

# HEADWATERS

A core publication of the Lilly Center for Lakes & Streams | Winter 2023

## **Decade Lake Study**

What will it take  
to sample 45 lakes  
this summer?



LILLY CENTER FOR  
**LAKES  
& STREAMS**





Photo by Andrew Hoffman

# KOSCIUSKO COUNTY'S MOST WANTED

Have you seen this amazing creature?

The **Western Lesser Siren** is related to the mudpuppy which is also an aquatic salamander. Neither species completes the metamorphosis process which leaves adults with an external set of gills.

Unlike mudpuppies, sirens only have two legs! Their eel-like body can be gray, brown, or black. Sirens tend to live in swamps and areas with low water.

Sirens and mudpuppies are **bioindicator** species. Their presence in our waterways means there is not much pollution and the ecosystem is generally healthy and diverse.

There are only a few recorded siren sightings in Kosciusko County. We want to know if you spot a siren or mudpuppy this spring. Your sightings **help us measure the health of our lakes!**

Send us an email at [lakes@grace.edu](mailto:lakes@grace.edu) or give us a call at **574-372-5100 ext. 6446** with your observations. •

***Learn more about our efforts to improve our lakes at [lakes.grace.edu](http://lakes.grace.edu)***

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# DECADE LAKES STUDY

Conducting a check-up on the health of Kosciusko County's lakes

Just like we take our bodies to the doctor for a checkup, our lakes need checkups too! Every summer since 2013, the Lilly Center has conducted research on 12 all-sport lakes in Kosciusko County, as well as Center Lake and Pike Lake. Taking water samples of these major lakes allows us to [see trends in our lakes' health](#).

Kosciusko County is home to over 100 lakes, many with surrounding communities. In 2013, the Lilly Center conducted a short-term study



ABOVE: An active blue-green algae bloom is often bright green and has a "pea soup" like appearance. Notify the Lilly Center if you spot a bloom and our staff will come and sample it.

toxins in 14 major lakes. Although several toxins were present, one deserved further research. [Microcystin](#), a toxin produced by blue-green algae, can be present in quantities high enough to

efforts on microcystin."

In 2023, 10 years after these initial studies, it is time for another checkup: a [county-wide lake study](#)! Our work this summer will marry our efforts from 2013 and 2015. According to Harvey, the research team will sample all 45 lakes again "to ensure that our research covers the toxin-related health hazards present in the county."

## The research led us to focus our efforts on microcystin.

JED HARVEY

of 45 county lakes to gain a broader perspective on the different watersheds in the county. That lake check-up helped focus our efforts where they were most needed.

Two years later, the Lilly Center specifically researched the presence of different

cause harm to pets.

"When we set up the toxin study in 2015, our goal was to identify which toxins were prevalent in our county," explains Jed Harvey, Lilly Center research technician. "The research led us to focus our

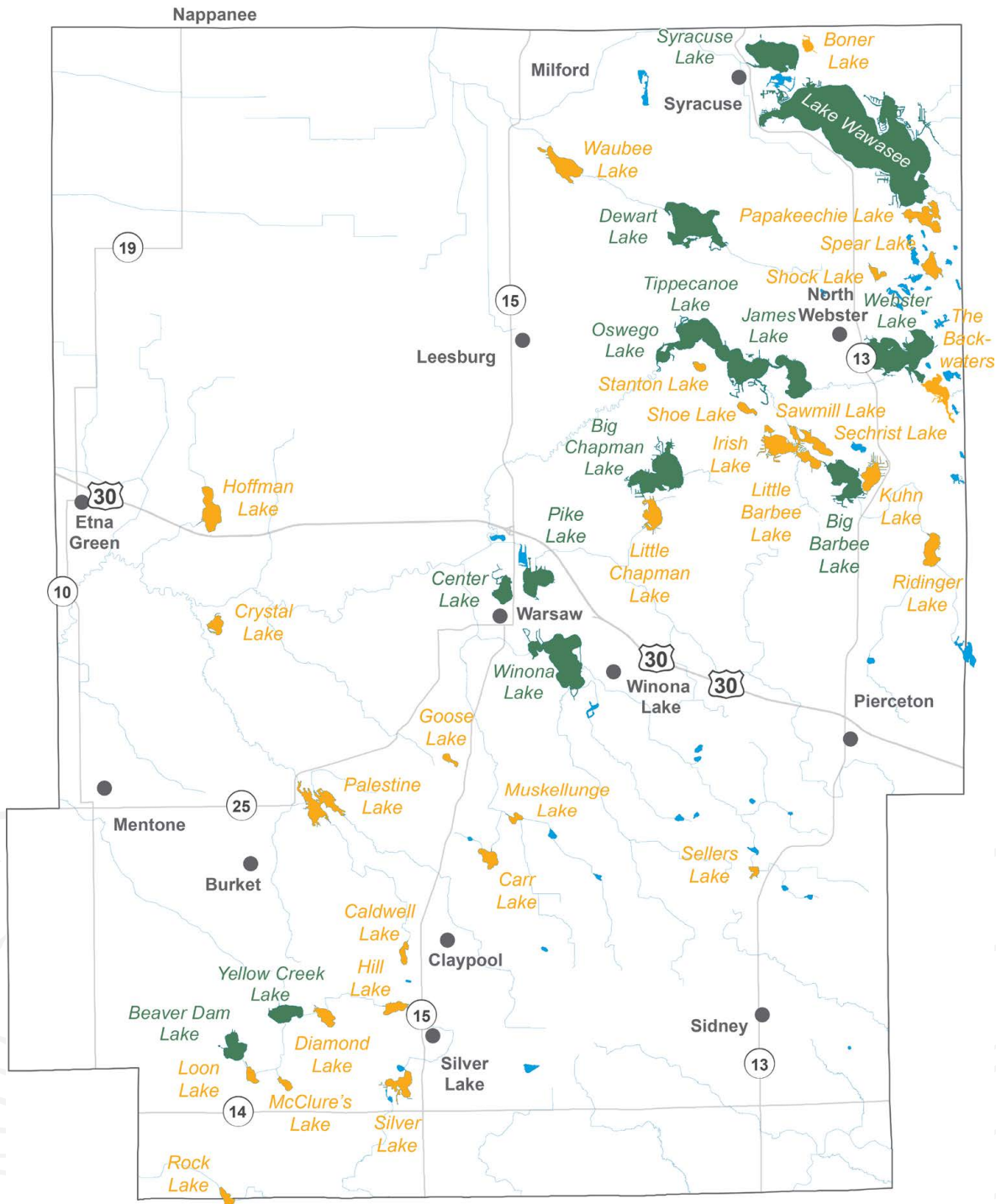
In addition to microcystin, Harvey's team will sample each lake for four other toxins. These toxins are Anatoxin A, Cylindrospermopsin, Saxitoxin, and BMAA (beta-methylamino-L-alanine). Each of these toxins could be produced by any number of blue-green algae species.

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# KOSCIUSKO COUNTY

Sampling 45 lakes is no small task! Your support, both financially or as a volunteer boat

captain, makes this project possible. Visit [lakes.grace.edu/give](https://lakes.grace.edu/give) to learn more.



**KEY**

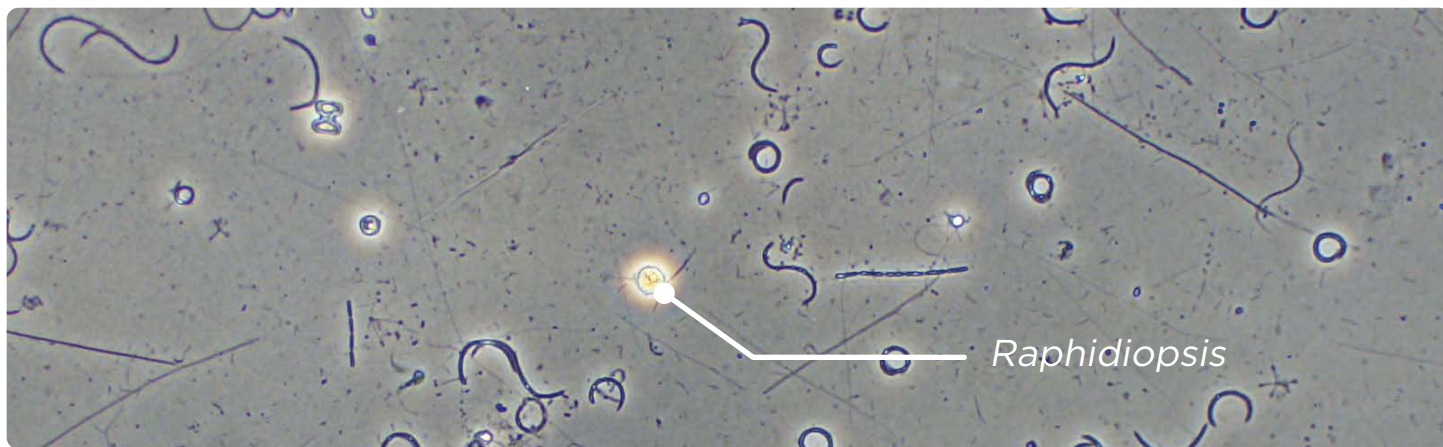


Decade Lakes



Standard Lakes





ABOVE: Many species of cyanobacteria are capable of producing toxins; some toxins are even produced by several different species! Studying cyanobacteria species like *Raphidiopsis* is key to our research.

Assistant director of research at the Lilly Center, Matt Burlingame, explains how sampling for these toxins could make a difference. "If, for example, we see more

interesting to see if the toxin ratios have changed in the past ten years. I'm also curious if there's a correlation between microcystin levels in the 14 standard lakes and

search to preserve our lakes for future generations. Stay tuned this fall for Beneath the Surface, an annual Lilly Center publication that will dive into the data we collect this summer.

## It'll be interesting to see if the toxin ratios have changed.

Anatoxin A in our lakes, we can shift our focus and spend more time researching it," he says.

As to what this county-wide study could reveal, Burlingame adds that "it'll be

MATT BURLINGAME

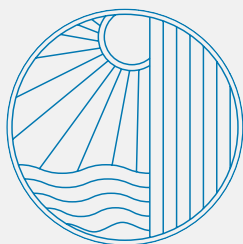
microcystin levels in the smaller lakes."

Just as preventive care can inform our health decisions, this 45-lake study will guide **the next ten years** of re-

### How will you support lake research?

Volunteer boat captains facilitate lake research by providing access to their lakes. Flip to the map of Kosciusko County lakes. Do you live on one of the decade lakes marked in yellow? We could use your help!

Call the Lilly Center at **574-372-5100 ext. 6446** or email **[lakes@grace.edu](mailto:lakes@grace.edu)** to learn more about volunteering. •



### Ensure your lake legacy.

Join the Lilly Center Legacy Society by making a gift through a bequest. Talk to Dr. Nate Bosch or Amy Bloemendaal about how you can join the Founder's Circle and become part of an initial group of 20 individuals or families, today: 574.372.5100, ext. 6445 | [bloemea@grace.edu](mailto:bloemea@grace.edu)

# EARTH, WIND, AND WATER

The ecosystems that surround our lakes directly impact their health. Learn why with these free events! See a full list of community events here:

[lakes.grace.edu/events](https://lakes.grace.edu/events)



## BEHIND THE SCENES: KC RECYCLING TOUR

**WHEN:** March 15, 10:00 a.m.

**WHERE:** KC Recycling Depot

Tour KC Recycling Depot and get a close-up view of its operations. You'll have a chance to explore the reuse room and make a craft! Learn more and RSVP by going to:

[kcrecyclingtour23.eventbrite.com](https://kcrecyclingtour23.eventbrite.com)

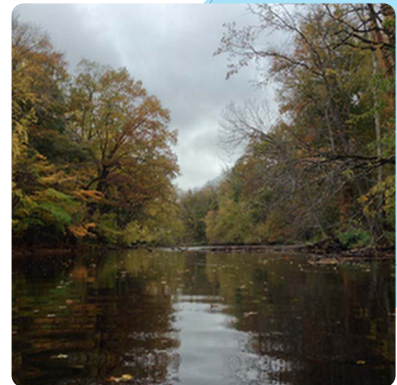
## EXPEDITION: HERON ROOKERY

**WHEN:** April 13, 1:00 p.m.

**WHERE:** Kohl's in Warsaw

Join Dr. Bosch's aquatic ecology class for an expedition to a heron rookery. This is a real adventure so grab your chest waders and join us! Learn more and RSVP by going to:

[expeditionheronrookery23.eventbrite.com](https://expeditionheronrookery23.eventbrite.com)



## MEET ARIEL WAGNER

Creating **quality community education** events like these requires someone who is highly qualified and with a love for the outdoors.

Ariel Wagner, the Lilly Center's new education coordinator, grew up trekking outdoors, including hunting,

fishing, and trapping. Ariel studied public history and enjoyed connecting her passion for the outdoors with natural history. While a student, she worked at Mounds State Park as an Interpretive Naturalist.

We are thrilled to welcome Ariel to the team! •

