

**YOUR LAKE,  
YOUR STORY**  
*The Tippecanoe Lakes*



LILLY CENTER FOR  
**LAKES  
& STREAMS**

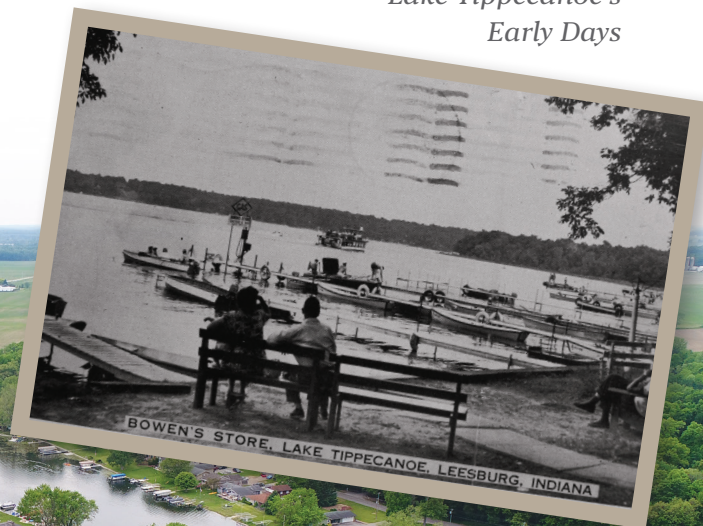
**GRACE**  
COLLEGE

# Three Lakes, One History.

Tippecanoe, James and Oswego lakes are the backdrop to local legends, family memories, and diverse wildlife species. Each of the trio has its own personality but they share a singular history. Known as the deepest natural inland lake in Indiana, Tippecanoe invites its visitors and residents into a story that started many years

ago when the first few cottages and businesses were built by the water. Ever since then, Tippecanoe, James and Oswego have played an essential role in the maturing of young people, the memories of grandparents, and the economic growth of Kosciusko County.

*Postcard from  
Lake Tippecanoe's  
Early Days*



# ***Your Lake, Your Story***

Your Lake, Your Story is an original Lilly Center for Lakes & Streams publication. (Learn more about us, starting on page 31!) The Lilly Center conducts research on 14 lakes throughout Kosciusko County, including the Tippecanoe lakes. While ongoing research is invaluable to the health of the lake, Tippecanoe, James and Oswego are truly about the people who live around them. 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 the Tippecanoe lakes (both their past and present) along the way.

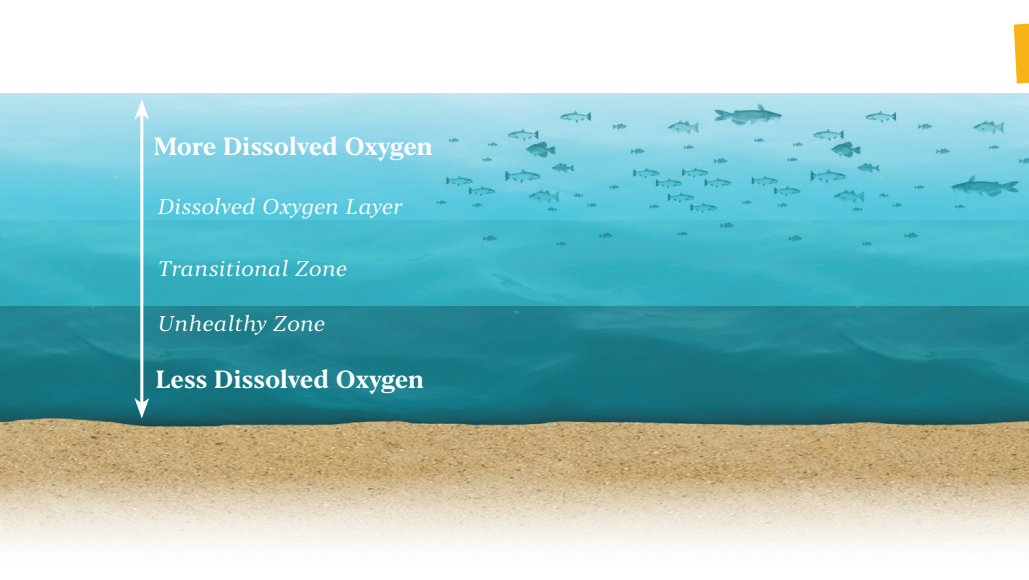
*Historical and current data (specifically taken during open water sampling, above the deepest point in your lake) was gathered by the Lilly Center's research team. Additional historical data was collected from government and university sources such as the Indiana University Indiana Clean Lakes Program.*

# Dissolved Oxygen Layer

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

The oxygen layer depth in Lake Tippecanoe may be slightly decreasing over the last 100 years during July and August, while there appears to be no obvious trend for James or Oswego lakes in the more recent past as their historical data does not go back as far. A thinner oxygen layer increasingly limits the space in which fish can live and forces them to move to the warmer surface waters.

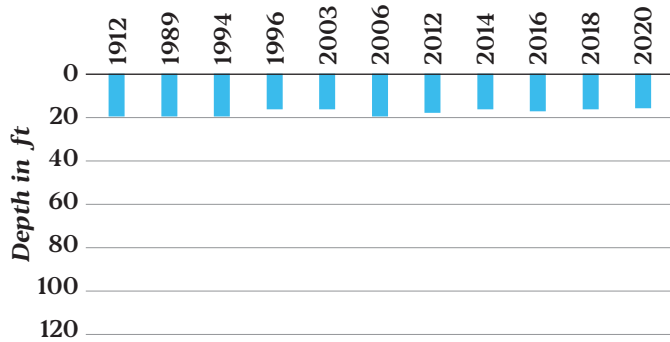
Recently, Tippecanoe, James, and Oswego lakes' oxygen layers were typically thinnest in the middle of the summer, squeezing fish into a smaller space and into warmer water. Lake Tippecanoe's oxygen layer was usually thicker especially in June since it is a much deeper lake than James or Oswego.



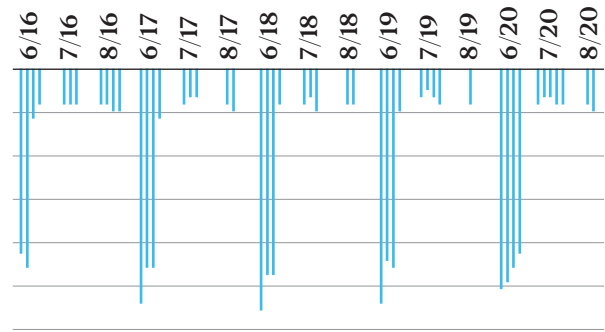
### *How You Can Help:*

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.

### Tippecanoe Historic Data (1912–2020)

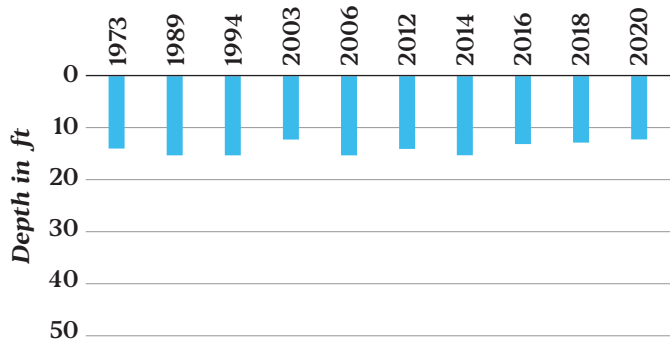


### Tippecanoe Current Data (2016–2020)

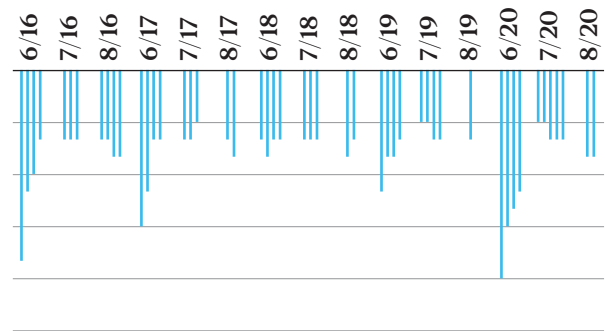


Note: Lake Tippecanoe has a total water depth of 122 ft

### James Historic Data (1973–2020)

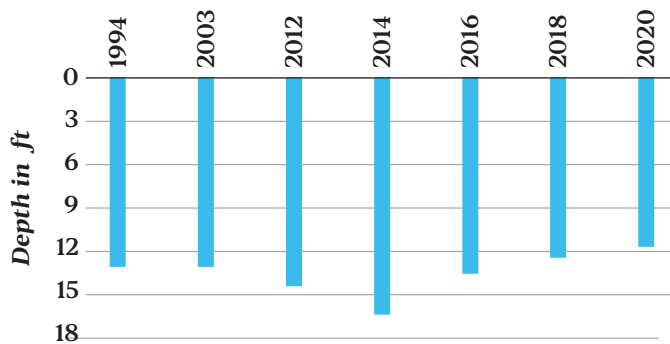


### James Current Data (2016–2020)

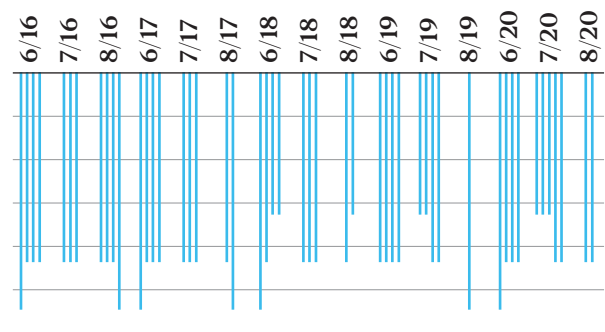


Note: James Lake has a total water depth of 62 ft

### Oswego Historic Data (1994–2020)



### Oswego Current Data (2016–2020)



Note: Oswego Lake has a total water depth of 37 ft

## THEIR STORY

# Lou Contos: James Lake

*Louann Weaver Contos refuses to let anyone say “I’m bored” while at James Lake, including herself. “I don’t just have one lake, I have several lakes! I can take a kayak down Grassy Creek anytime I want,” Lou said. The value of James Lake lies in its wholesome, fulfilling escape from the weight of everyday life. “There are just so many good things about being here,” Lou said. From fishing to boating, the opportunities for creative fun are endless and varied. And for most of her life, Lou has practiced what she preaches.*

The Weaver family first visited Tippecanoe from Fort Wayne when Louann’s Uncle Jim built a large stone home on the lake: Craney Crow. It was the largest house on the lake at the time, and their whole family used the property as a getaway.

Wyatt Weaver, Lou’s father, built a four-bedroom cottage on James Lake for his family when Lou was young, down the beach from Craney Crow. “We stayed for the summers,” Lou said. The day school let out in the spring, Margaret Weaver

would already have the suitcases packed. “In the car on the way there, we’d always play the game, ‘Who could see the lake first.’” And Lou always won, because she was the tallest.

Craney Crow  
Postcard



## *Tippecanoe Legend*

One of the most well-known stories to haunt Tippecanoe is of the plane that sank to the bottom of the lake. “The current that flows down the whole chain of lakes runs right by our house,” Lou said. “So, when my dad went out the next day, he spotted the oil slick left by the plane.” A dive team came up from Indianapolis to investigate. Using sonar equipment, they discovered a T-shaped object near the Camp Crosley shoreline.

“The Civil Air Patrol made a ground check of reports that a plane in distress was heard near the Barbee lakes late Saturday and came up last night with three different families reporting they heard what sounded like a plane in distress, circling low,” a report from the Times-Union Newspaper said at the time, in December of 1956. The missing jet trainer was supposed to have one pilot and one passenger. The plane and its passengers were never recovered.

## ***Like a Pack of Wet Dogs***

Life on James Lake was nearly magical. The Weaver family (as well as their cousins and friends) spent their whole summers on or close by the water. They got into trouble, got out of trouble, fostered hobbies, made friends, fell in love. The best childhood memories Lou has revolved around the lake.

Sometimes, on warm summer nights when she was in grade school, Lou would sneak out of her room and slip down the hall to her brother's doorway. "Want to run down the hill?" she would whisper. And they (and whoever was sleeping over) would slip out Lou's window and bolt down the lawn to the lake in the moonlight, hollering the whole way. "We'd scare

Mom and Dad half to death." Lou said, "They'd just be trying to enjoy a quiet evening on the boat deck. The neighbors who lived next door thought it was great, though, they'd come out and cheer as we ran by," Lou smiled.

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*They got into trouble, got out of trouble, fostered new hobbies, made friends, fell in love.*

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But above all else, Lou and her siblings and cousins loved to be wet. "We were like a pack of wet dogs," Lou said. "And that's not to mention the Labradors we had for pets!" Lou was half-fish, but her mom did not know how to swim; she never learned and did not want to. But she knew that the best way to keep her kids safe was to teach them. When each

child was ready to learn, she sat at the end of the pier and took her sandals off and hooked her feet under their armpits until they learned to doggy paddle and kick, and then eventually how to use arm strokes.

Lou met her future husband, Larry, at Tippecanoe. They married when she was young, 19 years old. "We were a part of a good group of teenagers," Lou said. Their common hobbies and enjoyment of the lake drew them together, and it was not long until they fell in love. After high school, Larry and Lou went to different colleges: Lou primarily studied at Anderson University, and Larry went to Indiana University for business. Tragically, Larry's father passed away before they could work together, but Larry earned his degree







**Pay Less Super Market** remains a family-owned business.

and took over the family business: Pay Less Super Market. About 10 years ago, the Contos family sold several of their stores to Kroger, including the one in Warsaw, IN. (The properties are still owned by their family.)

In grade school, Lou and Larry were both a part of the ski club on Tippecanoe; in fact, they helped breathe fresh life into the program. “We organized ski shows, and worked with disc jockeys from Warsaw, hand-made all the advertising, and put

up all the signs ourselves,” said Lou. They found people who had powerful

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*In grade school, Lou and Larry were both a part of the ski club on Tippecanoe; in fact, they helped breathe fresh life into the program.*

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boats who could pull the pyramids; they even hand-made the bar they stood on for some of the tricks.

Around the same time, the Contos family bought

a Higgins inboard boat. It was a large, bright yellow boat that drew quite a bit of attention. One year, they decided to enter the boat into the Mermaid Parade, theming it around their ski show team. “We had a frame made with chicken wire, and then we surrounded it with skis and anything else we could find,” Lou said. They even nabbed four stools to sit on from Lou’s mother’s kitchen. “We won that year,” Lou added.

The ski club was not the only lake activity they enjoyed. “The dance hall was the place to be on Wednesday nights,” said Lou. “WLS Radio from Chicago came on Wednesdays; they were so good. And the guy from Warsaw would come on Friday.” When they could not get into the dance hall, Lou and her brother would take the boat out into

the lake and lay in the bottom of it, listening to the live music on their small transistor radio and watching the stars flicker on until their mom called them inside.

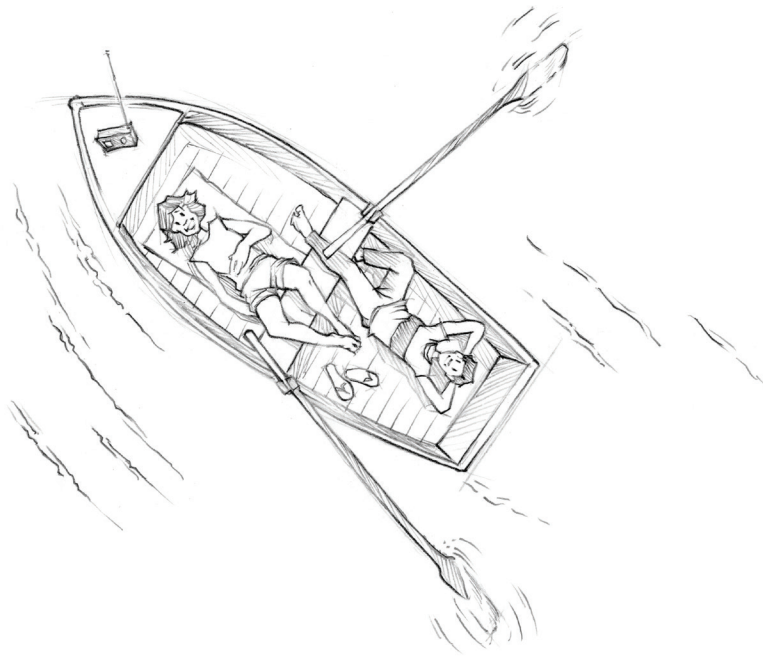
One Friday evening, the Warsaw disc jockey could not come to the dance club. The radio station called the ski club (because they met in the dance hall) and asked if anyone knew how to spin

records. “They offered to set up the tables and equipment,” Lou said. “And you know me, I’m very shy,” Lou laughed. “So I grabbed one of my best guy friends and we ran the show that Friday night, from 9 to 11 p.m.” They had a great night, Lou added.

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*Lou and her brother would take the boat out into the lake and lay in the bottom of it, listening to the live music on their small transistor radio and watching the stars flicker on...*

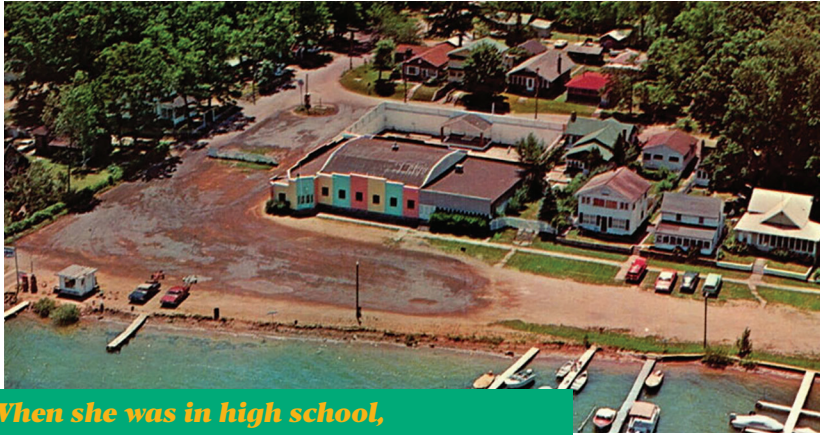
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## **Four Lots, Countless Memories**

Lou and Larry raised their son (who sadly passed away in 2017) and two daughters on the lake. There are now eight grandchildren in the family. Several years ago, Lou and Larry expanded their property to fit everyone comfortably. In another couple generations, Lou hopes that the experiences she has savored and passed down will continue to grow in





**When she was in high school,**  
Lou once DJ'd a show at the Tippy Dance Club.

the care of future grandchildren and great-grandchildren. Many of the memories she has on the lake are now enjoyed by her children and grandchildren, from water skiing to late-night runs down the lawn to the lake.

“We’ve had access to the lake all of our lives,” said Lou. “When we bought the property I’m currently living on, we combined four lots and eventually rebuilt the cottage.” The road behind their house has turned into a parking lot with the number of cars and people that

visit each summer. Their hope is that the Contos property will never leave the family.

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*Many of the memories she has on the lake are now enjoyed by her children and grandchildren, from water skiing to late-night runs down the lawn to the lake.*

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In a parallel effort to protect and preserve the lake, Lou supports the Lilly Center’s work. She shares the Lilly Center’s vision for educating lake residents and researching common lake problems, like invasive species

and sources of excess nutrients. “When I met Nate for the first time, I jumped on board right away,” Lou remembers. “We need people to pay attention to the health of the lake.”

Larry passed away in 2018, but Lou continues to host family and friends at the lake throughout the year. Their rich history on the lake has created a beautiful future. “We’ve had

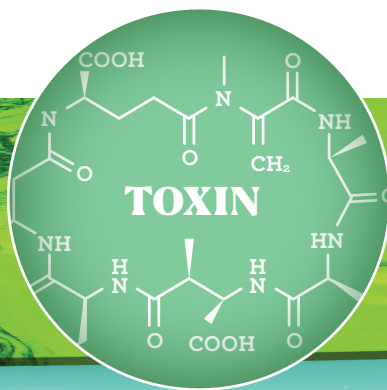
disappointing times, too,” Lou said. “Cancer, illness, personal situations. But I wouldn’t trade any of it.” Taking the bad with the good, Lou and her family have spent their lives making the most of all that Tippecanoe has to offer.

# 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.*

While Tippecanoe, James, and Oswego lakes' microcystin toxin levels were highly variable over the last five years, levels were only above the dog exposure threshold once and never above the human exposure threshold. Despite this good news, there is still potential risk for high microcystin levels under the right conditions in the future. The Lilly Center will continue to monitor the toxin to help keep you and your family safe.

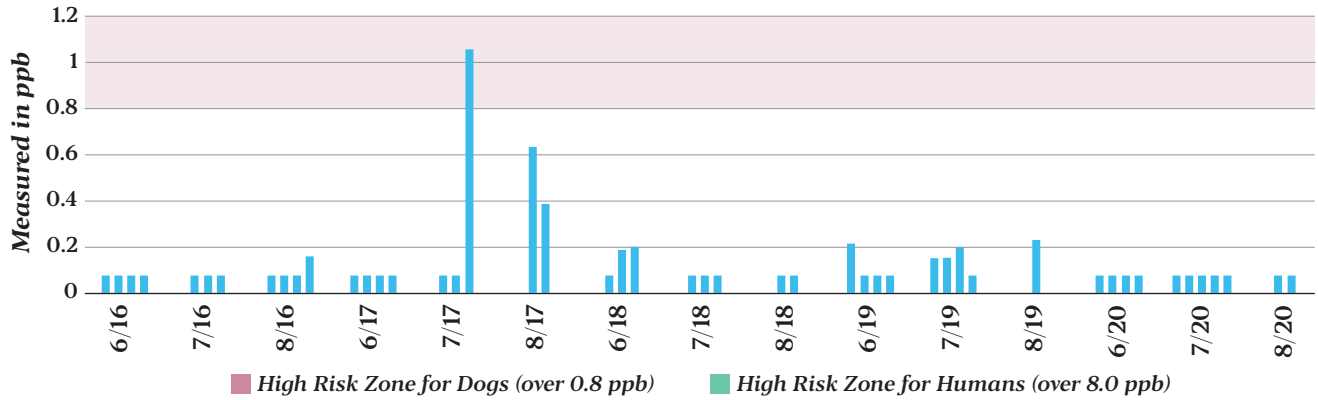
Sometimes  
blue-green algae  
can produce toxins



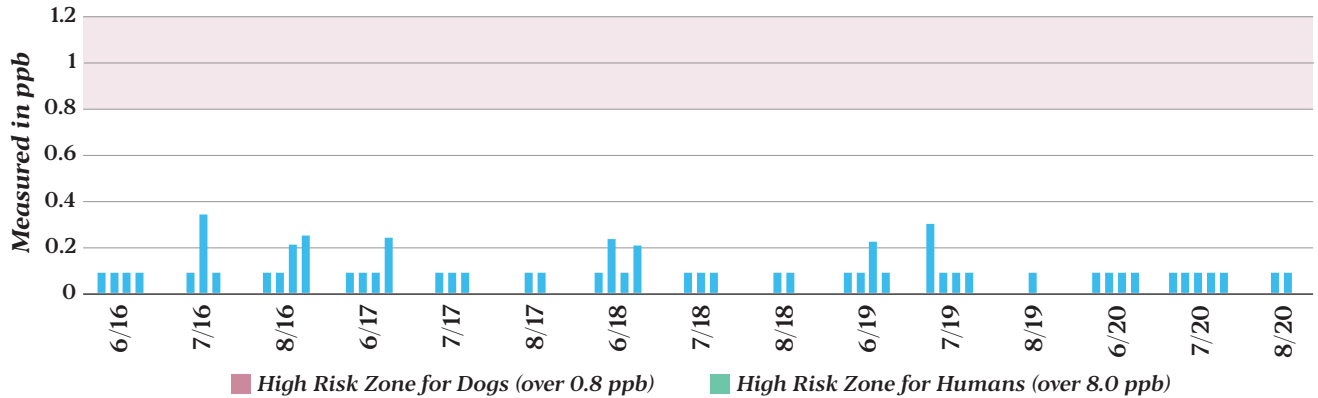
## How You Can Help:

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).

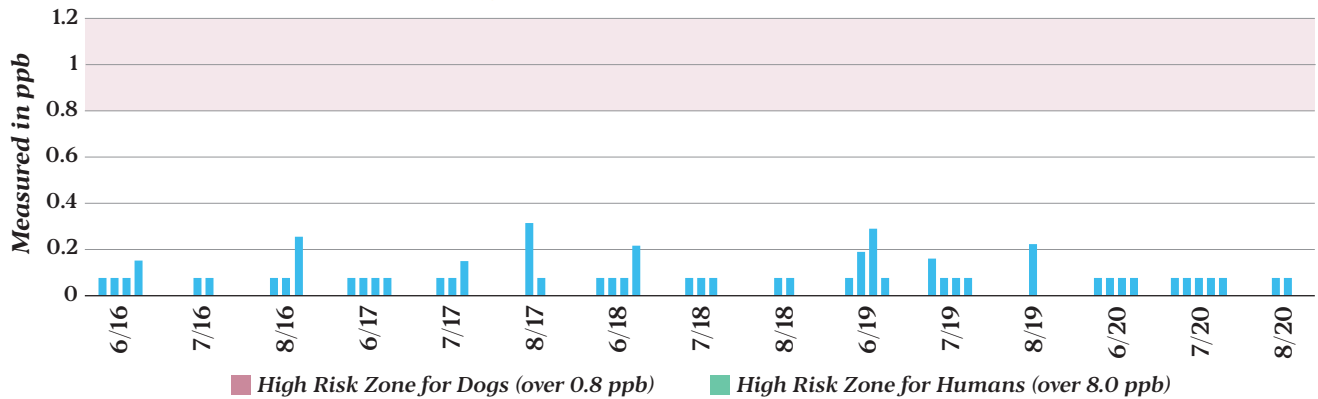
### Tippecanoe Current Data (2016–2020)



### James Current Data (2016–2020)



### Oswego Current Data (2016–2020)



## THEIR STORY

# Mike & Nancy D. Tynan: Lake Tippecanoe

*Summertime spent on any lake makes for wonderful memories. This was true for Mike and Nancy, too, who met and dated on the curving, inviting shores of Lake Tippecanoe.*

They went to the Tippy Dance Hall in the evenings and spent their days on the water, skiing and boating with friends; Mike also enjoyed frog hunting in the back waters. Mike and Nancy were married in 1963, and

in some ways, their winter home in Indianapolis was secondary to their family history and homes on Tippecanoe. They waited for winter to end in Indianapolis so they could return to Tippecanoe in the summer. Their

roots go as deep as the lake itself, reaching six generations of Dungans and Tynans. (In fact, after retirement, they made Tippecanoe their permanent home.)

*The Tynans and Dungans have  
Enjoyed Tippecanoe for Generations*



## ***Fifty Feet Down***

Samuel O. Dungan, Nancy's great-grandfather, bought property on Lake Tippecanoe in the early 1900s. They built a home in 1915: the Musquabuck Lodge, a three-story fieldstone home on the north shore of the lake. Although it is no longer in the family, the home still stands and is privately owned property.

Aside from rattle snake hunting, fishing was a preferred pastime for Tippecanoe residents, including Mike and Nancy's families. They could catch buffalo, stur-

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***Mike also has memories of scuba diving in blue jeans and a sweatshirt.***

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geon and cisco, three species that likely no longer live in Tippecanoe due to changes in the lake, including the lake's low oxygen levels in the bottom waters.

Mike also has memories of scuba diving in blue jeans and a sweatshirt.

He and his friends would wear diving tanks and swim down into the cold depths of Tippecanoe. For safety, they would tie rope around their middles. "I guess we'd go down about 50 feet," he said. "And then someone would have to pull us back up!"



*Dungan  
Holding  
A Snake*

***Rattle Snake Hunt*** On occasion, Dungan and other local men would go rattle snake hunting. One picture (dated 1916) shows Dungan proudly holding a snake from the end of a pole; the snake is at least three feet long.

# Tippecanoe Chain's Health



Clues to the Tippy Chain's health and overall water quality can be observed in its water clarity from the past several years. Sediment settles to the lake bottom as water gently flows between the lakes through no-wake natural areas full of nutrient-hungry plants. These features result in increased water clarity as the water travels. So, James likely receives water with a fair amount of sediment, Tippy a little less, and Oswego a little less than that. But other factors such as lake shape, algae growth and wind patterns across the lake can cause changes between these interconnected bodies of

water and impact water clarity and quality in more complex ways. For example, Oswego is much shallower than the other two lakes, which can make algae blooms (and, subsequently, lower water clarity) a little more likely. Tippecanoe's depth, means that nutrients and sediments can get out of the sunlight and not be as accessible for algae and cyanobacteria that are trying to grow in the upper layer of water. However, Tippecanoe also receives outflowing water from the Barbee chain through Grassy Creek on its southeastern end, potentially bringing in more sediment than James receives.







**Tippecanoe sunsets** never fail to impress; they are one of the best things about living on the lake.

When Mike and Nancy were young, the lake had sandy beaches along quite a bit of the shore. Early maps of the lake even show a road ran between some of the houses and the water; it was later relocated as properties were developed and lake-front lawns became highly sought after. Tippecanoe's first dam, which changed the lake's overall water level, was built in the 1930s. It was located on the Tippecanoe River, flowing south from the main lake

near Armstrong Road. A new dam was completed in the same spot in the

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*In the 1950s-60s, the Tippy Skiers were a favorite form of lake entertainment.*

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spring of 2020. At 122 feet, Tippecanoe has remained the deepest natural lake in Indiana.

In the 1950-60s, the Tippy Skiers were a favorite form of lake entertainment.

Mike, Nancy and their friends would practice all summer; on the weekends, they would put on shows in front of the Tippy Dance Hall. They collected money at the shows (somewhere around 10 dollars, just enough for gas, which was 25 cents per gallon). "We had a clown act," said Nancy. "They'd do all these silly things, like pretend to go over a jump and stop, then walk up and jump off," she said. Nancy also remembers tubing... using an actual rubber tube.

The nozzle used to fill it full of air protruded from the tube and would gouge their legs as they bounced over the water, so many kids wore jeans over their bathing suits.

## The Main Point

The Tynan home is a favorite vacation destination for their two children (one of whom lives on Oswego Lake) and four grandchildren. They have enjoyed the water in much the same way as past generations: skiing, tubing, fishing, turtle-hunting and more. Even if boats are faster and no one goes to the dance hall on Saturday nights, there are many things that never change.

*These Cottages were Some of the Originals Built in Kalorama Park.*

“History repeats itself,” Mike explained, describing how new families arrive at the lake and end

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*They have learned life lessons that can only be taught on the shores of a lake, ones that span decades.*

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up staying. Nancy agreed, “That’s right. Generations come back.” Summers on Tippecanoe have created bonds between Mike, Nancy, and their children and grandchildren. They have learned life lessons that can only be taught on the shores of a lake, ones that span decades. “They love the lake,” Mike said. “That’s the main point.”



## ***Sharing With The Future***

The future of Lake Tippecanoe is closely tied to the actions of those who enjoy it. The Tynans have seen a shift over the years: more weeds, more boats, more waterfowl, but also more people being conscious about what enters the water. “We’re very aware of it,” said Nancy. Among other thoughtful actions, Mike and Nancy avoid putting lawn fertilizer and yard

waste in the lake, both of which are nutrient-rich and can produce excess weeds and algae.

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***The future of Lake Tippecanoe is closely tied to the actions of those who enjoy it.***

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To hold onto a future that is as radiant and special as the past, families like the Tynans have financially backed the work of local environmental

organizations, including the Lilly Center. “Our vision of the lake’s future, which the Lilly Center helps make possible, is for fewer weeds and cleaner water through education about and knowledge of our lakes,” Nancy said. “We hope that our children, grandchildren and all the future generations to come will love living and having as much fun making fond memories, as did we, and our fore-bearers before us.”

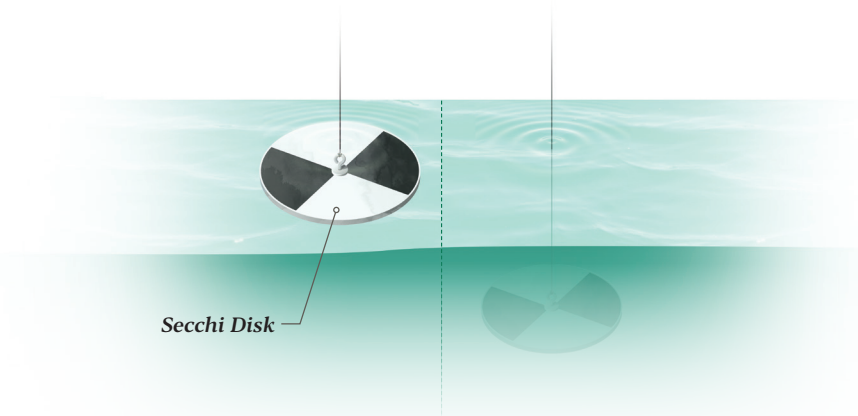
***Nutrients act like growth stimulants*** for aquatic plants, algae and certain types of bacteria, like blue-green algae. Nutrients come from a variety of sources, such as storm water runoff, and decaying algae and other organisms. Some part of this influx can be mitigated by people. Excess lawn fertilizer, grass and leaves that get washed into a stream or storm drain, runoff from cattle lots or farms, and soil erosion are all major sources of nutrients that contribute to weed growth and algae blooms. Try using minimal amounts of fertilizer (or create your own for gardening by maintaining a healthy compost pile) and landscaping with native plants.

# Water Clarity

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

Water clarity for July and August in Tippecanoe and James lakes shows much variability over the last 30 years, but clarity may be increasing overall. Water clarity in Oswego Lake appears to have increased over the last 25 years from around 3 ft to around 8 ft. Increases in water clarity are likely due to less algae, which could be the result of less nutrients or higher populations of invasive zebra mussels that eat some types of algae.

Recently, water clarity was typically lowest during July each year for Tippecanoe, James, and Oswego lakes before improving towards the end of summer. Decreased clarity is often due to higher nutrient (nitrogen and phosphorus) levels leading to increased algae growth.

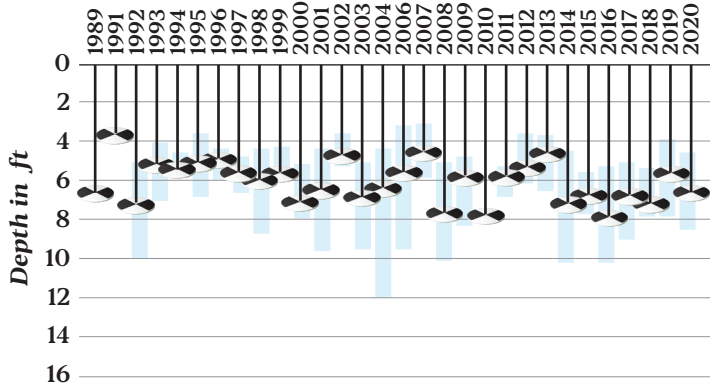


**How Water Clarity is Measured:** Water clarity is measured with a tool called a Secchi disk. A Secchi disk is a frisbee-sized metal disk that is painted with a black and white pattern. The disk is attached to a string and lowered into the lake water until the black and white pattern is no longer visually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

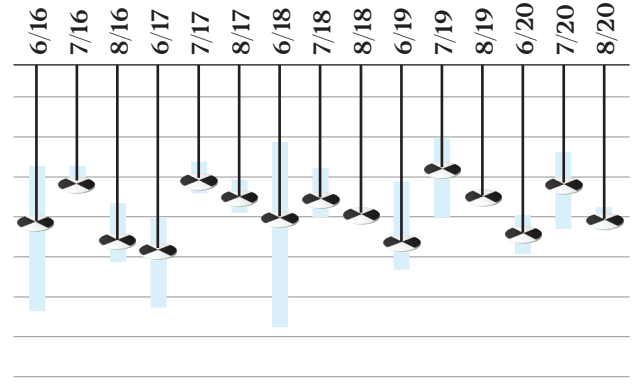
### *How You Can Help:*

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!

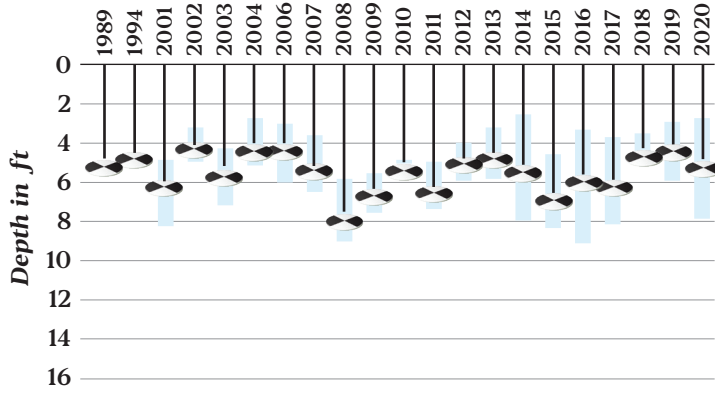
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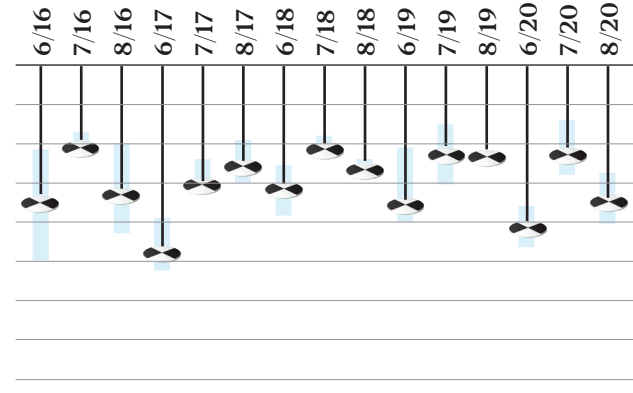
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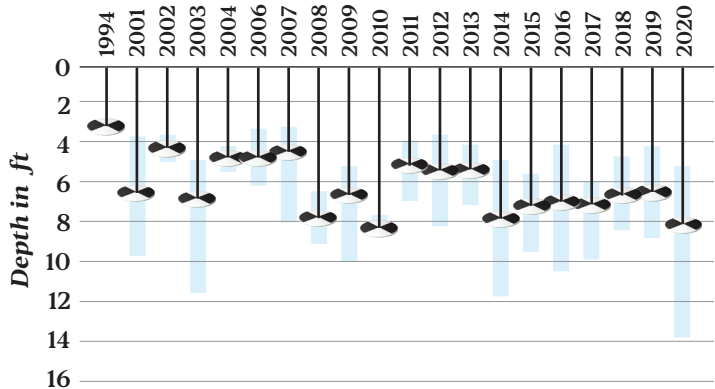
### James Historic Data (1989–2020)



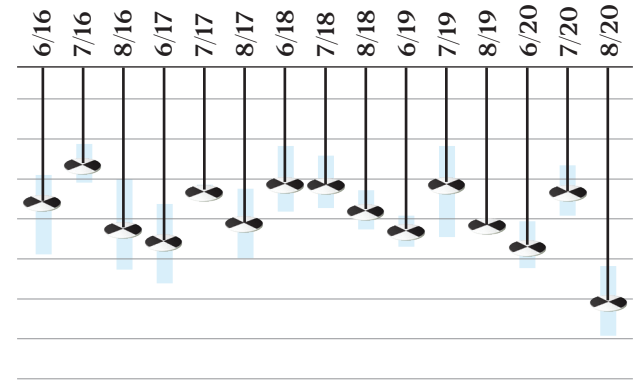
### James Current Data (2016–2020)



### Oswego Historic Data (1994–2020)



### Oswego Current Data (2016–2020)



# Tom & Janice Hodson: Oswego Lake

*When Tom and Janice's family started to expand with grandkids, they decided to experience lake life and rented a small cottage on Lake Tippecanoe. That led to the purchase of their own property on Oswego Lake, which later became their retirement home in 2010. They quickly learned that lake life was meant for them.*

That was not the first time Tom had been to the Tippy chain, though; the lakes have a special place in his memory. Several of Tom's friends from Wabash, Ind. spent their summers on Tippecanoe, so he was familiar with the joys of boating, swimming and skiing. Like most young adults

from northern Indiana, Tom enjoyed rock n' roll music under the summer skies at Tippy Dance Hall. Tom would drive up to the Tippecanoe Dance Hall

on weekends for Saturday dances. It was the 1960s and they danced to live bands and rock n' roll classics like Bob Dylan and the Beatles.

Tippecanoe  
Dance Hall





Oswego Lake

# Tippecanoe River

The Tippecanoe River is over 160 miles long. It offers scenic stretches of kayaking or canoeing, winding through portions of Kosciusko County and nearby counties. (This water eventually empties into the Gulf of Mexico.) It connects lakes across the county, from Webster Lake and the Tippecanoe chain, to Winona, Center and Pike lakes, to Yellow Creek and Beaver Dam lakes. Along the way, the river drains excess water while providing a clean water source for agriculture and drinking water. It also provides a habitat for many kinds of life, including several endangered species, making it one of the top 10 rivers that needs to be preserved, according to the Nature Conservancy.



Tippecanoe  
River Map





While he was in high school, Tom paddled the Tippecanoe River from its headwaters to where it met the Wabash River. The voyage took two and a half days, but as a Wabash native familiar with the Wabash River, Tom was impressed by the Tippecanoe. He described it as a beautiful, meandering stream; he never knew what was around the

next bend. The trip left an impression on him, and

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*The voyage took two and a half days, but as a Wabash native familiar with the Wabash River, Tom was impressed by the Tippecanoe.*

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he developed a connection to the river and the

lake chain which likely influenced their move to the area later on.

Tom and Jan connected with the Lilly Center in 2017 through their interest in the Lilly Center's research and education efforts benefiting their lake. They started financially supporting the Lilly Center immediately and faithfully, investing in a bright future for Oswego Lake.





**Tom** has enjoyed introducing his grandchildren to the lake.

## Sunrise to Sunset

Oswego Lake is a connection point for Tom and Janice, their children and five grandchildren. Some of their best family memories revolve around the water, like

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*Some of their best family memories revolve around the water, like when the kids caught their first fish, or when Tom scores jumps and dives off the end of the pier.*

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when the kids caught their first fish, or when Tom scores jumps and dives off the end of their pier. The Hodson cottage has become a destination for family vacations and special celebrations. Many happy evenings are spent on the boat, counting the minutes until sunset, watching the sky

shift from cornflower blue, to episcopal purple and sherbet orange, to dress-blues navy.

The sunsets are beautiful, but so are sunrises. “I love getting up and opening my curtains in the morning,” Jan said. “The way the sunshine hits the water and trees... I can barely describe it. It’s beautiful.” The early-morning light strikes the trees on the western shore and illuminates their edges, bringing new dimension to the water and homes nestled along the shoreline. “That’s probably my favorite part about living on the lake,” Jan said.

Jan Hodson



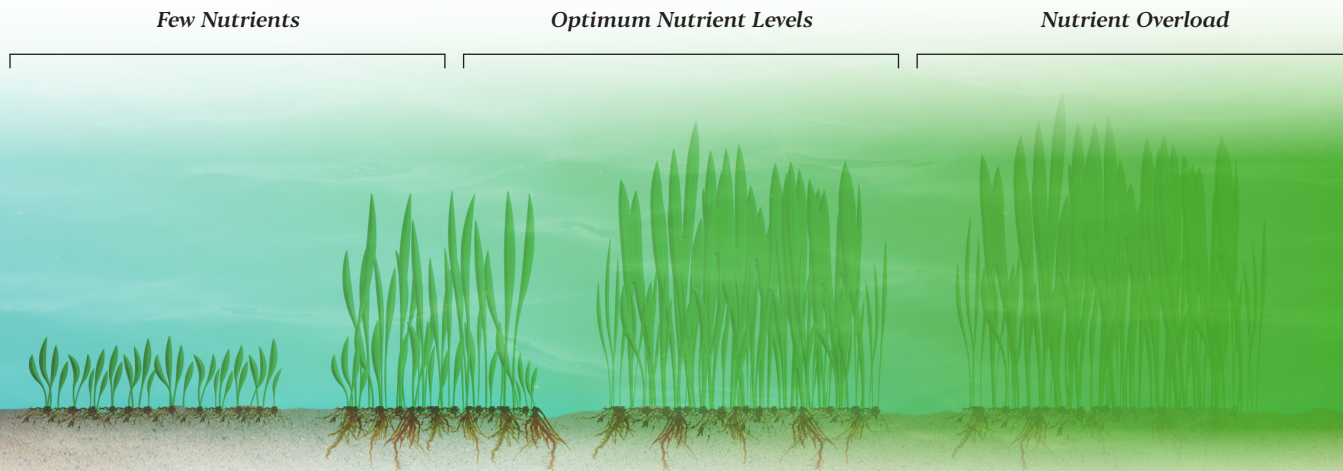


## Nutrients

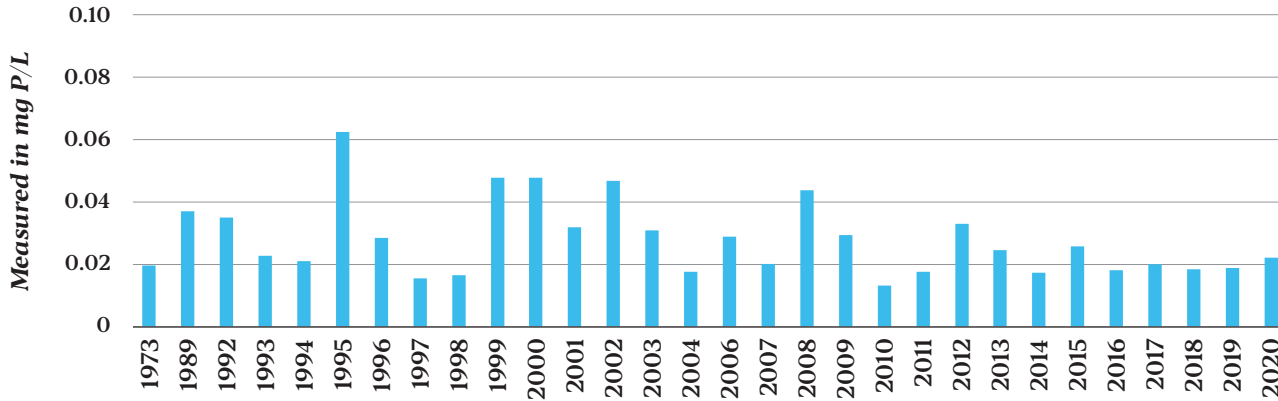
*Aquatic plants, like weeds and algae, rely on these essential minerals to grow.*

Tippecanoe, James, and Oswego lakes show much variability but do not show any obvious trends in total phosphorus levels in July and August over the past 50 years. Over this time period, surface water phosphorus levels vary from 0.002 to 0.163 mg/L; most of these measured levels are well above the Environmental Protection Agency recommended guidelines.

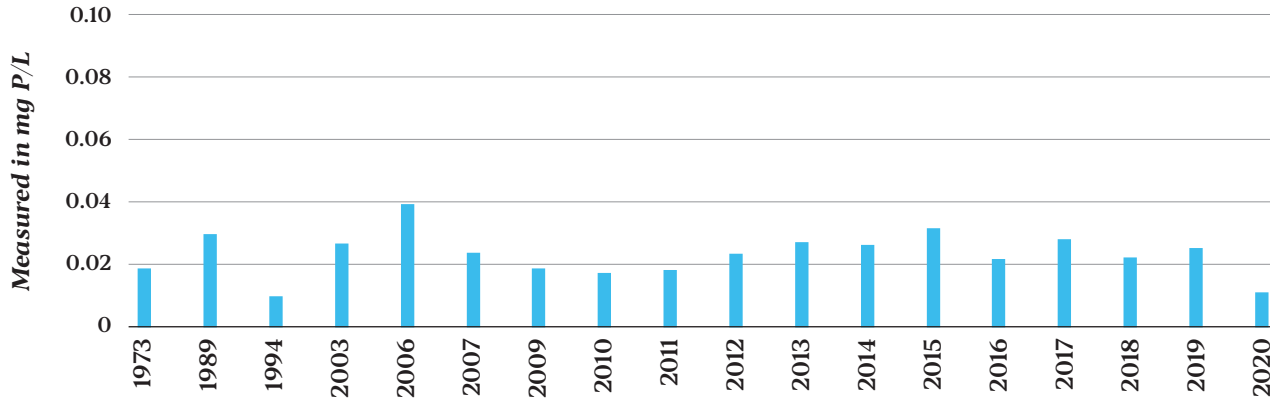
**Nutrients, Plants & Algae:** This figure below illustrates how nutrients affect a lake's plant life.



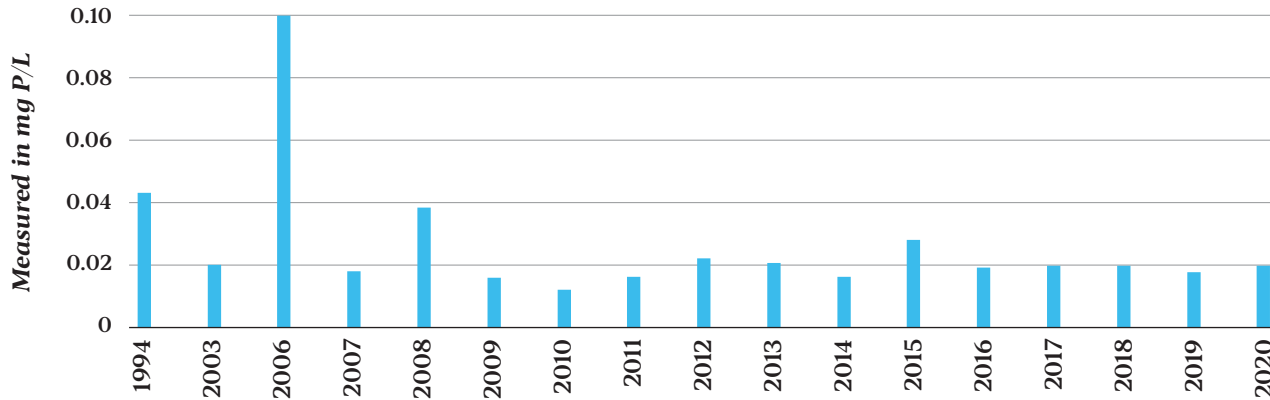
### Tippecanoe Historic Total Phosphorus (1973–2020)



### James Historic Total Phosphorus (1973–2020)

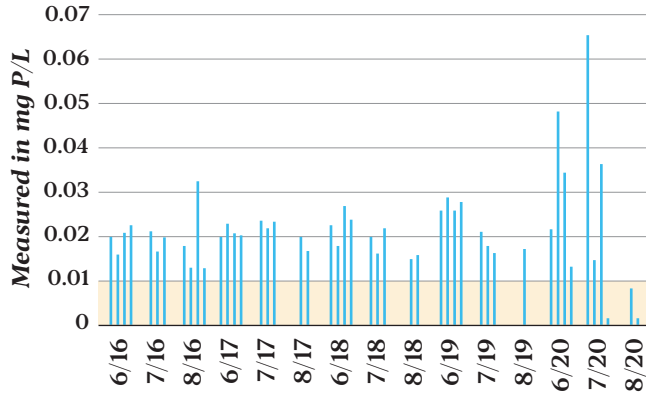


### Oswego Historic Total Phosphorus (1994–2020)

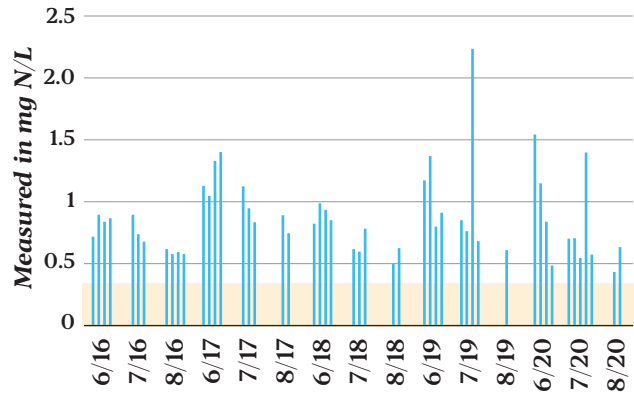


# Nutrients (continued)

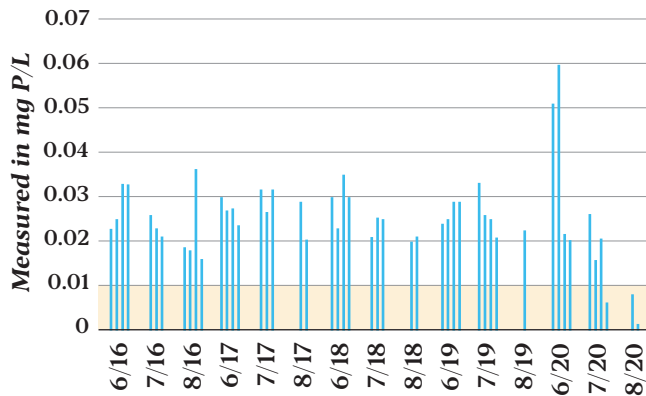
**Tippecanoe Current Total Phosphorus (2016–2020)**



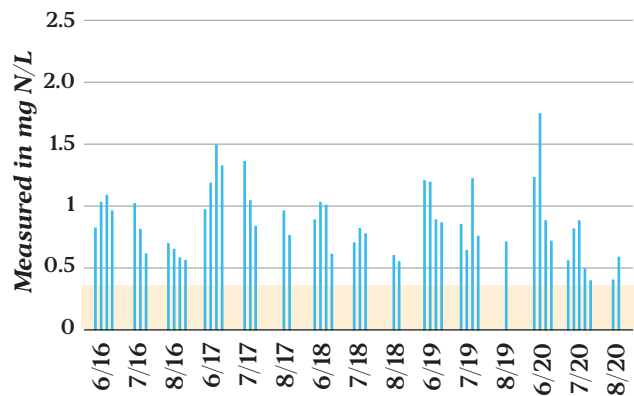
**Tippecanoe Current Total Nitrogen (2016–2020)**



**James Current Total Phosphorus (2016–2020)**

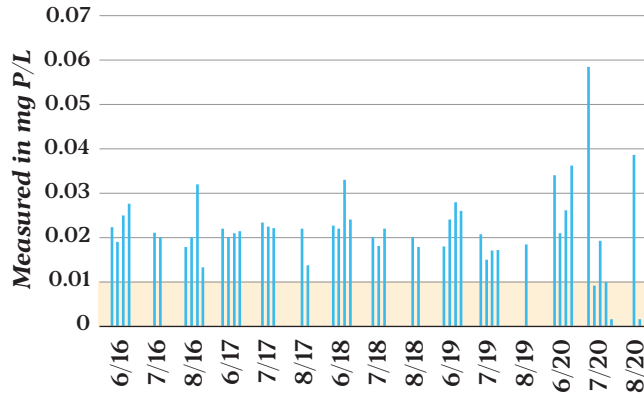


**James Current Total Nitrogen (2016–2020)**

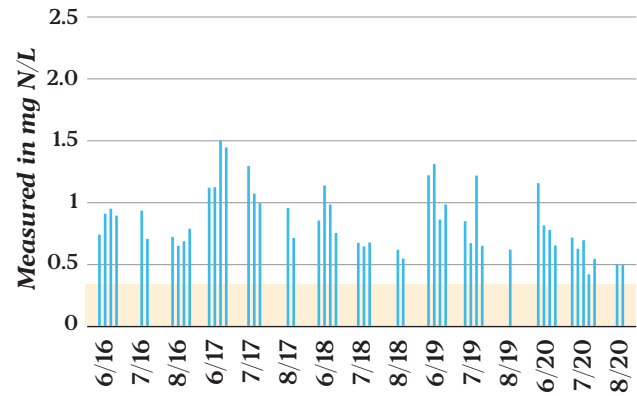


■ Within recommended EPA guidelines

**Oswego Current Total Phosphorus  
(2016–2020)**



**Oswego Current Total Nitrogen  
(2016–2020)**



Within recommended EPA guidelines

Both phosphorus and nitrogen levels in Tippecanoe, James, and Oswego lakes were consistently above the Environmental Protection Agency recommended guidelines. The phosphorus and nitrogen levels were variable throughout the summer, indicating varying sources of nutrients as well as weeds and algae actively using these nutrients.

**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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