The BogHaunter

the newsletter of the Friends of the Cedarburg Bog
Volume 9, Number 4 Fall 2014

WHAT'S FOR SUPPER?

The Cedarburg Bog is not a true bog, but a fen; not acid, but neutral to slightly alkaline. And yet, a number of the Bog's "specialty plants" – its pitcher plants, some of its orchids, blueberries, cranberries – are equally at home in bog or fen.

The Bog can be a challenging place to live. Plants in its wetlands have their roots in peat, that rich, fragrant, chocolate-colored soil, that is made up of partially-decomposed plant materials, of still-recognizable needles and rootlets. Roots are restricted to the top eight or nine inches of the peat, because below that, there's no oxygen. The lack of oxygen hinders the uptake of water by roots and impedes the bacteria responsible for decomposition.

It's a perfect storm. Plants grow with their feet in the water but have difficulty absorbing it, and they grow in a medium full of nutrients that are not readily available to them. But, some plants have a "Plan B" that boosts their mineral intake, makes them more vigorous, and gives them an edge over the competition.

Carnivorous plants thrive in the Bog. Three species of sundew, a pitcher plant, and five kinds of bladderwort are on the *List of Vascular Plants of the Field Station Area*. All produce food by photosynthesis, but all also "eat meat," and their *modi operandi* for capturing it are completely different.

The Purple pitcher plant (*Sarracenia purpurea*) is the simplest of the three – with no moving parts, it's a "pitfall trap." The hollow, trumpet-shaped leaf contains a pool of rainwater, and insects are lured to its mouth by the pitcher's "dead meat" color and by sweet-smelling nectar secreted by the leaf, especially around its mouth. Ants, flies, and spiders crawl inside onto a zone of tiny, downward-pointing needles that make turning around difficult. Below that, a band of waxy cells provides a slippery slide into the water.

Pitcher plant

The captive is not alone in there; the water in a pitcher plant's leaf teems with life. Relatively uninhabited in early spring except for the larvae of a midge and of the Pitcher plant mosquito, which overwinter in the pitcher's ice, the pitcher's water soon collects a whole community of living things - algae, algae eaters, rotifers and more. Rotifers recycle organic particles, and a long-term study is being done at the Bog to find out how rotifers get into pitchers. The midge and mosquito larvae are the top predators.

The drowned insect is broken down by the pitcher's invertebrate population, and its nutrients are absorbed by the plant (which probably also benefits from the excretions of its residents). Digestive enzymes are present in younger leaves but less so in older plants, so the action of resident invertebrates is increasingly necessary. It's a great plan, but pitcher plants aren't very efficient; one study estimated that even a well-fed pitcher manages to collect less than 1% of its visitors.

Purple pitcher plants have the broadest range and can tolerate the coldest temperatures of any species of North American pitcher plant. They grow in rosettes of streaked green-to-reddish leaves that typically last for two years. Each summer, new leaves augment the old ones that wear out or were grazed by a variety of mammals, and a rosette may persist for a long time. Its spectacular flowers look like upside-down, maroon tulips.

Sundews get their name from the way the light sparkles on the sticky hairs that cover the top surface of their leaves. The Bog is home to Round-leaved sundew (*Drosera rotundifolia*), and to Spoonleaf and the rare Linear-leaved sundew (*D. intermedia* and *D. linearis*). They attract insects four ways – the sticky liquid is sweet; it smells faintly of fungus; the glandular hairs that produce it are an arresting red; and the liquid glistens like water droplets – something for flying and crawling insects alike.

When a hapless insect investigates, it gets trapped in the mucilaginous secretions. It takes several "taps" by an insect to activate the process, apparently insurance against the sundew wasting its energy on inanimate objects. By a mechanism that's not completely understood, the cells on the opposite side of the leaf grow really fast, causing the leaf to curl over and enwrap its victim in about 20 minutes. Prey "in hand," the glandular hairs secrete both an anesthetic and enzymes. It may take as long as a week to absorb the softened parts of its captive, leaving an empty husk behind. Nutrients are absorbed through the leaves.

Sundew

Larvae of a species of Plume moth feed on sundew. The caterpillar first

eats the sticky droplets from a section of leaf and then, having "disarmed" it, eats the leaf itself. It is known to rob the sundew of dead insects that the sundew has trapped, and it grazes on flower buds and rests on petals.

Sundews are widely distributed plants, but they are overlooked because of their small size and flattened growth form. In the string bog, round-leaved sundew grows in hummocks of sphagnum moss. Like the pitcher plant, the leaves form a rosette, like spokes radiating from a central hub. The flower stalk looks like a tiny shepherd's crook, with a row of buds at the top. In cold weather, the sundew retracts into a tiny "*hibernaculum*" or "winter rosette," curling its leaves in tightly.

Common Bladderwort (*Utricularia vulgaris*) ("utriculus" is Latin for "wine flask" or "leather bottle") grows in the stream along the University boardwalk, and other bladderworts occupy pools and mud flats in the Bog. Interspersed among the leaves on their long, rootless, floating stems are as many as 600 tiny pouches – bladders – that catch even tinier aquatic invertebrates.

Bladderwort

Each bladder has a hinged trap door, and each trap door has a trigger hair. When a water critter bumps the trigger hair, the trap door opens. The negative water pressure within the bladder sucks the animal in and the trap closes, all in a span of about one one-hundredth of a second. It's a mechanical process rather than a sensory one. Digestion averages about an hour.

Some species produce a sugary mucilage that covers the outside of the bladder, helps maintain the seal on the trap door, and may act as a lure. Like pitcher plant pitchers, a bladder may house some minute euglenas and protozoan that survive its digestive enzymes.

Bladderworts that float, like the common bladderwort, have larger bladders than species that sprawl on wet mud, and they can "swallow" larger prey. In fact, they may trap an extremity of an animal that is larger than the bladder itself, like a tiny fish or a tadpole, and engulf it bit by bit.

Thick tangles of bladderwort stems provide shelter for many small animals. Eastern forktail damselflies often sit on bladderwort mats as they deposit eggs into the plant stems; doubtless, a number of newly hatched damselfly naiads will later nourish the plant. Bladderworts are a good measure of the health of a wetland. A plant with many bladders packed with food or indigestible particles indicates a rich population of zooplankton.

The flower stalks of common bladderwort stick up about four inches above the water and bear yellow, snapdragon-like flowers. Early naturalist John Burroughs called them "Perhaps the most fragrant flower we have."

Bladderworts overwinter as winter buds or "*turions*," tightly-packed bundles of leaves from the growing tip of the plant. Turions sink to the bottom in winter and float back to the top in spring to resume growth.

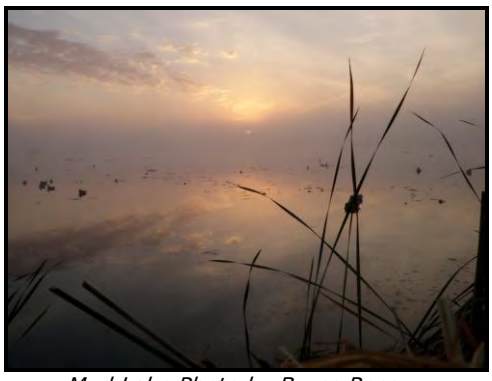
FALL POTLUCK (& ANNUAL MEETING)

Join us on October 5 for our annual Fall Hike and Potluck. A guided walk along the University boardwalk will start at 3:15 from the Field Station. There's a pot-luck supper at 5:30. Please bring a side dish (last name A-M) or dessert (last name N-Z) and we'll supply the rest. Followed by a campfire (and a 15-minute business meeting). See "*Friends Events*" section for registration details.

A COMPASS FOR THE BOG

The Bog is a great place to watch a sunrise. The prototypical moment occurs as the sun clears the rising mist, making tiny ephemeral diamonds of the hoar frost on the cattails. A squadron of teal roar—yes, roar—overhead, startling me as I enjoy the last of my thermos'd coffee. Night yields to lavenders, then red-oranges and finally, full daylight. A day well-started, I'd say.

So *I* joined the Friends from some sense of obligation to repay an anthropomorphized Bog for these precious moments. We may all have similar-but-different reasons for being members—they serve as a basic unifying theme for this Friends group.



Mud Lake Photo by Bruce Ross

I paddle Mud Lake without any navigational gear other than my eyes--I know it well enough to get where I need and back. But if someone asked how to get to say, McBroom's blind, it'd be nice to have a map and compass headings. So when I think about harnessing the passions and talents of the FOCB, there's value to having a chart that marks shoals and channels and destination "ports", and the compass courses we'll take to get there (please pardon my nautical lingo—I am slave to my sailor background).

Over the past year, your FOCB Directors dedicated energy to building such a Friends' strategic "compass". We distilled five overarching goals for the Friends (as we work with UWM and the DNR) to:

- STRENGTHEN COMMUNITY SUPPORT FOR THE BOG. The surrounding community must be alert to the value of, and risks to, the Bog's unique character if they are to mobilize to its support.
- EXPAND OUR CONSERVATION IMPACT ON THE BOG. The State Natural Area and the UWM properties define most--but not all--of our Bog – let's expand our view to the Bog's natural perimeter and re-double our efforts in protecting its unique nature.
- EXPAND USE OF THE BOG AS A NATURAL HISTORY CLASSROOM AND LABORATORY. We have a wonderful tool—the Bog itself—to better understand our natural "systems". Let's use it effectively to foster a land ethic in the keepers' of this earth.

- BE A GOOD PARTNER. We can't—and shouldn't—go it alone. Let's develop strong, beneficial partnerships with organizations that have overlapping interests.
- BE A HEALTHY ORGANIZATION – Ours is a young organization, let's build it thoughtfully so we can better protect and preserve this wetland gem.

These shared "destinations" will help channel volunteer energy effectively, expand fundraising efforts to support the most important work, and improve coordination in our partnering efforts. Each goal is supported by specific, measurable actions to be accomplished within our committee structure and though our volunteer efforts. Please see the complete document at www.bogfriends.org/special-projects.

What's missing? What else should we be doing? Tell us what course *you* would chart. And tell us where you'd like to grab a paddle and help.

By Bruce Ross, Friends Vice President

Cedarburg Bog Conifer Swamp

BOARD TURNOVER

Board members Mary Holleback, Bill Niehaus, Kate Redmond and Tom Uttech have reached the end of the three terms allowed by the Friends' By-laws and will rotate off the Board in October. All four are founding board members who helped guide the formation of the group before its incorporation. Thanks to all for your commitment, time, and energy during the past 10 years.

Three new Board members will be seated at the October Quarterly meeting. They are Andy Holschbach, Director of the Ozaukee County Land and Water Development Department, Andrew Struck, Director of the Ozaukee County Planning and Parks Department, and Carrie Hiestand, Environmental Educator at Riveredge Nature Center. Welcome aboard – enjoy the fun and challenge of helping to steer the ship.

THE BOG'S MASTER PLAN

Cedarburg Bog State Natural Area is a truly unique resource. This property contains a diverse array of wetlands including the southernmost patterned or string bog in North America. This natural area was dedicated in 1953 and was the second natural area to be established in the state. The property, through the UW-Milwaukee Field Station and efforts by the FOCB, provides opportunities for research and environmental education. The DNR is actively working with the UW-Milwaukee Field Station and the Friends of Cedarburg Bog to manage invasive species, especially glossy buckthorn.

The first master plan for the Bog was developed in 1982. A new draft master plan for Cedarburg Bog and eight other fish and wildlife properties has been released for public review and comment and is available at the Cedarburg Public Library, W.J. Niederkorn Library in Port Washington, and the West Bend Community Memorial Library; you can also view or download a full copy of the Master Plan at http://dnr.wi.gov/topic/lands/masterplanning/NorthernKettles/ (start on page 96).

The new plan seeks to address current issues and protect the Bog into the future. Some of the issues being discussed include recreational use, a collaboration between the Friends and the DNR on developing boardwalk access to Mud Lake, and adjustment of the project boundary to better protect the surface and ground watersheds of the Cedarburg Bog and the Sapa Spruce Bog.

Two open houses were held in September, but it's not too late to speak up for the Bog. Comments may be submitted by phone, mail, email or online until October 10, 2014. Please pass this information along to others that may be interested.

You can obtain more information about the draft plan and the planning process by contacting Ed Jepsen or by referring to the DNR website for a complete set of planning documents listed above.

Contact: Ed Jepsen, master planner
P.O. Box 7921, Madison, WI 53703
Phone: 608-266-3568
edward.jepsen@wisconsin.gov

By Ed Jepsen, DNR

Editor's note: If you care about the Bog, speak up. Your voice is important.

HAPPY BIRTHDAY

2014 marks the 50th Anniversary of the UWM Field Station. Land acquisition for the Cedarburg Bog State Natural Area began in the late 1940's and it was designated State Natural Area #2 in 1953. In 1964, The Nature Conservancy donated property for the development of a Field Station. Since its beginnings, the programs, activities, and lands overseen by the Field Station staff have mushroomed. The Field Station and the Friends of the Cedarburg Bog now offer about 20 educational events for the general public every year. Overall class and group use at the Field Station averages over 10,000 hours each year. The formation of the Friends of the Cedarburg Bog in 2005 allowed the staff to expand outreach to the general public dramatically.

Osprey Photo by Seth Cutright

OSPREY SUCCESS STORY

At the end of winter, 2008, the Friends collaborated with the American Transmission Company to install five Osprey nesting platforms around the edges of the Bog. The platforms give these large raptors an alternative to building nests on transmission towers, which may damage the lines, the birds, or both. Within a month, one platform was occupied, and two young were eventually launched – the first documented Osprey nest in Ozaukee County in more than a century. Osprey continue to produce young there; two large almost-fledglings were spotted on the nest in late July.

The Cedarburg Bog: designated an Important Bird Area and a Wetland Gem

Volume 9, Number 4 Fall 2014

ADDRESS SERVICE REQUESTED

UWM Field Station
3095 Blue Goose Road
Saukville, WI 53080

FRIENDS OF THE CEDARBURG BOG

FRIENDS EVENTS

Unless otherwise noted, walks will meet at the UWM Field Station on Blue Goose Rd. Space is limited, so please register. For directions or to register, visit bogfriends.org (click on Events). Walks are free and open to the public; a $5 donation appreciated. Questions? Contact 262-675-6844 or fieldstn@uwm.edu.

Please, No Pets.

Friends Annual Fall Potluck
October 5, 3 PM to 7 PM
(See information elsewhere in the newsletter)

Friends of the Cedarburg Bog Quarterly Board Meeting
October 9, 7 PM to 9 PM
Members welcome.

Walk in the Beechwoods
October 19, 12:30 PM to 3 PM
Explore the beech woods in mid-autumn and find out what makes it tick.

Fall Owl Prowl
October 24, 7 PM to 8:30 PM
Join the "*Owl Meisters*" and search for owls at **Riveredge Nature Center**. Bundle up and bring binoculars.

How Do Trees Grow?
November 16, 12:30 PM to 3:30 PM
Come and find out how trees grow. An inside presentation will be followed by an outside walk.

Pitcher Plant Flower

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

CALENDAR

Buckthorn Removal
October 7, 5:30 PM to 6:30 PM
Find out about effective methods to remove buckthorn. For more info or to register, call 262-242-8055 x104 or email center@mequonnaturepreserve.org
Free. Open to public. Mequon Nature Preserve, 8200 W County Line Rd, Mequon, WI 53097, mequonnaturepreserve.org

Noel J. Cutright Bird Club
First Tuesdays at 7 PM (except December). Free. The public is welcome. At: **Riveredge Nature Center (RNC) BARN**, 4458 Hawthorne Dr, Saukville, WI 53080, riveredge.us
October 7 - *Wetland Restorations: are they for the Birds?*
November 4 - *Why is Wisconsin the top bluebird state? Because people care.*

Science for Everyone
Public programs on Natural History.
7 PM to 8:15 PM
Third Tuesday at **RNC**; fourth Tuesday at **Lac Lawrann Conservancy (LLC),** 300 Schmidt Road, West Bend, WI 53090, laclawrann.org
For program information or driving directions, call RNC at 800-287-8098 or see riveredge.us.
Fee: free ($5 donation appreciated)
Oct 21, **RNC** - *The Milwaukee River & How Ozaukee County has Changed It for the Better*.
Oct 28, **LLC** - *Geology of the Kettle Moraine*
Nov 18, **RNC** - *How to be an Outdoor Locavore*
Nov 25, **LLC** - *Serigrah's Bio-filtration System*

Basic Chainsaw Safety
October 25, 9 AM to 4 PM
To register for this FISTA certified course, call 800-287-8098 or visit riveredge.us.
Fee $115 per person. At **RNC.**

Buck Moth

Autumn Celebration
October 25, 1 PM to 4 PM
Come celebrate a beautiful autumn in Washington Park! Join us for fall food and drinks, pumpkin carving, and fun for all ages! At: **Urban Ecology Center, Washington Park Branch** (1859 N. 40th Street, Milwaukee)

Riveredge Christmas Bird Count
December 20, Dawn to Dusk
Come for all or part of the day.
Field and feeder counters needed; no experience is necessary. Join us after the Count to compile data and share a potluck dinner. For more information, contact Mary Holleback at 800-287-8098 or at mholleback@riveredge.us.

Candlelight Walk
December 20, 7 PM to 9 PM
Join us for a guided, candlelit walk through Riverside Park on the Winter Solstice. Walks begin every fifteen minutes. Advanced registration not required. At **Urban Ecology Center, Riverside Park Branch** (1500 E. Park Place, Milwaukee)