Ripples

Lake Ripley Management District

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From the Helm

Where is the Ice?

Once again, we are experiencing a late ice-on event on Lake Ripley and other surrounding lakes in Jefferson County. According to the Wisconsin State Climatology Office, the definition of a lake freezing is the ice formed must hold for a period of at least 24 hours.

January 3rd, 2024; the air temperature was 33°F. Jimmy is holding a Beaver Dam tip up used for ice fishing.

This year we saw Lake Ripley freeze over on January 16, just one day short of the latest ice-on record of January 17, 2007. The earliest ice-off that we have recorded is February 24, 2017. The District has been recording the ice-on and ice-off data for Lake Ripley ever since the winter of 1989! There have been six times since 1989 that the lake has frozen over in January. Four of those were in the last 11 years. The average date for the ice-off event is March 22nd. The data is interesting, and we are experiencing more frequent extreme weather events. On January 3rd (the day of the photos) the water temperature was 32°F, and the air temperature was 33°F.

According to Channel 27 Madison WKOW, this past month was one of the warmest in Madison's history, with an average December temperature of 34.8°F. December 2023 is the fourth warmest month in Madison's recorded history! Most of Wisconsin recorded an average of at least 9°F above average. Madison's average temperature for the year 2023 was 49.9°F, making it the third warmest year on record. The state saw its 10th warmest year in its 130 years of record keeping.

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Ice continued

January 3rd, 2024; the water temperature was 32°F. The thermometer reads 0°C which converts to 32°F.

These events affect Lake Ripley in many different ways. The ice forms and sits on top to keep the water stable, stopping any evaporation from taking place, and prevents the lake from warming. With less ice-on time, the water warms faster in the spring. As the temperature of the water rises, the amount of dissolved oxygen decreases which can lead to algae blooms. We know algae blooms have the potential to harm fish and other aquatic life in our lake and they can be unpleasant for us humans to experience, too!

Now that we have had temperatures below zero for the past week, I've been seeing folks ice fishing, snowmobiling, and even snowshoeing on our lake! It is great to see so many people enjoying Lake Ripley in the winter, as we are reminded how important the lake is to all of us and we must continue to protect it in every way.

Have a safe winter and enjoy the lake!

Jimmy DeGidio, Chair

Truck Yeah!

Back in early November, Enbridge graciously donated a Chevy Silverado pickup truck to the District! The truck is in great condition, and our staff will be able to use it for the next 8-10 years, reducing the need to spend tax dollars on a similar vehicle. A huge thank you to Enbridge for their generous donation to the District and their continuous support over the years.

Enbridge donates a Chevy Silverado to the District! From left to right in the photo: John Schwarz (Technical Supervisor), Jimmy DeGidio (District Chair), Lianna Spencer (Lake Manager), and Jon Eisele (Community Engagement).

Why is the Preserve so Important?

What do you appreciate about our Lake Preserve? Is it a convenient place to hike? A great place for birding or photography? A quiet place for solitude, or a wonderful place for the whole family to explore together?

Perhaps you appreciate how the Preserve provides essential habitat for woodland, prairie and wetland species. Perhaps you appreciate how the native plants of this watershed landscape prevent harmful run-off from entering the lake's only inlet creek. A lot of "science" happens here, as the District works to improve water quality in the lake.

The Preserve is all this and so much more! For example, were you affected by the heat-index days and prolonged drought we experienced last summer? The Preserve's woodlands, prairies and wetlands all work actively to reduce carbon dioxide (CO2) in the atmosphere (yes – that planet-warming culprit!). They accomplish this by being a "carbon sink". Plants and trees pull carbon dioxide out of the air during photosynthesis, and then sequester (store) it as carbon. In the woods, most of the carbon is stored in wood, in both living and dead trees, but some is also stored in the soil. In the prairie, carbon storage is mostly underground because two-thirds of prairie plant biomass lives underground. All that beautiful prairie you can see is only one-third of the whole show! This is a very secure carbon storage system. Likewise, in the wetlands, the carbon storage is very stable in the wet, anaerobic soil. These processes occur naturally without any help from us! Unlike the man-made carbon storage machines being invented that require fossil fuels to operate…

Next time you walk in the Preserve, you will have one more reason to appreciate it!

Snow Fleas: Springing into Spring

By: Paul Skawinski, Lake Tides, Volume 48, No.2

Fleas??? Easy now – snow fleas do not bite and are completely harmless. They actually aren't even closely related to the parasitic fleas that bite and drink blood from warm-blooded animals. The friendly snow flea grazes on algae and other organic materials that accumulate on top of the snow or soil. The name "snow flea" comes from their amazing jumping ability and the fact that they are very active and very visible during periods of melting snow. A large group of them looks like a sprinkling of ground black pepper on top of the snow.

True fleas use powerful hind legs to jump. Snow fleas, also called springtails, have a special structure on their backsides called a furcula, which rapidly flips down and pushes on the ground to spring the snow flea into the air. The furcula is not very precise, so it does a great job launching the snow flea into the air, but irregularities in the ground or snow surface can cause it to launch the snow flea in unpredictable directions. In fact, snow

Snow fleas, also called springtails, have a special structure on their backsides called a furcula, which rapidly flips down and pushes on the ground to spring the snow flea into the air. Photo credit: www.eekwi.org.

fleas along streams often fling themselves right into flowing water and get swept downstream. Luckily, they are light enough to sit on top of the water! Jumping onto the water's surface can be a very effective strategy to escape predators. At only two to three millimeters long, they are usually overlooked as they go about their day, gobbling up bits of organic matter and algae and hopping

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Snow Fleas continued

over 100 times their body length. If we could do that, a single hop could take us the length of two football fields!

Snow fleas embrace winter by making their own antifreeze in their blood! By producing a chemical called glycine in their blood, they can prevent their blood from freezing and stay active in cold temperatures. You won't notice them much during the heart of winter because they are primarily feeding in the subnivean zone, which is a winter marvel in itself. This zone forms between the snowpack and ground, as warmth from the Earth melts pockets and tunnels along the ground surface. This zone is a near-freezing paradise for a wide variety of animals seeking refuge from the bitter cold and winter winds. Snow fleas are most often seen in the late winter as the snow melts, because all of the organic materials they feed on that were previously trapped in the layers of snow are slowly becoming exposed. All of those yummies are sitting right on top like sprinkles on an ice cream sundae.

The Subnivean Zone: The World Beneath the Snow

Winter in Wisconsin can be harsh and cold. The days are shorter, the nights are frigid, and our Preserve appears to be quiet and barren. But there is more to see than what meets the eye.

Did you know there's a hidden world beneath the snow where animals go to shelter from the frigid winter temperatures? It's called the subnivean zone and it's a unique habitat used by many animals that is found beneath the snow in cold climates and used by many animals. The subnivean zone is formed when snow falls and accumulates on the ground. As the snow piles up, it generates a layer of insulation that captures the warmth from the ground beneath it. Heat from the ground then causes water vapor to rise through a process called sublimation. As the vapor cools and condenses, it turns into ice and forms a layer on the surface of the snowpack. This layer of ice provides additional insulation against the cold, allowing the temperature below the snow to remain around 32 °F, even in very cold weather.

Interestingly enough, the subnivean zone is full of life; mice, voles, shrews, ticks, spiders, and snow fleas are just some of the organisms that rely on this important zone. (There are even some plants that can be found thriving in pockets beneath the snow!) These animals depend on the snow cover to survive frigid winter temperatures and evade predators. Unlike large mammals, small mammals tend to lose heat quickly in the cold, so they tend to spend most of their winter in the subnivean zone protected from the blustery wintery conditions. Small mammals typically lack winter camouflage and may be seen from long distances when travelling across the stark, white snow. The subnivean zone gives them underground protection, but they are not exempt from predation.

This amazing winter habitat contains a labyrinth of tunnels and chambers used by the animals to store food, sleep, travel, and enter and exit their hidden world below. The tunnels can provide a path to different food sources such as seeds, grasses, and nuts that may be near the base of trees or downed logs. Some of the animals, such as mice and voles, create food caches below the snow to ensure they will have enough food for the winter. While they are active throughout the winter, these animals do spend small amounts of time huddled together in a deep sleep, waking occasionally to feed.

The only visible part of the subnivean zone above ground is the hole they use to enter and exit this elusive world. These holes are not only essential for

The Subnivean Zone: The World Beneath the Snow continued

accessing the tunnel system, but they also double as ventilation shafts, allowing the carbon dioxide created from animal respiration, as well as carbon dioxide released from the ground, to escape.

While some animals call the subnivean zone home, predators use it as a hunting ground. Owls, foxes, coyotes, ermines, martens, mink, and weasels can hear the movements of the small animals under the snow and can plunge into the snow, collapsing the tunnels and catching themselves a meal. Ermine, mink, and weasels are long and slender, making it easy to enter the entrance holes of the subnivean zone. They follow the tunnels until their meal is found. Occasionally, they will build a nest out of the fur of the mice they capture and use the tunnel system as their own! Owls listen from their perches and use their talons to grab into the snow for a meal.

Next time you take a winter walk through the Preserve, pay attention to the tiny tracks in the snow. Look closely – these tracks may actually be the tracks made by mice and other small animals as they travel back and forth across the snow. Follow the tracks a little further, and you will likely see that the tracks disappear into a small hole in the snow. You have just found an entrance into the subnivean zone!

Imprint of an owl hunting for food. Photo from: https://www.blm.gov/visit/white-mountains

The Blue-Spotted Salamander

There are many examples of animals that are found in our region, yet which are rarely ever seen. If a deer walks up you take notice; however, you could walk right by a salamander and never see this important part of our ecosystem. Because of their solitary nature and their nocturnal lifestyle, salamanders don't call attention to themselves and are easily overlooked.

The blue-spotted salamander is small, averaging about four to six inches in length. Like all salamanders, it is well camouflaged against the floodplain understory; dark bluish-black with pale blue patches on the belly and sides. They are amphibians, like frogs; but unlike frogs which tend to be on the noisy side, salamanders lead a quiet life. They absorb oxygen directly through their skin, which requires them to live near water in moist surroundings.

When salamander larvae (like a tadpole for frogs) start life, they have tail fins and external gills and start their lives living in the water. After just three weeks, the front and hind limbs are formed. As they transform into adults, they lose their gills and tail fins, and leave the water. The newly emerged adult salamanders have a long tail, a slender body, and four legs with long toes perfectly made for life in the slow lane.

Blue-spotted salamanders, whose bright blue coloring is extraordinary and a surprise on a cool forest floor, live in shallow burrows, under logs, rocks, or leaves. During the warmer months they venture out frequently at night searching for food. They are carnivores, eating worms, snails, insects, centipedes, and spiders. The larvae eat a wide variety of aquatic invertebrates, especially mosquito larvae. This is of great benefit to humans.

Never pick up a salamander with your bare hands and then rub your eyes. Glands on the salamander's tail produce a toxic liquid that is secreted when it is threatened. If a predator like a raccoon or fox picks them up, the salamander will expose its tail and give the predator something foul-tasting and sticky to ponder while hopefully allowing the salamander to escape.

The biggest threats to Wisconsin salamanders are habitat fragmentation, habitat loss, and climate change.

A blue spotted salamander. Photo credit: www.chicagoriver.org

Agrecol Orders

It's time to start planning next summer's lake-friendly yardscaping! Remember that you can obtain high quality native plants at greatly reduced cost by taking advantage of the District's "combined order" at Agrecol, a reputable local grower.

You can view available plants at www.agrecol.com. The website provides information about each plant (sun exposure, soil, height, bloom periods) that you will need to choose plants that will do well in your yard. To estimate how many plants you will need, just remember each plant needs about one square foot, so, for example a four-by-five foot space would need 20 plants.

Please become part of the growing near-lake community that is creating a lake-friendly watershed yard by yard. Planting native plants is one of the easiest and most successful ways we can improve water quality in our lake.

Orders must be received by Friday March 29th, including payment, at the District office. Questions? Please call the District office at 608-423-4537 or email at lake.manager@tn.oakland.jefferson.wi.gov.

A healthy, native plant plug ready to be planted!

A flat of native plants from Agrecol.

Dos and Don'ts of Draining your Pool

Did you know that the chemicals we use in pools and spas can hurt aquatic life in our streams and lakes? It's true; even at extremely low amounts, these chemicals are toxic to aquatic life! It is important to use best management practices when winterizing your pool. Here are a few tips for next season:

Allow your pool to sit for a week or longer before draining. This will allow the chlorine in the water to break down to a less toxic level.

If you do not have access to a sanitary sewer system, the next best place to put that water is on your yard. Choose a spot that is not covered with plants because chlorine damages plants. Then make sure that the water is not running off onto another yard or into a storm drain. Soil does some cleansing of the water before it reaches our ground water, inlet creek or lake.

For more tips and advice on how to properly discharge your pool water, call the District at 608-423-4537.

Be sure to visit, to LIKE and FOLLOW our Facebook page at: **www.facebook.com/LRMDLS2020**

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