

The BogHunter

the newsletter of the Friends of the Cedarburg Bog

Volume 15, Number 1 WINTER 2020

TREES IN WINTER

Wisconsin winter is truly here, as fickle and unpredictable as ever. In winter, driving gets a little more dangerous, everyday life gets a little harder, and sunshine becomes a precious commodity.

After our first snowfall, I took a walk through the bog. Snow clung to every branch of every tree, highlighting the dizzying architecture of the natural world. As I walked, I thought about how plants, especially trees, muddle through winter in their own way.

How can a living thing freeze solid for months, then thaw out the next spring and continue on its merry way?

In a recent issue of the BogHunter, we discussed what happens inside of a tree as it changes colors and loses leaves in the fall. What happens inside of leaves as a tree prepares for the winter is only half of the story. Our tree also needs to prepare the cells within its trunk to withstand the freezing temperatures that will soon follow. If the cells that make up the vessels in the trunk had not undergone any winter preparation and were to freeze solid, the



Tamaracks covered in freshly fallen snow



Snow covered boardwalk

water within the cell would turn to ice and expand, breaking open the cell wall and killing that cell and rendering that vessel useless for the tree to transport water next spring.

Trees have a number of processes they go through to acclimatize for freezing. These processes occur on a cellular level, and they exploit the natural physical properties of water.

Plant cells are bound by a rigid cell wall. This cell wall is made up of hundreds of thousands of tiny cellulose strands that stack on top of one another in varying directions. So while the cell wall is rigid, there is quite a bit of empty space in between the strands of cellulose (Remember this empty space. It will come into play later).

As winter comes closer, the plant pumps sugars and other solutes into the cell. The high solute concentration inside the cell acts as an antifreeze and slightly lowers the freezing point of the water inside the cell. As a result, when temperatures continue to drop, water freezes outside of the cell first, in the spaces between cells, and in the empty space between strands of cellulose in the cell wall.

As that water freezes, it releases small amounts of heat energy, which helps the fluid inside the cell remain unfrozen. When

ice crystals form outside the cell, water molecules inside the cell are attracted to the ice crystals and are pulled out of the cell. The water remaining inside the cells is in such small quantities that it is unable to form stable ice crystals, and it will stay in a liquid state even down to -39 degrees F! This phenomenon is called supercooling.

Temperatures lower than -39 degrees F will kill all but the hardiest trees. Trees that can survive temperatures that drop below -40 degrees F dehydrate their cells to an even greater degree to be able to withstand the brutal cold as far north as the limit of woody plant growth.

A blanket of snow acts as a great insulator, keeping temperatures at the ground cold but consistent. A plant's roots can endure constant freezing temperatures without too much damage, but repeated fluctuation in temperature can really hurt a small plant. Repeated freezing and thawing of the ground around the plant can push the plant up out of the ground, leaving its roots exposed. In addition, warm sunny days can actually stimulate cellular activity within the plant. Then, at night, when temperatures plummet again, the plant freezes without having gone through its supercooling process again.

Caitlin Reinartz
Urban Ecology Center Forester

At the North End of the Bog

It takes a village.

When volunteers from the Friends of the Cedarburg Bog replaced trail signs along the handicapped accessible trail at the north end of the Bog this fall, it was the latest chapter in our involvement with that trail.

The Cedarburg Bog is a 2,200 acre wetland, largely administered by the Wisconsin Department of Natural Resources (the University of Wisconsin Milwaukee owns a parcel on the west side of the Bog). Until nearly 30 years ago, there was little public access at the north end, but when a property owner died, her family sold 150 acres to the DNR (you can still see signs of human habitation if you look carefully). It didn't take long for hunters, hikers, and fishermen to find the place, and a few trails were developed. The Town of Saukville contributed a handicapped-accessible fishing pier on Watts Lake, a kettle lake that's partially cut off from the main Bog wetland by uplands.

In 2009, the Friends received a matching grant from the DNR's State Stewardship Fund in order to re-grade 150 feet of the trail in order to lower the slope and make it wheelchair-friendly. Volunteer crews turned out to clear brush and widen the trail before the heavy equipment moved in, and to seed native plants afterward. A number of people who came out to walk the trails during those work days ended up pitching in. A neighbor contributed the two large rocks that discourage motor traffic. The Friends also helped fund an addition to the boardwalk leading to Watts Lake.

In the spring of 2010, a grant from the Milwaukee River Basin Partnership allowed us to develop and install 13 interpretive signs along the trail, plus a boot brush at the trail head that helps keep invasive plant species out of the Bog.



New educational trail signs along Watts Lake trail in Cedarburg State Natural Area

This year, an Incentive Grant from the Friends of Wisconsin State Parks funded the renewal of these signs.

The main trail ends at Watts Lake, about a half-mile from the parking lot. It goes through a stand of large white cedar and a swamp that glows with marsh marigolds in spring. Veeries, Northern Waterthrushes, and Winter Wrens join the chorus in early summer; butterflies nectar and dragonflies hunt in the sunny meadows along the trail and at the pier. A second trail that splits off of the main trail goes over a short, swamp boardwalk and into a beech-maple woods that has wildflowers in spring and spectacular colors in fall. The trail leads to a brushy field that has a robust population of poison ivy, so step carefully.

Unlike the University trail, which is only open to the public during special events, the trails at the north end of the Bog (and at the south end) are open to the public year-round. The Master Plan for the DNR portion of the Bog allows fishing, trapping and hunting as well as hiking. Hunting seasons are posted in the information kiosk in the north parking lot, but most



View of Watts Lake from handicapped accessible fishing pier

hunters set up shop far beyond the normal hiking trails.

The Bog is a State Natural Area – a designation that was created by the great conservationist Aldo Leopold to protect unique examples of Wisconsin's pre-settlement landscape. In 1952, the Bog became State Natural Area #2.

Kate Redmond

Annual Winter Hike and Chili Potluck

at the UWM Field Station

January 26, 2020

1:30 PM Hike

4:30 PM Potluck

Join us for one or both!

We will supply the chili and beverages.

If you could please bring a side dish or dessert to share with the group.

No pets please.

Dress for the weather and we strongly recommend bringing your ice cleats if you have them.

RSVP at www.bogfriends.org for the hike and/or the potluck so we can properly prepare for the event.

Questions?

Email fieldstn@uwm.edu

or call 262-675-6844

Northern Saw-whet Owls in the Cedarburg Bog

For nine continuous years, the Friends of the Cedarburg Bog have conducted "Owl Prowl" walks and bird surveys during the fall and winter months. Between the months of October to December, the average overall success rate of hearing or fleetingly seeing a Northern Saw-whet Owl has been a surprising 74%. This minute owl is a shy and secretive bird. Not often heard and less seldom seen than most owls, it usually has to be enticed by playing recordings of its own calls. What does ornithological science tell us about this mysterious half-pint? What are they doing in the Bog?

The Northern Saw-whet Owl, probably the "cutest" owl in all of North America, got its name from the bird's mating solicitation call. The "toot- toot-toot" sound reminded old-timers of sharpening a saw blade. Birders nowadays might describe the Saw-whet call as a sound a little toy truck might make when backing up. Approximately

8 inches tall and weighing between 75 and 100 grams, the Saw-whet is the smallest owl in eastern North America. It is about the size of an aluminum soda can. No matter how cute or how small it is in stature, this Lilliputian is a raptor par excellence. Prey species include voles, mice, large insects, and sometimes even a bird as large as itself.

Saw-whets are cavity nesters residing in a wide variety of northern forest types. These include coniferous forests and mixed coniferous-deciduous forests, wooded swamps and bogs. Prior to the 21st century the Northern Saw-whet Owl was deemed by many birders and some ornithologists to be rare or uncommon throughout its range. In recent decades, however, this scarcity belief has been debunked by data obtained from banding stations using “audiolures” continuously broadcasting Saw-whet toots.

The Linwood Springs Research Station in central Wisconsin has been effectively using this methodology for nearly 30 years with the net result of having banded close to 15,000 Saw-whets during their Fall migration! There clearly is no shortage of migrating Saw-whet Owls. The species seems to be doing well. Some ornithology folks have surmised that in suitable habitat the Northern Saw-whet may be abundant in numbers.

Linwood Springs Research Station coordinates its findings with similar banding operations in the eastern USA. Based on recaptures of banded birds and on data from GPS tracking devices, it is apparent that Saw-whets are highly nomadic and unpredictable in their migratory patterns and overwintering sites. Migratory birds banded in central



Saw-whet owl in spruce tree

Wisconsin have turned up as far east as Maine and as far south as the gulf state of Alabama. Overwintering Saw-whets can take up temporary winter residence in Pennsylvania one year and then be in Arkansas the next. There appears to be no rhyme or reason as to where they disperse to in the winter.

Another puzzling finding noted at other banding stations: 99.9% of the netted birds are either females or recent fledges. Where are the adult males? Are they overwintering near their breeding grounds in order to more quickly stake their territorial claim in the Spring? Or are they roaming far and wide like the females but are never detected. These questions are presently unanswered.

It is possible that some of the Saw-whets seen or heard on “Owl Prowls” have overwintered in the Cedarburg Bog. We have had owls reside in the same exact conifer for nearly the entire winter, from November through February. In early 2019, two small owl nest boxes strategically located in two separate cedar-tamarack bog woodlands about three miles apart were determined to have hosted Saw-whets for a good part of the winter. This determination was based on visual and auditory observations as well as by the number of regurgitated pellets found inside the boxes.

So, what does the Cedarburg Bog have in common with these pint-sized owls? Answer: habitat and Red-backed Voles. These small mammals common to northern forests and bogs, are one of the Northern Saw-whet Owl’s favorite snacks.

John O’Donnell

Gansefendern

German for “goose feathers”, gansefendern are those huge, flat snowflakes that float down softly from the sky. Five-inch-wide snowflakes have been recorded, but the world record goes to the 15 inch flakes that fell in Montana in the winter of 1887.

*Friends of the Cedarburg Bog:
Supporting stewardship and
appreciation of the Cedarburg
Bog through land management,
preservation, research and education.*

Board Talk

Correction: In the last Bog Hunter, I made reference to Bill Taylor having served a term as President as well as several terms as Treasurer. In addition to stepping up to serve as President in his last year on the Board, Bill served as President earlier in his tenure with the Friends. His long service is appreciated.

Your “new” Board of Directors held its first meeting on November 7, 2019, at which they elected officers: Jim Ellis to President, and Andrew Holman to Treasurer. The offices of Vice President and Secretary remain vacant as do the leadership roles of Communications Committee and Membership Committee Chairs. The Governance Committee is working on recruiting directors to fill these vacancies. If you or someone you know might be interested in exploring these opportunities, please contact Tim Vargo, Governance Committee Chair Person, at tvargo@urbanecologycenter.org.

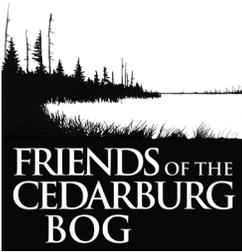
The year 2020 will mark the fifteenth anniversary of the founding of The Friends of the Cedarburg Bog, Inc. On August 29, 2005, Articles of Incorporation and By-Laws were filed with the State of Wisconsin. This filing was the culmination of several months of work and multiple meetings by our founders. A short time later we were “official”.

The Friends were incorporated for “charitable and educational purposes of initiating, supporting and accomplishing activities that will enhance the natural history, public appreciation, and scientific study” of the Bog “in cooperation with the Wisconsin DNR and the University of Wisconsin – Milwaukee.” Those activities have been successful and numerous. Over the past 15 years we’ve sponsored dozens of educational programs in the Bog that have provided hundreds of people the opportunity to learn about and appreciate the Bog. We’ve also helped to complete boardwalks to provide access to the Bog for learning and recreational purposes and have sustained long term efforts to protect the Bog from Buckthorn and other invasive plants.

Jim Ellis, FOCB President



Saw-whet owl after receiving new band.



C/O UWM Field Station
3095 Blue Goose Road
Saukville, WI 53080

ADDRESS CORRECTION REQUESTED

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WINTER 2020

CEDARBURG BOG FRIENDS EVENTS

Unless otherwise noted, walks meet at the UWM Field Station on Blue Goose Rd. Space is limited, so please register. To register, visit www.bogfriends.org (click Program & Events). Walks are free and open to the public; a \$5 donation is appreciated, except where noted. Questions? Contact (262) 675-6844 or fieldstn@uwm.edu. *Please, No Pets.*

Quarterly Board Meeting

January 9, 6:00 p.m.

All members are welcome to join the FOCB board meeting held at the UWM Field Station.

How Trees Grow

January 12, 9 a.m. to Noon

How do trees do what they do? Find out at this indoor-outdoor presentation. Dress for the weather.

Winter Hike and Potluck

January 26, 1:30 p.m. - 6:30 p.m.

Join us for a guided hike through the Bog followed by food and good cheer. More details inside the newsletter.

Waterfowl and Other Wetland Birds in the Bog

February 22, 1 p.m. - 3:30 p.m.

We'll discuss the natural history of the many wetland avian species and then take a hike to examine Wood Duck nest boxes

Natural History of North American Bears

February 28, 7 p.m. - 8:30 p.m.

Wildlife biologist Randy Hetzel has extensive field research experience in working with bear species throughout North America.

Owl Prowl at RNC

March 13, 7 p.m. - 9 p.m.

Join us at Riveredge Nature Center to hear whooooo is calling on their property.

Renew your FOCB membership!

Generous support from all of you has been essential to our mission of preserving and conserving the Bog. We hope you will continue that support in the coming year.

Renew by mail or online at www.bogfriends.org/get-involved/donate

Phantoms of the Forest at RNC

Tuesday, April 7, 7:00 p.m. - 8:30 p.m.

Raptor biologist Gene Jacobs will share research on the Red-shouldered hawks

Birding by Canoe or Kayak in the Bog's Mud Lake

April 25, 6:30 a.m. - 9:30am

This is a wilderness outing for experienced canoeists or kayakers in Mud Lake, the largest and most inaccessible lake in Ozaukee County. Attendance is limited to 12 participants. Cost is \$25 per person.

EVENTS HAPPENING ELSEWHERE

CALENDAR

Snowshoe Day at LLC

January 11 & February 8, 10 a.m. - 2 p.m.

Come borrow our FREE LLC snowshoes and enjoy the trails! Weather permitting.

Winter Yoga Workshop at RNC

January 11 10:30 a.m. - 1:30 p.m.

Stretches, warmth, and intention setting for the New Year.

Winter Identification and Management of Native and Invasive Species at RNC

January 24th 9:00 a.m. - 3:30 p.m.

Learn how to identify, manage and monitor trees and shrubs during the dormant season.

Winter Luminary Walk at LLC

January 25, 5 p.m. - 7 p.m.

Enjoy a luminary-lit walk at the Conservancy. After the hike, warm up inside with warm beverages.

Winter Frolic at MNP

February 1, 10 a.m. - 4 p.m.

Outdoor and Indoor family friendly event that includes dog sled demos, sleigh rides, bonfires, and kids crafts, music and Native American dancing inside. Event is Free!

National Invasive Species Awareness Week

February 25 - March 3

Participate in activities that are being hosted by local organizations such as nature centers, Friends groups and more. Visit www.sewisc.org for more information

Maple Tapping for Amateurs at RNC

February 29, 9:30 a.m. - 11:30 a.m.

Learn how to identify and tap a maple, collect and boil the sap, and how to bottle the syrup

Candle-lit Ski and Snowshoe Hikes at RNC

Fridays in January and February 4:30 - 8:00 p.m.

Traverse our trails, lighted by the soft glow of lanterns or only by the light of the moon and stars.

Maple Sugarin' Festival at RNC

March 21

Come explore the sweetest and sappiest time of the year in the Riveredge Sugarbush!

SEWISC currently has a limited amount of funding to provide for on-the-ground invasive species control projects in 2020! This funding is available for nonprofits, government, and private property landowners. Visit www.sewisc.org for application details.



SEWISC – Southeast Wisconsin Invasive Species Consortium

360 Cedar Sauk Road, West Bend

www.sewisc.org

LLC – Lac Lawrann Conservancy

300 Schmidt Rd, West Bend

<http://laclawrann.org/>

RNC – Riveredge Nature Center

4458 County Hwy Y, Saukville

riveredgenaturecenter.org

MNP – Mequon Nature Preserve

8200 W County Line Rd, Mequon

www.mequonnaturepreserve.org