant to bring attention to nonpoint source pollution. This type of pollution includes things like trash, oil, pet waste, and fertilizer that is washed into storm drains by rain and then is conveyed to the Whitefish River or other waterbodies, often without any treatment. This project is a partnership between Claire Kniveton's Whitefish High School advanced art students and the Whitefish Lake Institute. Students worked in pairs to create a new graphic message for storm drains that illustrates the importance of keeping our waters clean. The goal of the project is to remind our visitors and residents to think about what we put into storm drains and how it may impact the water quality and the aquatic ecosystem. Students started painting in mid-April and battled weather conditions to finish the murals at the end of May. Check them out around town, there are nine total murals, and each one has its own unique flair and message. Thank you to the City of Whitefish for project approval, the talented young artists, and Claire Kniveton for integrating student art into the community.

IN THIS ISSUE

Storm Drain Art Project.....	1
Spring Science Quencher.....	2
Stewardship Award.....	3
5th Graders Visit Wetlands.....	3
Whitefish Community Foundation Grant.....	3
Staff Training & Summer Work Plan.....	3
Spring Photos.....	4
WLI Supporters.....	5
Become a WLI Member.....	6



Clair Kniveton's (first row right) Whitefish High School Advanced Art Class team that beautified downtown while conveying a water quality message.



Whitefish high advanced art students working on their storm drain project at Depot Park.

Spring Science Quencher

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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

Nature enthusiasts and science lovers alike packed the Viking Room at The Lodge at Whitefish Lake for WLI's Spring Science Quencher held April 26, 2024. Fish, sheep, owls, and beaver dam analogs were the lightning round topics of the day.

Sam Bourret, fisheries biologist from MT FWP and co-chair of WLI's Science Advisory Committee, investigated the provenance of rainbow trout in Mill Creek. Using Strontium isotopes taken from trout otoliths (ear bones), his research team reconstructed changes in the environment and food eaten throughout the life cycle of rainbow trout downstream of the Creston hatchery. They discovered that rainbow trout, hatched at the USFW Creston Hatchery, were escaping in significant numbers at a very young age. These inadvertent introductions of rainbow trout to a Flathead River tributary could have severe negative implications to that riverine ecosystem. Rainbow trout readily hybridize with native westslope cutthroat trout, leading to a dilution of pure strain westslope cutthroat trout populations in the ecosystem.

Microplastic fragments and fibers have been discovered in a vast number of ecosystems, water bodies and soils, and from across the globe and in Montana. While impact on human health is gloomy, Carol Treadwell encouraged the audience to be a part of the solution. First and foremost - wear wool! Synthetic fabrics are responsible for 70% of microplastic fibers found in waters. Conversely, wool is biodegradable, provides warmth in the winter, cools in the summer, resists allergens and odors, and is fire retardant. Wool even generates heat! And if that is not enough, when grazed regeneratively, sheep help build organic rich soil while sequestering carbon. Sheep turn grass into wool, wool is 50% carbon, a hand spinner knits a sweater, it lasts a lifetime – carbon captured!

The eradication of beavers from across the western United States starting in the 1800's drastically changed streams and lowered groundwater levels. Today, in an effort to mend streambank erosion and improve groundwater availability in valley bottoms, geomorphologists and stream ecologists have developed techniques to build "beaver dam analogues." Using geomorphic analysis the analogs are placed to return streams from entrenched to more natural conditions including more stream/floodplain interaction. Dakota Whitman of River Design Group expertly explained the process and gave an example from a stream in Washington State.

The final presentation of the night was given by Denver Holt, Founder of the Owl Research institute. Denver expertly mimicked owl calls for each owl species found in Montana. His extensive photo library illustrated unique aspects to owl biology including clever feather patterns which allow the owls to blend into their chosen habitat to remain undetected.



Denver Holt from the Owl Research Institute presented on the different owl species found in Montana at the Spring Science Quencher.

Stay tuned for the next WLI Science Quencher to be held in October 2024.

Stewardship Award

The 2022 Stewardship award was presented to Carla Belski. Carla is the Community Services Coordinator for the City of Whitefish. She has been committed to making the aquatic invasive species (AIS) watercraft inspection stations successful since the first station was established in 2016. At the time, the station at City Beach was just a pop-up tent and clipboard operation. She now hires, trains, and manages a full team of summer beach rangers to staff the watercraft inspection stations at City Beach and State Park along with performing preventative decontaminations for high risk watercraft. Her dedication in leading the Whitefish Aquatic Species Watercraft Inspection program and promoting watershed stewardship in Montana made her a standout recipient for the award this year!



Carla Belski, Community Services Director for the City of Whitefish was presented the WLI Stewardship Award at the Spring Science Quencher.

Whitefish Community Foundation Grant

WLI is honored to have received a \$7,000 Community Grant from the Whitefish Community Foundation to replace our stream flow meter that became inoperable in 2023. This instrument, a critical part of our water quality monitoring program, is used to measure stream flows. By measuring the velocity of the streams, WLI can calculate discharge – the volume of water passing through a channel at a measured cross section. This information is used to determine volumetric loading for each tributary to the lake. We can also convert water chemistry concentrations into loading amounts of sediment and nutrients, important variables that drive primary productivity in the lake.

Thank you Whitefish Community Foundation and the Circle of Giving!

5th Graders Visit Wetlands

Each year, WLI hosts fifth graders from Whitefish and Kalispell for a field trip to the Averill's Viking Creek Wetland Preserve.

This year, the weather presented challenges. All 5th graders from Kalispell were able to join us at the wetlands over the course of two days, but rain prevented the Whitefish 5th graders from making the trip. We were able to bring nature to them by coordinating a presentation from Montana Wild Wings Recover Center at the Whitefish Middle School where students could see hawks and owls close up.

In addition to the Montana Wild Wings Recovery Center station, the Kalispell students also learned about stream dynamics, land management, and erosion processes at the rolling rivers trailer hosted by the Flathead Conservation District.

The WLI staff introduced students to aquatic insects where they got to test their dance skills as they learned the mayfly mambo and stonefly shuffle.

Techniques used to capture fish were on display by Montana FWP along with fish specimens representing various species where the students learned about adaptations and characteristics of different fish.

At the final station, The University of Montana Flathead Lake Biological Station provided lessons about the interconnection of the terrestrial food web.

We would like to thank all of the partners that joined us in providing a great experience for the youngsters to learn about and become stewards of the natural world. A special thanks to their teachers and school staff for making the time to provide this enrichment opportunity to their students.



Montana Wild Wings Recovery Center introduced a great horned owl to 5th graders. Students also saw and learned about a red-tailed hawk, Cooper's hawk, kestrel, western screech owl, flammulated owl, and a pygmy owl, all species that can be found in the wetlands.



WLI's Finance & Grants Manager, Carol Treadwell also raises a herd of merino sheep with her husband and explained how slow fashion can improve water quality at the Spring Science Quencher.



5th grade students from Kalispell picked through bins filled with aquatic insects, identified the larval species, and got to see the different life adaptations.



The Flathead Conservation District demonstrated watershed principles, stream dynamics, erosional forces, and best management practices to the 5th graders at the rolling rivers trailer.



Montana Fish, Wildlife & Parks fisheries staff demonstrated the use of a fyke net to capture lake fish and showed the 5th graders different fish species.



WLI Program Coordinator Durae Belcer gets the 5th graders warmed up during the "mayfly mambo" before the students picked and identified aquatic insects.



Shane Urban, a Big Sky Watershed Corps member for the Flathead Lake Biological Station and the Flathead Lakers, preps students for a food web activity.

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