



Platte Lake Improvement Association

Keeping Watch on Platte Lake for more than 40 years

ANNUAL
REPORT
2021

We are a grassroots, non-profit association of individuals committed to insuring that Platte Lake is a healthy and beautiful body of water to be enjoyed now and in the future.

Wil Swiecki steps down as PLIA President after serving more than 40 years

Fifty years ago, Wilfred Swiecki stood in three feet of water on the edge of Platte Lake and couldn't see his feet. The lake he had enjoyed since childhood had changed from a beautiful clear body of water to a green algae ridden fog. At that moment, he made a decision to act and has not stopped since. He has worked tirelessly to restore the lake he loved to what we have today, a clean clear lake to be enjoyed again. Everyone who swims in Platte Lake today is deeply indebted to Wil for his sacrifice of time and energy.

Utilizing his expertise as an engineer, Wil began investigating the most likely source of the problem, the State of Michigan fish hatchery located ten miles upstream from the lake which had significantly increased fish production. Building the case that would prove that the hatchery discharge (phosphorus-containing fish waste) that resulted from over a half million pounds of high phosphorous fish food fed was the primary controllable source of phosphorus pollution and cause for Platte Lake algae blooms was difficult at best. The State of Michigan simply denied any culpability of the hatchery and resisted any effort to change their practice.



Wil and Josie Swiecki
As a young boy Wil learned to fish on Platte Lake. Now he's teaching his grandkids to fish in the same places.

He became a private investigator. Uncovering evidence and the link to the hatchery required hundreds of hours. He ferreted out documents at the Institute of Fisheries in Ann Arbor that detailed the hatcheries fish rearing practice. Core samples obtained from the base of the lake confirmed the timeline of the opening of the hatchery and resulting phosphorus pollution.

He became a litigator, suing the State of Michigan, on behalf of the lake, and winning resulting in a Settlement Agreement in 2000 that continues to protect the lake twenty years later.

Then, working with the hatchery,

he formed a partnership dedicated to changing the fish rearing practices and dramatically reduce the lake pollution. Today, the water discharged from the hatchery is oftentimes cleaner than the water it takes in. The PLIA is integrally engaged in every step of their operations that have now become a model for all fish hatcheries in the nation.

Wil didn't work alone. Importantly, he had the support of his wife Josie and many, many hardworking contributing friends of Platte Lake that were key enablers to the effort. He was, without a doubt, the leader and catalyst for change.

Wilfred Swiecki has been the only president the PLIA has known for 40 years. After a lifetime of commitment to the restoration of the lake he is stepping down from that position this year to encourage the organization to take the necessary steps to sustain the legacy he has worked so hard for. He promises to remain active in the organization as the chair of the PLIA Science and Research Committee.

Generations of families today and in the future are truly beneficiaries of that decision Wilfred made to clean up Platte Lake half a century ago.

Everyone who loves Platte Lake should join the PLIA to protect our lake

For 43 years, the Platte Lake Improvement Association (PLIA) has been protecting the water quality of our lake and the value of your property investment. Because of the efforts of the PLIA, Big Platte Lake is now probably the most studied lake in America and is recognized for its clarity and water quality. But, what if the present day beautiful sky-blue water of our lake was replaced with a foul, gray-green lake with huge algae blooms?

That is exactly what happened four decades ago. Virtually overnight homeowners saw what can happen if there are no stewards for the lake. The Fish Hatchery in Honor was pouring thousands of pounds of phosphorous into the Platte River and had fertilized the entire lake. One pound of phosphorus can create 500 pounds of algae. The lake quickly deteriorated to an algae ridden nightmare. Native plants and fish were dying. Property values were free falling. The State denied any responsibility, blaming it on the homeowners.

The homeowners banded together to form The Platte Lake Improvement Association, a non-profit 501c3 organization, to reverse the destruction of Big Platte Lake. They needed a voice and PLIA became their champion.

At their own personal expense, they filed an environmental protection lawsuit against the MDNR. The court found in favor of the PLIA and established a maximum permissible phosphate concentration for the lake. In 2000, a Settlement Agreement permanently established how much phosphorous the hatchery can discharge annually.

Today, the PLIA works closely with the MDNR and the hatchery to achieve these discharge limits.

Fish are now fed a low phosphorous diet on a strict feeding schedule to maximize fish health and growth while minimizing food usage and waste. All hatchery wastewater is now treated to decrease phosphorous content and solid waste from the hatchery is transported outside the Platte River watershed. As a consequence of these efforts, the hatchery phosphorous discharge dropped from over 4000 pounds annually to less than 150 pounds. All of this is because of the PLIA.

History has a tendency to repeat itself. As memory fades, events from the past can become events of the present. Many Platte Lake homeowners are not even aware of the destruction this lake faced in the past. Without close monitoring our lake could easily regress to what it was years ago. Upstream development is increasing every year. The Platte Lake watershed covers 193 square miles in three different counties. Every bit of contamination upstream in the Platte River will end up in Platte Lake. Ongoing testing and vigilance are critical.

PLIA is the only guardian of this lake. No one else is paying for monitoring the lake. PLIA is responsible for 100% of the cost of lake and river sampling. If the Fish Hatchery falls out of compliance it will be up to PLIA to discover it. We cannot exist without the ongoing support of our membership.

If you are not a member of the PLIA please join us and support the volunteers who have worked hard to restore the lake so it can be enjoyed now and protect it for future generations.

The lake cannot speak for itself. Join PLIA and help us speak for it.



What we accomplished last year

- Continued to closely monitor the operations of the fish hatchery. The Hatchery phosphorus discharge for 2020 was 18.32 pounds (Annual discharge limit is 150 pounds).
- Partnered with the MDNR to monitor the fall salmon run passage from the lower weir on the Platte River. Only 17,946 adult coho and 14 adult chinook salmon passed the weir which was below the 20,000 limit for coho and 1000 limit for chinook.
- Funded the Platte Lake and tributary water quality sampling and data collection. Despite the COVID pandemic, the Benzie Conservation District was able to perform 100% of its phosphorus sample collection activities. The heavy rainfall of 2020 caused increased tributary phosphorus loading from the watershed. Consequently, the lake was above the 8.0 micro-gram per liter standard approximately 30% of the time against a 5% target. Fortunately, the average Platte Lake phosphorus concentration was 7.34 micro-grams per liter, which is below the 8.0 micro-gram limit.
- Worked with our financial advisor to develop a fiscally responsible plan for the PLIA that becomes the foundation for long term organizational sustainability.
- Funded, in conjunction with several other area lake associations, a comprehensive Platte Lake “swimmer’s itch” survey seeking to determine causes and possible prevention of swimmer’s itch.
- Designed a committee structure for the PLIA that enhances our ability to support core functions of the PLIA and encourage member involvement.
- Funded software development and implementation to further enhance the capability of the Platte Lake and Platte River Watershed database as an analysis tool.
- Supported a comprehensive aquatic plant survey of Platte Lake with the intent of providing a GPS based location of sampling points and identification of native and invasive species.
- Participated in invasive plant collection efforts within the Platte River Watershed.
- Participated in the Benzie Conservation District efforts to prevent invasive aquatic plant species from entering Platte Lake via boat washing programs at the Platte Lake public boat launch.
- Held an Annual Meeting which included presentations by experts on swimmer’s itch and the use of aerial drones to identify and treat invasive aquatic plants.

The quality of Platte Lake is being monitored by the PLIA all year long

Platte Lake will always be vulnerable to whatever comes into it from the upper Platte River or what swims into it from Lake Michigan. There are 50 other lakes in the Platte River watershed and every hour 3.5 million gallons of water flow into it from them. Consequently, the PLIA understands it must continually monitor the lake and its tributaries for potential problems.

The Platte River State Fish Hatchery in Honor was once the single worst contributor of the phosphorus that polluted Big Platte Lake. Today, a partnership between the Hatchery, the Benzie Conservation District and the Platte Lake Improvement Association has resulted in a beautiful lake with excellent water quality. We have created a surveillance model for watersheds across the nation.

Every two weeks, twenty-six times a year, specialists from Benzie Conservation District are sampling water from Big Platte Lake and the rivers and streams that flow into it. Eight critical locations provide the most comprehensive picture of the water that enters the lake. Once the lake freezes the water samples are obtained through the lake ice. If the ice is unstable, a sheriff’s airboat is used to get on the lake to obtain the samples.

The lake is the deepest off Birch Point in the north west basin of the lake. That water is sampled using a specialized instrument that measures temperature, depth, dissolved oxygen, conductivity, oxygen reduction potential and pH



readings at various depths all the way down to the bottom, 90 feet below.

The analysis of the water samples obtained from all of the sites occurs at the Hatchery. Elemental phosphorus must be extracted from various compounds to be accurately measured. A device called The “Digester” has an insatiable appetite for breaking these compounds down using acid and heat. The phosphorus concentration, now calculated by a spectrophotometer, is directly loaded into the PLIA database.

This data is reviewed by the PLIA searching for either short term fluctuations or long-term trends that could potentially affect the water quality of our lake. Through this process, PLIA has been able to pinpoint pollution sources, such as the Section 13 Homestead Township, that represent significant locations for phosphorus dumping into the watershed.



Take a trip below the surface of Platte Lake

The PLIA has been keeping watch over your lake for more than 40 years. In the past, we could tell you the temperature, clarity and phosphorus concentration at various depths, but we couldn’t show you what it looks like below the surface. Now we can.

This year we’ve acquired a Deep Trekker underwater remote operated vehicle (ROV) to give us that view. Think of it as a tethered underwater drone with a great video camera and GPS. We plan to use it to explore below the surface, especially to explore some of the invasive species patches we’ve identified with our drone survey a couple of years ago.

The intent is to create a baseline map and identify what is actually in Platte Lake in terms of native versus invasive plants, algae, snails, clams, crayfish, small and large fish, unique structures, etc. This will provide a basis for comparison not only in future years, but season to season in terms what has actually changed.

We’re just getting started with our research and getting familiar with the ROV, but we were very excited to see the clarity of the video and how the fish and plants were easily identified. It seems some of our fish were curious about the ROV and came to check it out. You can do the same at <https://youtu.be/lr38tKxx6M4>.

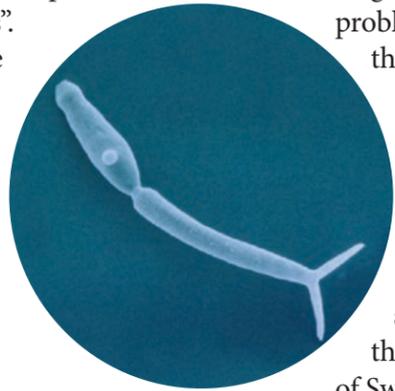


Swimmer's Itch Update

Swimmer's Itch exists in the Platte Lake ecosystem. That fact has been confirmed by qPCR testing and the experience of the people who live on the lake. The PLIA has been working with various experts in the field of Swimmer's Itch, Freshwater Solutions and Oakland University, for the past three years to better understand the level of infection in the lake and how to prevent people from getting infected.

Swimmer's Itch in humans is only skin deep, and has a medical name "cercarial dermatitis". It is the consequence of people being the unintended target of a small parasite called a schistosome that was trying to find a key host in its life cycle, a bird. These parasites are very adaptable and can infect many bird species such as Mergansers, Canada geese, Mallards, Red winged blackbirds, even canaries.

The Mallard is the most common waterfowl on Platte Lake and a study by



Freshwater Solutions concluded that both summer resident mallards and common mergansers are the definitive hosts for at least some of the schistosomes causing swimmer's itch on Platte Lake.

One of the most popular strategies for controlling Swimmer's Itch recently, the relocation of the Mergansers, has been conducted by other lake associations. According to our consultants, simply removing the Mergansers will not likely solve the problem given that the Mallard population is the predominate waterfowl on Platte Lake.

Studying and combating Swimmer's Itch is going to be a work in progress. Ironically, if a lake has Swimmer's Itch, it does not mean that lake is polluted. In fact, the opposite is true. A healthy lake promotes a high diversity of species, including the birds and snails that are the hosts for the causative agents of Swimmer's Itch.

There is no cure for Swimmer's Itch, yet. For now, there are only strategies you can employ to reduce your risk. Meanwhile, the PLIA will continue its partnership with Freshwater Solutions to help our members stay on the cutting edge on the status of our lake and Swimmer's Itch.

How to avoid swimmers itch

- First, don't feed the ducks, geese or swans. Attracting these birds increases their fecal droppings and you know what that means.
- The cercariae swim on the surface of the water; after all, that's where the birds are. They can float a long way on the surface so you probably want to avoid shallow water that is down wind where the cercariae tend to accumulate. Try to avoid mornings when snails shed cercariae and their numbers are highest. Cercariae are fragile, die within 24 hours and are a food source for other animals in the lake, so their numbers go down as the day goes on.
- Body suits have been used to protect swimmers from jelly fish in the ocean and have been shown to be effective in protecting sensitive swimmers against swimmer's itch.
- Children are particularly sensitive to swimmers itch. They usually spend more time in the water, have more sensitive skin, and have a greater tendency to play in shallower water where cercariae most often concentrate.
- Towel off with vigor when you come out of the water. It takes time for cercariae to penetrate the skin and you can crush their tiny bodies. Showering shortly after leaving the water may also help.
- People have also noted that waterproof sunscreens and lotions reduce the infections by discouraging the cercariae from penetrating the skin.
- If you decide to go in the water when and where swimmer's itch larvae are present, stay clear of plants growing in the lake. Swimming rather than playing or wading in shallow water will reduce exposure. Swim offshore if possible.

PLIA Board Creates new structure to encourage engagement

Designed to more evenly distribute the many tasks of the PLIA, and to create opportunities for member engagement, the PLIA Board has created a new committee structure. Four distinct committees now exist, the Governance Committee, Communications Committee, Science and Research Committee and the Finance Committee. Each of them is encouraging PLIA members to bring their individual expertise to the group and help PLIA achieve its ongoing mission.

The Governance Committee, chaired by board member and attorney John Collins, will address the governing articles of the organization including bylaws, board member recruitment and insuring that PLIA is compliant with State and Federal 501(c)3

requirements.

The Science and Research Committee will focus on sustaining and improving the lake monitoring program. Exciting new projects such as the Deep Trekker underwater ROV are part of this team's work. Wilfred Swiecki, who has been studying Platte Lake for decades and is integrally involved in current monitoring activities, will be the committee chair.

Keeping the membership and public in general informed about the many activities and opportunities of the PLIA will be the responsibility of the Communications Committee. This includes email messaging, website management and the production of the annual report. Membership database management is also

included in the scope of this group. PLIA secretary Dr. Jerry Heiman chairs this workgroup.

The Finance Committee, chaired by PLIA treasurer David Fuhrhop, is responsible for both the fund flow of the PLIA and insuring that our fiscal strategy allows us to meet the goals and objectives of the organization.

This new structure will provide a framework for PLIA activities as the organization moves forward. Knowing that the membership of the PLIA represents an untapped resource of talent, each of these committees is identifying opportunities for members to participate and will be posting those on our website.

Dr. Ray Canale, played a critical role in cleaning up our lake

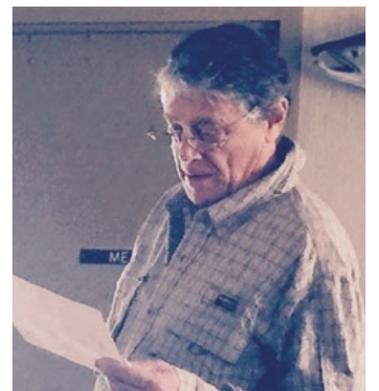
In 1998, DNR leadership ordered Gary Whelan, Director of Hatchery Production, to reach a settlement agreement with the PLIA over the Platte River Hatchery. Over the next 2 years, discussions proceeded involving Dr. Whelan for the DNR and Wil Swiecki and John Spencer for the PLIA. When a Settlement Agreement was signed in 2010, the PLIA suggested Dr. Ray Canale be appointed Implementation Coordinator. Whelan agreed even though Canale had been an expert witness for the PLIA during the lawsuit in the 1980's, a very wise move on his part as it turned out.

Dr. Canale was one of the world's foremost experts on lake and watershed computer modeling. He had been Professor of Civil and Environmental Engineering at the University of Michigan for 25 years, retiring in 1988. During his time in Ann Arbor he founded Limnotech, a private company which became a world leader in environmental consulting and modeling in lakes and watersheds.

During his 10 years as Implementation Coordinator Dr. Canale completely re-designed the operations of

the hatchery through his knowledge of fish bioenergetics and computer modeling to the point where it was the world leader in pollution-neutral fish production. He also developed pioneering computer models for the on-going hatchery operation as well as for phosphorus management in the Platte Lakes and Watershed. These efforts resulted in several publications in peer-reviewed scientific journals.

When the hatchery had reached the goal of 5 straight years of operation under the phosphorus limits, the Settlement Agreement was satisfied and Dr. Canale's active role ended. He is still involved as needed as a consultant.



Ray Canale presented his findings at the annual PLIA/Hatchery status review meeting.



PLIA Yard Signs

To help raise awareness of the work the PLIA is doing we've recently developed a yard sign that members can place on their property and to encourage their neighbors to join us in protecting the lake.



**Platte Lake
Improvement Association**

**Keeping Watch on Platte Lake
for more than 40 years**

plattelake.org

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