What is a Watershed?

By Dr. Joan Szynal, WACF Chair

Last fall I was on a girl's weekend in Savannah. On a walk along the river I commented to my friends that I wondered what area the watershed for the Savannah River encompassed. One of my friends asked, “What is a watershed? You always use that term and I have no idea what it means.” I thought she was joking at first. And then I realized she is probably not the only one that does not understand the meaning and consequences of “watershed.” This term is the absolute foundation of all our work at WACF. We have maps of our watershed everywhere around the center. We take them on canoe trips. We take them to lectures and presentations. We refer to the map at each and every board meeting. That map is the foundation of all our sediment mitigation projects. Because a drop of water within these boundaries may carry sediment …or phosphorus…. or nitrogen… and ultimately be in front of your pier causing murky water.

So take a minute and study this map. Look at the boundaries. It extends for miles north and east into Noble County. All this land drains through 4 main tributaries to Lake Wawasee. Turkey Creek, Dillon Creek, Papakeechie Lake and Martin Ditch… Take a minute to find them on the map. This is the area that WACF monitors. In this 24,000 acres we control erosion, treat invasives, acquire land to protect wetlands, and educate. We are not doing work in Warsaw or in Goshen or in Milford. Our job is to protect THIS watershed. Your donations are put to work for THIS watershed.
An Update from the Executive Director

By Heather Harwood, WACF Executive Director

WACF has a mission with one major goal: to protect the water quality of our lakes and streams in the Wawasee Watershed. We partner with others who are also focused on protecting our water quality. We appreciate our partners and are grateful to receive new Grants this year from:

- the US Fish and Wildlife Service for Invasive Plant Removal at WACF’s new property at Gordy Lake
- IDNR LARE for an Engineering Design Study on Turkey Creek Tributary,
- IDNR LARE for an Aquatic Weed Plan Update and treatment of Starry Stonewort and Eurasian Watermilfoil
- the Harkless Foundation for seating at our new amphitheater,
- the Kosciusko County Community Foundation for the Martin Creek Drainage project

Working together, we can make a big impact and we all will benefit. If you want to join us in an effort to keep our waters clean, here are some tips for good stewardship living on the lake:

• Never use the lake as a disposal site for leaves or other yard refuse. These speed up eutrophication by “filling the lake.”
• Eliminate fertilizing. This choice is the best solution, but if lawns must be fertilized, soils should be tested for chemical nutrient requirements so the appropriate fertilizer can be selected. Never use a fertilizer containing phosphorus or potash unless a soil test indicates a need for these nutrients.
• Avoid spring fertilizing. The nutrients are wasted on foliage. Feed lawns in the fall when growth slows and roots can store the nutrients. If you must fertilize in the spring, use small amounts of a soluble form of nitrogen, a lake-friendly” or slow-release nitrogen after spring runoff and rains. Several low level applications are better than a single, large application.
• Do not apply fertilizers adjacent to seawalls or close to the shoreline. Leave a reasonable, 10-foot, non-fertilized zone along the shoreline to absorb runoff in these areas.
• Leave grass clippings. This practice saves labor and returns vital nutrients to the soil.
• Seed lawns in the fall. Eliminates competition from crabgrass.
• Consider not having a lawn and establishing a greenbelt of trees and shrubs between your house and the lake. Greenbelts reduce lake pollution, provide a home and food for wildlife, offer a more aesthetic view of the lake and require less maintenance.
• Carefully consider all beach and seawall construction. These activities increase erosion and disturb nutrient rich sediments. Glacial stone along the shoreline can absorb waves and improve your swimming area.
• Disturb as little topsoil, shrubbery and grass as possible when doing any excavation near the lakeshore. Promptly grade and seed all disturbed soil at the water’s edge to eliminate erosion.
• Do not burn or compost near the lakeshore. These activities tend to increase soil erosion.

Be Wake Cool

There are several causes for dirty water – and we can all help protect our clean water by being aware of the shallow areas in the lake and when boating, not stirring the bottom of the lake. Wawasee is a shallow lake. 18% of the lake is covered by water less than 5 feet deep, 55% is covered by water less than 15 feet deep. (JFNew April 13, 2007). The majority of boating activity, such as wake boarding, skiing and cruising takes place at this depth... just outside the buoy line. It has been estimated that there are approximately 7000 boats on Wawasee and an increasing number are high powered inboard/outboard boats, wake board boats, and cabin cruisers whose props are deep drafting. It does not take much to disturb the bottom of the lake. JFNew’s study reports that a 10 hp. motor is capable of disturbing the bottom in 6 feet of water while a 50 hp. motor can easily disturb the bottom in 15 feet of depth. Boat speeds in the range of 7 to 12 mph may have the greatest potential to stir up the bottom. These boats are being driven with their bows up and their sterns (props) down. Please be aware of boating impacts on the lake and ‘Be Wake Cool’.

Canoe Trips

We hope you will join us on our Friday morning canoe trips this summer down the 10-lake chain through Turkey Creek. Our canoe team will lead you on a trip sharing some history and ecology along the way from upstream in Knapp Lake at the Continental Divide in Noble County downstream to Village Lake at SR5. This Creek is important because it provides 43% of the surface water supply to Wawasee and Syracuse Lakes. If you are interested in joining us next summer, email our canoe logistics manager Al Campbell at aldotcam@gmail.com, or our office at info @wacf.com.
In our Wawasee Area watershed, we are blessed to have four excellent active organizations working to ensure our continuing enjoyment of the lake lifestyle and clear, clean water. While the two lake associations are very similar, the other two are quite different. Many times there is some confusion about the primary focus of each.

The Wawasee Property Owners Association (WPOA) is the oldest organization of the four and has a proud history. The WPOA works tirelessly to provide many family events that the Lake Wawasee property owners may enjoy. The Syracuse Lake Association (SLA) unites the property owners of Lake Syracuse in an organization similar to the WPOA. Both the WPOA and SLA provide many services that ensure that lake recreations may be enjoyed in a safe manner. A few of their many accomplishments are listed in the table below.

The Center for Lakes and Streams (now the Lilly Center for Lakes and Streams or LCLAS) is the newest organization of the four and primarily does water quality research on the many lakes in the greater Kosciusko county area including but not exclusive to the Wawasee area watershed. They are affiliated with Grace College and are currently building a new modern headquarters near Winona Lake in the Warsaw area. At this time LCLAS limits their activity to research and education, leaving the implementation of actual “hands-on” projects to improve and protect water quality to organizations like WACF.

The Wawasee Area Conservancy Foundation (WACF) is an offshoot of the WPOA and has been in existence since 1991. The Conservancy works exclusively in the Wawasee area watershed. WACF promotes wetland education with a variety of free programs offered at either the WACF Education Center or the WACF Between-the-Lakes Preserve on Lake Wawasee.

WACF also works with the farming community and various state agencies finding and coordinating projects to reduce sediment and pollutant flow into the watershed streams and lakes. In addition, WACF acquires and protects key wetlands and endangered shoreline areas. Over that last 26 years, the efforts of the WACF have resulted in the acquisition and protection of over 10 miles of shoreline and 48 wetland areas totaling over 850 acres.

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<th>WPOA</th>
<th>LCLAS</th>
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<tr>
<td>Created and currently sponsors Boating Safety Patrol</td>
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<td>Publishes and distributes property owners directory</td>
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<td>Provides “pump &amp; dump” waste stations at public ramps</td>
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<td>Sponsors July 4 fireworks display</td>
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<td>Annual property owners breakfast and dinner</td>
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<td>Responsible for Lake Wawasee dry hydrants for fire fighting</td>
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<td>Weekly testing and monitoring lake water quality in Wawasee area watershed</td>
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<td>Sponsors educational watershed programs in Wawasee watershed</td>
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<td>Sponsors educational watershed programs primarily in the Warsaw area</td>
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<td>Aquires and protects wetlands (over 800 acres) in Wawasee watershed</td>
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<td>Aquires endangered shorelines (over 10 miles) in Wawasee watershed</td>
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<td>Funds and manages projects to reduce erosion in Wawasee watershed</td>
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<td>Funded by membership dues</td>
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<td>Funded by Grace College, Lilly endowment, grants and donors</td>
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<td>Funded by grants and donors</td>
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<td>Provides walking trails and meeting place for Wawasee community</td>
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<td>Works with local farmers on best practices and funding for drain repairs</td>
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<td>Conducts ecological canoe tours weekly in season</td>
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<td>Lake water quality research in Wawasee Area watershed</td>
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<td>Using research to initiate projects to protect water quality</td>
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<td>Studies invasive plants and possible treatments</td>
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<td>Coordinates and funds actual treatment of problem invasive plants</td>
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Our first WACF Earth Day Festival was an overwhelming success on April 22, 2017! It was held under individual canopy tents spread out across the grounds of the WACF Levinson-LaBrosse Education Center. Nearly 250 people attended this event and participated in all kinds of activities. There was archery, fishing, fly tying, arrowhead making, wakeboarding do's and don'ts, Syracuse-Wawasee Trail information, nesting boxes, native seed ball making, soil information and textures to feel, free food, Wawasee specific watershed demonstrations, how the WACF monitors the waters to keep the lakes clean and the jobs of the wetlands. Participants walked away with smiles on their faces, wrist bands or necklaces to remember the day and information about the value of our watershed. Watch for the next Earth Day Festival April 21, 2018! We hope to see you there.
Over the past few years, WACF has been doing studies on the land and drainage around our number 2 most significant problem area...Martin Creek. Martin Creek drains the watershed east of the Wawasee Middle School.

A few years ago we purchased some five acres which allowed us to build a sediment pond just south and east of the middle school. It helped to slow the silt and farm chemicals from entering Martin Creek which runs along 800E and then into Leeland Channel by South Road.

We had previously restored a small pond at the corner of 800E and 1000N called Martin Pond.

These two ponds help allow water to drop out its solute load (silt, etc). Periodically we have to clean these sediment ponds out. While they have helped, this watershed requires more capacity for slowing the water. In continuing our work, we did some engineering studies and planned more work to help control and to slow the runoff from this hot spot.

This Spring we will begin construction of new drain tiles to alleviate much of this. Since it involved property from the Wawasee Middle School drainage pond and land as well as farm drainage from the Buhrt farms just east of the middle school, we sat down with those people and worked out a comprehensive plan. The overall cost was expensive but WACF was committed to fixing this problem.

Don and Kim Buhrt, Wawasee School Corporation, and a grant from the Kosciusko Community Foundation committed to work with WACF and contribute to make this project happen.

It is our hope that this will help considerably in preventing the silt and chemicals from entering Wawasee through the Leeland Channel. In addition, the Leeland Homeowners Association give annually to WACF as well as making their individual donations.

This project points out WACF’s commitment to solving our problems. It also shows how, with the help of our land owners and friends, we will use your donations to search out and fix the problems confronting our watershed.

At WACF we seek out any problem that affects the watershed, then design, with ecological engineering companies, a way to alleviate the problem, and then implement construction of the project. WACF monitors the affects and costs since it is you who supplies us with the funds to do all of this work. Without your help and funds, none of this is possible. So we thank you and assure you that WACF will continue to work for our community.

A few months ago legislation was introduced in Indiana regarding CFOs or Confined Feed Operations. A CFO is any operation that houses 300 or more cattle, 600 pigs or 30,000 fowl/poultry. The management of the waste for 600 pigs or more and its disposal can be a major environmental issue. The original bill weakened the permitting and public notice requirements for CFO expansion. It also amended the disclosure of owner/operators and managers of these facilities so that those with past infractions may not be identified. This was not a bill that was good for our lakes!

WACF opposed this legislation. I met with Rep. Wolkins and other members of the House Environmental Affairs committee voicing our concerns related to the impact this legislation could have on our lake community. WACF was in constant contact with attorneys from the Hoosier Environmental Council who opposed the bill. Notification of this issue was included in WACF email blasts as well as updates on our Facebook page. Many THANKS to all of you that contacted your representatives about this issue. Your voice made an impact. The bill is now sidelined before the Senate.

As chair of WACF I have been keenly aware that this lake is a fragile resource and requires vigilance for its protection!!! Your involvement and financial support make this protection possible.
Ecology Update

By Beth Morris, WACF Ecology Committee Chair

Your WACF Ecology Committee serves on many fronts to help us understand our water quality challenges. Our dedicated volunteers have collected samples for water quality testing every summer since 1994. In 2016, data collected by WACF volunteers from 1994 to 2015 was analyzed (see charts below). It shows that the total phosphorous has decreased since its highest level in early and mid-2000’s and that water visibility is improving. We are convinced that the many upstream projects completed by WACF such as the sediment and erosion control projects on Dillon and Turkey Creek watersheds have contributed significantly to the improvement of water quality.

Lake Wawasee Total Phosphorous Data
Rolling 3 Year Average in July/August

Lake Wawasee Secchi Depth Data
Rolling 3 Year Average in July/August

Starry Stonewort

One of our biggest challenges in the lake is an aggressive weed called Starry Stonewort (SSW). Starry Stonewort is an algae. It has no root system and is not attached to the bottom. It has tiny, star-shaped, tan-colored reproductive structures that are firm to the touch when compared to its soft branches. It has a tendency to colonize deep water and can form dense mats several feet thick. It can impede navigation and limit growth of more beneficial plants. It can reproduce easily by fragmentation.

There are areas in the lake that have gotten such thick populations of Starry Stonewort that it’s difficult to boat or swim. The IDNR is helping us fight this weed by once again working with WACF to fight the spread of this invasive weed. If you’d like more information on Starry Stonewort, please check out the valuable information on our website by Dr. Jerry Riffle. Jerry has put together a comprehensive collection of photos, history, treatment, maps and the trends of Starry Stonewort in Wawasee and Syracuse Lakes.

Photos: MyMuskegonNow.com; Paul Skawinski; Jason Wachter; MN DNR
Look for many youth activities at the WACF this summer. In particular you will want to bring elementary and middle school youth to the WACF Levinson-LaBrosse Education Center on Thursdays during July! From 9 – 11 we will have several activities to help the youth of our watershed understand concepts about clean water, clean lakes and other interesting aspects of nature. Last year the big hit was the canoe scavenger hunt and that will be repeated this year so bring your life jackets, we provide the canoes and paddles! An adult must accompany the kiddos and remain with them during the morning. Each morning session will be different so you will want to come to all four! There is no registration and it is FREE! So roll out of bed and come explore nature and our watershed this July! See you on July 6, 13, 20 and 27.

There will be a few new field trips for Wawasee Corporation students this spring and late summer. In May the first graders will come learn about how different animals and plants survive. They will do activities that demonstrate how different birds get food, how camouflage works, different forms of movement, etc. The following week the sixth graders will come to the Center to learn about erosion control and alien species. In late summer, just after school starts, the freshmen will come to our newest property – Between the Lakes – for the second annual 9th Grade Watershed Raft Adventure. These students will learn about our watershed by rafting through Mudd Lake and into Syracuse Lake while testing the water and observing different aspects of the wetlands. At the end of the trip they will play a trivia game to see how much each raft team remembers. Last year no one went home dry, we will see what happens this year!

Adults should not feel left out of the education programming at WACF. We created and presented Discover the WACF to several area groups this past spring. It’s a 30 minute presentation that highlights our watershed with both a slide show and an interactive activity plus a short video. If your group would like to see the presentation, please contact education@wacf and we will be happy to schedule a showing for you between the months of November through March.

Healthy Shorelines

By Dr. Joan Szynal, WACF Chair

Wow…. There has been some amazing activity around the lakes this year to improve our shorelines… A big round of applause goes to Tom and Patricia Kelley, pier 801. They REMOVED their seawall and replaced it with glacial rock. The ecological benefits of such a project include diminished wave action and providing a more natural environment for fish who will now feed on the little invertebrates that hide in the rocks. It also allows frogs and turtles a conduit to shore to seek shelter and lay eggs. Thank you Tom and Patricia!!!

Please consider glacial rock in front of your seawall. On our FB page is a video of the rocks at our property. With the improved “step” design, there is very little collection of debris and the rocks were very stable in their position over the winter. And I promise you will love the sound of the water lapping over the rocks. It’s a great new place for your hammock and a short summer nap!
Our watershed is large and requires lots of man hours to maintain it in different ways.

WACF Board of Directors and staff is made up of 25 people who help run the organization and also do most of the work that is required.

For years we’ve been seeking help from you in any volunteer capacity. Few of you have answered our plea but the job is getting bigger and bigger. Some of the work is physical and some isn’t, but we need help!

Sure we could spend your donations for some of it but our goal is to use your money more for land purchase and other projects to help keep our watershed clean rather than helping clear a trail or clean up leaves, etc.

Our education committee always needs help especially with all the school children that come to our headquarters to learn about the environment.

So why not give us a call and lend a hand to help keep your lakes clean.

Volunteer online at www.wacf.com or call WACF at 574-457-4549.