

THE BOG HAUNTER

the newsletter of the Friends of the Cedarburg Bog

Volume 3, Number 2

Spring, 2008

Bog-Building

The Cedarburg Bog is a 2200 acre peatland, a unique type of wetland in southern Wisconsin. The recipe for duplicating it includes one pretty hefty chunk of ice, one large wet basin, aquatic plants, a pinch of oxygen and - oh yes - time, measured in thousands of years.

Geologically speaking, our landscape is a new one. An ice sheet at least one-and-a-half miles thick started south over Wisconsin during the most recent glacial age, about 25,000 years ago. It reached its maximum extent about 7,000 years later and, by 10,000 years ago had retreated again.

This ice weighed more than 15 trillion pounds per square mile and exerted pressures of 600,000 pounds per square foot, and the crust of the earth bent beneath it. It rerouted waterways, scoured the land, leveled old hills and built new ones, and deposited the parent materials for Wisconsin soils. Parts of Wisconsin have rebounded 160 feet since the weight of the glacier lifted.

Where the Bog is today, the ice scraped a basin with an uneven bottom. Clay particles suspended in the glacial melt water settled to the bottom of that basin and made it watertight. Further melting and precipitation filled the basin, and a post-glacial lake was born.

Vegetation from aquatic plants and from land plants growing around the lake's edge sank and decayed, and the basin, 65 feet deep in some spots with low islands in others, started to fill. Wisconsin lakes are dying lakes.

These first deposits, the lake sediments or *gyttta* (they look and feel like tofu), built up for thousands of years. When the water became shallow enough, rooted, floating-

leaved or emergent vegetation could grow throughout the system - that is, plants could have their roots in muck at the bottom and their leaves at or above the water's surface.

Rapid decay requires oxygen; currents and the movement of wind over water deliver that oxygen. Hummocks of plants decreased the surface area, less oxygen got mixed in and decay slowed. Peat - partially decomposed vegetation - began to form a new layer above the lake sediments, further filling in the wetland. The vegetation of today's Bog sits on a layer of peat eight or nine feet deep. Because of the slow rate of decay, the nutrients from yesterday's vegetation are not readily available to today's plants.

Plant communities are transient. *Succession* refers to the predictable progression of plant communities culminating in a climax community that can reproduce itself. Succession starts with "bare" and moves to crowded, and, in this area, favors the production of soil and shade.

The trail to the Bog's center passes through a variety of communities; walking it is like going backward in time. From the ice push ridge that surrounds the Bog, out through the northern conifer swamp and shrub carr to the sedge meadow, cattails and "stream," the terrain gets wetter as earlier successional stages are traversed.

Dry land temporarily interrupts the regression as the trail crosses two islands (the first "fast-forwards" to the upland climax, a beech-maple forest). The boardwalk ends in the "string bog" that is the heart of the wetland. There, slightly elevated ridges of "dry land" that host stunted cedar and tamarack are separated by wet sedge-filled swales. Time will transform the strings into a damp, swamp forest, not an upland forest.

These ingredients, "cooked" for millennia, have produced a wide diversity of habitats, a plant list that ranges from sun-loving aquatics to shade-loving climax forest species, and an irreplaceable wetland.

Home Sweet Home

An early goal of the Friends of the Cedarburg Bog was to install a nest platform for Osprey in the Bog. Osprey, also called Fish Hawks, are one of the birds of prey that almost disappeared from our landscape due to the widespread use of DDT. Almost two feet in length with a wingspread of about five feet, these brown and white birds are now recovering in Wisconsin, with over 450 pairs nesting in the state. No nests have yet been found in Ozaukee County, but in recent years, Ospreys have been seen near the Bog during the nesting season.



In early March a crew from We Energies, using materials provided by the American Transmission Company, erected two nest platforms in the DNR portion of the Bog and a third on the Bog Golf Course on the eastern edge of the Cedarburg Bog. Thanks to the Friends members who worked on planning, to the Bog Golf Course, ATC, We Energies, and the WDNR for making this dream a reality.

Itchin' to Get Out of the Kitchen?

Well then, you have directed your attention to the right place. The Friends of the Cedarburg Bog are just as excited about the spring thaw as you are, and we are looking for your help and your personal touch to help to get some of our projects off the ground. Whether you like to immerse yourself in the outdoors or prefer the comfort of the indoors, we have something for you! Do you have a special talent, interest, or expertise that you would like to share with us? Let us know, as we welcome smiling faces and eager minds.

Last year, with the guidance and help of the Stewardship committee, the Friends started an effort called the "2nd Saturday Stewards," with the thought that the 2nd Saturday of EVERY MONTH is to be set aside for a stewardship effort at the Cedarburg Bog. I am pleased to announce that since the turn of the New Year, there have been 15 bold souls who braved the wintery conditions to help combat the encroaching invasive species populations in the Bog. Special thanks goes out to those who have heeded our call for action, and we encourage more to discover the sheer pleasure of saving the world, one invasive species at a time.

Another project the Friends have their paws in, is a citizen monitoring program in coordination with the Wisconsin DNR. We will be sending people out to monitor ephemeral ponds around the area. Are you good at orienteering? Do you like dragonflies and salamanders? Do you like getting your hands dirty? Then this project is for you!

A few more projects to keep your eye on, that wouldn't get your hands as dirty, would include general office work, database management, special event coordination, web site management, and fundraising. Are you more of a hands on kind of person? We also need help building deer enclosure fences, maintaining trails, and finishing up the last sections of the boardwalk. If you are interested in any of the above opportunities, please contact Cindy K. at cindyk@bogfriends.org, or 262-957-4771.

By Cindy Kowalchuk

Linear-leaved Sundew

Few flowering plants in the Bog are harder to find or easier to overlook than the carnivorous linear-leaved sundew (*Drosera linearis*). Rosettes of slim, pale-green leaves, an inch-and-a-half tall, grow among the taller plants on the string bog's mat. Its narrow leaves are covered with reddish, needle-shaped projections that secrete the sticky "dew" that enables the plant to trap small invertebrates. Sundews make their own food through photosynthesis, but minerals from their animal prey supplement what they absorb from nutrient-poor soils.

Its slender leaves start to lengthen in April, often underwater, in the swales where decaying sedges produce alkaline conditions. Its more common round-leaved relative, (*Drosera rotundifolia*) is found in the acidic clumps of sphagnum. As the Bog's mat dries a little and the sundew's leaves poke above the water, they can be spotted with binoculars by scanning among the pitcher plants, buckbean, and sedges, for the sundew's telltale pink and green.

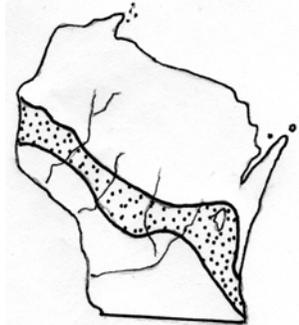
During midsummer, plants develop a flower stalk that is reminiscent of a shepherd's crook. Buds that form along the curve of the crook bloom, one per day, opening in late morning and closing before mid-afternoon. The white flowers are about one-quarter inch wide – a bit larger than the tip of a pencil eraser - and are self-pollinated. By early fall, the plant has shrunken into its compact winter rosette.



To call it a "Bog specialty" is an understatement. Not only is it considered a threatened species in Wisconsin, but linear-leaved sundews in the Cedarburg Bog are among the southernmost of known populations in North America. Sensitive to small variations in water levels and water chemistry, the Bog's population is thriving in the string bog.

Tension zone

It didn't take long for Wisconsin's early settlers to recognize that some agricultural crops grew in the southern part of the state but just didn't do well in the north. Later, studies of native plants indicated the same thing – that Wisconsin is roughly divided into two sections.



Botanists say that although some plants are found throughout the state, Wisconsin has two *floristic provinces*, the northern hardwoods province and the southern prairie-forest province. These provinces are separated by an area of overlap called the "tension zone," an imaginary line that is a composite or "average" of the range extremes of 182 plant species.

About thirty miles wide at its widest and ten at its narrowest, the tension zone traces a "lazy S" through the state, running from St. Croix Falls in the northwest through Eau Claire, Wisconsin Rapids, and Appleton/Lake Winnebago before dipping southeast to run parallel to the lakeshore and finally exit through Milwaukee. The north end of the tension zone continues into Minnesota, and the south end can be traced across Lake Michigan through Lower Michigan and into Ohio to define similar tension zones in those states.

Ranges of plants depend on a variety of meteorological factors including evaporation, summer temperatures, daily temperature ranges, and the amount, duration, frequency and type of precipitation. These factors are measurably different on either side of the tension zone. Historically, the line has been fluid, moving north 3,500 years ago during a period of drought and south again with today's climate.

Despite its location in the southeastern corner of the state, the Cedarburg Bog is on the north side of the tension zone because of its

nearness to Lake Michigan. As the weather guys say, it's "cooler by the lake" during the growing season, and this lake effect allows northern plant communities to grow in the Bog. Of more than 350 higher plants on the Field Station's list, about 10% are at or near the southern extremes of their range here. Animals are also influenced by the tension zone; about a dozen bird species, like the White-throated Sparrow, Northern Waterthrush, and Veery, that typically breed in Canada, nest here.



"hoo, hoo-oo, hoo, hoo"

Is echoed more softly in the distance, "hoo, hoo-oo, hoo, hoo". A pair of Great Horned Owls (*Bubo virginianus*) call to each other in the still of a moon-lit night. They are in the process of feeding young. Unlike most birds living in this area, the owls already have month old chicks to feed. The owlets will not achieve full flight capabilities for another two months.

The Great Horned Owl is one of the earliest raptors to nest, pairing in early winter. The male chooses a nest and attracts the female with vocalizations. A typical nest site is protected by heavy foliage, but near open fields. The clutch of two or three eggs is laid in late January. The male feeds the female during the 25 to 30 day incubation.

Great Horned Owls, one of the most commonly observed owls of North America, are found from Arctic tundra to the tropics; and from arid areas to suburban backyards. They nest at the Field Station. The Field Station's mix of hardwood and open field suits them well. At about the same size as the red-tailed hawk, the owl is one of the largest resident raptors in the Bog. In southeastern Wisconsin, the average home range of a Great Horned Owl is approximately 813 acres. The range decreases in spring as prey becomes more abundant and enlarges again in summer.

During the day, the owls roost in trees with dense foliage to allow concealment. Conifers or deciduous trees that hold onto their leaves, like

oaks and American beech are favored. The need for daytime concealment is important as they are often mobbed by crows.

These birds have some remarkable adaptations, most obvious their eyes. An owl's eye is about the same size as a human eye, but much better suited to collect and process light. They are unable to roll or rotate their eyes, but make up for that disadvantage by having more vertebrae in their neck; allowing them to turn their heads 270 degrees. They also are able to rotate their heads almost upside down.

Since they are night hunters, that sit still until they hear their prey, their hearing is also very special. The face of an owl is much like a radar disc that guides sound to their ears. They have facial muscles that alter the shape of the feathers to tune into the tiniest of sounds. By turning their heads so that the sound reaches both ears simultaneously, the owls can locate their prey precisely. Amazingly, an owl can detect a time difference of 30 millionths of a second between left and right ears.



Although they have great eyes and incredible hearing, they have no sense of smell. So skunk is regularly on their dinner list! Rabbits, woodchucks, and even the occasional domestic cat, mice and shrews are all part of their diet. The owls round out their diet with geese, ducks, herons, and crows. For snacks, starlings, sparrows, snakes, crayfish and insects fill the bill!

So, take a moment to listen for the distinctive calls of a truly remarkable raptor, the Great Horned Owl.

References:
http://www.naturenet.com/NatureNetNews/feb_06.htm

<http://www.fs.fed.us/database/feis/animals/bird/buvi/all.html>

By Chris Fredrich

Itchin' to get out of the Kitchen?

Come to one of the following volunteer orientations to find out how you can help preserve the Cedarburg Bog.

Friday, April 11th @ 2PM
 Earth Day, April 22 @6:00PM

Meeting and refreshments will be held at UWM Field Station, and weather permitting a tour of the bog.

R.S.V.P. to Cindy K. at 262-957-4771.

or cindyk@bogfriends.org

Thank You!

for these generous donations!

- * NAI/MLG Commercial, Inc. - Office chairs
- * Gareth Stevens - Dell inkjet printer
- * Dan Kline - Dell Pentium desktop computer with Windows XP, 10 years website registration
- *Joanne Kline - Solo backpack sprayer, Microsoft Office Professional 2007
- *Tom & Mary Uttech - Logo designs

Friends Wish List

- can you help?

- *Color laser printer
- *Work gloves, medium and large
- *Chain saw, 18" or smaller
- *Cordless chain saw with charger and extra battery
- *Pruning saws, Felco F-610, F-600
- *Bow saws, 21", and replacement blades
- *Water level gauges
- *hand lenses
- *field guides to groups of plants and animals of the area

If you can help, please contact Cindy Kowalchuk at 262-957-4771 or cindyk@bogfriends.org.

Thank you -

to those who contributed to the Friends of the Cedarburg Bog in the memory of Anita Bell and of Terry Dickmann. Your generosity will help the Friends work to protect the Bog.

Did You Know?

That June is invasive species awareness month. For activities in your neighborhood. visit: www.invasivespecies.wi.gov

Dates to Remember

Quarterly Board Meeting
Friends of the Cedarburg Bog
April 10, 7 to 8:30 p.m.
At: UWM Field Station
Members welcome.

Grassland Burn Training dates
April 11, April 18, and April 25,
9 a.m. to 3:30 p.m.
A hands-on course.
Note: Pre-registration required.
Contact 1-800-287-8098 or
www.riveredge.us
Riveredge Nature Center, Newburg.

Riveredge Speaks Out
7 to 8:30 p.m.
April 15, "Ephemeral Wetlands:
Where Spring Can Make You Dizzy"
May 20, "Southeastern Wisconsin
Water Supply Planning: Sustainable
Options for the Future"
Free (\$5 donation suggested)
PieperPower Center at the Mequon
Nature Preserve, 8220 W County
Line Road, Mequon.

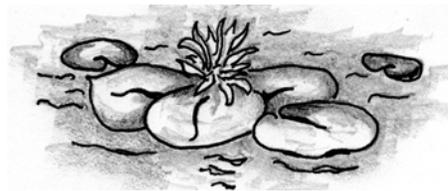
Midwest Crane Count
April 19, 5:30 am to 7:30 am
Ozaukee County count, contact Lee
Arhelger, 414-453-5243.
Washington County count, contact
Bob Raffel, 262-966-2187 or
sandhill@nconnect.net.

Other counties contact the
International Crane Foundation at
E-11376 Shady Lane Road
Baraboo, WI 53913. phone:(608)
356-9462 extension 127 or email
naturalists@savingcranes.org.

*Earth Day Celebration and Barn
Dedication*
April 22, 4 p.m.
For details, contact Kate Peterman at
laclawrann@ci.west-bend.wi.us.
or call 262-335-5085.
Lac Lawrann Conservancy, West
Bend.

Friday Morning Bird Walks
April 25, May 2, May 9, & May 16,
7:30 - 10:00 a.m.
Rain or shine. Bring your binoculars
and field guide, or borrow ours!
Riveredge Nature Center, Newburg.

Riveredge Bird Club
First Tuesday of the month, 7 to
8:30 p.m.
May 6, Kirtland's Warbler in WI
Optional hike at hike 6 p.m.
Riveredge Nature Center, Newburg

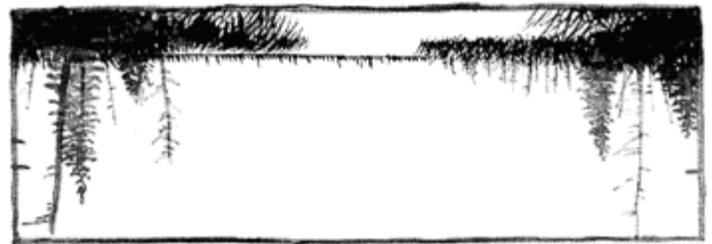


Annual Wildflower Sale
May 10, 9 a.m. to 1 p.m.
For details, contact Kate Peterman at
laclawrann@ci.west-bend.wi.us.
or call 262-335-5085.
Lac Lawrann Conservancy, West
Bend.

*Riveredge Bird Club
Birdathon/Bandathon*
May 10, 6 a.m. to 4 p.m.
Start at dawn or spend part of the
day trying to identify as many bird
species on the Riveredge property as
possible, or observe the bird
banders. For details, contact
Noel.Cutright@we-energies.com.
Riveredge Nature Center, Newburg

Invasive Plant Workshop
June 7, 1 to 4 pm
For details, contact Kate Peterman at
laclawrann@ci.west-bend.wi.us.
or call 262-335-5085.
Lac Lawrann Conservancy, West
Bend.

Riveredge Annual Butterfly Count.
June 28, 8:30 a.m. to 3 p.m.
Join us for the whole day or just until
noon. Beginners welcome.
Riveredge Nature Center, Newburg.



Friends of the Cedarburg Bog, Inc
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