

The BogHaunter

the newsletter of the Friends of the Cedarburg Bog
Volume 6, Number 2
Spring 2011

WHERE'S YOUR WATERSHED?

If you spit on the ground in your back yard, do you know where that liquid ends up? Eventually it finds an ocean, but its path may be long and torturous and will depend on what watershed you live in. The laws of the Water Cycle apply: surface waters flow into ever larger waters and are subject to evaporation; ground water may be taken up and released into the air by plants or may move through the soil for a long time. We all know our home address, but few of us can rattle off our watershed address.

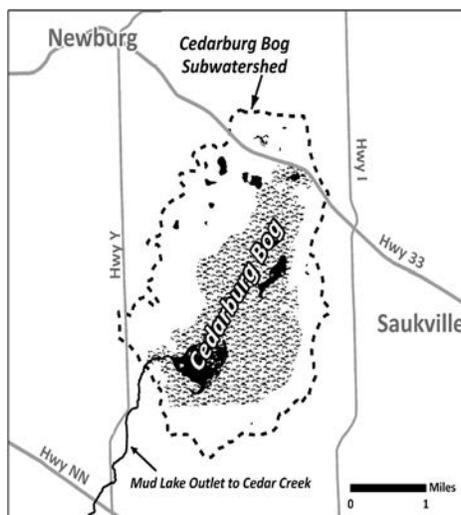
A "watershed" is the geographic area that drains into a specific body of water like a river or lake (sometimes the term refers to the high ground that separates two drainage basins). Alternate names include drainage area, water basin, catchment area and river basin.

The first rule of watersheds is that water goes down hill until it can't. Watersheds are comprised of the streams, rivers, and the land surfaces that water flows off of, and they also include water that is below ground. The surface outline of a watershed may be different than the shape of its groundwater watershed, and this is certainly true of the Bog.

There are watersheds, and then there are Watersheds. The Subcontinental Divide, a dividing line based on altitude - the ridges and folds in the landscape - snakes across Wisconsin's landscape on a route that is reminiscent of the Tension Zone, an imaginary line that roughly separates the northern and southern plant zones in Wisconsin. In Wisconsin, precipitation that falls to the north or east of this divide drains into the Great Lakes Basin and moves east to the Atlantic Ocean. On the west and south of the line, water flows into the Wisconsin and the Mississippi Rivers to the Gulf of Mexico. The Subcontinental

Divide runs south a few miles west of nearby West Bend on its way around the southern tip of Lake Michigan.

Within each watershed lie many smaller drainage units, each ultimately emptying into the larger basin. The Cedarburg Bog is part of the 882 square mile Milwaukee River watershed, which flows into Lake Michigan. Within that larger unit, the Bog is part of the 130 square mile Cedar Creek watershed, which covers parts of Ozaukee and Washington Counties and finds the Milwaukee River six or seven miles to the southeast.



The Bog itself is a *subwatershed* that covers about seven square miles. Because of the lack of pavement and the high amount of wetland and forest within its boundaries, it's considered one of the most natural subwatersheds in the Milwaukee River Basin. It's drained by Mud Lake Creek, which flows into Cedar Creek. Since more than half of the Bog watershed is the wetland itself, direct precipitation and snow melt contribute more water than the run-off from surrounding uplands. Because the Bog's surface is clogged with vegetation, the path of water is so convoluted and its movement is so slow that a drop of water is more likely to evaporate than to flow into Mud Lake Creek.

The Cedarburg Bog is a partially "perched" or "hanging" bog. The basin of a perched bog is sealed off from the surrounding groundwater table. The clay liner that holds water in the Bog's post-glacial lake basin was deposited as the last glacier melted 10,000 years ago. On its eastern edge, the water table within the Bog is "perched" 20 feet above that of the surrounding landscape. Around the rest of its boundary, the groundwater levels of the Bog and of the surrounding countryside are roughly equal and "communicate."

Beyond the water they carry - or because of it - watersheds are important ecological units. Explorer and geographer John Wesley Powell once called them "that area of land, a bounded hydrologic system, within which all living things are inextricably linked by their common water course..." He went on to say that they also link the people and communities within their borders. There are community movements to "adopt" watersheds and protect wildlife habitat, water quality and quality of life within them.

Because a drop of Bog water may be there for the long haul, it's "purity" is very important. Acid precipitation is buffered by the minerals delivered to the Bog's wetlands by underground springs, but other pollutants like road run-off, sediments, herbicides and fertilizers can have long-term impacts on the inhabitants of its watershed. For that reason, the Friends of the Cedarburg Bog recognize our mission to educate residents of our watershed. It is also true that "What happens in a watershed does *not* stay in a watershed." It's important to be as concerned for "downstream" as for our immediate surroundings.

Find your watershed address at:
<http://dnr.wi.gov/water/basin/>.

IT'S BUTTERFLY TIME

Migrating birds? Sure. Emerging garter snakes? Of course! Spring ephemeral wildflowers? Beautiful! Greening grass and reddening dogwood and amber willows? Absolutely! But as surely as these signs of the changing season boost our spirits, there's nothing like the first butterfly of the year to clinch the deal. After all – if these delicate creatures can grace the Bog's woods and islands, it must be spring!

It's ironic, then, that the first butterflies of spring have been butterflies all winter. Unless they are tucked safely under the ice, insects usually spend the winter as eggs or in the resting stage of a pupa. A few, like the woolly bear caterpillar, go through winter as a larva. But Mourning Cloaks are one of only a few species of butterflies that spend the winter as adults here in the north (the others are the anglewings, the Commas and Question Marks). An impressive set of adaptations allow them to do so.



Mourning Cloaks spend the winter tucked into a sheltered spot called a *hibernaculum*. This wintering spot is carefully chosen; it might be in a rock crevice, under tree bark, or even under a building's overhang. If the butterfly chooses well, the temperature and humidity in its microhabitat will keep it from getting fatally dehydrated during the winter.

No matter how carefully it picks its hideaway, a Mourning Cloak will be frozen during the winter; in fact, it will freeze and thaw throughout the winter. Ice crystals are fatal to cells, but its blood contains glycerols - antifreeze - that allow its tissues to withstand the winter's cycles.

It is also among the hairiest of butterflies, and its hairs act as insulation. Using isometric exercise of some flight muscles, a Mourning Cloak can raise the temperature of

its thorax about by 5 degrees. Internal "shivering" (called *muscular thermogenesis*) warms the wing muscles for take-off, and flying keeps them warm. The combination of shivering and insulation allows Mourning Cloaks to fly when the temperature sags below 50 degrees.

This hardy butterfly may even emerge during a late-winter thaw to feed on rotten fruit or sap oozing from bark scrapes. It likes tree sap with a higher sugar content, like birch and maple, and it is known to visit the dripping taps on maple trees. It makes sense that a butterfly with a schedule like this doesn't feed on many flowers.

Mourning Cloaks are among our longest-lived butterflies - 10 months or more; in fact, the first butterfly of spring is about eight month old. The caterpillars that hatch around the summer solstice to munch on willow leaves along the boardwalk will go through several periods of activity and inactivity (*aestivation*).

They emerge as adults in early summer. After foraging for a while, they rest during the heat of the summer. It is speculated that this rest reduces both predation and wear-and-tear. Mourning cloaks feed again in fall, and then they select their hibernaculum. The adults that make it through the winter to lift our spirits in April will lay their eggs in spring.

TREASURES OF OZ

Treasures of Oz encourages us to discover Ozaukee County's natural gems. This year's *Treasures of Oz* event turns the spotlight on Ozaukee County's outstanding coastline.

Follow the 2011 treasures map along the 25 mile Lake Michigan shoreline and visit seven unique and beautiful natural areas, each with guides and special offerings for the day.

Explore the Treasures of Oz on June 18th from 9 AM until 5 PM. Finish your day with food, music, a silent auction, raffle and more at Forest Beach Migratory Preserve. Check <http://treasuresofoz.org/> for more information.

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

TALLYING MIGRANT BIRDS

Once again last year the Friends of the Cedarburg Bog conducted point counts in the Cedarburg Bog and Upland Beech Woods to determine the bird species using these habitats during spring and fall migration.

All bird species counted were either seen or heard at six points in the Bog and six points at the edge of and within the Upland Woods. Birds observed while walking between points were also counted. In 2010, counts were conducted at least once per week in spring (April 14 - June 2) and fall (August 24- October 19).

Field counters documented 109 bird species in the Bog (wetland) habitats during spring and fall migration and 98 species that were found in the Upland Woods. A total of 130 species used either the Bog or Upland Woods during migration.

The importance of these habitats to birds during migration is indicated by the number of bird species of conservation concern that were detected. Twenty-four species (18.5% of the total) are listed as being at risk in either national or Wisconsin conservation plans.



Thirteen species are listed as being of conservation concern in national (U.S. / North American) Landbird, Shorebird or Waterbird Conservation Plans. These species included the Pied-billed Grebe, American Bittern, Virginia Rail, Sora, Greater Yellowlegs, Solitary Sandpiper, American Woodcock, Wilson's Snipe, Willow Flycatcher, Wood Thrush, Blue-winged and Bay-breasted Warblers and Rusty Blackbird.

Eighteen species are listed as Bird Species of Greatest Conservation Need in Wisconsin.

Seven species are listed as being at risk in both national and state conservation plans.

The project is coordinated by Friends of the Cedarburg Bog Board member Victoria D. Piaskowski, who formerly served as international coordinator of

the Birds Without Borders-Aves Sin Fronteras® project of the Zoological Society of Milwaukee. Leading the field work was John O'Donnell, with assistance from Carl Schwartz, Marilyn Bontly, Joan Sommer and Tom Schaefer.

The migration point counts will continue in 2011. Additional field counters are needed. So if you are willing to use your sight and sound ID skills to help us learn more about the birds using the bog and woods during migration (paired up, if you'd like, with more experienced counters) contact Vicki at vickip1023@wi.rr.com (262-533-3806) or John at nodjod@wi.rr.com.
by Vicki Piaskowski

THE WINTER WALK

On January 30, 107 hikers trekked four miles across the frozen Bog during the annual Winter Walk. They hiked through about a foot of powdery snow on a sunny afternoon and returned clear-eyed and rosy-cheeked. About 70 people stayed for supper at the Friends-sponsored Chili Potluck. Thanks to those who hiked, cooked, directed traffic, cleaned up and coordinated.

SUPPORT YOUR LOCAL BOG

Let people know that your heart is in the Bog! Bog T-shirts are available in peacock green with a white Bog silhouette like the one at the top of the newsletter. Shirts are \$15 each if you pick them up at the Field Station; add \$2 for shipping. To order, send a check, made out to the Friends of the Cedarburg Bog, and your size, to the UWM Field Station address on the newsletter.

BOG ROSEMARY

In May, on the string bog's open mat and half-shaded edges, spherical, pastel-pink flowers droop beneath bog rosemary's dark green leaves. The flowers of the string bog are small and pale, but the palette of its vegetation is not limited to greens. New leaves of pitcher plant rosettes are streaked with red-orange, emerging leaves of the rare linear-leaved sundew are green and pink, and a fungus turns some blueberry leaves bright pink.

Bog rosemary (*Andromeda glaucophylla*) is a low-growing plant of acid and cedar bogs, sphagnum

wetlands, and cool peatlands with deep, organic, nutrient-poor soils. It is in the Heath family, Ericaceae. In the string bog, it associates with sphagnum moss, pitcher plants and sedges, and with other heaths like blueberry, leatherleaf, huckleberry, cranberry, and pyrola. The roots of many heath species form associations with mycorrhizal fungi that help them to take up nutrients more efficiently.



Although it grows with its "feet in the water," bog rosemary's narrow leaves show several water-conserving adaptations. The leaves' waxy upper surface, curled leaf edges, and densely-hairy undersides ensure that the plant can hold onto the water that is absorbed by its roots.

Its name comes from the resemblance that bog rosemary's leaves bear to the cooking herb, rosemary, a member of the mint family, but there the similarity ends. The leaves of many of the Heaths are poisonous. A tea has been made from bog rosemary's leaves, but they are considered toxic when eaten in large quantities.

Bog rosemary is sold in many garden stores and catalogs. It's not bothered by insect pests, but growing it successfully requires some pretty strenuous habitat modification.

"GREEN" BOGHAUNTER?

The Friends of the Cedarburg Bog are going green! If you wish to receive our quarterly newsletter electronically and in color, please let us know at info@bogfriends.org. Want to see a trial issue? Let us know at the same email address. Please indicate whether this is a test drive or a long-term switch.

FRIENDS EVENTS

Space is limited on these walks. Please pre-register at 262-675-6844 or email fieldstn@uwm.edu. All events *except for the May 22 bird watching walk* at the UWM Field Station. Events are free; a \$3 donation is suggested.

Woodcocks and Frogs

April 21, 7:00 to 9:00 PM

Celebrate the early spring chorus by the light (we hope) of an almost-full moon.

More Woodcocks and Frogs

April 28, 7:00 to 9:00 PM

Co-sponsored by [Wisconsin Wetlands Association](#). Listen for frogs, woodcocks, cranes, and other wetland noise-makers.

At the North End of the Bog

May 15, 9:00 AM to noon

Explore the public trails at the north end of the Bog. Trip starts from the UWM Field Station parking lot.

Birding along the River

May 22, 6:30 to 8:30 AM

Look for warblers and other spring migrants along the Milwaukee River at the Riveredge Nature Center.

Trip starts in the main parking lot at Riveredge Nature Center, Newburg.

The Bog in Spring

May 29, 9:00 AM to noon

Find out what kinds of plants and animals are up and about on a day in mid-spring.

Bird Walk

June 5, 6:30 to 8:30 AM

Search for late migrants and Bog breeders

Solstice Walk

June 21, 6:00 to 8:30 PM

Take an evening walk in the Bog on the longest day of the year.

Plants on the Frontier

July 10, 9:00 AM to noon

Find out which Bog plants were used for building, food, medicine, dyes, and more - 200 years ago.

CALENDAR

Science for Everyone

(formerly Riveredge Speaks Out)

Public programs on Natural History. Third Tuesday of the month – Cedarburg; and fourth Tuesday of the month – West Bend
May 17, 7:00 to 8:30 PM.

Chasing the Ghost Birds: Ultralight-Led Crane Migrations.

Cedarburg Cultural Center.

For other topics, contact 800-287-8098 or www.riveredge.us.

Admission: Free. \$5 donation suggested.

Maple Sugarin' Pancake Breakfast

April 3, 9 AM – 1 PM.

"All you can eat" pancakes, ham, Riveredge's own maple syrup, coffee and other beverages. Outdoor event - dress for the weather.

Pre-registration appreciated, contact 800-287-8098 or www.riveredge.us.

Members: Adult \$10, twelve & under \$6 (non-members Adult \$12, twelve & under \$8)

Riveredge Nature Center, Newburg

Riveredge Bird Club

First Tuesday of the month.

April 5 - Bluebird Habitat and Reproductive Success.

May 3 – Third Annual Bird Identification Challenge. Tips for identifying our spring birds.

June 7 The Osprey are Coming Bird Walk – 6 PM
Program – 7 PM
Riveredge Nature Center Barn.
Free. The public is welcome.

Friends of the Cedarburg Bog

Quarterly board meeting

April 14, 7 – 9PM

UWM Field Station

Members welcome.

Crane Count

April 16, 5:30 to 7:30 AM

Pre-register with coordinators:

Milwaukee, Ozaukee: Lee Arhelger
124lee@337lee.com, 414-453-5243

Washington: Bob Raffel 262-966-2280 or

protectsandhillcranes@gmail.com

Celebrate Earth Day at Riveredge

April 16, 9 AM - noon.

Come learn about the environment while working on projects at the Center. Opportunities for groups, families and individuals of all ages.

Pre-registration appreciated, contact 800-287-8098 or www.riveredge.us.

Admission: Free.

Riveredge Nature Center, Newburg

Lac Lawrann Wildflower Sale

May 7, 9 AM to 1 PM

Wildflowers, trellises, Leopold benches, crafts. For the best selection, join the Friends group and shop on May 6 from 3-6 PM
Lac Lawrann Conservancy, 300 Schmidt Road, West Bend

Spring Migration & International Migratory Bird Day Celebration

May 14, 9 AM to noon

Beginner and intermediate bird walks, and all things birds – make a feeder, bird by ear, nest boxes.

Lac Lawrann Conservancy, 300 Schmidt Road, West Bend

Free

Riveredge Bird Club Birdathon-Bandathon

May 21, dawn to dusk.

Start with the early birds at dawn or come for part of the day. The more eyes, the better. For more information, contact

noel.cutright@we-energies.com.

Riveredge Nature Center

Treasures of Oz – The Lake Michigan Shoreline

June 18 9 AM to 5 PM

Follow the *Treasures* map to 7 sites. Meet at Forest Beach Migratory Preserve for food and fun. For details see <http://treasuresofoz.org/>

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ADDRESS SERVICE REQUESTED

UWM Field Station
3095 Blue Goose Road
Saukville, WI 53080



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