## To preserve and protect Long Lake, its watershed and ecosystems



— Photo by Randy Poznansky

## President's Message

Boats are trailered and gone ashore, docks lie stacked above the waterline. Rods and tackle boxes are stored. As I write this the first real snowfall of the season descends, the ground is white. Juncos by the dozens scratch for dropped morsels beneath newly hung feeders, where chickadees willingly accommodate them by flinging away half of what they pick. Shallow bays will soon freeze at night.

Summer is over.

And a strange summer it was, undoubtedly the strangest in our collective memories. How a not quite truly alive submicroscopic-thing-can so alter the human condition is almost beyond comprehension. Yet there is some silver lining in that dark viral cloud. If we must shelter in place, if we must telecommute to work, if we must meet by Zoom, what better place to do it? In that, we are the lucky ones.

Continued on Page 2

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## President's Message continued

Nor was summer lost by any means. The LLPA annual meeting and Ice Cream Social had to be cancelled, and Hunt Hill had to close its facilities, meaning no Cakes at the Lake. But by casual observation there was as much fishing and recreational boating as ever. LLPA was able to continue the Clean Boats Clean Waters program of watercraft inspection at landings as well as water quality monitoring as part of the Citizens Lake Monitoring Network, all with masks and appropriate distancing. The LLPA Board continues to meet, via the by now nearly ubiquitous Zoom, and very tentative plans are shaping up for something like Cakes at the Lake next summer if an effective vaccine is approved soon enough. There will be a 2021 calendar.

Do watch for that calendar, which this year will prominently feature Camp Tomahawk. That is where you will find the 2021 LLPA membership form. Your participation and contributions are essential to fulfilling the mission to preserve and protect this lake and the way of life it affords us in these troubled times. We urge you to renew, and to encourage your friends and neighbors to do the same.

Meanwhile, stay warm, stay safe, and see you in the spring.

Joe Thrasher President – Long Lake Preservation Association.

# WALLEYE STOCKING CONTINUES

by Joe Thrasher

In the fall of 2020 the Wisconsin Department of Natural Resources again planted approximately 33,000 walleye in Long Lake, or ten fish per acre. It has been doing so in alternate years since 2014.

All planted fish are from eggs harvested in the spring from Red Cedar Lake. They are hatched and raised at the Governor Tommy G. Thompson Fish Hatchery in Spooner. Walleye are stocked in the fall, when they are about six inches in length.

According to DNR Fisheries Biologist Craig Roberts, a goal of the DNR is to establish natural walleye reproduction in Long Lake. Females can be expected to reach reproductive maturity and spawn at least one season before they reach the legal size limit of 18 inches, creating more opportunity for natural reproduction (which is also

part of the reason for no size limit on bass, more of which in the Spring 2021 Newsletter). The past two walleye stockings were fin clipped before stocking so natural fish can be identified when shocking surveys are performed. DNR personnel were unable to do that this year due to safety protocols with COVID-19, but a shocking survey conducted prior to this year's stocking did show some natural fish. The report of that survey was not complete as of press time, but will be reported on in the next newsletter.





# Zebra Mussel Test Negative



by Lisa Burns and Joe Thrasher

As our readers well know by now, four years ago zebra mussels were found in Big McKenzie Lake, part of which lies within Washburn County. Zebra mussels are a finger nail-sized invasive species which is highly prolific, attaching to hard surfaces, clogging water inlets on outboard motors and cutting feet. They also consume vast amounts of the food sources needed by native species of fish, clams and small bugs. They spread easily by transport of microscopic larvae, called "veligers," in bait buckets, live wells, bilge areas, motors and other water-containing devices.

There has been some spread of the mussels since their discovery in Big McKenzie. In 2017 they were found in Middle McKenzie Lake. Monitoring efforts have been mounted, and include the placement of collector plates to which young mussels will attach; LLPA has fabricated and maintains several throughout the lake.

Another monitoring method is the "veliger tow," which is testing of water for the presence of veligers. Since 2017 WI DNR grants have funded these tests in numerous lakes in Washburn and Burnett Counties. Lakes are prioritized for testing by proximity to the McKenzie Chain of Lakes, boat traffic levels and the presence of calcium which is necessary for growth of mussel shells. Water is collected from three sites, filtered through a special net and transported to a lab where microscopic examination under polarized light will reveal the presence of veligers.



In August of 2020 a veliger tow was conducted on Long Lake by Washburn County Conservation Coordinator Lisa Burns and her intern, Hunter Denison. We are happy to advise that all samples were reported by the lab as negative for veligers. But considering the ease of transport of microscopic larvae, and their ability to survive for up to three weeks in wet areas of a boat, continued vigilance is necessary. Know and follow the rules for draining everything when departing a landing and for the transport of fish and bait. Do not help them spread.



Zebra Mussel collector plate



By Byron Crouse and Barb Sabatke

Each day the sun is rising and setting lower in the southern sky. The air has a fresh, cool feeling and leaves have changed color. The cool air over the warm water produces 'Lake Angels,' upward spinning wisps of steam. At dawn and dusk we hear the wail of loons calling to one another. These are all signs of the changing of the seasons.

This summer has been a wonderful season for the Loons of Long Lake. During the past several years, the reproductive rate of loons on Long Lake had fallen to only 5 chicks growing to migrate south. This year was uplifting as there are 11 chicks which will reach the juvenile stage of development and will be able to migrate south around mid-November.

This year's breeding season was threatened by a harsh black fly hatch in mid-May, at the time loons were starting to nest. The conditions were optimal for the black flies which swarmed the loons' heads and drove them off their nests. Fortunately, most of the nesting pairs on Long Lake made a second attempt at breeding and were successful in hatching their chicks around the beginning of July.



Several day-old loon chicks with parent

For 26 to 30 days both parents share time sitting on the nest incubating the 1 to 2 eggs in a typical clutch. A day after hatching, the chicks are off the nest and swimming with their parents. The loon chicks are semi-precocial,

meaning even though they are born with down over their whole body, eyes are open and able to swim, they are totally dependent on their parents for food. During the first weeks of life, parents are constantly feeding the chicks insect larva and invertebrates and, as they grow, pieces of minnows or crayfish. During this time, the chicks will frequently be seen riding on the parent's back or under their wings. Here they can rest, be warmed and oil their feathers with oil from the parent's feathers.



Practicing wing flapping - I can be big

At 5 to 6 weeks of age, the loon chicks molt and their downy feathers are replaced with more primary feathers. The parents will often raise the chicks in a safer nursery area. During this time parents feed them injured minnows and insects and let the chicks practice catching their own food. Here you may see the chicks practice the swimming and hunting skills needed to fish. At this age they are diving, but only for short periods and to shallow depths. This means they are at risk of being hit by boats or other watercraft.

<sup>-</sup> Photos by Byron Crouse

## Loons continued



Crayfish being feed to chick

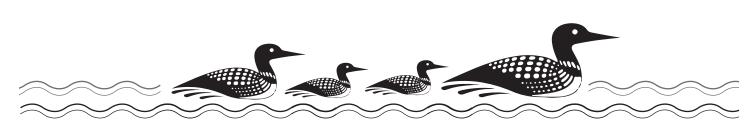
By 12 weeks of age, the juvenile loon chicks can feed and fend for themselves. They will often stay near their parents and look for a handout of food. The parents will start distancing themselves from the juveniles and encourage the juvenile chicks' independence. At this age, the juveniles have grown primary feathers and have the gray/brown coloration of immature loons looking very similar to adults that have gone through their molt losing the breeding plumage we are accustomed to seeing during the summer months. The juvenile loons can now fly and are developing endurance in preparation for migration.

The Loons of Long Lake migrate south to the Gulf Coast region of Florida. They leave Wisconsin in the fall and return as the ice goes out in spring. Loons can fly 70 mph and complete their migration in a few days. The first loons to depart are the 'floaters'. These are the loons you may see in small groups in September. These loons either do not have a mate or are a pair of loons that did not have a successful breeding. The next group of loons to leave are the parents. They may not migrate as a pair and it is not known if they winter together. They are committed to their native region and lake, returning to the same area in spring. The last loons to migrate are the immature juvenile chicks. Some loon watchers worry that these juvenile chicks have been abandoned by their parents. Be reassured these loons are 'hardwired' to migrate and will leave for the Gulf Coast in October. Interestingly, these juvenile chicks will not return to Long Lake for 3 to 5 years until they are mature and capable of breeding.



Immature juvenile loon chick

Part 2 of Loons on Long Lake will be found in the Spring 2021 Newsletter and will share more information on one of our favorite members of Long Lake.



# GROUNDWATER AND NATURAL PHOSPHORUS

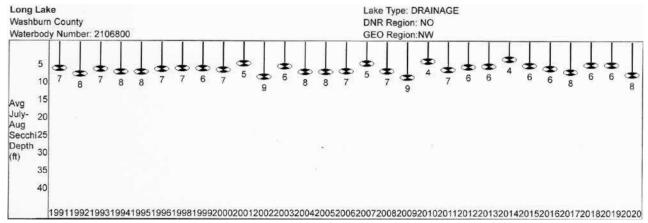
Several reports of excessive green algae in the upper basin in July and August have prompted some historical research. It was known that LLPA had done a study of phosphorus in well water a decade or so ago, but no present board members knew any details. The story was found in a newsletter from 2006. In 2005, UW-Stevens Point did an 11-lake survey in the area to establish a baseline of lake phosphorus levels, phosphorus being a nutrient which supports algae growth. When it was found that spring water flowing into the upper basin of Long Lake had four times the expected levels of phosphorus, the study was expanded by testing well water samples from over 60 Long Lake properties. The results were published in a following newsletter. What follows is a near-verbatim excerpt from that article; it has been lightly edited in the interest of brevity:

Groundwater naturally contains certain solutes depending on the type of soils and minerals the water has contacted. Common minerals and elements found in groundwater are calcium, magnesium, iron and manganese. Humans also have a significant impact on what's in groundwater. While people know that a leaking landfill or a chemical spill are sources of contamination, everyday activities such as fertilizing lawns or crops or salting roads can also contaminate groundwater supplies. How careful we are about carrying out these activities ultimately determines whether these chemicals end up in our groundwater.

Because the groundwater provides water to surface water such as lakes and streams, people should also be concerned about the effects of groundwater quality on surface water resources. Phosphorus is an essential nutrient for plant growth and is often the limiting nutrient in freshwater aquatic ecosystems. An increase in phosphorus leads to increases in algal blooms and rates of lake eutrophication. For this reason, LLPA paid for wells to be tested for total phosphorus, which is not usually included in a home owner groundwater test. Groundwater concentrations of phosphorus in the state are generally low (less than 25 parts per billion, or ppb) and the phosphorus load is often ignored when creating the phosphorus "budget" for a lake. But last summer's water-quality data from groundwater discharge into Long Lake suggest that naturally occurring phosphorus may be a concern for the watershed. Concentrations of total phosphorus sampled through this project did reveal elevated levels in the groundwater. Concentrations were greatest in wells sampled in the northern half of the watershed along Mud Lake and the northernmost section of the lake. There were several findings of between 100 and 200 ppb. One was in excess of 200 ppb. Concentrations in the southern half, although lower (a few between 50 and 100, although most under 25), were still higher on average than typical groundwater phosphorus in other parts of the state. This suggests that groundwater phosphorus inputs to Long Lake are naturally high (perhaps from pockets of glacially compressed organic material). Since levels are already elevated, even small increases in human-related phosphorus inputs could cause major increases in lake productivity and algal blooms. There is no way to reduce the amount of groundwater reaching the lake, so extra care should be taken to reduce amounts of phosphorus entering through sources we can control. Reducing storm water runoff and erosion, limiting fertilizer use and maintaining septic systems can minimize phosphorus input.

Editor's note: The following chart from a DNR web site shows the history of water clarity in the upper basin from 1991 to present. These numbers represent the depth in feet at which an eight inch black and white disk, known as a Secci disk, can be seen from the surface during mid-summer. No significant change is apparent.

## Wisconsin Department of Natural Resources





by Nikki Janisin

2020 has been a year-phew! The Friends of Hunt Hill faced some hard decisions in April as they made the call to cancel all indoor programs through the summer, and eventually the entire year. It was strange to have a summer without Cakes at the Lake or Day Camps, but we found ourselves surprisingly busy working on miscellaneous projects and developing new programs.

The silver lining to cancelling many of our programs, was the opportunity to complete a number of projects that are hard to do when camp is in full swing. This summer we were able to: deep clean and repaint the kitchen, repaint the dormitory bathrooms, complete a remodel of the Andrews cabin, reshingle the cabins and more! Our Program Director had time to update all of our school programs so they better align with current state standards and meet the needs of our local schools. Besides projects, we offered some new outdoor and COVID-conscious programs, like 90-Minute Nature, and Sage was a hit online in our Hunt Hill at Home videos.

Thanks to designated funds for capital improvements, we will be improving a narrow section of old driveway so it is safer for winter traffic. Visitors are welcome to hike our 13 miles of trails and although hunting is not allowed on the property, we still encourage hikers to dress in orange. Hunt Hill will have a few guided hikes this fall and the Discovery Trail is open year round with themes changing monthly. Be sure to tag #HuntHill when you post pictures of your Discovery Trail adventure so you can be entered into a prize drawing.

This winter we will continue to offer outdoor programs and free snowshoes will be available for guests to use. To learn more about the trails and our activities, be sure to like us on Facebook and check our website often. If you would like a printed copy of the January - May program booklet, being released at the end of December, please email: info@hunthill.org.



Visitors of all ages enjoy the hidden objects along the new Discovery Trail.



A family showing their shelter during 90-Minute Nature's Survival Day.



The WCC bridge near Heron Point.



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