



TWIN LAKES NEWS

• MAINTAIN • PROTECT • ENHANCE

• FOR FUTURE GENERATIONS

• EDUCATION • COOPERATION

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TLPA NEWSLETTER

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Fall into Winter on the Lake

As summer transitions into fall and then into winter, our lakes and the animals that live in them go through big changes.

The water in a lake is at different temperatures at various depths, creating layers. In the summer the water near the surface warms up, but at the bottom the water remains colder. The surface water has more oxygen than the water lower down. As the air cools in the fall, so does the surface water and as it cools it becomes denser. Fresh water is most dense at 39 degrees. The now denser surface water sinks to the bottom and the water on the bottom rises to the top. This is called turnover and it is important because it spreads the oxygen through-out the water and mixes the nutrients that are present. Then as the air temperature falls below freezing, the lake will gradually freeze over. Since ice is less dense than water, the ice layer floats on the top of the water underneath.



The lakes turn over again in the spring. As the ice melts, the colder water now on top sinks and the warmer water at the bottom rises.

Turnover can be quite fast if the air temperature falls rapidly and remains low. Similarly, lakes will freeze over quickly or slowly. When a lake turns over, sediments from the bottom can be stirred up. North and south Twin Lake both turn over, but South does so more dramatically since it is deeper and has a much greater area of deeper water. Middle is pretty shallow so it doesn't have the same layered characteristics of the other two.

Whether the fall turn over and freezing take place quickly or not, the fish, frogs, and turtles that live in the lake have to adapt in order to survive. They do this by descending into the warmer, more oxygen-rich water that is on the bottom after the lake turns over. Then their bodily functions slow down, sometimes quite dramatically. Fish will generally be closer to the surface during the summer, since that area is richest in food and oxygen, although experienced fisherfolk know well what species are likely to be found at various depths. As the lake turns over, fish will gradually seek lower levels. Fishing in the fall needs to take this into account and may be a

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President's Message

Carol and I spent some time, this summer, in the Niagara area of Canada and the California coastal area south of San Francisco. I was surprised to see the relative lack of wildlife. I was made aware of the relative abundance and diversity of our own wildlife here in northern Wisconsin. In the past month alone, I have personally seen deer, bears, eagles, ducks, geese, sand hill cranes, blue herons, humming birds, turkeys, a varied number of song birds, and even a fisher, walking across the road near North Twin. Yesterday, we enjoyed watching a family of ruffed grouse pass through our yard looking for food. We especially enjoyed watching the baby loon grow up on South Twin, this summer.

It occurs to me how fortunate we are to have such a varied and abundant variety of wildlife right here. We are spending more and more time trying to maintain the status quo, fighting invasive species and other problems that threaten our rich environment. After my trips, this summer, I appreciate, even more, the need to preserve the treasure we have right here. I hope you all feel the same.

Have a Beautiful Fall!

Gary Bergh

THE MISSION OF THE TWIN LAKES PRESERVATION ASSOCIATION IS TO MAINTAIN, PROTECT, AND ENHANCE THE QUALITY OF THE LAKES AND SURROUNDING AREA FOR FUTURE GENERATIONS. WE WILL ACCOMPLISH THIS BY EDUCATION AND THE COOPERATIVE EFFORTS OF OUR MEMBERS AND THE PEOPLE OF THE SURROUNDING AREA.

What would you like to see in future issues of the TLPA newsletter? Send your ideas to the editor Pat Shifferd (patriciashifferd@gmail.com).

About Loons in Winter

Most of us are aware that a loon chick was born and raised here this summer. Like most of you, I was thrilled to see the chick and mother, and, of course, to hear them calling back and forth. Now they have left and flown south to their wintering grounds in the oceans off the Gulf of Mexico or Atlantic Coast. So this article will help us understand what their lives are like when they are not here.



Adult loons are about 30 inches long from head to tail and weigh 6-13 pounds, males being bigger than females. They live an average of 25 years. Thus, they are subject to all kinds of dangers from pollution, predators, or disease.

During the breeding season, the adult loons have black iridescent head feathers. As described on the LoonWatch website, “the back and wings are black with white spots, and its underside is white. The black back with white spots matches the sunlit spots sparkling on the surface ripples of a lake. The white underside helps the loon blend in with the bright sky from the perspective of underwater predators.”



But as the end of summer approaches, the birds begin to molt and take on their winter plumage in preparation for their migration. The black feathers around the face and throat become white and the black feathers on the back become brown. Even their eyes change color from red to brown. Before leaving to return to us, they molt again into the plumage we are familiar with.

In the fall, the loons begin to form groups, especially on larger lakes. Those that did not breed or raise chicks leave first. Then the breeding adults move out and lastly the immature birds. They don't fly in tight groups like geese. They stop along the way of course in big lakes or reservoirs. There is an interesting animation on the USGS website which shows the migration patterns of specific individuals. The males will return before the females. Some of these birds have been tracked fishing up to 80 miles off-shore in the Gulf of Mexico. “Banding records show that loons often return to the same lake each year. However, mates probably don't winter or migrate together and return to the same lake independently. Loons do occasionally switch mates and are more attached to their lake than to each other.” (LoonWatch website)



The young loons will not return until their third summer, but remain in the Gulf or on the coast until they are full grown and have their adult plumage. They ordinarily breed when they are around 5 years old. So here's hoping our young loon found his/her way safely south. But we won't see or hear from this bird until maybe the summer of 2021!

For detailed information about these wonderful birds:

- USGS: https://www.umesc.usgs.gov/terrestrial/migratory_birds/loons/main.html
- SIG O Loon Watch: <https://www.northland.edu/sustainability/soei/loonwatch/about-loon>

Fall into Winter continued

bit more challenging. Though fish are moving to different areas and locations, they also may feed heavily in preparation for winter. The fall bite in many lakes is the prime time to fish for big northern pike and muskies. But if the turnover is very rapid, the fish may have difficulty finding enough oxygen. During the winter the fish



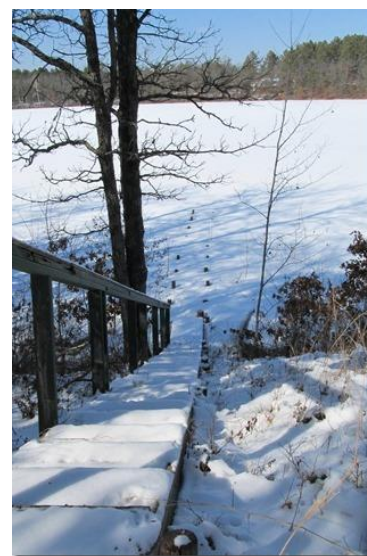
move around very little at or near the bottom of the lake, conserving energy.

Frogs and turtles also move to the bottom of the lake. Frogs sort of “sit” on the bottom in a state of hibernation. They may actually seem to be dead, especially if the lake freezes all or most of the way down. According to an article in *Scientific American*, “ice crystals form in such places as the [frog’s] body cavity and bladder and under the skin, but a high concentration of glucose in the frog’s vital organs prevents freezing. A partially frozen frog will stop breathing, and its heart will stop beating. It will appear quite dead. But when the [lake] warms up above freezing, the frog’s frozen portions will thaw, and its heart and lungs resume activity--there really is such a thing as the ‘living dead!’” Frogs and toads that live around the lake also hibernate, digging down below the frost line or find

crevices in which to rest until spring comes.

A similar process happens with turtles, although it may not be an actual hibernation. They may partially bury themselves in the mud at the bottom. They don’t eat and their heart rate slows way down. One article about turtles in winter said that they do not breathe through their lungs; rather both frogs and turtles absorb the oxygen they need through the skin. But the turtles remain aware of their surroundings and when it gets lighter as the ice melts or spring comes, they begin to move around. Their calcium-rich shells also protect them from the cold and help to dissipate whatever waste products are created from the continuing body functioning.

So while we are sitting in our warm houses or travelling to warmer places, our lake neighbors are quietly awaiting the arrival of spring.



For additional information about our lakes and their inhabitants in winter see:

- <https://www.northcountrypublicradio.org/news/story/24195/20140227/natural-selections-how-do-turtles-survive-a-winter-underwater>
- <https://www.turtlepuddle.org/kidspage/hibernation.html>
- <https://www.scientificamerican.com/article/how-do-frogs-survive-wint/>

The Lakes Remain Healthy!

At the annual meeting in early August, our lake monitoring volunteers reported their findings. First, there is no evidence that we have been invaded by the dreaded zebra mussels. Dave Thorsen has been monitoring 3 of the plates used to assess their presence and have found nothing. He also sent a water sample to the U. in Stevens Point for a measurement of the amount of calcium in our water. The sample Dave sent had a concentration of just over 7 milligrams of calcium per liter. Zebra mussels need a much higher concentration of calcium in order to form their shells, so our lakes are well below the minimum threshold.



The water clarity on North Lake was average; on June 1, the water temperatures at 3 ft. below the surface was 76.2 F dropping to 48.9 F at 24 ft. As expected the temperatures rose some in July, but have started going back down. There have not been any big algae blooms reported; other lakes near here have reported such blooms, probably because of run-off from lawns in conjunction with the warm, rainy summer. The vegetation on our shores is more natural than some lakes; buffers of natural vegetation are very important in filtering run-off to discourage algae growth and prevent erosion.

Last winter saw a much longer period of time between ice-in and ice-off in comparison to previous years. “Ice on” is the date the deepest part of the lake is permanently covered in ice, while “Ice off” is the date you could boat from any/all shore to the deepest part of the lake. North Twin was covered with ice for 171 days and South Twin was covered for 140. For example 2016-17 saw 110 days of ice on both lakes. This year was also unusual in that there was such a big difference between the 2 lakes in the number of days (31). Usually both freeze and thaw at approximately the same time.

Firewise for fall!

Well, here we go again getting ready for the winter months that come too soon up here. Most of us are not looking forward to the fall chores; raking leaves, mulching over gardens, cleaning out gutters, winterizing cabins & sheds and bringing in docks & boats. While you are doing these things please remember that fall can be just as bad as spring for wild fires. As things start to die off they become dry, a spark at this time can & will cause a fire. For those out on the trails with ATV/UTVs be aware of the condition of the trails. For those who burn wood for heat or have a fireplace going in the fall/winter remember to keep your wood pile at least 30 ft. away from all structures and put your ashes in an approved container. As I was looking around the DNR web page I came across the pages for children; I had fun on them & did learn things. Visit this web site with your kids, grandkids or great-grandkids for a fun time, www.eekwi.org . Have a fun & safe fall.



Terri Corrie CAFC leader.

TWIN LAKES PRESERVATION ASSOCIATION

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TO:



Join the Lake Association? Why On Earth Not? We monitor lake water quality, provide important information via three newsletters a year, publish a free Handbook of Best Practices for lake property owners, and have fun together at the Summer Social and Annual Fall Meeting. Dues are only \$25.00 a year. To join, fill out the form below and mail with a check to TLPA, Box 410, Minong WI 54859. And thanks!

Name _____

Your Lake _____

Address _____

E-mail _____

Lake Address _____

Phone _____ Lake Phone _____