



WAWASEE AREA CONSERVANCY FOUNDATION

CONSERVANCY VIEWS

Protecting our watershed through **AWARENESS, ANALYSIS** and **ACTION.**

Fall 2024



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Photo credit: Larry Baumgardt

Celebrating the power of collaborative partnerships

By J. Terry Clapacs, Board Chair



Collaborative lunch with Lilly Center for Lakes and Streams, The Watershed Foundation, and WACF.

Photo credit: Rusty Martinez, Lilly Center for Lakes and Streams

Seventeenth-century English author John Donne wrote in a poem that, “No Man is an Island.” Those words ring truer today, not only for mankind but also for organizations like your WACF. While the WACF Mission Statement and goals are unique to our organizations, success is only possible with a lot of help. Partnerships make a difference in several important areas of operation. A few examples of the benefits that come with partnerships include...

- Joining with other agencies increases the general knowledge base for both parties.
- Access to expertise not found within WACF.
- Financial efficiencies occur when costs are shared or not duplicated.

WACF is proud to partner with many groups that help create a synergy of outstanding performance driven outcomes for all parties. Some are found in governmental oversight authorities like the US Fish and Wildlife, Army Corps of Engineers, Indiana Department of Environmental Management, and the Department of Natural Resources. Often, these agencies offer grant opportunities to help fund remedial actions undertaken by WACF. Center for Lakes and Streams at Grace College and Indiana University’s Clean Lakes Program provide academic partners and resources. WACF contracts with several consultants who bring know-how to help battle problems in wetland restoration, invasive species control, and water quality. Sister organizations like the Tippecanoe Watershed Foundation, St. Joe River Basin, Kosciusko County Community Foundation, and the Indiana Lakes Management Society are also partners and share information and best practices. The Syracuse Lake Association and Wawasee Property Owners are great partners, too, and we work together to identify problems and solutions that protect this wonderful place we call home.

Of course, the most important WACF partners are our constituencies. Those folks that live on lakes in the Wawasee Watershed, the hundreds of donors, volunteers, and farmers that make up the Wawasee Community. Your involvement and support are crucial to our success.

Yes, it takes a village to protect this lovely spot in Northern Indiana for today’s and future generations.

Thank you for your support and goodwill. Together, we will get the job done.



An update from your conservancy and our project progress

By Heather Harwood, Executive Director

Thank you for your support. Because of your support, WACF has been able to apply for and participate in grant opportunities for projects requiring a cash match to complete studies and stream and wetland restorations. Your donations are critical and appreciated so we can continue to pursue these projects in our upstream areas to protect water quality. Some current work:

Projects:

- Engineering Feasibility Study - for problem areas identified upstream in the Martin Creek, Turkey Creek, and Dillon Creek sub watersheds, and defining those areas contributing to sediment and nutrient loading to our lakes and streams. Awarded by the IDNR Lake and River Enhancement to focus on problem areas identified by the Wawasee Inlet Nutrient Study data.(WINS).
- Construction of Dillon Creek Tributary shoreline protection and erosion control in farm fields upstream of Enchanted Hills and Martin Creek erosion control awarded by the Midwest Glacial Lakes Partnership to improve water quality for fish habitat.
- Wetland restoration, invasive plant removal, and timber stand improvement through the Environmental Quality Incentives Program awarded by the USDA, including work at WACF's Wilson Farm, Beck Conservancy Enclave, Bushong Preserve, Turkey Creek, and Turkey Creek Inlet Preserve, Dillon Creek, Zimmerman Preserve at Johnson Bay Wetland, Bayshore Ponds, Martin Creek, and the WACF Audubon property.
- Restoring Conklin Bay wetlands with invasive plant control—In partnership with the IDNR and US Fish and Wildlife Service (USFWS), two areas in the Conklin Bay wetlands were treated for invasive Phragmites and Purple Loosestrife. The goal is to remove invasive plants, create more open wetland areas for native plants, and improve habitat for wildlife.
- Aquatic weed treatment this year showed a fairly stable population of Eurasian Watermilfoil. Starry Stonewort continues to be an aggressive threat to our lakes and channels. It is in Wawasee, around much of Syracuse Lake's perimeter, and was also discovered in Knapp Lake, at the top of our watershed in the 10-lake chain.
- The US Fish and Wildlife Service is partnering with WACF on invasive plant removal and habitat restoration at the Hinrichs Waterfront Park and Cottrell Wetlands.

Events:

- WACF had another big year with lots of educational programming. We are grateful to our outstanding Education Committee, headed up by Cindy Peterson, Pam Schumm, and Sue Kraft, along with their talented crew of educators. We are also grateful for the adventurous Friday morning canoe trips exploring the 10 lakes upstream of Wawasee led by our canoe team: John Bearss, Jim Silcox, Tom Madru, Greg Arnott, Julie Mark, Dan, and Marilyn Berkey.
- The Annual Farm Tour, led by Russell Anderson, is always informative and impressively presents technical farming information. If you missed it this year, please join us next year for Russell's tour and explanation of farming practices and background on farming.
- Lake Talk and Eats first Saturdays. June for the Native Plant Sale, July's Bug

Catch, and August's Lilly Pad Cruise. This August, we featured Jeremy Price from the Lilly Center of Lakes and Streams to hear about fish—Ann Garceau, representing the Syracuse-Wawasee Museum on historical properties around Wawasee.

- Fishing with the DNR – the first Wednesday of July at Between-the-Lakes to catch and hold fish in our aquarium.
- Driveway improvements—Thank you to the Bearss family for donating to improve the parking area and driveway at the WACF Education Center. The Center hosts WACF events and is a trailhead for the Conklin Bay Trail and Boardwalk.

And Upcoming:

- Spring 2025 Between the Lakes Kayak kiosk - Thank you to Larry and Pam Palmer for donating to a kayak launching site at the Between-the-Lakes property on Main Channel at Mud Lake.
- The annual Christmas Lighting carry-in is Friday, December 6, at 5:30 p.m. at the Ruddell Pavilion. Check out our website for details on this event.
- Soil-Con, hosted by Kosciusko County Soil and Water Conservation District, will be held at Oakwood in March 2025. This will be the second year of this event, which features speakers on regenerative agriculture and related topics. Regenerative farming is the 'long game', with the ultimate goal of improving soil percolation and stability. Soil-Con is open to farmers who want to highlight regenerative agriculture.
- As a reminder, the trails are open from dawn until dusk at Syracuse Lake Wetlands, the Turkey Creek Overlook, Between the Lakes, the Zimmerman preserve on Black Point Road and the WACF Education Center.

The WACF Board and Staff sincerely thank you all for another great season of events.

Thank you to all our great volunteers who help with our maintenance mowing and trimming, canoe trips, educational events. We can't do it without you!

WACF mission:

To protect and enhance water quality and natural attributes in the Wawasee area watershed through water related land acquisition, educational programming, and scientifically informed action to preserve the lakes for future generations.

Photo credit: Larry Baumgardt



Wawasee Watershed National Water Quality Initiative Update

By Beth Morris, Ecology Chair

Clean water is a precious commodity and one that requires collective stewardship to maintain. The collaboration between WACF, state and county level Natural Resources Conservation Services, local Soil and Water Conservation Districts, and Ecosystems Connections Institute on the Wawasee Watershed National Water Quality Initiative (NWQI) is another example of partnership in action to enact mutually beneficial practices aimed at improved soil health and clean water.

What is NWQI?

NWQI is a premiere USDA program focusing on partnerships between federal, state, local and private resources to support voluntary on-farm conservation investments that benefit soil health and water quality by reducing erosion and nutrient runoff. With this designation, the Wawasee Area Watershed was allocated federal cost-sharing dollars in the amount of \$1,245,000. The selection our watershed was driven by WACF's investment in WINS that has provided unparalleled data showing how much precious and costly nutrients and soil are being lost from farmland and inadvertently ending up in local streams and lakes. This study was undertaken proactively to protect the healthy watershed from degradation and maintain clean water for future generations.

One hundred percent of the NWQI funds will go to participating farmers in the Wawasee Area Watershed as a cost-share for implementing conservation practices. In 2024, the first of three years of NWQI funding, interest was so great that NRCS procured additional money to fund six applications for a total exceeding \$672,000. The funded conservation practices include:

- 1,482 acres in cover crops (covering approximately 14% of agricultural land in our watershed)
- 2,551 acres in nutrient management (soil testing to enable targeted quantities of fertilizers applied using GPS Mapping)
- 228 acres of wheat in rotation
- 602 acres of other practices that improve soil health

Eliminating duplicate acres, these practices will cover 2,780 acres!

How will these conservation practices benefit both farmers and our lakes?

Cover Crops. A farmer's most important asset is the soil. According to USDA, use of cover crops helps increase organic matter in the soil. Increased organic matter in turn increases the soil's holding capacity for water thereby making the land more resilient to extreme weather. In the spring, newly planted crops can utilize nitrogen from the decaying cover crops left on the fields, potentially reducing the amount of fertilizer required.

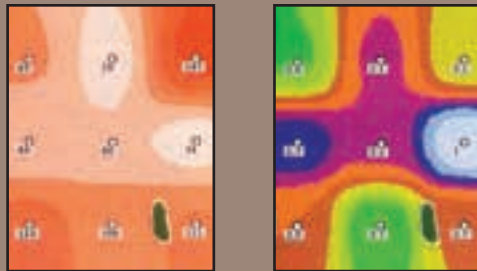
Cover crops can also smother weeds and increase biodiversity. Over time, cover crops can improve soil health, leading to improved productivity and higher return on investment for farmers. The watershed in turn benefits from reduced runoff of soil and nutrients. As lower quantities of sediment and nutrients enter the lakes, over time the lakes can flush out legacy nutrients that have accumulated over the years.

Nutrient Management. Soil nutrient management is defined by the USDA as "managing the application of commercial fertilizers, manure, amendments, and organic by-products to agricultural landscapes as a source of plant nutrients." By sampling and testing soil from a field in a grid pattern, the data can be used to calculate the right amount, proper source, appropriate application method, and right timing for applying external nutrients to a field. This type of focused fertilizer application maximizes the nutrients taken up by a crop while minimizing the amounts wasted or lost to erosion. The latter benefits water quality.

Wheat in rotation. According to the American Society of Agronomy research, including wheat in rotation with corn and soybeans increased yields for corn and soybeans. Wheat in rotation can also improve soil health and structure. In turn, improved soil structure reduces erosion and runoff risk by increasing water infiltration, thereby reducing sediment and nutrient introduction into our streams and lakes.

It's a long journey.

With the climate trend toward heavier and more intense rains comes an increased need to slow the flow of water in our watershed. Improved soil health that holds more water and reduces erosion and runoff is the ultimate way to "shut off the tap" of sediments and nutrients that over time chronically pollute our lakes. The NWQI funds allocated for these conservation practices provide critical support to farmers who work hard to ensure ongoing profitability while improving soil health. In addition, the NWQI dollars will make a significant difference in our watershed, helping reduce soil erosion and pollution and improving water quality. This is not a quick fix. Changing habits takes time. Changing farming practices is doubly hard as it can require additional investment in new or modified equipment. Developing partnerships on this long journey to encourage implementation of conservation farming practices is key. Our partnerships with NRCS, SWCD and local farmers through NWQI are a great start!



These are examples of nutrient management plans on a field in our watershed. The shades of orange on the first map depict varying levels of phosphorous in the soil. The more colorful map depicts varying levels of organic matter in the soil. Farmers use these plans to measure, document and purposefully manage the natural nutrient variability of agricultural soils to provide protection for the environment, maintain and improve crop yields, and in the end increase profitability for the farmer.

DID YOU KNOW?



Healthy soils have high water holding capacity. Every **1% INCREASE** in organic matter can hold up to **27,000 GALLONS** of water per acre.

500 LBS of algae and weeds can grow from **1 LB** of phosphorous.

Lake Wawasee holds **21 BILLION GALLONS** of water.

1,216 TONS of sediment entered Lake Wawasee over the **5 YEARS** of WINS; **31%** stayed in the lake.

From 2019-2023, **74,840 INDIVIDUAL TESTS** were statistically analyzed for WINS.

Five Years of WINS: Data Driving Action

By Beth Morris, Ecology Chair

Have you ever had guests that came for a weekend and just hung around instead of leaving? Do you remember how they ate your food, played with your toys, and when they finally left, your house and toys needed major cleaning or repair? Phosphorous is like that guest, and its host/hostess gift is “chronic pollution.” It’s a stubborn molecule that recycles in the ecosystem and only leaves when it’s flushed out by natural water flow, dredged out or bound chemically.

The data from five years of intensive sampling in the Wawasee Inlets Nutrient Study reveals in stark terms the magnitude of this chronic pollution, and it provides us with a clear map of areas on which to focus.

Lake systems are dynamic, changing from year to year based on weather and factors related to human use of the watershed. We’ve seen the fluctuating impact of the timing and intensity of rainfall from year to year impacting the Flushing Rate (percentage of the lake water replaced yearly) and the Residency Time (how long a drop of water stays in the lake). The five-year average residency time was 2.47 years, ranging from 2.2-3.59 years. The Flushing Rate averaged 42% with a range of 28-50% in that same time. 2020 was a dry year, resulting in a higher Residency Time and lower Flushing Rate. 2019 was a wet year with a shorter Residency Time and higher Flushing Rate. In the last two years, the proactive manipulation of the Syracuse Dam in early spring, driven by heavy rains, had a positive impact on the flushing of phosphorous out of the lake. However, there’s still plenty of that stubborn molecule left.

From 2019-2023, 1,216 tons (2,585,864 pounds) of sediment entered Lake Wawasee. That’s 65 triaxle dump truck loads that carried phosphorus along with it! Of that amount, 31% stayed in the lake. Much of the sediment and phosphorous settles into the deep areas over the lake and has accumulated there for decades. It’s this accumulation over time that causes the decline of lake health.

Phosphorous concentrations in the lake are an excellent indicator of lake health, like taking one’s blood pressure. Over the five years, the phosphorous levels have been consistently in the Eutrophic stage. What does that mean? Our lake is very “productive,” and plants and algae flourish at those levels. It tells us that our lakes, like all glacial lakes, are in a state of declining health and need proactive steps to keep them healthy.

WACF’s mission is to take action to preserve and protect the health of our watershed for future generations. What proactive steps has WACF taken over the years aimed at keeping our lakes healthy?

- Completed 23 remediation projects on tributaries that slow down the incoming water, giving phosphorous-laden sediment a chance to settle out before it reaches the lake. Using the WINS data, an engineering Feasibility Study, funded in part by a grant from DNR Lake and River Enhancement (which gets its monies from our boat registration fees) is underway in three

focused areas of the watershed. This study will identify and scope additional projects that can reduce the amount of run-off from adjacent areas thereby reducing incoming sediment and nutrients.

- Promote good boating practices that reduce stirring of the lake bottom sediment that could release “legacy” phosphorous back into the water.
- Promote use of glacial rock and native plantings at the shoreline to reduce wave action, again reducing the resuspension of sediment.
- Obtained National Water Quality Initiative designation for our watershed, securing \$1.245 million in cost-sharing funds for farmers who implement practices that improve soil health and reduce erosion of sediment and nutrients.

We’ve learned from our five years of WINS that there is no single magic bullet to protect our precious lakes. Rather, it takes a whole toolbox full of actions, each aimed at a specific way of reducing phosphorous. We’re like a baseball pitcher who uses different types of pitches to strike out different batters. And we continue to look for additional tools to implement in keeping our lakes healthy.

Now that we’ve completed five years of intensive sampling, is WINS over and done? In a word, no. WINS will continue to run with a reduced testing strategy. Leveraging the large WINS database, our partners at ECI developed a statistical model that allows us to continue to estimate the annual loads of Sediment, Nitrogen and Phosphorous entering, leaving and staying in the lake while taking substantially fewer samples. WACF will continue in this reduced sampling mode for 5-10 years, repeat the same intensive sampling protocol to compare results to the 5-year WINS baseline, then update the statistical model and assess progress in reducing incoming sediments and nutrients.

WACF is the only local organization that takes action by implementing projects that reduce this “chronic pollution.” Our efforts to get rid of phosphorous, that stubborn molecule and our recalcitrant “guest,” can be viewed as an insurance policy that keeps the lake healthy, thereby protecting your property values.

LAKE WAWASEE WATER BUDGET ●●●●●

	2019	2020	2021	2022	2023
Flushing Rate (%)	45	28	42	50	45.5
Residency Time (yrs)	2.2	3.59	2.36	2.01	2.2
Annual Rainfall (in)	40.5	30.7	36.4	32.3	32.78

Have you heard?

By Pam Schumm, Education Officer

The WACF Education team will continue the Lake Talk and Eats series into the winter months! All events are FREE, and Zoom links will be available for those who cannot attend in person but want to join remotely. They will be on the first Saturday of the month, and we will begin in February. We want you to know that we continue taking action in our watershed to protect, preserve, and enhance our waters all year round. So, put those dates on your calendar and watch for more information in later newsletters and social media posts. Do you have a topic you'd like us to cover? Send us a note (pam@wacf.com), and we will research that topic and create a program together. We are here for YOU.

The Education team has finished their 2024 season educating both adults and youth about the value of our watershed and our work to keep our water quality at the highest level possible. While our totals are still being tallied, we know we've reached over 2918 individuals this season, and our volunteers have logged over 1400 hours! We think that's pretty incredible! We can't bring education to all these individuals without the help of our wonderful volunteers! Join us for the adventure. If you would like to help volunteer at any of our education events, please contact pam@wacf.com. Your help will be greatly appreciated.

DID YOU KNOW?



Since 2016

—19,321^{PEOPLE}—

have attended educational events at WACF



Last spring, WACF was granted an educational grant through Arrow Head Country RC&D Area Inc. for trail cameras. We installed the cameras this fall and will monitor our wetland animals and how they adapt to our ecosystem all year long. Stay tuned to our email blasts and social media for trail cam updates. Thank you to Arrow Head Country RC&D Area Inc. for this opportunity.



Celebrating Generosity: Meet the Palmers



The Palmer family first arrived at Wawasee in 1960, renting a cottage on Ogden Island for many years. Larry and Pam continued this tradition by renting on Sunrise Beach. In 2005, Larry and Pam purchased their current home, just two doors down from where Larry spent his early years on Wawasee.

As a child, he recalls his friends and himself attempting to ski or “tube” on nearly every type of contraption imaginable. When he was a young teenager, he visited some friends on Waveland Beach. They ended up having a competition with some folks on Natti Crow to see who could pull the most skiers. They went back and forth, and finally, by using their boat and 13 skiers, they got it done, but it resulted in a mess of tangled ropes.

As with many, the family times spent with their daughter Elle, her friends, and the many families around the lake have been some of the best memories imaginable. One of their fondest memories occurred in 2019 when they pulled Larry’s then 89-year-old mother, Barbara, skiing. She was thrilled.

The family has always been very active users of the lake. Whether it was the days of rarely getting out of the water, playing horse off the end of the pier, or racing an E Scow on Sundays, the water activities never seemed to stop. Larry and Pam wanted to honor Larry’s mom and dad by creating a way to allow more people to enjoy the lake. Working with the WACF, a new kayak rental program will be installed at the Between the Lakes property in the spring of 2025.

Be the change: How you can contribute to our mission

Donating to WACF allows us to keep our mission of protecting, preserving, and enhancing the Wawasee watershed for future generations. 100% of your contributions stay in the Wawasee Watershed to allow us to protect our watershed through Awareness, Analysis, and Action. Here are some different opportunities to donate to WACF:

- One-Time Donations

One-time donations are the most straightforward way to contribute. You can make a single donation of any amount to support. These donations are flexible and can be made online, by mail, or in person.

- Recurring Donations

Recurring donations involve making a regular contribution, such as monthly or quarterly. You can set up these contributions through our website’s online giving platform.

- Legacy Society

Planned giving includes bequests, trusts, and other financial instruments that allow you to leave a legacy. Planned gifts are a variety of charitable giving techniques that will enable you to express your values to your charitable, family, and financial objectives. A planned charitable gift usually requires the WACF’s development officer and/or your attorney, financial planner, or CPA to help structure the gift.

- Eli Lilly Lifetime Founders Society

The Wawasee Area Conservancy Foundation honors donors whose donations total \$100,000 or more by welcoming them to the Eli Lilly Lifetime Founders Society.

- Waco Pavilion Society

The Waco Pavilion Society honors donors who give \$1,000 annually to WACF.

Whether you give a one-time donation, set up a recurring gift, or become one of our society members, your contribution can help drive meaningful change. Explore the options that best align with your values and financial situation and take the first step towards making a positive impact today. If you have any specific questions, contact Emily Maggart, Development Officer. We will be happy to help you find more tailored opportunities to donate!





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Wawasee Inlets Nutrient Study (WINS) by the numbers

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