

# THE BOG HAUNTER

the newsletter of the Friends of the Cedarburg Bog  
Volume 4, Number 2  
Spring, 2009

## EPHEMERAL PONDS, YEAR TWO

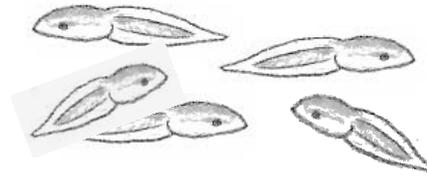
Remember last July? When it was 50 degrees warmer and you were reading the first article about the Wisconsin Ephemeral Pond Project (WEPP) in the *Bog Haunter*? Just to take you back there, WEPP is about conservation of ephemeral ponds – those small isolated wetlands that hold surface water in spring and early summer and dry by the end of the growing season. Their ephemeral nature makes them critical habitat for organisms, such as some amphibians and aquatic invertebrates, that are adapted to periodic drying. Like a lot of wetland wildlife areas, many ephemeral ponds have been lost.

WEPP's conservation effort includes mapping ephemeral ponds, surveying to verify the maps, collecting baseline data to understand their variety and ecological importance, and monitoring at reference sites. Wisconsin's Citizen-Based Water Monitoring Network, through UW Extension, supports local groups of trained citizen scientists who volunteer to contribute their time, energy and expertise to WEPP.

The Friends of the Cedarburg Bog is one of the Network Partners, and Friends volunteers focus their efforts in the Town of Saukville. About 200 small wetlands in the Township were tentatively identified as ephemeral ponds through landowner reports or through studying aerial photos. In a process called "ground-truthing," volunteers verified 44 ephemeral ponds during 2008, including some near Cedarburg Bog. The roles of the cooperating land owners and the "ground-truthers" in WEPP's mission have been vital.

Volunteers also conducted baseline surveys and began an inventory of aquatic organisms at three reference ephemeral ponds at the Field

Station's Beech Maple Woods, a State Natural Area. The inventory will become part of the Field Station's database and will help characterize different types of ephemeral pond communities with their vegetation and hydrologic features.



As in most scientific studies, getting to the results takes a while. Some organisms can be identified only at certain stages of their life history, so ponds were surveyed each month until they dried completely. The sampling methods that detect one kind of organism may miss other kinds, so we used dip nets, bottle traps and artificial substrates (small, man-made shelters or surfaces) to locate animals with different habits.

And there were plenty to find – worms, mollusks, fresh water sponges, representatives of 27 insect families and eight non-insect arthropod families. Some are common, like the backswimmer (*Notonecta undulata*). Others, like one kind of fairy shrimp (*Eubranchipus bundyii*), are rare and in need of protection. A mayfly that fly fishermen know as a 'paralep' (*Paraleptophlebia praepedita*), which isn't nearly as long as its name, was a surprise to find in the still waters of an ephemeral pond. We have a lot more to learn.

Want to know more about WEPP and Citizen Monitoring? Training for adults interested in verifying the maps and collecting baseline data is April 4<sup>th</sup>, at the Mequon Nature Preserve, 8200 W. County Line Rd, Mequon. For more information about WEPP; *or* to register for the training; *or*, if you can't make the training but

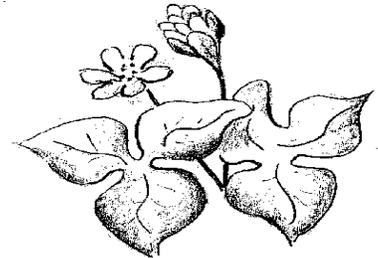
are still interested; *or* if you are a landowner with an ephemeral pond to report, contact Joanne Kline of the Friends at [info@bogfriends](mailto:info@bogfriends) or 262-675-6844. To find out more about the Citizen Monitoring Network, see <http://watermonitoring.uwex.edu/lev/el3/WEPP>

*by Gail Epping Overholt & Joanne Kline*

## APRIL FLOWERS

Mother's Day coincides with the peak of the Spring Ephemeral Flower Extravaganza – trillium and bellwort, violets, hepatica, spring beauty and anemone rush to bloom before the forest canopy leafs out. They appear as the air warms and airborne pollinators become plentiful.

But these are not the first flowers to grace the trails. In early spring, on the wet edges of the Bog, skunk cabbage leads the way; its strong odor and dead-meat color attract ground-dwelling insects and early flies. Marsh marigold follows, tentative at first, but soon, banks of gold dominate the wetlands.



In the heart of the Bog, the blooming of leatherleaf, a small blueberry relative, is tied to the amount of snowfall. Deep snow means more delicate, cream-colored, bell-shaped blossoms. A few sedges bear their bottle-brush blooms. Individual gooseberry blossoms and short strings of currant flowers ornament low shrubs.

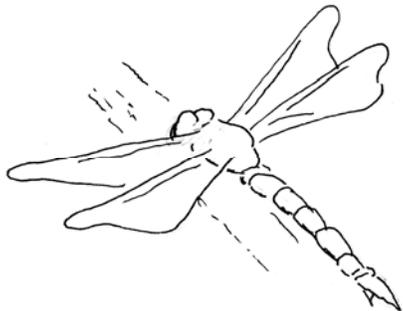
For other April flowers you have to look up. The spidery crimson petals of red maple, and the rust and yellow catkins of pussy willow, aspen and birch are overhead.

## **DARNERS AND BASKETTAILS AND CORPORALS – OH MY!**

A genuine sign of spring in the Bog is the reappearance of dragonflies, but the first sightings are not of local individuals. Common Green Darners (*Anax junius*), whose scientific name means "Lord of June," migrate south in fall and repopulate the north country each spring. They return, often when the snow still lies in sheltered spots, as the insects they prey on take to the air.

The Green Darners that bring the spring lay eggs that take the whole summer to mature. Their offspring will make the trip south in fall, and their offspring's offspring will return to Wisconsin. These are big insects, with bodies exceeding three inches and wingspans of four-plus inches. Both sexes have a green thorax, but the male's abdomen is blue and the female's is brownish. They have wrap-around compound eyes (each containing around 50,000 simple eyes) and a "Cyclops-like" eyespot in front of their eyes. There is increasing speculation that along with migrants, Wisconsin may have a resident population of darners.

Water changes temperature slowly – a lot of energy is needed to move it a few degrees in either direction – and the next dragonflies on the scene signal that the water has warmed. Their nymphs, which spend the winter under the ice, crawl out of the water and out of their nymphal shells, pump up their wings and become creatures of the air, chasing the flashes of wings they see from perches or while they are hovering.



Common Baskettails (*Tetragoneuria cygnosura*) are drab dragonflies that "perch" hanging down from a twig tip. They sport muted orange bars on a black abdomen, short, gray hairs on their thorax, and a black spot at the base of each hind wing. "Baskettail" refers to the "basket" of eggs a female carries under her abdomen and ultimately attaches to

underwater plants. Baskettails are agile flyers that may be seen in the afternoon hunting in groups over swarms of smaller insects. Chalk-fronted Corporals (*Ladonia julia*) emerge in early May. They often perch on and hunt from the ground, and on cool days, hundreds congregate on warm road surfaces around the Field Station. Adult males have white "corporal's stripes" on the first segment of their thorax, white on the first few segments of their abdomen, and small black spots at the base of all four wings.

A Cedarburg Bog dragonfly list exists, but it is incomplete. Check the summer issue of the *Bog Haunter* for the date of a nearby Dragonfly Count.

## **FOCB STEWARDS**

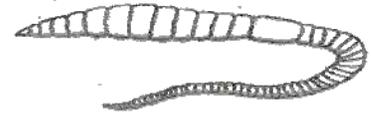
If you checked off "Invasive species control" or "Trail maintenance and construction" on your membership form (or if you *wish* you had), there are some opportunities coming up for you to lop things, spray things, pull things, and build things in the Bog. *FOCB Stewards*, our own environmental Construction Crew/"Vice Squad," will meet on April 11, 18, and 28, and May 12, 16, and 26, from 9:00 a.m. until 2:00 p.m.

Spring projects include invasive species eradication, construction of deer "exclosures" (these enable studies to see how plants regenerate on the forest floor when deer can't graze them), boardwalk-building, trail maintenance, and development of both a self-guiding trail and a handicapped-accessible trail at the north end of the Bog.

## **UNDERGROUND INVADERS**

The soils that the glaciers froze, shoved around, compacted, chewed up, and re-deposited ended up earthworm-free, and the plant communities that were established in those post-glacial soils evolved absent the earthworms' considerable impact. Although it was unglaciated, Wisconsin's Driftless Area was exposed to the permafrost conditions that existed south of the actual ice sheet, and the exact status of earthworms there during the glacial age is unclear. At its maximum, the most recent glacier extended into Iowa and

central Illinois. According to the people who measure these things, earthworms move at a top speed of about 5 ½ yards a year. On their own, then, native earthworms might have trekked north approximately 35 miles from un-glaciated territory in the last 11,000 years.



Alien earthworms were probably introduced to the upper Midwest when settlers imported fruit trees whose bundled root-balls contained soil and soil critters from other parts of the US and even from other countries. Worm "repopulation" continues through gardening and landscaping projects. Fisherpeople take note - earthworm populations are dense near lake shores where bait buckets are emptied at the end of the day

Their diet consists of organic material that they ingest as they move through or excavate their tunnels. In loose soil, they are picky about what they eat; in compacted soil, the only way they can move at all is by ingesting everything. Material that moves through an earthworm is broken down, and its pH is brought closer to neutral before being deposited on the surface as a worm casting.

Earthworms live up to their reputations as soil builders and aerators, and their contributions to agriculture and gardening are not argued. It is their impact on forests that is profound and negative. Without earthworms, decomposition of organic matter on the forest floor proceeds slowly, it is bacteria and fungi that make big pieces into little ones, creating below the trees a soft, deep, loose, nutrient-rich "duff" that shelters small animals, acts as an insulator and provides mulch for seedlings and wildflowers to grow in.

In contrast, worms compete with important fungi, and they mix, rearrange, eat, and compact leaf litter, duff and top soil, making conditions hostile for seeds. In the process, worms also eat seeds, depleting the seed bank and hampering future regeneration. With the character of the forest floor altered, ground-dwelling animals, both tiny and large, lose both home

and food, setting the stage for alien "generalists" and lowering diversity.

For more information about alien worms, try Project Worm Watch ([www.nrri.umn.edu/worms](http://www.nrri.umn.edu/worms)). If you're not familiar with the Wisconsin DNR's excellent kid's website, check out EEK! Click on "critter corner" and then on "alien invaders" for a good article. June is Invasive Species Awareness month. For a list of local events, visit [www.invasivespecies.wi.gov](http://www.invasivespecies.wi.gov).

### **BOG-WEAR**

With warm weather on the way, everyone's thoughts are turning to - Tee-shirts!! Well, we've got 'em, in peacock green with the bog drawing and the words "Friends of the Cedarburg Bog" in white. Shirts cost \$15 if you pick them up at the Field Station; add \$1.75 for shipping if you want one mailed to you. Don't forget to include your address and shirt size.



We need your help. If you can add your muscle to the cause, please join us on any of those dates. "On-the-job" training will be provided; bring your own hand tools or use ours. If you can't spare the full five hours, we'll take whatever time you can give us. Please call 262-675-6844 or email [info@bogfriends.org](mailto:info@bogfriends.org) to let us know you're coming, to find out the project-of-the-day and so we can call you if the work day is cancelled.

### **WISHING**

On the theory that any organization worth its salt should have a wish list, here's ours:

- \*Work gloves (large & medium),
- \*Office chairs,
- \*A laser printer,

And on the theory that if you're wishing, you might as well wish big:

- \*A good, working lawn tractor,
- \*A good, working 4-wheeler,
- \*A back-pack sprayer for herbicide.



### **THE BOG WITHIN THE BOG**

"Cedarburg Bog," conjures up visions of the acid, quaking sphagnum bogs of northern Wisconsin, but with a pH of neutral to slightly alkaline, its chemistry is wrong. Constant saturation of the soil with cool water results in fewer soil bacteria, little to no dissolved oxygen, and a slow rate of decomposition (and, therefore, sluggish nutrient recycling), which results in challenging growing conditions. A number of plants associated with acid bogs do grow here, because they can.

The north end of the Bog is only 5 1/2 feet higher in elevation than the outlet stream three and a half miles to the southwest, and the few underground springs that feed water into the wetland are on its north and west sides. So the northeast-to-southwest "flow" of water, neither straight nor swift, has isolated the southeastern lobe of the Bog.

Tucked into the corner of this large, alkaline, "patterned" wetland is a small "eyed" bog with a "quaking," sphagnum mat and an open water center. The pitcher plants, orchids, leatherleaf, sundew and blueberries that are at home in the alkaline string bog are also at home here, and the Black Spruce that grows in this small bog is at the southernmost part of its range.

Many eyed bogs originate as kettle holes, un-drained depressions. The lake basin at this spot is neither exceptionally deep nor shallow, and there doesn't seem to be any physical reason for an eyed Bog to have developed here other than the lack of moving water.

Initially, an eyed bog looks like any small lake, populated by submerged plants and, as the water gets shallower, by water lilies and emergent vegetation. Sphagnum moss creeps into the spaces between the plants that ring the open water. Because the moss grows above the water line, it makes conditions more habitable for plants that like the slightly dryer footing.

Eventually, this mat of moss extends further out into the water, reaching over logs and peat - a layer of sphagnum interwoven with the roots of sun-loving plants, with open water in front of it and shrubs or trees

where it originated. May Theilgaard Watts, in [Reading the Landscape of America](#), refers to a bog as a history book with a flexible cover, and to travel from the bog's eye back to the surrounding forest is to traverse a half-dozen plant communities, each the replacement for the one before it.



A cross-section of a quaking bog shows that there is water between the bottom of the "floating" mat and the floor of its basin. If you jump up and down on it, the mat around you "quakes." That unsteadiness caused early bog visitors to "ski" through it with pieces of wood like barrel staves strapped to their feet. Breaking through the mat, up to your hips in water and moss, is alarming; you move forward by stretching out flat and grabbing vegetation until you find more solid ground. Some who spend time in quaking bogs carry their walking sticks horizontally, to keep them from plunging through a hole in the mat that might close behind them.

### **FRIENDS' SPRING EVENTS**

The following are a few Friends-sponsored events scheduled for spring and early summer. Watch for a postcard with more details.

*Frogs and Woodcocks - night singers*  
April 30, 6 to 8 PM

*Natural History of the Bog*  
May 24, 9AM to Noon

*Walk in the Bog*  
June 7 9 AM to Noon

*Summer Solstice Walk*  
June 20, 6 to 8:30 PM

*Mud Lake Canoe Float*  
June 27, 9 AM to noon.  
(rain date June 28)

Group size is limited to about 20, so please register for walks by calling 262-675-6844 or contacting [fieldstn@uwm.edu](mailto:fieldstn@uwm.edu). A \$3 donation is suggested

**Calendar**

*Riveredge Speaks Out*

April 1 *The Ecology of Shorebirds*  
Washington Co. Public Agency Center  
April 21 *Wolves in Wisconsin*  
Cedarburg Cultural Center  
For locations, contact 1-800-287-8098 or [www.riveredge.us](http://www.riveredge.us) .  
A \$5 donation is suggested.

*Riveredge Master Naturalist Series*

See, explore, understand, teach.  
Monthly meetings begin April 2,  
9 a.m. to 3 p.m. Bring a lunch.  
Fee: \$25 per session.  
For information, contact 1-800-287-8098 or [www.riveredge.us](http://www.riveredge.us).  
Riveredge Nature Center, Newburg

*Riveredge Bird Club*

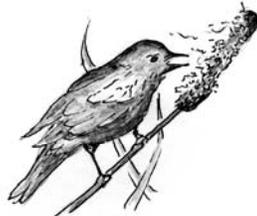
First Tuesday of the month  
6 p.m. Bird walk, 7 p.m. Program.  
Riveredge Nature Center Barn.  
No pre-registration or fee required.

*FOCB Stewards*

April 11, 18, and 28,  
May 12, 16, and 26  
9 a.m. to 2 p.m.  
Work on stewardship projects (see  
article above). Please contact  
[fieldstn@uwm.edu](mailto:fieldstn@uwm.edu) or call 262-675-6844 to let us know you're coming  
and to find out the project of the  
month. Bring a bag lunch.

*Grassland Burn Training*

April 10 & 11, 9 a.m. to 3:30 p.m.  
Hands-on workshop on conducting  
small grassland burns.  
Pre-registration required and fee:  
contact 1-800-287-8098 or  
[www.riveredge.us](http://www.riveredge.us)  
Riveredge Nature Center, Newburg



*Quarterly Board Meeting*

April 16, 7:00 to 8:30 p.m.  
Friends of the Cedarburg Bog,  
At: UW-M Field Station  
Members welcome.

*Midwest Crane Count*

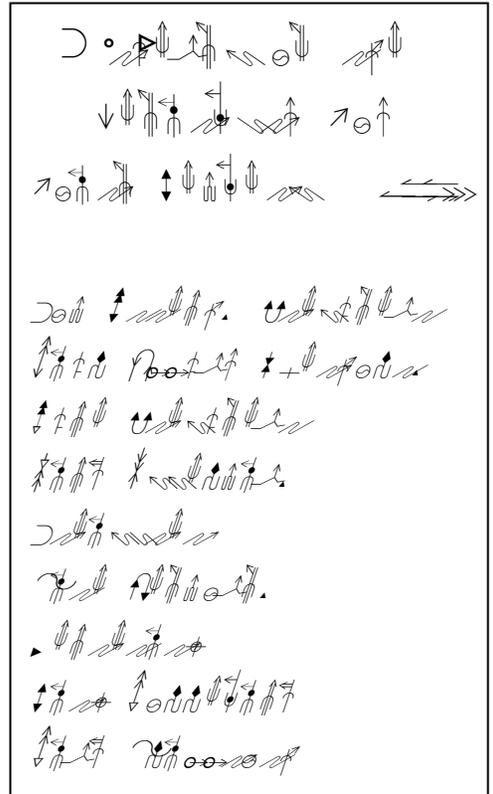
April 18, 5:30 am to 7:30 am.  
Bob Raffel is the Washington County  
coordinator, 262-966-2187 or  
[protectsandhillcranes@gmail.com](mailto:protectsandhillcranes@gmail.com)  
For Ozaukee County, contact Lee  
Arhelger 414-453-5243  
Other county: [sandhill@nconnect.net](mailto:sandhill@nconnect.net).

*Earth Day with the Weyenberg*

*Library & Mequon Nature Preserve*  
April 18, 9:00 AM-12:00 PM  
Mequon Nature Preserve, 8200 W.  
County Line Road, Mequon

*Wildflower and Perennial Sale*

May 9, 9 a.m. – 1 p.m.  
Wildflowers and more.  
Lac Lawrann Conservancy, 300  
Schmidt Road, West Bend  
*Discover Mequon Nature Preserve*  
June 5, 9:00 AM-11:00 AM  
Go on a guided tour of the Mequon  
Nature Preserve, 8200 W. County  
Line Road, Mequon



C/O UWM Field Station  
3095 Blue Goose Road  
Saukville, WI 53080  
[www.bogfriends.org](http://www.bogfriends.org)

