MONTANA LAKES CONFERENCE

PADDLEBOARDERS FLOAT past boats docked at the North Flathead Yacht Club in Somers on Flathead Lake on Friday, June 30. (Casey Kreider/Daily Inter Lake)

Protecting water quality rises to top at lakes conference

By TAYLOR INMAN
Daily Inter Lake

The importance that waterbodies hold across the country hold, while examining the challenges faced in preserving the quality of lakes and rivers, was at the forefront Thursday during the Montana Lakes Conference.

Hosted by the Whitefish Lake Institute every four years, the conference brings together professionals from different sectors, including students and community members.

Confederated Salish and Kootenai Tribal Chairman Tom McDonald shared about the importance of water to the tribes and how he and other members are dedicated to being the stewards of local waterways.

"The water quality in this lake right here needs to be better than it is today, for the future. And one of the great things I love about these kinds of conferences is that I'm talking to people that share those values with me, including scientists who want to make sure that happens," McDonald said.

Touching on the many ways water is incredibly important to humans, keynote speaker Andrew Sanson of the Texas Nature

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Conservancy and who has spent 50 years as a conservation professional, impressed upon the audience ensuring children understand the importance of the outdoors.

Recalling a canoeing trip he took with "city kids" from Austin in the early 1990s, he said the trip greatly impacted the children. He helped teach them how to skip rocks after realizing none of them had ever seen it before.

"Whether you're a college professor or you work for a water authority or whatever you do, every one of us can find a way during the course of the year to put a kid in the water. To teach them how to fish, swim, scuba dive — to understand that it's fun, it's good for them, to say it's going to be there and they're going to have to take responsibility for it," Samson said.

Presentations and panels during the conference which continues through Friday examine in greater detail the various threats to water quality including aquatic invasive species and pollution.

Phosphorus is one of the largest threats to lakes, according to Jim Esler, director of the University of Montana Flathead Lake Biological Station.

Phosphorus is used most widely in fertilizers and is a major part of agriculture worldwide. However, saturated use of the essential mineral contributes to its excess pollution in waterbodies.

Esler said this build-up occurs from human and animal waste and agricultural runoff. Concentrations of the element accrue in lakes and help create the perfect environment for algae to thrive — turning crystal clear lakes into green, murky waters that are dangerous for humans and animals alike.

At the same time, the global supply of phosphorus is being depleted, he noted. A daunting issue to contend with as it impacts the ability to grow food.

Esler was quick to start offering some solutions.

"Can we take waste and turn it into resources? Can we take scarcity and substitute abundance? Can we change dead zones and make them productive?" Esler said.

The three Rs — reduce, reuse and recycle — may provide assistance, but he said the addition of research on the topic is needed to look at how decision-making impacts the phosphorus sustainability system.

He said the global population needs to reduce soil erosion and meat consumption. While new technology is being created to help recycle phosphorus, Esler said nutrient recovery can be one solution.

The growth of algae in lakes as the result of phosphorus was observed by Dan Wickham, who was a Research Ecologist at the UC Bodega Marine Lab in California, in his home state of Michigan. After people flocked to build vacation cabins along the state's many lakeshores in the 20th century, septic leachate from failing septic tanks inevitably created an excess of phosphorus in lakes.

Pulling from his background in fermentation while working as a winemaker, Wickham got involved with developing a bacteria blend that could eat away contaminants in soil. That work led to a breakthrough in how to turn septic waste into irrigation.

As founder of SludgeHammer Group, he has pioneered the use of their technology to improve septic systems on lakefront properties and create irrigation systems that replace septic tanks.

This not only ensures that the septic leachate is not contaminating the lake, but it also allows for fertilizing yards and gardens.

The conference is organized into concurrent sessions with a science and policy track and a citizen science track. For the final day of the conference on Friday, presenters will discuss the impact of aquatic invasive species in Montana lakes and rivers, among other issues like septic leachate.

For more information, visit https://whitefishlake.org/mlc-2023-home/.

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