Wetlands

Continued from Page 1A

The trip was one of more than two dozen Brady and her team will take this summer to survey wetlands across Lakes Michigan and Superior, working their way north from Green Bay up to Thunder Bay, Ontario.

Brady's work is a part of a massive effort called the Great Lakes Coastal Wetland Monitoring project, one of the most comprehensive, collaborative research projects in the country. Scientists across the U.S. and Canada survey nearly a thousand wetlands for bugs, fish, aquatic plants, birds, frogs and water quality.

It's is a great example of "big science," said Bob Howe, a professor emeritus at the University of Wisconsin-Green Bay and founding member of the monitoring survey. The survey is in its 13th year, giving scientists a "good sense" of what is going on in Great Lakes' wetlands.

And it's through wetlands that the scientists will understand just how well the lakes are faring, Howe said.

But the reach goes much further. It's highlighting the need for wetland protections, helping efforts to restore the areas of concern – the most troubled areas in the Great Lakes – and training the next generation of scientists.

The field teams go to great lengths to do this work. They go out rain or shine, day and night. Some wetlands are in pristine areas, while others are in industrial centers. Many aren't easily accessible, requiring that teams go out on boats or bushwhack their way in.

And not even the COVID-19 pandemic shut down the massive sampling effort.

Wetlands protect lakes, shoreline communities

Wetlands are one of the most important, yet imperiled ecosystems across the Great Lakes region.

The Great Lakes have lost more than 50% of their coastal wetlands, which is why Brady said scientists need to be "keeping an eye on them."

Unfortunately wetlands are up against an underrated reputation, Brady said, the public often views them mucky, smelly and ridden with mosquitoes.

Kari Pierce, on boat, takes notes as, from left, Shelby Suhr, Robert Wessel and Tyler Hey collect insects while sampling plants and invertebrates in the wetlands area near the bay of Green Bay. All are with the Natural Resources Research Institute's University of Minnesota-Duluth Great Lakes Coastal Wetlands Monitoring Program. MIKE DE SISTI / MILWAUKEE JOURNAL SENTINEL

Wetlands protect both the lakes and the communities that live near them, she said.

They filter sediment and nutrient pollution before it can enter the lakes. And wetlands act like a sponge, soaking up water during heavy rainfall and flooding.

Wetlands are also full of biodiversity, including bugs and small fish that form the bottom of the food web, allowing birds and larger, prized fish to thrive.

And that's likely needed as protections for wetlands were recently rolled back.

In a recent ruling, the Supreme Court erased federal protections for many wetlands, leaving it up to the states. While wetlands are well protected in Wisconsin, Great Lakes' water is all connected. So, what happens in one lake will likely affect another.

But "if you want to keep bird and fish populations going, you need to protect wetlands," Brady said.

'We always get it done'

The wetland survey is the only long-term monitoring that's happening along the shoreline, according to Brady. And there are more than 75 scientists working on the project at all times.

It's funded by the Environmental Protection Agency's Great Lakes Restoration Initiative, the landmark program that has funded projects that restore and protect the lakes since 2010.

Wetlands are one of the most important, yet imperiled ecosystems across the Great Lakes region.

Every year, the scientists survey a subset of the wetlands, rotating between them and covering about 1,000 over the course of five years. "The real power of this is comparing all the wetlands in the region," Brady said.

But to compare all the wetlands, everything has to be done the exact same way at every site. The teams undergo rigorous training to make this happen.

It may seem monotonous that everything has to be done exactly the same, but "every day is different out here," said Kari Pierce, a field crew leader on the project.

And Pierce has seen a lot.

While sampling at the Green Bay sites last year, a tornado came through, abruptly ending their sampling. When they went back the next day to collect their nets, multiple downed trees cut off their access to the water. They got hand saws from a home nearby, and it took them two hours to cut their way back to their sites.

But no matter what, Pierce said "we always get it done."

A 'fantastic opportunity' for students

While the bug and fish teams work throughout the summer months, the bird and frog teams survey from the end of May to mid-July.

To prepare for the upcoming field season, Sarah Baughman listened to bird calls on repeat during her 40-mile commute from Manitowoc to the University of Wisconsin-Green Bay. She had four months to memorize 142 different calls.

The 29-year-old went back to school in 2021, transitioning from a career in art to science. A newfound calling in wetland restoration. Baughman is a part of a team led by Erin Giese, the interim director of the Cofrin Center for Biodiversity at the University of Wisconsin-Green Bay. She has worked on the project since the beginning. Giese's team surveys birds and frogs from Chicago to Michigan's Upper Peninsula.

Bird teams go out twice a day, around sunrise and sunset. Frogs, on the other hand, have a much more precise window when their calls can be heard.

Frogs call for only a couple of weeks after they first come out of hibernation, which happens when nighttime temperatures are warmer than 40 degrees for multiple nights in a row. After that, they won't call again until the following year.

The project is "not for the faint of heart," Giese said. But "that is the dream to train the next generation of scientists."

There are few changes for students to get on-the-job training before they enter careers in science, making this a "fantastic opportunity," Giese said.

Wetland information 'critical' to areas of concern

Information from the wetland monitoring project is "critical" to restoring the areas of concern throughout the Great Lakes, said Brianna Kupsky, the Lower Green Bay Area of Concern Coordinator at the Wisconsin Department of Natural Resources. The areas of concern

See WETLANDS, Page 11A