

# YOUR LAKE, YOUR STORY

*Syracuse Lake*



LILLY CENTER FOR  
**LAKES  
& STREAMS**

**GRACE**  
COLLEGE

# Come for the lake, stay for the community.

Syracuse Lake, originally called Nine-Mile Lake when combined with present day Lake Wawasee, was first settled in 1832. A sawmill was built near the Turkey Creek Dam by Henry Ward and Samuel Crawson in 1833, and quickly after, the town of Syracuse blossomed. It was a stop on the Baltimore, Pittsburgh and Chicago railroad, easily drawing businesses and visitors.

Syracuse has always offered a simpler, stiller version of Lake Wawasee. Mud Lake and a series of channels create a natural barrier between it and the larger lake. Many residents live there year-round and though it is an all-sport lake, the water is a little less-used for high-speed recreation; it is an ideal location for serene morning kayaking.



*Postcards from  
Syracuse Lake*



# Your Lake, Your Story

Your Lake, Your Story is an original Lilly Center for Lakes & Streams publication. (Learn more about us, starting on page 27!) The Lilly Center conducts research on 14 lakes throughout Kosciusko County, including Syracuse Lake. While ongoing research is invaluable to the health of the lake, Syracuse is truly about the people who live around it. You might know the families in this book; you might be about to make new friends. Either way, our hope is that you identify with their stories and learn something new about Syracuse Lake (both its past and present) along the way.

*Historical and current data (specifically taken during open water sampling, above the deepest point in your lake) was gathered by the Lilly Center's research team. Additional historical data was collected from government and university sources such as the Indiana University Indiana Clean Lakes Program.*

# John & Linda Earnest

*For a quarter of a century, John and Linda Earnest have called Syracuse Lake their home. What started as a summer cottage, perfect for weekend getaways and celebrations, has coaxed them into a year-round lifestyle, complete with a 100-year-old retaining wall and neighbors who have become friends. For the Earnests, Syracuse Lake has always offered rest.*

“We’d come up here at 6 o’clock on a Friday, and it was like we had a whole new day ahead of us,” John said. Even chores like taking out the trash and mowing the lawn became likeable when they reached the lake. The impromptu community gatherings (like a

fish fry in Steve and Sally Springers’ driveway) and leisurely boat rides in the early evening make Syracuse the place to be.

John and Linda did not choose Syracuse Lake immediately. They had family on Wawasee and Kuhn lakes, but neither

body of water seemed quite right for them. The seclusion and stillness of Syracuse, however, was a welcome environment, and in 1995 they bought their first cottage on the north side of the lake. They knew immediately that they had made the right decision.



Syracuse  
Lake



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*One of the Earnests' grandsons proudly poses with his catch.*

## Lake Critters

Native critters are a large part of lake-living. Fishing, turtle and macroinvertebrate hunting are almost requirements for a complete summer on Syracuse Lake! John taught his kids and grandkids how to fish, and although he would not claim to be an expert fisherman, he has instilled a love for the art of fishing in his grandchildren.

## Portable Lake-Living

Like many families in Kosciusko County, the Earnest children (two sons and a daughter) spent their childhood summers at the lake. They learned to operate boats and waterski and fish. They worked for nearby businesses, like the Wawasee Boat Company and a local fireworks store, and spent long evenings with friends from neighboring cottages. Multiple times, John and Linda hosted 20+ young people. “The girls stayed at a house across the lake, and the boys stayed with us,” John said, reliving the experience. “They all came over here to have a party for New Year’s Eve!”

For several years, the Earnests were on a zipper between Marion,





**Syracuse Lake** is beautiful at any time of day or night, and in any season.

Ind. and Syracuse. Their jobs kept them from living at the lake

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*They rebuilt their cottage... and constructed new memories as they welcomed their grandchildren to the lake.*

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full-time, and for a while, that was simply how their life needed to be stretched. Linda would often spend more of her summer at the cottage as their son worked nearby. John would come up over

weekends. But after their youngest child moved to college, John and Linda's home in Marion seemed too large. It quickly became clear that Syracuse Lake would be a long-term residence. They rebuilt their cottage in 2011 (much to their kids' chagrin; the nostalgia of the first cottage was strong) and constructed new memories as they welcomed their grandchildren to the lake.

John and Linda's grandchildren enjoy Syracuse in a variety of ways, much the same as their parents.

Turtle hunting and fishing are high on the list of favorites. "Our oldest grandson will stand in the water and catch fish with a net," John said. He has given his young grandchildren multiple tutorials and untangled many fishing lines over the years.

"Lake-living is in our blood," Linda added. "Living here is worthwhile because we get to see our kids and grandkids grow up on the water." Even though the Earnests' children likely will not move to Syracuse Lake (their homes are scattered across the country), they have taken the lifestyle with them and always manage to find a lake to enjoy, whether it is in Idaho, South Carolina or Indiana.



## Shared Lake, Shared Community

An essential ingredient to lake-life (aside from the natural beauty of the lake and the number of turtles you can find) is the built-in community. Even families who live across the lake feel like

neighbors, Linda says. During the summer, there is a distinct sense of togetherness as families regroup on their slices of shoreline, and next-

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*An essential ingredient to lake-life... is the built-in community.*

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door friends cross property lines to say hello. The Earnests have gotten to know many other year-round residents over the last four years. The community on Syracuse Lake is a fundamental reason they chose to return to the water year

after year and eventually purchase a home there.

“It just makes this community better if the lake is healthy,” Linda said. When they visited on weekends, their family was not focused on the health of the water. At the time, they did not understand why a healthy lake is so important. “But over the years, because of the Lilly Center and Wawasee Area Conservancy Foundation, we’ve come to understand that if the lake isn’t healthy, we aren’t healthy. Not just physically, but mentally and emotionally, too,” Linda said. “We’ve

**An interesting historical footnote about Syracuse** is the Sandusky Portland Cement Factory that was in operation from 1900-1920 along the shore of the lake. Workers used augers to draw marl and clay from the bottom of the lake. The factory was eventually dismantled, but for a time, Syracuse was considered to be the county’s leading industrial town.







**John and Linda Earnest** believe that a healthy lake can lead to healthy community.

become much more involved in the health of the lake since moving here,” she added.

Linda is education committee chair for the Wawasee Area Conservancy Foundation board, and John serves as president for the Syracuse Lake Association. The Earnests support the Lilly Center financially; John also occasionally serves as one of the research team’s Boat Captains. During the summer of 2020,

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*“...we’ve come to understand that if the lake isn’t healthy, we aren’t healthy. Not just physically, but mentally and emotionally, too.”*

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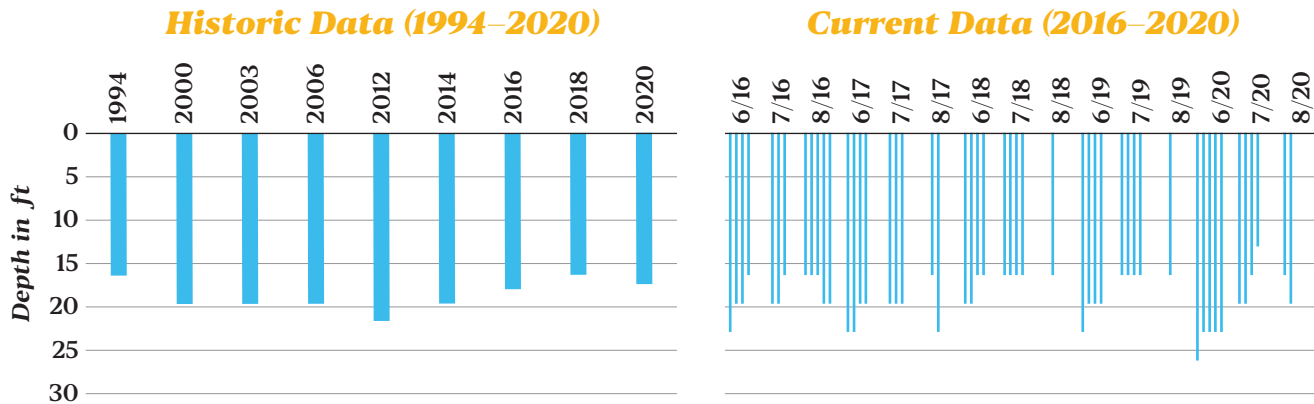
John brought his grandson along while Lilly Center researchers sampled Syracuse. It was a memorable experience for John’s grandson.

As a career teacher, Linda believes that what the Lilly Center does to teach young children about lake health is especially important. “When you teach children, you also teach adults. If you have field trips, their parents and teachers are involved, too,” Linda explained, speaking from her perspective as a former K-12 teacher. “Everyone’s experience just blossoms. That’s what this is all about.”



# Dissolved Oxygen Layer

*Aquatic organisms, like fish, rely on dissolved oxygen to breathe underwater.*



Note: Syracuse Lake has a total water depth of 34 ft

The oxygen layer depth in Syracuse Lake does not show any obvious trends over the last 25 years during July and August, but other local lakes, such as Lake Wawasee with a longer historical data record going back over 100 years, do show an obvious decrease in depth. A thinner oxygen layer limits the space in which fish can live and forces them to move to the warmer surface waters. Some fish cannot survive in warmer water such that certain fish might now be unable to survive in Syracuse Lake though they may have historically.

Recently, Syracuse Lake’s oxygen layer was often thinnest in the middle and end of the summer, squeezing fish into a smaller space and forcing them into warmer water.

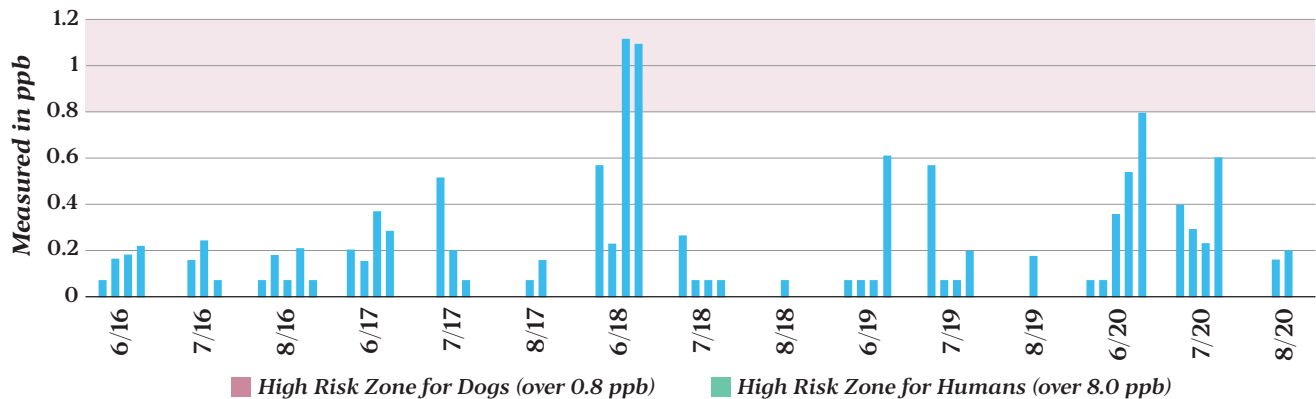
## How You Can Help:

Dissolved oxygen is essential for underwater life. By limiting the amount of material decomposing at the bottom of your lake, you can slow the use of dissolved oxygen and help make a better habitat for fish and other aquatic critters! Make sure to properly dispose of lawn waste, and reach out to the aquatic weed experts before applying chemicals to your lake.

# Microcystin Toxins

Microcystin is a toxin produced by blue-green algae. It is particularly harmful to pets, but can cause skin, eye and throat irritation (and even liver damage) in humans, as well.

Current Data (2016–2020)



While Syracuse Lake microcystin toxin levels were highly variable over the last five years, levels were often above the dog exposure threshold but never above the human exposure threshold. Even though Syracuse Lake’s microcystin toxin levels were consistently below guidelines for human health, there is still potential for future risk under the right conditions.

## How You Can Help:

Spot a blue-green algae bloom? It could contain microcystin, a toxin that is harmful to people and pets, so keep people and animals away from the water. We encourage you to let the Lilly Center know about the bloom by sending a picture, and the date, time and location to [lakes@grace.edu](mailto:lakes@grace.edu).

# Steve & Sally Springer

*Even though they did not grow up on the water, Steve and Sally Springer have fully adopted Syracuse Lake as their home for almost 20 years. They were first introduced to the lake through Becky Fox and her late husband, Stan, Sally's brother. "We've spent so much time together over the years," Sally said. Jeff and Robin Fox, Becky and Stan's son and daughter-in-law, are frequently over at the Springers' house, too.*

Over those 20 years, Steve and Sally have extended hospitality to hundreds of guests: friends, family, friends of family, Indiana University gatherings, coworkers, students, neighbors and more. From reunions to weekend getaways, the Springers have transplanted their love for Syracuse Lake into many hearts, spread across the country. For the first 15 years, Sally noted, they had company

nearly every weekend during the summer. "We're more than content to keep everyone fed," she said. "And mop up water when the kids come in from the lake."

The Springers' house is uniquely suited for large gatherings of loved ones. According to local history, their house was originally a foster home, complete with oversized, double-vanity bathrooms

and multiple bedrooms and living spaces. It has two patios (the lower of which is affectionately referred to as Level Two) and a shaded view of Syracuse Lake's south shore. When the Springers bought the property in 2002, they began to update the interior and exterior, transforming it into a cozy and brightly lit home.





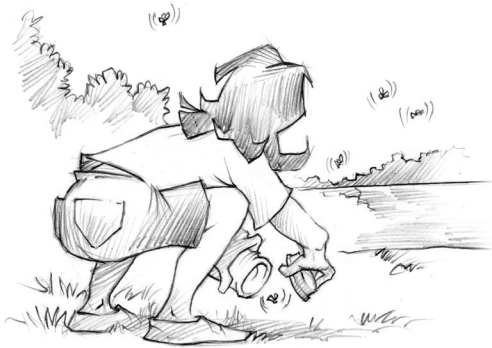
**The Springers'**  
lake home

Every summer, among other visitors, the Springers' two children and their families make the drive from Texas to visit Syracuse. "There really aren't any lakes like this

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*"Turtles by day and fireflies by night."*

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in Texas," Sally said. The journey to Indiana is a worthwhile price to pay for the delight of being at Syracuse Lake. Sally's granddaughters have a saying, now displayed on signs above their lake house beds: "Turtles by day and fireflies by night." While at the lake, they often implore their grandparents to join them in the hunt. The experience is truly all-inclusive: from the bunk bed in the boys' bedroom to the hammock on Level Two, Syracuse Lake delivers more than a relaxing week in the sunshine. It allows its guests to step back in time and maintain the best parts of history in a way that is almost magical. "It's peaceful and positive," Sally described. Virtually all of their guests say that it's a phenomenal place to be."

**Kaylee, Steve and Sally's first grandchild, wrote an essay about the lake for a class project.**

**Here is an excerpt from her article:** Most people in big cities, especially in my high school, base their life on efficiency and productivity...People in Syracuse have a completely different mindset; they live their lives on a day to day basis. People don't have their schedules planned out weeks beforehand, and they typically don't multitask. If my grandparents randomly decide they want to host a dinner party, they simply call all the neighbors, and they would show up fifteen minutes later with a food item that would contribute to the buffet. By experiencing both the fast-pace of Houston and the laid-back town of Indiana, I have learned to be productive while remembering to allow myself breaks.

## **No Shirt, No Shoes... No Problem**

Fresh, summery food is central to lake life. The patio and grill are used for nearly every afternoon and evening meal. As Steve describes it, no one wants to get cleaned up to leave the lake and

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*The dessert of choice is cherry pie with ice cream, or Sally's homemade oatmeal cookies.*

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go out to eat. Mealtimes, therefore, are an informal and flexible affair. They eat when everyone is out of the water: Beef tenderloin (or hamburgers, ribs or Chris's chicken, depending on the night), sweet corn, sliced tomatoes, green

beans and cantaloupe taste better after a few hours skiing and tubing. The dessert of choice is cherry pie with ice cream, or Sally's homemade oatmeal cookies.

Breakfast is an event in and of itself. "We make Mickey Mouse pancakes," Sally said. "Well, it's really a waffle maker, but we call them pancakes." She stirs up a bowl of batter for each hungry mouth, then lets them swirl food coloring into the mix before cooking the batter to a lovely golden-brown. With a side of bacon, breakfast is one of the best meals of the day. "Even our 16-year-old grandson and his friends request Mickey Mouse pancakes! They do the food coloring themselves, and they do a good job." Sally added.

Another tradition they enjoy every summer is visiting Joe's Ice Cream in Syracuse. "We go and get ice cream there," Steve said, "It's right by the bowling alley, south of town." On holidays like the Fourth of July, the wait can be as long as 30 minutes. "But we always go," Sally affirmed. Favorite flavors include cookies and cream, bubblegum, and Mackinaw Island fudge. Visiting the ice cream stand is a way of honoring and preserving Syracuse Lake's history, much like turtle-hunting and firefly-catching.

When they are not hunting turtles or fireflies, fishing is a favorite activity for lake kids. Even as young teenagers, the Springers' grandchildren insist on using kiddie fishing poles (decorated with familiar characters like Barbie) to go fishing



# Mimi's Oatmeal Cookies

## INGREDIENTS

- 1 cup packed light brown sugar
- 1/2 cup granulated sugar (if you want your cookies to have less sugar, do not use the granulated sugar at all)
- 1 cup room-temp butter
- 2 eggs
- 2 cups sifted flour
- 1 teaspoon baking soda
- 2 teaspoons cinnamon
- 4 cups of 1 Minute Quaker Oats (uncooked; very important to use 1 Minute Oats)
- 4 tablespoons milk

## INSTRUCTIONS

- Heat oven to 350 degrees.
- Beat brown sugar, granulated sugar and butter until creamy. Add eggs and beat again. Add flour, baking soda and cinnamon and mix again. Add two cups of oats, combine, then add the other two and mix again. Add milk and mix thoroughly.
- Using a cookie sheet, put a small amount of oil on cookie sheet with paper towel.
- Using a tablespoon, put a tablespoon of dough on cookie sheet (not a heaping tablespoon but a nice, generous portion.) I usually get 9 to 12 cookies on a sheet, depending on the size of the cookie sheet. The cookies do spread (a little) when they bake.
- Bake 10 to 12 minutes. **Do not over bake!** They should be just beginning to brown on top when they are ready to take out of oven.
- Cool cookies completely before storing. (Put parchment paper between layers of cookies when you store them.)
- Place a couple of pieces of regular bread (about 1/4 of a slice) in the container with the cookies. This keeps them fresh and moist. Serve at room temperature. They freeze nicely.





*The Springers' grandchildren spend hours on Syracuse Lake, soaking up summer.*

off the pier. "The water is so clear, the kids can actually choose which fish they want to catch,"

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*"The water is so clear, the kids can actually choose which fish they want to catch."*

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said Steve. "They put their hook in the water in front of one fish, then see a bigger one they like a little better, and go after that one instead." A quick tug and reel,

and the kids can catch the unsuspecting fish they selected.

Lake life imparts a certain amount of maturity to its youngest guests, too. The Springer grandkids learned early on how to boat safely, and took training courses to prove their knowledge before driving the boat out into the lake. In 2020, Steve and Sally's oldest grandson and youngest granddaughter were finally allowed to take the keys to the Boston Whaler. "He and his friends

enjoyed going out and just putting around," Sally said. Steve added, "They've grown into different things, but it's still all about the lake." And their phones, more frequently than not, lay forgotten on the kitchen table.

## ***Maintaining Syracuse Lake's Character***

On a spontaneous summer evening in 2020, the Springers hosted a fish fry for their neighbors (including John and Linda Earnest). Steve said, "Sally just picked up the phone. Everyone that she called said yes." It was a particularly warm evening, but everyone gathered their lawn chairs and sat in the driveway for the delicious





meal. This event and all others like it are a prime example of why Syracuse Lake is worth protecting. The lake is about family: those related by blood, and those who become family because they live next-door.

The Springers have enjoyed Syracuse Lake to the fullest extent. So have their kids, grand-kids, and every guest to walk through their door. Because of this legacy, they firmly believe that maintaining and improving the lake's quality and character is important, so they have chosen to financially support the Lilly Center for Lakes & Streams and help others to do the same. "The Lilly Center is a blessing," Sally said. "We want to see these lakes be clean forever. We want many generations to do exactly what we do."

## Clean vs. Clear Water



If your lake is clear, that must mean it is clean.... right? Well, from a scientific perspective, a clean lake does not have to be clear – and a clear lake is not always clean.

A clear lake is easy to spot. There are no visible particles in the water; it is not muddied by sediment or algae blooms. You can usually see fish swimming around at the bottom. But a clear lake might be hiding bacteria, pesticides or toxins, like the ones algae produces. For this reason, algae populations are not always a good indicator of a lake's cleanliness since small amounts of algae can produce large amounts of toxin. A clear lake might have more algae toxins than one stained brown.

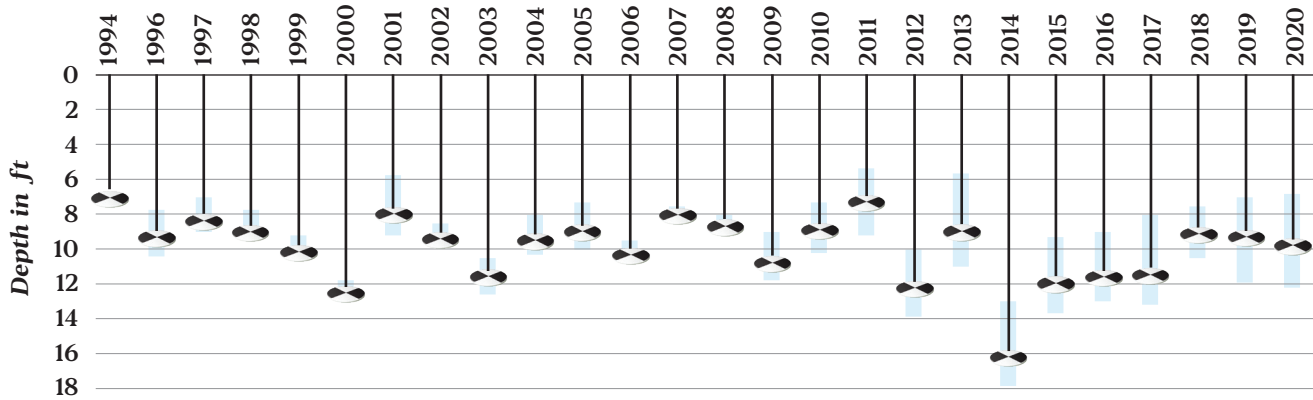
On the flipside, a safe lake can masquerade as an unsafe, dirty one. The water is a murky shade of tan, and underwater life is hidden by small, natural amounts of dirt and algae. Even though you might not be sure where to put your feet in a lake like this, it is probably not dangerous to swim or fish in.

The water's brown color likely comes from natural tannins found in trees. Like a tea bag steeping in hot water, tannins seep from the roots of nearby trees and stain the lake water a light brown. Although you might not want to drink this water, it is safe for swimming, fishing and boating. If you are still unsure, you can look to the Lilly Center for guidance as three locations in Syracuse Lake are sampled each week during the popular summer months for lakes users' health and safety.

# Water Clarity

These data show how far down light reaches through the water in your lake.

Historic Data (1994–2020)

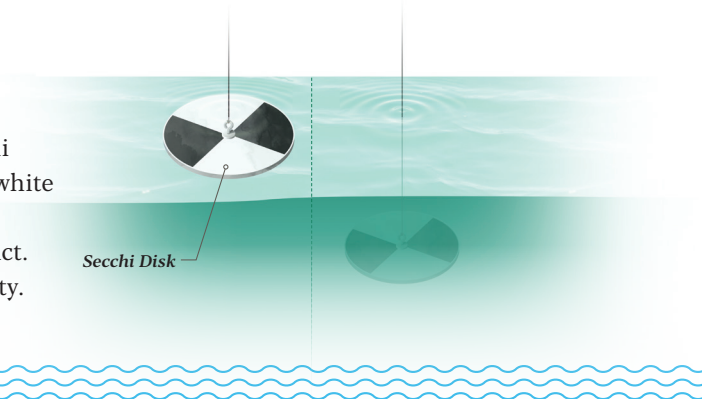


Water clarity for July and August in Syracuse Lake shows much variability over the last 25 years but appears to be increasing overall. Lower water clarity

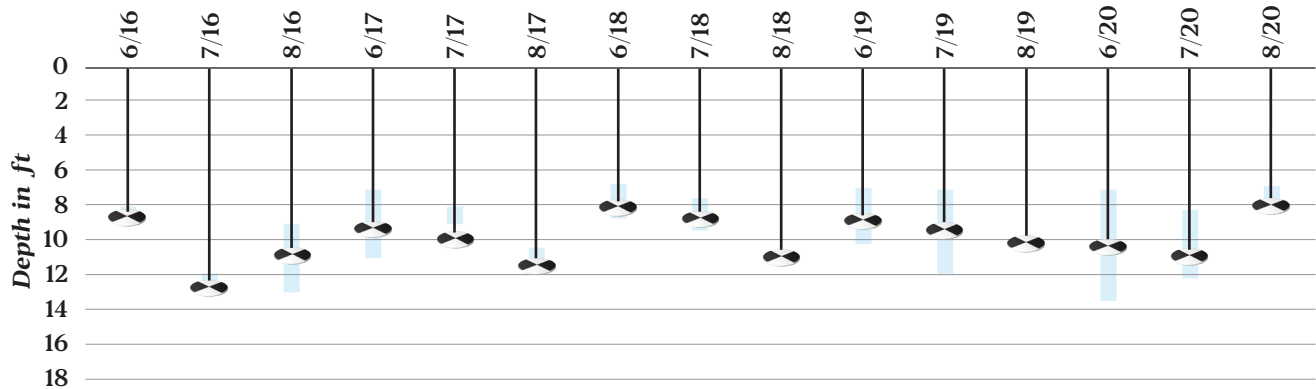
during certain years could be due to more algae growth as a result of higher nutrient (phosphorus and nitrogen) levels.

*How water clarity is measured:*

Water clarity is measured with a tool called a Secchi disk. A Secchi disk is a frisbee-sized metal disk that is painted with a black and white pattern. The disk is attached to a string and lowered into the lake water until the black and white pattern is no longer visually distinct. The depth of the disk is recorded as a measure of the water’s clarity.



### Current Data (2016–2020)



Syracuse Lake’s water clarity was typically lowest in June before improving towards the end of the summer. However, the highest recorded water clarity in the last five years during the summer months was in early June of 2020, highlighting the variability observed.

#### How You Can Help:

From past research, we know that boating can have an impact on the health of local lakes. When boating, use parts of the lake that are at least 10 feet deep for any boating activities that create a wake and stir up nutrient-rich sediment. That helps limit nutrients which would otherwise become available for algae and weeds!

# Fran & Larry Allen

*A long jog is good; a long jog that ends in Syracuse Lake is very good: shoes kicked off, sweat washed away, senses refreshed. Larry Allen and his son enjoy leaping off the end of their pier after a run more than just about anything else on a warm summer morning. “There’s just nothing like a small, freshwater lake,” Larry said.*

Larry Allen first arrived in Syracuse when he was 17 months old, when his parents moved to the area for work and bought a cottage on Northshore Drive. Larry grew up on the water, a true lifelong laker. “I met Larry when he was doing his residency in Chicago,” Fran said. “I remember visiting the lake for the first time and thinking, ‘Wow, it’s just not fair that anyone

gets to live in paradise.’ And then I got to raise my kids here.” Fran and Larry knew early on that they

have the same experiences Larry had. So they soon bought a house on the eastern shore, and Larry

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*For a number of years, four generations of Allens visited and stayed in Larry’s childhood home and savored Syracuse together.*

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would either move to the lakeshore or not live in Syracuse at all. They also knew they wanted their kids and grandkids to

took a position as a family doctor at Goshen Physicians Family Medicine in Syracuse.





**The Allen family**



For a number of years, four generations of Allens visited and stayed

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*“My kids and grandkids have grown up playing on the beach, jumping off the pier into the lake, and learning to boat and ski, just like I did.”*

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in Larry’s childhood home and savored Syracuse together. Eventu-

ally Larry’s sister, Karen, bought their childhood home. It is still regularly visited by their family and friends. “As a young child growing up, I clearly remember those warm summer days.” Larry said. “My kids and grandkids have grown up playing on the beach, jumping off the pier into the lake, and learning to boat and ski, just like I did,” Larry added. On warm summer nights, they build a bonfire, pull up lawn chairs, and

enjoy the evening under the stars. The simplest of activities unify the Allen family in unforgettable ways.





**Boating, whether in summer or winter, is one of the Allens' favorite activities.**

## Enjoying The Lake in All Seasons

Larry and Fran live on Eastshore Drive, where they raised their three children, who are now in their twenties. Their history on Syracuse is ripe with memories. Every Fourth of July, for instance, the Allens celebrate with their entire family. "All of my kids are out of the house now, but they all live within an hour of this place. They come back every summer," Fran said. "My grandson especially

loves the beach in front of our house." Every week he visited in 2020 (always under close supervision) the toddler would wade a little deeper into the lake, clearly liking the sand and sun-warmed water.

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*The Allens tried (and still do) to use the lake in every season, so winter is often as memorable as the summer.*

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When Fran and Larry's children still lived at home, summer vacation was especially enjoyable. Fran would encourage her children to do their

chores and finish up other activities before lunch. But after lunch, it was almost impossible to keep them out of the water. "It was very satisfying," Fran said. "I enjoyed being the one to drive the boat and help them

learn to ski. I loved that we could all have a good time together."

The Allens tried (and still do) to use the lake in every season, so winter



is often as memorable as the summer. Many times, when the lake iced over properly, they would grab their skates and head outdoors. They would always check to make sure the lake was safe and smooth before setting out. “The first Christmas we were here, we had a good freeze,” said Fran. “We skated the entire way around the lake.” One year, the experience was like walking

on glass, Fran said. The lake froze perfectly, so clear that they could see the intricate outlines of plants, tree stumps and rocks beneath the surface.

Larry also enjoys ice boating, along with his son. “We had a neighbor who had an ice boat, and that got me excited enough to buy my own” Larry said. The boat is wind-powered, a glorified kayak sitting on a crossbar with

a skate on each side and one in the front. The mast and sail point skyward. “It’s kind of a sunfish on skates,” Larry described. “I’ve gotten mine up over 40 miles per hour.” On Wawasee, bigger boats can clock in at 70 miles per hour. Donned in warm clothes and protective helmets, the best ice boating days are 5 degrees Fahrenheit with wind over 20 miles per hour: crisp, sunny and beautiful.

## ***Ice on Syracuse Lake***

Ice alters an underwater lake environment by insulating and shading the lake and forming a seal that stops oxygen movement between the air and water. The water temperature stays around 39 degrees Fahrenheit for the entire winter except for the water very near the ice surface, which is close to the freezing point of 32 degrees. The ice insulates the lake and prevents it from getting much colder than it is when the ice initially forms. In northern Indiana, ice thickness is typically seven-to-eight inches but can get up to 24-to-30 inches in colder winters. Make sure it is thick enough before venturing out onto your lake!





*Every evening on Syracuse Lake offers a new sunset.*

## Where the Sun Sets

“We’re pretty much right in the middle of the lake,” Fran said. “I would’ve never understood before I moved here just how much the sun moves, from summer to winter. Every day, it sets in a little bit different place.” During the summer solstice, Fran and Larry watch the sun set directly in front of their house. “We enjoy

that a lot.” The sunsets are unfailingly beautiful, she added.

At sunset in the summer, Larry enjoys fishing off the end of his pier. “My early memories of my

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*The sunsets are unfailingly beautiful.*

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grandfather, who lived on Northshore Drive, are of him fishing,” Larry said. “And now I have a little

grandson, who I’ll get to teach to fish off the end of our pier.” The lake, Larry said, is the place everyone comes back to, whether it’s for the Fourth of July, Thanksgiving or Christmas.

One of the largest changes the Allens have noticed are what people prefer to use while recreating. From wooden to wake-board boats, they have seen or experienced them all. But some things do not change. For generations, the Allens have valued the hard work and responsibility that goes into lake recreation. There is quite a bit of time and effort that goes into maintaining equipment, staying fit, and keeping others safe. In the end, Larry added, whatever gets you outside and brings people together is what matters.





“We want to keep the lake clean for everyone,” Larry said. “In earlier years, the people who lived on the lake were also part of the community.” Now, people frequently live on the lake part-time. Larry’s vision for Syracuse Lake is that people can continue to have access to the water, and thoroughly enjoy it

Fran agreed. “We appreciate the work the Lilly Center has done to educate people and teach them that what they do has a direct impact on the lake,” she said. Syracuse Lake is part of the identity of the community, Fran explained, and the local economy is built on the recreational opportunities it provides. Healthy lakes are essential to the county as a whole. Fran has served on the board of the Syracuse Lake Association, and Larry is known as “doc”

around the lake. (He has even made house calls on his Sea-Doo!) They have also financially supported the Lilly Center’s endowment fund to ensure the Lilly Center can always look after their lake.

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*Healthy lakes are essential to the county as a whole.*

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One hundred years from now, when Syracuse is enjoyed by his great-great-grand-

children, Larry hopes the lake is clean enough that his grandchildren can go for a jog, kick their shoes off, and launch themselves off the end of their pier. “I hope the water is as refreshing then as it is now,” he said.

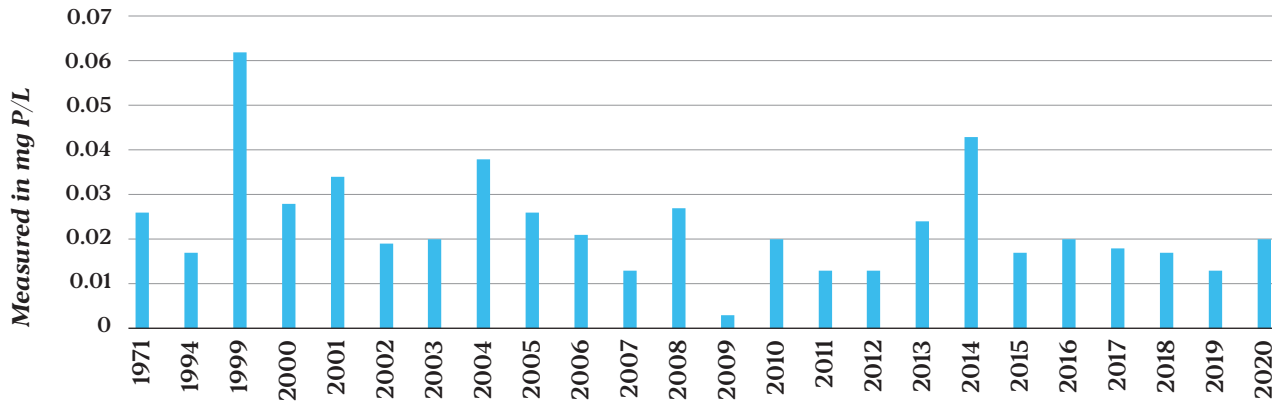
*Lilly Center  
Education  
Program*



# Nutrients

Aquatic plants, like weeds and algae, rely on these essential minerals to grow.

**Historic Total Phosphorus (1971–2020)**

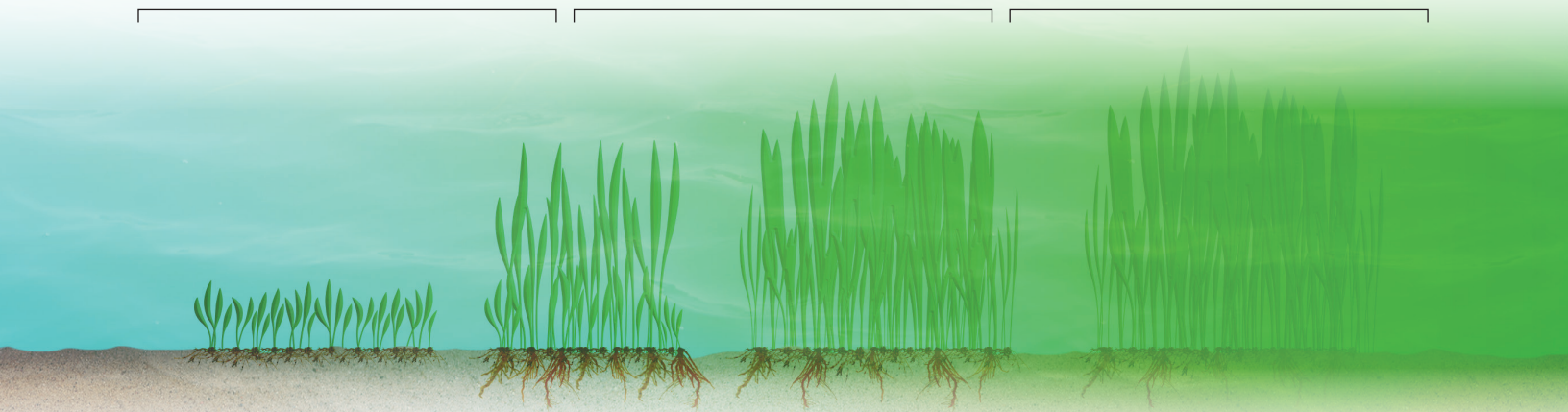


**Nutrients, Plants & Algae:** This figure below illustrates how nutrients affect a lake's plant life.

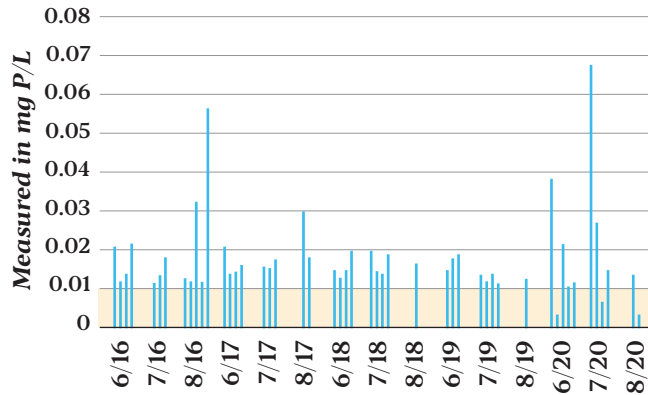
Few Nutrients

Optimum Nutrient Levels

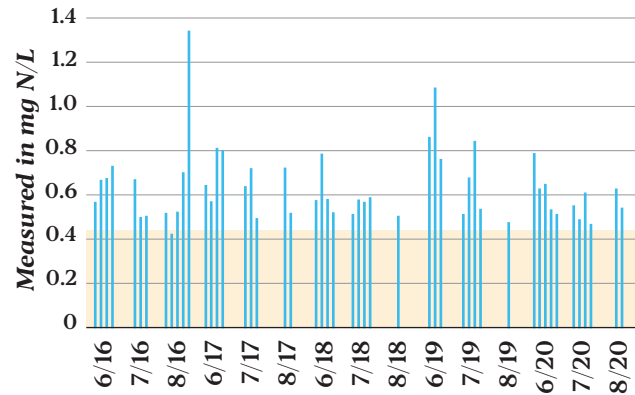
Nutrient Overload



### Current Total Phosphorus (2016–2020)



### Current Total Nitrogen (2016–2020)



■ Within recommended EPA guidelines

Syracuse Lake total phosphorus levels in July and August suggest a potential decreasing trend over the past 50 years. Over this time period, surface water phosphorus levels vary from 0.001 to 0.088 mg/L; most of these levels are still above the Environmental Protection Agency recommended guidelines.

Both phosphorus and nitrogen levels in Syracuse Lake varied widely but were usually above the Environmental Protection Agency recommended guidelines. The highest phosphorus and nitrogen levels were often later in the summer.

#### How You Can Help:

Manage your property with your lake in mind. This can include using native plants in your landscaping, applying minimal amounts of fertilizer to your lawn, and avoiding feeding geese and other waterfowl. These actions help keep nutrients like phosphorus and nitrogen at the right levels!

# Meet the Lilly Center

*The Lilly Center for Lakes & Streams conducts research, provides resources, engages and educates residents, and collaborates with local organizations to make the freshwater lakes and streams of Kosciusko County clean, healthy, safe and beautiful.*

We are a team of lake-science and outdoor-education enthusiasts, and we consistently craft standard-exceeding, data-rooted scientific studies and community experiences.

Due to the Lilly Center's diligent, strategic work, the lakes and streams in Kosciusko County are some of the best-studied in the state of Indiana. We have over a decade of valuable data that shows patterns and trends in the health of our lakes, which, in turn, reveal specific action steps. The center also contributes science-based curricula to many local schools. Planned activities and in-house field trips give students and teachers a memorable, tangible way to positively impact the amazing waterways around us. Through community-wide events, we also connect with families and individ-

uals from every corner of the county. The Lilly Center serves, inspires and educates, and creates generational pathways to leadership and environmental stewardship.

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*The Lilly Center serves, inspires and educates, and creates generational pathways to leadership and environmental stewardship.*

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Relentlessly on mission to protect local lakes and streams, we collaborate with many businesses, lake associations and individuals to develop timeless resources. Our partners allow us to connect with a broader audience and unleash innovative solutions throughout the county.





## 3 Take-Aways

1

The **fundamental problem** behind less water clarity, more microcystin and poor fish habitats is too many nutrients. Nutrients ultimately lead to a negative impact on your family's future lake story.

2

But, we know that **variability gives hope**. Water quality measurements change repeatedly for the better and for the worse. We are confident that better water quality is possible for your lake!

3

That means we are looking for **increased quality over time**. The water quality of your lake is critical to your family's story. The good news is that your actions can directly influence the health of the lake long into the future.

# What We'll Be Doing



## Quality Brings Value

Improved water quality brings better lake property values. We are applying new research to your lake to predict how much your property value could change based on improvements in your lake's water clarity.



## Safe & Healthy

At all times, we are working to keep your family safe and healthy: ongoing research; weekly algae toxin updates during the summer; monthly e-newsletters that curate the most

up-to-date lake news; and a series of community and K-12 programs and events. You can join our volunteer list or attend an event, too! Start today: [lakes.grace.edu/ylys](http://lakes.grace.edu/ylys).



## Counting Calories

We know your lake has too many nutrients, so we are quantifying the sources (like counting calories when dieting) of the nutrients to learn how to limit them!

Continuous stream sampling is essential to this goal. We sample 12 inflowing and outflowing streams bi-weekly year-round. We also use stream sensors, which allow us to monitor the highly variable

flow rates of water in the streams every hour.

In partnership with Grace College's new Center for Sustainable Agriculture and others, the Lilly Center is helping develop an agriculture certification program. The certification encourages best-practices that support farmers' hard work and prevent nutrients from entering the lakes.



## Fishy History

Aided by the Indiana Department of Natural Resources, our team is exploring past trends in fish populations as indicators of lake health to develop an even better plan for the future of our lakes.





*Lilly Center Research*

# What You Can Do

## Immediate Actions:

Scan this **QR code** or visit **[lakes.grace.edu/ylys](https://lakes.grace.edu/ylys)** to take a simple survey that will help us determine how nutrients (which help algae and weeds grow) are entering your lake.



*Scan code  
for survey*



**Financially support** a specific Lilly Center project that aligns with your vision for the lake, like research, K-12 education or community events.

Sign up for Lilly Center communications to stay informed: **[lakes.grace.edu/ylys](https://lakes.grace.edu/ylys)**









LILLY CENTER FOR  
**LAKES**  
& **STREAMS**

GRACE  
COLLEGE

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