

On May 1st, 2018 the LRMD installed an automatic rain gauge. This device continuously records how much rain we receive and the rate at which it accumulates. Why might this be important to the Lake District you ask. The main reason is to understand how the rainfall affects phosphorus and sediment pollution in the inlet stream, and the duration and intensity of flooding. These data will be used in the design of wetland, stream and watershed projects to help improve the health of Lake Ripley. Last year saw some unprecedented flooding in Madison, coupled with major blue-green algae blooms. Depending on where you were in Madison the city received 9-11 inches of rain on August 20-21st, and other areas west of Madison got even more. The Lake Ripley area received a healthy rainfall, but at 2.16 inches it hardly compares. It was easy to see that 2018 was a wet year in our area, but the gauge puts it to numbers. If

we compare the average rainfall for Madison between 1981 and 2010, we see just how wet a year it was. July, November and December were all around average, but May, June, August, September and October were all nearly twice as wet as what a "normal" month is. All that water made the wetlands unusually wet for late summer, and portions of Lake Ripley's inlet stream remained flooded for long periods of time. Considering all the rain, Lake Ripley's water level was not too high compared to recent years.

If the predictions of climate change hold true, we will be seeing an increase in the frequency and severity of storms over time. This rain gauge and other data we collect in the lake and the creek, will help us prepare for those changes.

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FROM THE HELM

As I take a break from plowing snow from the storm that just dumped 8 inches of light fluffy snow and the winds start to kick up I thought it would be a great time to start the Chair report. At the January LRMD Board of directors meeting we discussed how to better inform the local residents of the work we do to protect Lake Ripley. As we meet with neighbors to the east of the inlet creek, it was brought to my attention that residents outside the Lake District don't receive the Ripples newsletter and don't always know about the work the management district does. When the Lake District was formed, the boundary closely followed the Oakland town sanitary district. But the actual boundary for the Lake's watershed is a much larger area, and this boundary was identified to show how the water runoff flows to Lake Ripley. Since some of the work that the board has identified to help with run-off is in this area, outside of the Lake District, but within the watershed, the board felt that it was important to inform these residents of the work we do through the newsletter. Since we are meeting with them and asking for cooperation to do work around the inlet creek, we all felt this would be a great educational piece for them to enjoy. We also discussed how can we better educate and inform the residents of the village of Cambridge. Again, these residents are outside the Lake District and most of them outside the watershed. The board agreed to pilot a mailing of the Ripples newsletter starting with the spring addition and gather input from the residents of the Village. We will report on this data and decide next steps in the months to come. I feel the more we can educate everyone who can have an impact and who uses Lake Ripley for recreation will benefit Lake Ripley and all of us in the long run.



As the Lake Ripley Preserve walking trails become more and more popular with residents, we ask that a few simple rules be followed so all can have a great experience while enjoying this beautiful getaway. Please pickup your animal waste and deposit it in the waste station near the beginning of the trail. (...continued page 2)

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Also, your pet must be under your control at all times when in the preserve per-local ordinance. The Lake Ripley Management District has a leash rule in effect except for when the dog is engaged in hunting activities. Importantly, in spring and summer ground-nesting birds need to be protected from free-roaming dogs. Following these few simple rules will ensure that everyone can have a great experience during their visit.



Pet waste station at the Lake District Preserve.

Timmy DeGidio

Lake Ripley Management District Chair

Majestic Pines / Vasby Island Restoration

In 2019, Majestic Pines HOA received a permit to start work on a 3-year native restoration project on the 5-acre island which is owned by the Majestic Pines HOA. The restoration is to restore a native remnant sedge meadow, wet prairie, wet mesic prairie, savanna and marsh. There are many native plant species just waiting to be uncovered by the removal of invasive plant species. If left unchecked these species will take over this valuable wet/wet mesic community that is a vital asset to Lake Ripley. The objective is to remove the invasive herbaceous and woody shrub layer while leaving the existing natives and enhancing with native plant species that would have existed in these communities.

Jan Papa (Bluestem Ecological Services)

Looking Forward to 2019

The LRMD has big plans for the rest of the year. Old projects and programs are continuing with added improvements to deliver better benefits and products for the Lake Ripley ecosystem and community.

Water Quality Monitoring

LRMD staff and volunteers and the DNR, have been monitoring Lake Ripley and the inlet stream for decades, but in 2018 monitoring was greatly increased to better understand stream health, and how that changes based on flow, temperature and other factors. These data are being collected to better plan and implement best conservation measures, such as wetland restoration, that will improve the water quality of the stream and the lake.



The LRMD measures stream height and water quality variables
Forster's Tern Nesting Raft

The Forster's Tern is a small, gull-like, colony nesting bird, that nests on mats of floating vegetation in wetlands and lakes. It is endangered in the state of Wisconsin because this nesting habitat has become rare. Currently the Forster's Tern nests only in a handful of locations in the state. The LRMD will be constructing a nesting structure for these birds to nest on in the Lake District Preserve.

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Looking Forward to 2019

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A 8x12 foot floating raft will be built and covered with dead wetland vegetation to mimic natural nesting habitat. Decoys will be placed on the raft to encourage the birds to nest, but it might take a few seasons before the birds establish a colony. If successful, this would be the first such structure used by Forster's Terns on a small pond that I am aware of



Forster's Tern chick hiding in wetland vegetation.

Weed Harvest

The LRMD has been operating a weed harvester on the lake since the 1990's to assist with navigation, and control invasive species, while at the same time balancing the habitat and water



Lake Ripley's weed harvester and offload conveyor.

quality benefits that our native "weeds" provide the lake. The District operates this harvester under a permit granted by the DNR. The permit is restrictive in where, when and what we are allowed to cut. In 2019 we are in the process of applying for a new permit that will allow us more flexibility in cutting navigation lanes.

We will still not be able to cut navigation lanes for individual piers due to limitations of our equipment, and because this would lead to cutting too many beneficial plants. Aquatic plants provide many habitat and water quality benefits, and having too few plants would have negative effects on water quality and the sportfish populations. In 2018 the District purchased a GPS unit with the help of a small-scale lake planning grant to help make our harvesting process more efficient and improve our aquatic plant management program on the lake.

Management Plan Update

Every ten years we update the Lake Ripley Improvement Plan. This document is a comprehensive management plan that helps guide the LRMD, DNR, Town of Oakland, Jefferson County and other partners to manage Lake Ripley and its watershed. In the coming months there will be public meeting, and a user survey to obtain feedback from the public, to better guide lake management.

Lake District Preserve

This spring at the Lake District Preserve, weather permitting, we will be conducting a prescribed burn at one of our prairies. Fire is a natural, and important management tool in America's grasslands. It will help control woody vegetation and promote the growth of native prairie vegetation. The district burns only sections of the prairie at a time, so that undisturbed areas will be available for nesting birds, and there will be less damage to the native insect populations, like pollinators. Many other small projects such as: trail cameras, bird box monitoring, trail maintenance and other forms of habitat management are also planned, or in progress for 2019.



The winter world of nature above the ice is usually still, but below the ice, life continues.

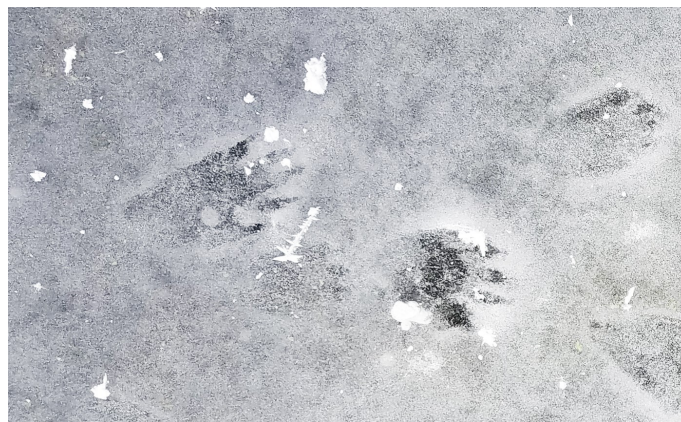
Under the Ice

As the ice forms, thickens and becomes dusted with snow on Lake Ripley we look out onto a still scene. No fish jump, no ducks swim, tip their tails into the air and feed on the aquatic plant below. No bluegills snap up an insect emerging into adulthood on the lake's surface. A few crows might patrol the ice in search of discarded bait, or some scrap of bread left on the ice by someone enjoying the winter on the lake, but below the ice life continues in abundance. The insects that will rise to the surface to spread their adult wings next summer are alive and feeding in the lake right now as aquatic larvae. It can be hard to believe that most of the bugs of summer are out living their lives while nothing seems to be stirring.

They often say mayflies only live for a day, but that is only because we see them for a single day. They have spent far longer living, feeding and being out of view. Saying a mayfly only lives for a day is ignoring 99% of the rest of its life spent feeding, crawling, and avoiding the same fish that feed on them during their transition from water to sky.

You may not see them for months, but under the ice of the lake and stream muskrats are busily feeding on the roots of plants. These mammals must find some chink in the ice armor, to come up for air and breath. If the creek is still open in

some parts, they will rise for breath of air without trouble, but at the lake they must have some burrow along the shore with a watery entrance. There they will be above the waterline and can dry off and get air, but so can their main predator, the American mink. Muskrats don't have an easy life, and winter is no exception. If the winter is very cold, the ice can grow thick, and all the way to the bottom in shallow water. It can cut off the muskrats from their burrows and food supply. Then they are forced to become refugees and join the rest of the winter mammals



Raccoon tracks frozen into the ice.

above the ice. Foxes, coyotes and weasels say hello from the ground, while owls and hawks will happily send their greetings from the sky. If muskrats have nightmares, they come in the form of a long sleek shape and the needle-like teeth of the mink, and perhaps clear, thick, unforgiving ice.



Above: December 19th a muskrat pauses for a break on a make-shift bridge on Lake Ripley's inlet stream.

Below: Five days later an American mink swims upstream with a mink in its mouth.



Another forgotten set of creatures in the winter world under the ice are the amphibians. While some hibernate, others are active. In the spring and summer many frog eggs hatch into tadpoles, and metamorphose into frogs, but not so with green frogs and bullfrogs. The tadpoles of these species continue to feed under the ice all winter, scrapping up algae and decaying bits of organic matter. The cold makes them slow, but they keep feeding, growing slowly, storing energy in their tails. When summer comes, they will absorb their tails, grow hindlegs and like some alien their front legs sprout from their gills. They will begin to feed on all the adult forms of the insect larva they shared the bottom of the lakes, ponds and streams with. They are animals that

started their lives a summer ago, and spent the cold dark months feeding under the ice.

While the ice is still thick, the eggs of a few of our well-known fish species are nearly fully developed. Northern Pike and Yellow Perch will begin to spawn as soon as the ice goes out, and sometimes even before all the ice is off the lake. In order to be ready to spawn at this time, their eggs must be fully developed. Yellow Perch will mostly lay their long zigzag egg bundles on top of dead vegetation in the shallows of the lake, sometimes they will also head into the wetlands. Northern Pike eggs are much different. Their eggs are sticky and the females will glue their eggs on the stems of plants like bulrushes, and flooded wetland vegetation.



The grass pickerel (above), much like its big cousin the Northern Pike, swims into the wetlands in the spring to spawn.

Plants and algae grow under the ice too, but not much. The short daylength, reduction in light from the ice and cold temperatures, greatly reduce the growth of algae, but it still grows. Algae floating around in the water column helps feed tiny animals called zooplankton that are then fed on by small fish, and so up the food chain. When walking on frozen Lake Ripley with the stars overhead, you may not hear a sound or see any life other than yourself, but below the solid water life never stopped: in fact nature is busy building the life we enjoy all summer.