



The Dunesletter

A Publication of Woodland Dunes Nature Center and Preserve



Birdscaping Presentation

Friday, May 11 • 7:00 to 8:00 p.m.

Program, \$8.00; Program plus Bird Breakfast, \$12.00

Start off your Bird Breakfast weekend with a presentation by Mariette Nowak, author of *Birdscaping in the Midwest*. You'll learn how to transform your yard to a bird and wildlife magnet just in time for the planting season. See page 3 for details.

Be our fan on Facebook.

Spring 2012

Volume 147

Coming Events	2
Citizen-Scientists, Salamanders	5
Teasing Spring Days	6
Notes from Nature, Poetry	7
Bats and Count Dracula	8
The Transit of Venus	10
Kidland Dunes	11
Birds	12
Volunteers	13
Thank You	14
Helping the Dunes	15

From the Director

So far it seems like we've had several months of November or March instead of our traditional winter. Birds are on the move in anticipation of spring, and our organization is on the move as well. The staff's winter was spent developing the projects and programs that you will see carried out this coming year. Grants have been researched and proposals submitted, and we've been doing some sprucing up within the Nature Center and Brouchoud Field Station. As a staff, sometimes we intimidate ourselves when we step back and look at the schedules we've created, but there is so much potential to influence our preserve and the community in a positive way that we just can't help ourselves. I feel so fortunate to be able to work with my fellow staff, board members, and volunteers—knowledgeable and dedicated people who sincerely care about the land and our organization, and each other, for that matter.

Our staff's work is visible to the public, but I just want to touch upon the work of our board members, who often work unseen. As director, I rely on their advice regarding every significant decision that is made regarding Woodland Dunes. Over the years some of those have been challenging. The board members, all volunteers, develop our organization's policies, oversee management of finances, and help our staff raise the funds needed to continue. In addition to our monthly board meetings, members also participate, along with other volunteers, on our various committees: Education, Development, Facilities, Finance, Human Resources, Nominating, and Property. Board members are a tremendous help to our staff, and are increasingly active in developing new programs and facilities.

We don't have term limits on our board; some have been members for many years. Their experience is valuable. Equally valuable are the fresh ideas that newer board members bring. They help our group identify new ways to solve old problems, and their enthusiasm and appreciation for what we have serves as a reminder for us all.

Bruce Robinson joined our board at the start of 2012. (See an article about Bruce on page 13.) At the same time, two veteran board members stepped down: Donna Langman and Bob Weinert. I would like to publicly thank them for all they have done as board members as each has contributed significantly to Woodland Dunes. Donna is an incredible organizer and has contributed much to our largest annual events (her Bird Breakfast pancakes are legendary!). She was the first chairperson of our Marketing Committee, which later evolved into our Development Committee, and helped us make many complex decisions as we worked to increase our visibility and fundraising capacity. She and her husband Kent continue to support Woodland Dunes. We are grateful for all she has done as a board member and volunteer. And that she is still willing to flip pancakes!

Bob Weinert brought his extensive business expertise to our board nearly a decade ago. He became chairperson just after I became director. That period, just after a number of land purchases were made, was one of significant adjustment for our organization. His support for Woodland Dunes, coupled with his experience and willingness to work with me and the board will always be appreciated.

As always, we owe a great debt of thanks to our volunteers, including board members, who do so much for Woodland Dunes. Like an ecosystem, it's the contributions of everyone in our organization that keep Woodland Dunes healthy. The birds in the forest will never realize how much these people do for them, so it's even more important to thank them on their, and our, behalf.

Jim Knickelbine, Director

Coming Events

The Wonder of It All Amphibians of Woodland Dunes

Wednesday, March 14 • 12:30 to 2:30 p.m.

As winter turns to spring we will study the natural history of amphibians and learn how to identify the frogs and salamanders in their Woodland Dunes home. Registration by March 9 is appreciated. Sponsor: The Dominion Foundation.

St. Pat's Day Jam with Bug-Eyed Pete

Saturday, March 17 • 6:30 to 8:30 p.m.

Members, \$5; family, \$10; Nonmember, \$8; family, \$15

Join us for a casual little St. Patrick's Day party at Woodland Dunes. Enjoy a nighttime stroll (snowshoe or ski if there's snow) on one of our trails, sit by the campfire, view stars and planets with Al the astronomer, or come inside to warm up with treats and hot Irish music by Bug-Eyed Pete.

Build Your Own Rain Barrel Workshop

Saturday, March 24 • 9:00 a.m. • \$35 per rain barrel.

This workshop, held at the Wisconsin Maritime Museum, is presented by the Maritime Museum, the City of Manitowoc and Woodland Dunes Nature Center. Registration and prepayment are required. Class limit: 50 people. Must be 18 or older. Registration form or online payment information is available at www.fwwa.org/Manitowoc's-Rain-Barrel-Workshop.html. Contact Janelle at (920) 604-1238 or janelle@FWWA.org

Exploring by Kayak: Kayak Connections

Wednesday, March 28 • 7:00 to 8:00 p.m.

Have you ever wanted to try kayaking, but didn't know how to get started? Tom Koeppen and friends from the Northeast Wisconsin Paddlers will introduce you to kayaking in an indoor presentation. Learn about gear and skills, where to kayak and how to connect with classes and kayaking groups.

Grafting Fruit Trees

Saturday, March 31 • Noon to 2:00 p.m. • Member, \$20; Non-member, \$25

Do you wish your ornamental crab apple trees had large, juicy apples or pink flowers instead of white? For centuries people have been changing fruit trees to suit their needs. In this class we will each graft and take home two semi-dwarf trees of your choice (apple, pear or plum). Root stocks and scion wood provided. Additional materials available for a fee. Please bring a sharp knife; some available. Registration by March 16 required.

Scion Wood Exchange

Saturday, March 31 • 2:00 to 4:00 p.m.

Join fellow fruit tree enthusiasts as we swap stories and trade scion wood from various trees. Bring as many types of cuttings as you wish. Follows our grafting class; free to the general public. Registration by March 16 is required.

Earth Hour

Saturday, March 31 • 8:30 to 9:30 p.m.

During Earth Hour, millions of people, organizations, corporations and governments will demonstrate their concern about climate change by turning off their lights for one hour. Earth Hour symbolizes the importance of everyone working together to diminish climate change. For information, visit www.earthhour.org. To participate, turn off all lights in and around your home from 8:30 to 9:30 p.m. on March 31.

The Wonder of It All eBird and Birding 101

Wednesday, April 11 • 9:00 to 11:00 a.m.

Learn basic birding skills, then enjoy a guided hike with a naturalist. Following the hike, learn how to use Cornell's eBird program to help scientists learn more about bird population and distribution. Registration by April 6 appreciated. Sponsor: The Dominion Foundation.

Night Hike: Searching for Sky Dancers and Frogs

Saturday, April 14, 7:30 to 8:30 p.m. • Member, \$3; Nonmember, \$5,

Early spring is the best time to explore our preserve for the wildlife that depends on our waters. Join Woodland Dunes naturalists on a night hike to search for sky dancing woodcock and snipe, and listen and look for the frogs that live on the preserve. Registration by April 2 is appreciated.

Earth Day at Silver Lake College

Saturday, April 21 • 10:00 a.m. to 2:00 p.m.

Enjoy booths, demonstrations and speakers at Manitowoc's Earth Day event. The entire family will enjoy this event. For more information on Earth Day or the drug disposal program taking place, call (920) 683-4333.

Spring Shoots, Sprouts and Flowers Herbal Series

Wednesdays, April 25, May 2, 9, 16 • 6:00 to 8:00 p.m.

Members, \$115; Nonmembers, \$120

Did you know that cooking, pulverizing and drying stinging nettle, takes away the sting and leaves one of the most nourishing plants on the planet? Join herbalist and wild crafter Linda Conroy as we visit the early plants of spring and learn plant lore passed down through generations. Leave with recipes and an herbal first aid kit for the bites, stings and irritations of spring. Registration required by April 9.

Dash at the Dunes

Saturday, April 28 • Race Start: 10:00 a.m.

See page 4 or our website for details

For information, call (920) 793-4007 or check our website at www.woodlanddunes.org.
Unless noted, all events are held at the Nature Center.

Coming Events

The Wonder of It All Tree Physiology and Forest Hike

Wednesday, May 9 • 1:00 to 3:30 p.m.

Join Sue Crowley, Wisconsin DNR forester, on an exploration of the inner workings of a tree, then stroll along a trail to learn more about Woodland Dunes' woodlands. Registration by May 4 is appreciated. Sponsor: The Dominion Foundation.

Story Walks

Monthly, May through August

Hike the Story Walk Trail for fun and learning. Each month, pages of a storybook will be posted at intervals along one of our trails. Literacy, exercise, nature and family time! Trail maps are on our website or at the Nature Center. After your walk enjoy time in Little Wings play area and new kids' room.

May - Conifer Loop Trail, .5 miles,

June - Yellow Birch Loop Trail, .3 miles

July - Coneflower Loop Trail, .74 miles

August - Cattail Trail .3 miles, (.6 miles out and back)

September - Willow Trail, Goldenrod Loop, .7 miles

Gardening for the Birds: Birdscaping in the Midwest

Friday, May 11 • 7:00 to 8:00 p.m.

Program, \$8.00; Program plus Bird Breakfast, \$12.00

Learn how to increase the number and variety of birds in your yard by growing native plants that provide suitable habitat and a year-long smorgasbord of berries, nuts, and seeds. Gardeners can play a vital role by restoring and preserving native communities that support not only birds, but also other wildlife such as butterflies, bees, and bats.

Mariette Nowak, author of *Birdscaping in the Midwest*, was the director of the Wehr Nature Center for 18 years. She is a board member of the Lakeland Audubon Society, past board member of the Wisconsin Society of Ornithology and president of the Kettle Moraine Chapter of the Wild Ones natural landscaping organization. Please register by May 4.

Bat Monitoring

Wednesday, May 23 • 6:00 to 7:00 p.m.

Predators that rely almost exclusively on insects, bats are often found along lakes and rivers and provide a reliable measure of ecosystem health. Join Bill Mueller from the Western Great Lakes Bird and Bat Observatory to learn about threats to Wisconsin bat species and how you can help monitor bat populations. Weather permitting, participants will go on a "bat walk" to learn how to use the *Anabat* monitor. Land and water survey routes are available. Registration appreciated.

Fish Fry

Friday, May 25 • 4:00 to 9:00 p.m.

Join us for a great fish fry at the American Legion Hall. You can choose from a variety of fish plates, chicken strips and desserts. A percentage of sales from each plate sold and all the proceeds from the dessert sales will benefit education and land management programs at Woodland Dunes. Bring the whole family and eat for the Dunes! The American Legion Hall is located at 811 Jay St. in Manitowoc.

Guided Marsh Tour by Boat

Fridays, June 1, 15; July 6, 20; August 3, 17; September 7, 21

10:00 to 11:30 a.m. • \$10 per person

Enjoy a guided pontoon trip down the West Twin River. Sit and relax as you learn about the river ecosystem and the animals and plants that make the West Twin River their home. Space is limited; registration required.

Transit of Venus

Tuesday, June 5 • 5 p.m. to dusk

Two local astronomers, Al Kluczinske and Ben Birr, along with other volunteers, will share their 'scopes and their knowledge for this rare event. (See page 10 for an article about the transit of Venus across the sun and why it is important.) The telescopes will be solar filtered to allow you to observe this once in a lifetime spectacle safely. **WARNING: Do not look directly at the sun as this can damage your vision. Always use proper protection.**

Please follow all rules for using the telescopes. The equipment through which you will be observing is the property of the member who is operating it, or the property of Woodland Dunes. It represents a considerable investment of time and money. The equipment is designed to be sturdy but contains many delicate parts. Please do not push on it, or touch any part of the telescope unless you are encouraged to do so, and never touch anything made of glass (like an eyepiece), or anything having a mirrored surface.

For more information, contact: Al Kluczinske (920) 686-1065, Ben Birr (920) 242-5901 or Woodland Dunes (920) 793-4007.



BIRD BREAKFAST

AND MIGRATION CELEBRATION

Saturday, May 12 • 8:00 to 11:00 a.m.

Adults \$5.00, Kids \$4.00, 6 and under free.

Enjoy a ham and pancake breakfast and a morning of fun and learning about birds. Meet some wild birds during bird banding demonstrations, enjoy guided bird and nature hikes and new this year - **The Big Sit**. Bring your coffee, lawn chair, binoculars and bird book and enjoy an hour of sitting in a birding hotspot with a bird expert from 8:30 to 9:30 a.m. Kids games and activities will be on-going throughout the morning. Fun for the entire family.

Coming Events

Writing Short Prose about the Natural World

Saturday, June 9 • 9:00 a.m. to 4:00 p.m.

Members, \$25; Nonmembers, \$30.00

Writers have long found natural images to be powerful inspiration for their essays. In this workshop, we'll hike Woodland Dunes as we share our knowledge of the land, read modern essays that use images of nature and concern about the natural world as their inspiration, and write some of our own. No experience in essay writing or nature needed; this will be a low pressure experience. You will receive sample essays to read when you enroll. Instructor: Mary Linton, wetland biologist and writer. *Bring lunch, a notebook for writing, pen or pencil, your completed preparatory homework, and rain gear if it looks threatening.* Registration and payment required by June 1.

The Wonder of It All Phenology for You

Wednesday, June 13 • 10:00 to 11:30 a.m.

Join Vicki Medland from UW Green Bay Cofrin Center for Biodiversity on an exploration of phenology, the study of the timing of natural events. Learn how phenological data is collected and what phenological signs to look for, then enjoy a hike in the preserve.

Adventure Nature Race for Kids!

Thursday, July 19 • Fee: \$15 per team

Check-in, 10:00 a.m.; Race Start, 10:30 a.m.; Award Ceremony, 1:00 p.m.

*Teams: four children plus one adult
Recommended ages: 10 and up*

Enjoy a physical and mental challenge as you explore Woodland Dunes and learn about the plants and animals that make the preserve their home. How fast will you and your team be able to complete the seven challenges and how much will you remember? This is a race where brains are just as important as brawn. Call the Nature Center to register your team by July 9. Limited space, please register early.

Adult Program: Kids in Nature

Wednesday, July 25 • 6:30 to 8:30 p.m.

Learn why getting outside with kids is important. Join Kelly Vorrone, Education Coordinator, for an exploration of the important role nature can play in children's lives. Enjoy the movie *Mother Nature's Child*, a look at the benefits of outdoor time for kids. Take a tour of Woodland Dunes natural play area and kids' room, then learn easy, enjoyable activities to do with kids. Free, but donations appreciated. Please register by July 18.

Butterfly Garden Festival

Saturday, August 18, 9:00 a.m. to noon

Enchanted Forest

Saturday, October 6



Dash at the Dunes

Registration is open for

The 2012 Dash at the Dunes

5K Trail Run/Walk.

Saturday, April 28 • Race Start: 10:00 a.m.

Registration before April 15: \$20; Registration after April 15: \$25

Children 12 and under: \$10

Registration packet pick up and late registration will be from 8:30 to 9:45 a.m. inside the Aurora Medical Center atrium. Fee includes a short-sleeve Dash at the Dunes T-shirt, registration packet, snacks, drinks, and prizes for the top finishers. Participants registering after April 15 cannot be guaranteed a T-shirt or registration packet. Snacks and drinks will be provided to all participants and an award ceremony will follow.

Participants will park at Aurora Medical Center (5000 Memorial Dr.). The race begins in the parking lot behind the Aurora Health Center, adjacent to the newly completed section of the Ice Age Trail.

The course is a flat, wooded and beautiful 5K trail run. It leads participants through forested ridges and swales, across small bridges and through a secluded meadow. The last 3/4 of a mile runs along Columbus Street, crosses Hawthorne Ave. and ends at Woodland Dunes Nature Center.

Dogs are not allowed on the course. Baby strollers are not recommended as the terrain is uneven.

A bus will shuttle participants back to Aurora Medical Center between 11:15 a.m. and 12:15 p.m.

Registration fees are not refundable. Register online at woodlanddunes.org.

This event is a fundraiser benefitting children's environmental education and land management programs at Woodland Dunes Nature Center and Preserve.



Kelly Vorrion and a volunteer from Dominion Energy examine a salamander to determine what species it is.

Salamander Monitoring at Woodland Dunes

Help us inventory the number and species of salamanders living on the preserve. Both aquatic and terrestrial live traps will be set this spring; volunteers are needed to help check traps. After an introduction to salamanders, sign-up for days to check. Please contact the Nature Center if you are interested in helping with this study.

Water Quality Sampling

The Wisconsin Maritime Museum and Woodland Dunes coordinate on-going river monitoring programs for the Manitowoc River and East and West Twin Rivers. If you are interested in learning more about this monitoring project, please contact Woodland Dunes Nature Center or the Wisconsin Maritime Museum

Training Opportunities With Wildlife Of Wisconsin

Wildlife Of Wisconsin (WOW) is an organization run and operated 100% by volunteers. We nurture injured, orphaned, diseased and displaced wildlife for release back into their wild habitats. WOW is licensed by state and federal permits and works in cooperation with the DNR and the Fish and Wildlife Service.

WOW receives over 600 wildlife patients in need of rehabilitation each year. Keeping within with our guidelines, we will be conducting mandatory training sessions to teach volunteers rescue methods, proper feeding and housing techniques, and how to correctly release wildlife. Volunteers must be at least 16 years old to be licensed as sub-permittees.

If you are interested in working with wildlife and working for the community, please email WOW@tm.net or contact Susan at (920) 732-3918.

Red-backed Salamander

Red-backed salamanders are one of the most common salamanders found in the eastern United States and south-eastern Canada, but until this past year, only a few have been recorded at Woodland Dunes. In a single day this past autumn, six were found under woody debris in a forested section of the preserve. This indicates that this species is a fairly common Woodland Dunes resident.

We have been surveying for salamanders the last four years with aquatic live traps, but were not seeing red-backed salamanders because their life cycle is completely terrestrial. In school many of us learn that amphibians are born in water and move to land as adults. In reality two-thirds of amphibians do not have an aquatic stage.

Female red-backed salamanders reach sexual maturity when they are about two years old. They mate on land in autumn. The female lays her eggs the following spring. She will lay three to 14 eggs every other year. She deposits the eggs in crevices or under rotting wood, then coils herself around them to keep the eggs moist. She remains coiled around the eggs until they hatch in 30 to 60 days.

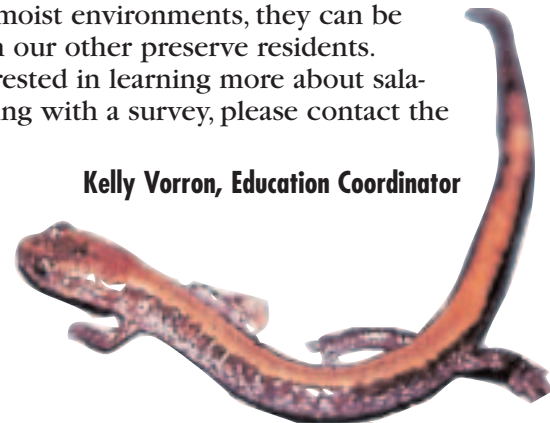
The larval tadpole stage of development happens inside the egg instead of in water, so a fully developed salamander will emerge from the egg. The female will continue to guard the young for up to three weeks after they hatch.

The red-backed salamander is a member of the lungless salamander family known as the Plethodontids. This large group of salamanders includes more than 250 species, two of which live in Wisconsin: the red-backed and four-toed salamanders. The lungless salamanders do not have lungs, instead they absorb and release gasses directly through their moist skin and mouth lining. Being extremely sensitive to dry or acid conditions that might interfere with their ability to exchange gases, these salamanders are most often found in wet forests, making Woodland Dunes ridge and swale complex the perfect habitat.

As predators, salamanders are an important part of the forest floor food web, enjoying the menu of mites, insects and worms that they find when foraging through leaf litter. Both the red-backed and four-toed salamander are likely to be present at Woodland Dunes, but given that they are often nocturnal and spend a lot of time under logs and in other dark moist environments, they can be harder to find than our other preserve residents.

If you are interested in learning more about salamanders and helping with a survey, please contact the Nature Center.

Kelly Vorrion, Education Coordinator



Teasing Spring Days



Winnie Smith often visited Jens Jensen (above) at *The Clearing*.

“These spring days won’t last—they are kind of teasing you—but though undependable, still welcome.” Jens Jensen to Winnie Smith, 1946 (Sterling Morton Library, The Morton Arboretum)

After several years of trying to find the repository of letters written in the early 1940s by landscape architect Jens Jensen to Winnie Smith, the previous owner of Winghaven (my home), I finally tracked them down at the Morton Arboretum. Rita M. Hassert, the library collections manager, kindly sent me copies of the letters, and offered to help if I had trouble reading them. (Jensen’s handwriting is challenging, to put it mildly.) I don’t quite know what I expected, perhaps an ecological version of the Dead Sea Scrolls, but what I got, for the most part, was a set of chatty letters between friends. They discussed birds and flowers and made plans to get together.

And they commented on the progression of the seasons. I felt a great affinity with these two, as they wrote of the fine glistening drifts of snow at Christmas, the best ever in Jensen’s opinion, the persistent late winter rain and the summer droughts. They worried about early growth being nipped by late frost. They speculated as to when the first spring flower would appear. Jensen noted that Winnie would see the first flower at least a week earlier at Winghaven than he would at *The Clearing* in Ellison Bay. Later he mentions a trip to Manitowish Waters, where he notes “the foliage was farther advanced than with us.”

And he notes one of my favorite parts of spring: “There is a bit of color in the dogwood and the maples, and the birches, like the rising sun over the horizon.” Although I wait impatiently for the more showy harbingers of spring, that haze of green or pink around bare branches is the first indication that winter has released its icy grip. Tiny buds venturing forth, delicate blossoms peeking out, pale nascent leaves: all contribute their share to the much longed-for color after months of monochromatic winter.

The easily discernible signs of spring in nature make

this the time of year people renew their interest in phenology, (from the Greek *phaino* meaning to show or appear), the study of cyclic and seasonal natural phenomena, especially in relation to climate and plant and animal life. And with the recent concern about global climate change, the natural indicators of the progressions of the seasons are receiving more attention than ever. Whether these changes are man-made or part of a natural cycle, they are equally important to us.

Another Wisconsin resident and naturalist, Aldo Leopold, recorded phenological information at the Leopold shack and farm from 1936 to 1947. Nina Leopold Bradley carried on her father’s work. She found that a substantial number of phenological events occur much earlier now than they did during Leopold’s lifetime. Although I have never kept a phenological record myself, I wish I had. I certainly spend enough time outside looking for signs of spring. I’ve found a few of Winnie’s records, but they are fragmentary at best. Perhaps more lurk in boxes and file cabinets, awaiting discovery.

The records I found record the blooms of wildflowers, perhaps the easiest indicators to record and compare for those of us who are not professional botanists. Nothing is easier to identify than our native aroid, the skunk cabbage (*Symplocarpus foetidus*). It is the first herbaceous plant to appear each year. What a visual treat when the purplish-brown spathes appear in our swamps, heat-blasting their way through frozen ground, melting the snow and attracting flies and other insects. They maintain a temperature about 36°F above ambient temperature. Amazing plants!

Marsh marigolds (*Caltha palustris*) are also early to bloom. The small colony here at Winghaven looks like a splash of sunshine in the winter-gray woods. I have happy memories of collecting golden blossoms for a bouquet from a creek-laced woodland near my childhood home. Always swampy in the spring, the boggy ground ensured my arrival home with a wet foot . . . or feet. The biggest, most enticing clumps always seemed to be just beyond solid ground. These days I have a hard time picking any flowers, wild or domesticated, preferring to enjoy them in their natural setting, but marsh marigolds continue to tempt me.

Many others come along in quick succession: sedge (*Carex pennsylvanica*), dandelion (*Taraxacum officinale*) and spring-beauty (*Claytonia virginica*). Most are familiar friends, easy to recognize, but a guidebook can be a welcome companion on a springtime hike.

And this year, when I look for the the indicators that the new season is beginning, I’ll be thinking of Winnie Smith, a career in environmental education still ahead of her, and Jens Jensen, the 75-year-old retired landscape architect who championed the use of native plants, carefully making their way together through the woods in search of that first blossom of spring.



Susan Knorr, Editor



March Medley at Woodland Dunes

Maple sap's been running,
the sandhill cranes are back,
woodchucks wobble out to explore.
Horned larks courting
sparks up the prairie,
Red-winged blackbirds' konk-a-rees
stake out marsh and shore.

Turkey vultures turn up
with a grunt and hiss.
Pussy willows puff prettily.
Skunk cabbage commandeers
the floor of the forest,
while sweet bluebirds in the meadow
chime turr, turr-lee, turr-lee.

Wood frogs instruct look-it-up,
look-it-up to garter snakes shucking
off hibernation. Woodcocks are peenting,
the great blue heron is at Todd's Pond
fishing, and a tail-pumping phoebe sings
hearty fee-bee, fee-bees for spring's
early woodland celebration.

Jean Biegur



Race for Survival

A struggle for survival occurs every spring in our upland forests. Wildflowers race to complete their blooming cycle before the leaves of the trees expand to form a canopy overhead and block the life-giving sunlight. The plants that grow on the floor of the forest are almost all perennials, which live for several years. They store food each growing season in underground bulbs, corms, rhizomes, or tubers to enable them to grow the following year.



As winter releases its grip on the forest, heat from the sun warms the soil until the temperature reaches a critical level. The leaves of the wildflowers then emerge and, with the help of the sunlight, start to manufacture food. While the sunlight is available, the plants must produce flowers, become fertilized, ripen their seeds, and store enough food to repeat the process the next season.

The dominant trees of the upland forests of Wisconsin are sugar maple, American basswood, and American beech. Their leaves and branches fill all the spaces in the canopy and allow little or no direct sunlight to reach the forest floor. In order to survive under those conditions, many of the plants growing under the trees have adapted by becoming ephemeral, that is, they are active for only a short time. Among the most common of these are spring beauty, Dutchman's breeches, and dogtooth violets (also known as adder's tongues or trout lilies). They bloom and set their seed in the time before the trees leaf out and, shortly after, their entire plants wither and disappear.

Other species have adopted different strategies. Bloodroot, trilliums, and violets also bloom before the tree leaves emerge, but they stay green through the summer, slowly ripening their seeds and manufacturing food in reduced sunlight. The leaves of hepaticas remain green through the winter, make food during the blooming period before the trees leaf out, and then are replaced during the summer. Wild leek produces leaves in early spring, but no flowers until summer. The leaves wilt in late spring, and are gone when the flowers bloom.

In years when winter weather persists into April, the spring wildflowers may get a late start. With a shorter growing season, their seed production may be poor and less food may be stored for the following year. The plants and flowers produced the next year may then be less numerous and less vigorous. The good years usually outnumber the bad, and the plants are perennial, so they have continued to propagate themselves. Their adaptations have enabled them to survive and delight mankind for thousands of years.

John Woodcock

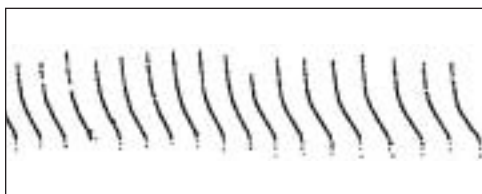
Bats and Count Dracula

For many, spring conjures images of birds returning, but numerous other species also make remarkable journeys in response to the changing seasons. One of the most poorly understood—and vilified—of those travelers is the bat, thanks to Bram Stoker's classic novel *Dracula*, which tainted the vampire bat with the horror of the fictional vampire.

The task of naturalists is to dispel misconceptions such as that bats purposely entangle themselves in women's hair, or hunt humans at night, or are blind. To start with, although bats are not blind, their eyesight is poor. They navigate using sonar, which doesn't distinguish between human hair and animal hair. If they do become entangled in hair, it's certainly not by choice.

Bats are not flying rats or mice, as many suggest, and are more closely related to humans than you would guess. Bats found in this part of the world are microchoptera (small bats). The seven species found at Woodland Dunes are nocturnal. Most feed in wooded areas and near water. The keen, little brown, and big brown bats hibernate in caves; the rest migrate with one exception. Eastern pipistrels either migrate or hibernate, depending on the population and conditions.

People think all bats look alike because they typically see them only as silhouettes against the evening sky. Naturalists use color, form, and habitat to identify bats, but the most definitive characteristics are their echolocation calls as they hunt and avoid obstacles. Each species emits sounds at specific ultrasonic frequencies from 20 to 75 kilohertz (kHz). Human hearing rarely exceeds 20kHz. Bat



The sonogram of the little brown bat has a frequency spectrum of 40 to 75kHz.

vocalizations audible to humans sound like squeaks and chirps.

Naturalists use a handheld *Anabat* device (right) to detect and analyze echolocation calls by programming frequencies to match the species.

Woodland Dunes' volunteers and citizen-scientists will use an *Anabat* to monitor bats this summer and fall. Knowing what species are present, when they migrate, and when they are active will help evaluate the effect the small wind generators at Orion Energy Systems have on bats. Scientists working to minimize the effect of wind generators on bat mortality have suggested changing blade speed, or shutting them off during bat migration. Even small changes like these can go a long way to help reduce bat mortality.

To date, the study conducted by Woodland Dunes of the two wind generators at Orion Energy Systems has not identified a single bat destroyed by the units. This may be because at 200 feet, the windmill blades are below the flight path of bats.

Ecosystem warriors

Bats have an enormous economic value because of the huge numbers of insects they consume, diminishing the need for insecticides. For example, the little brown bat consumes one-half its body weight in insects each night. Further, when they return to their roosts, the fecal matter they release contains nutrients for many cave-dwelling animals. Another important service bats perform is pollination, especially of plants in the south. The dramatic loss of honeybees coupled with white-nose syndrome killing bats is reason for alarm in the agriculture industry.

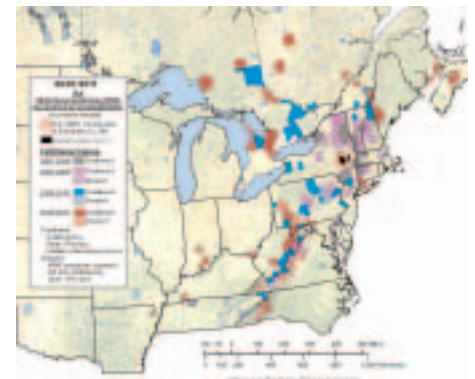
White-nose syndrome

White-nose syndrome is caused by the fungus *Geomyces destructans*. It may have been introduced from Europe, where it reduced some bat



populations by 90 percent. Similar mortality rates occurred in New York when it appeared in 2006. The disease has spread rapidly to 16 states and four Canadian provinces (below). In 2011, naturalists found it in Missouri's western-most caves.

The cold-loving fungus is transmitted during hibernation. The disease easily invades the population through the epidermis, much like the fungus that causes athlete's foot in people. (Humans are not susceptible to white-nose disease.) In the worst-case scenario, the fungus could threaten some of the most abundant bat species, such as the little brown, with extinction. Presently, there is no effective treatment, but let's not forget that plagues have always swept through dense populations. Some caves hold more than 200,000 bats. This disease seems capable of producing results in bats similar to those caused in humans by the Black Death (1348-1350) and Spanish Flu (1918-1919).



Present distribution of caves in the United States with diseased bats.

European bats that survived this disease have developed resistance to the fungus. Now they are less likely to infect each other because cave populations are less than 100 individuals. In a dozen Vermont caves, biologists have found thriving colonies of bats that appear to be disease resistant. It appears as if the bats may be positioned to recover without intercession on our part.

Although white-nose syndrome has not been found in Wisconsin, con-



Vampire Bats

When discussions center on bats, it is the dreaded hairy-legged vampire bat (*Diphylla ecaudata*) that takes center stage. They inhabit tropical and subtropical regions from Mexico to northern Chile and Argentina, and perhaps a small area near Comstock, Texas. Feeding exclusively on the blood of livestock, the mouse-sized bats can transmit rabies or a common cattle disease known as murrina by biting infected animals. Murrina is a disease caused by a parasitic protozoan *Trypanosoma brucei*. The threat posed by infected bats is usually exaggerated by the news media because bats die from the disease. But, dead animals usually do not spread the disease that killed them. And, more importantly, vampire bats rarely affect humans.

Because these animals feed entirely on blood, they are called hematophagic. To support this habit, they have a reduced number of teeth with modified, scalpel-sharp, incisors to cut into the victim's hide, and heat-detecting receptors in a specially adapted nose leaf to locate the best blood-flow sites. The receptors and brain centers that process this information are similar to those in pit vipers. Because blood flow is closest to the surface in the neck, ears, and base of the tail, the vampire strikes these areas while the host is asleep.

Other adaptations to this lifestyle include the ability to walk and run, since landing on a sleeping animal would arouse it. Therefore, bats use their wings as legs, attaining speeds of up to 4.9 mph to reach a meal without disturbing it. Their bite produces a shallow bowl-shaped wound that bleeds freely. Bleeding is further assisted by the bat's anticoagulant saliva that flows along a tiny groove down the center of the tongue and into the wound. To further minimize disturbance, several bats often feed at a single bite site. Their saliva has been used in a medication to help reduce the cohesive factor of blood in stroke victims. The drug is appropriately called Desmoteplase after the common vampire bat (*Desmodus rotundus*).

Most sources agree that the origin of the word vampire is from the Slavic *vampir*, meaning, most likely, witch. The word first appeared in the English language in two 1732 publications. Today, we think only of a night-wandering corpse that sucks blood from the living—certainly a most curious stretch of fantasy.

stant monitoring is essential in dealing with the threat. Woodland Dunes members can help by reporting any bats seen in winter, especially if they are dead and white material other than snow is on the body. Do not pick up the animal! Mark the place and report the finding to the state Department of Natural Resources (888) 936-7463 or Woodland Dunes (920) 793-4007.

Bad rap

Another disease associated with bats, and enhanced by hysterical press coverage, is rabies. People have better odds of winning the lottery than contracting rabies from bats. The odds

increase if humans are bitten by an infected pet that was in turn bitten by a rabid skunk or fox.

Because rabies is lethal to all species, rabid bats are hard to find. Raccoons also carry rabies, but so far the diseased animals are restricted to the Atlantic and southeastern states. People who find bats or any other wild animal alive but lying on the ground or acting as if they are accustomed to interacting with humans should be highly suspicious and cautious. Rabid animals do not always look ill or vicious. Disturbing the animal by touching it greatly increases the risk of being attacked. Leave wildlife alone and be sure your dogs

and cats have current rabies vaccinations.

Bats have been demonized by our literary classics and language, but they provide enormous benefit to the ecosystems of which they are a part. Mosquitoes have caused more human illness and death than the demonized bat that helps to control them. While Count Dracula and quests to destroy vampires make for exciting reading, they miss the mark by maligning a creature with interesting adaptations for flight and unusual sensory systems that enable it to survive.

Chuck Sontag

Professor Emeritus, UW-Manitowoc

Bats of Wisconsin and Woodland Dunes

common name	scientific name	name meaning	characteristics
Little brown bat	<i>Myotis lucifugus</i>	mouse eared/light fleeing	smaller than the big brown bat
Big brown bat	<i>Eptesicus fuscus</i>	house flier	similar to little brown bat
Hoary bat	<i>Lasiurus cinereus</i>	hairy-tailed/ashen or gray	large, solitary creatures
Red bat	<i>Lasiurus borealis</i>	hairy/northern)	large, solitary creatures
Eastern pipistrel	<i>Pipistrellus subflavus</i>	evening yellow	smallest, one-eighth ounce, flight slow and erratic.
Keen bat	<i>Myotis keeni</i>	largest ears	found around buildings, can live more than 18 years
Silver-haired bat	<i>Lasionycteris noctivagans</i>	hairy bat/night wanderer	smaller than similar hoary

The Transit of Venus



The Transit of Venus

On June 5, 2012, Venus will pass across the face of the Sun for the second time in a decade and the last time this century. Venus' little black silhouette will be visible as it slowly creeps across the Sun's brilliant disk. This is known as a transit. This alignment is a rare event, occurring in pairs eight years apart, but these pairs occur over a century apart. The most recent transit of Venus was in June 2004. The next is June 5, 2012. If you miss it, you will have a 105 year wait to see the next. It's unlikely anyone alive today will see it, so don't miss this opportunity.

By timing the event from two locations, mathematicians can calculate the distance from Earth to the Sun and thus the size of our Solar System. Observers in most of North America will see the beginning of the transit on the afternoon of June 5, but the Sun will set with the transit still in progress.

There are four steps of the transit. Although it lasts more than six hours, the most important parts to astronomers are the two 18 to 20 minute periods when Venus enters and exits the Solar Face. The beginning and end of each period occurs when the edges of Venus and the Sun just touch.

The transit begins at the moment when Venus first touches the edge of the Sun's photosphere (First Contact). The second event is the moment when the planet is completely surrounded by sunlight, when Venus is entirely on the sun's disk (Second Contact). These two events are known as ingress. For nearly six hours and 40 minutes, Venus appears to creep across the Sun's face, then the beginning sequence repeats in reverse (Third and Fourth Contact). This part of the transit is known as egress.

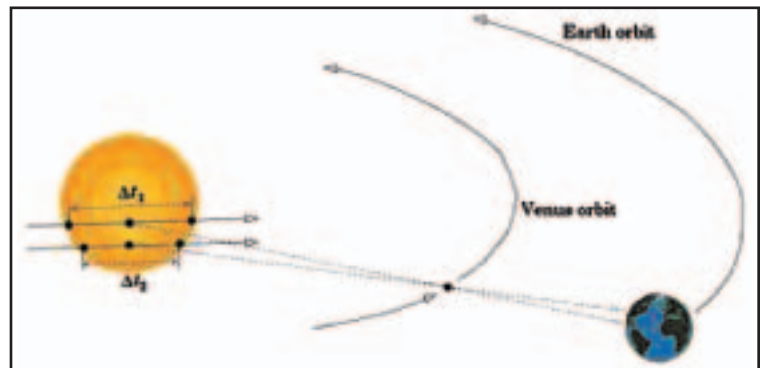
If conditions permit you might also see the mysterious "black drop effect," (see right) the apparent smearing of the edge of Venus against the edge of the sun during a transit of Venus.

(See our events calendar for an opportunity to see this rare event.)

Measuring the Solar System

A central problem for astronomy in the 18th and 19th century was determining the Earth-Sun distance. This distance could be used as a yard stick for measuring everything else and was given a sweepingly important name; the Astronomical Unit (AU). Once calculated, the true size of the Solar System and the planets' distances from the Sun and from Earth could be determined at any time.

In 1716 Edmund Halley proposed measuring the AU by timing the transit of a planet across the Sun, as measured from two distant locations as far north and south on Earth as possible. Although two planets transit the Sun (Mercury and Venus), Halley realized Venus transits would yield better results because Venus is both nearer to us and farther from the Sun than Mercury.



The widely separated observers would see Venus along slightly different tracks across the Sun's face (see above). The length of each track could be determined by precisely timing the transit's beginning and end. Second and Third Contacts offered the best chance to do so with precision. Apply some geometry, and the difference in the length of the two tracks would tell Venus' parallax: its difference in apparent position from two sites.

Al Kluczinske



Kidland Dunes

A Dunesletter page for kids and kids-at-heart! By Belinda and Teresa Zoller



Mourning Cloaks

Although their name may sound sad, the sight of mourning cloak butterflies means spring is on its way! Unlike most butterflies, mourning cloaks hibernate during the winter, so they're one of the first butterflies you'll see. They can emerge even before all the snow melts, because they feed off tree sap. They can live up to a year. They are typically born in spring when their parents come out from hibernation.

Mourning cloaks lay up to three hundred eggs at a time, and the larva stay together in their early stages of development.

You can spot mourning cloaks by their dark wings and bright blue spots at the tips. Look out for these heralds of spring!

Unforgettable Forget-Me-Nots

As a small child, the entire world revolved around me, me, ME. Consequently, I recall many a cheery Mother's Day morning when, upon realizing my duty to present my mum with, well, a present, I found myself woefully unprepared, and scrambled outside while the dew was still sleeping on the grass and scavenged the backyard for clovers, violets, and inevitably, the ironically-named forget-me-not buds.

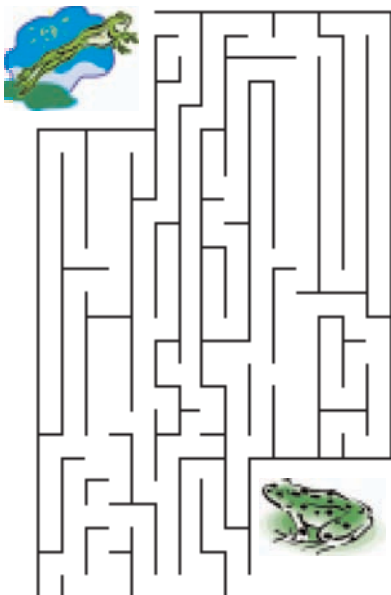
The name, however, doesn't come from my childhood, but rather the tale of a medieval knight out with his lady, struck by the flower's beauty as he spied it near a body

of water. Unexpectedly swept away by a flood while he tried to pick it, he exclaimed "forget me not!" The flower has been since seen as a sign of spring in its tiny blossoms.

Not as light as the cheery pink clovers and yet not as deep as the rich purple violets, forget-me-nots bear a fuzzy stem, simple blue petals, and a tiny golden center resembling its own bud. Overall, each flower looks like a little snippet of sky and sunshine. Today, rather than these buds helping me remember my mum, my mum helps me remember these lovely announcements of spring's arrival.



Help the frog find his friend!



Walks to Remember... Try It!

Spring in Wisconsin is the season where literally anything goes: from baking temperatures in March to snowfall in May and floods every other day. Daily or at least weekly walks around your neighborhood are a great way to enjoy (or endure) the delightful diversity of weather. Such walks are a fun way to exercise, and you'll become more familiar with the corner of the natural world right where you live!

Some things to observe on your walks:

- Do you see a lot of insects out today? If they're not out, what are some possible reasons why?
- What colors do you see? Does everything look bright and warm, or dull and cold?
- What does the air smell and taste like today?
- Notice how the wind feels on different days. Do you tend to see more or fewer animals on very windy days? Why do you think this is?



Sources: *Wild Wisconsin Notebook* by James Buchholz;
Wildflowerinformation.org; sierrapotomac.org

Christmas Bird Count

A few surprises at the Christmas Bird Count

Manitowoc County is divided into four areas for the Christmas Bird Count: SW, SE, NW NE. Some counters do all four quadrants, and others do the ones that fit into their schedules. Most participants are from Manitowoc County, but others come into the county to help.

Unusual birds seen during the recently completed count were: cackling goose, a west coast bird that is a subspecies of the Canada goose; red-throated loon, usually seen during migration, but not in winter; turkey vulture, usually not seen in winter; Eurasian collar-dove, an introduced species seen occasionally; and chipping sparrow, usually not seen in winter. Good photos were taken of the chipping sparrow.

The biggest surprise was a yellow-throated warbler that flew out of the woods at Woodland Dunes and found its way to a neighbor's suet feeder. It was first seen on Tuesday, January 3, two days after the last day of the CBC. Several people from around the state were able to observe the bird and good photos were taken. It cannot be recorded as a species seen during the count, but can be listed as "seen during the count week, but not on the day" (cw). The count week is defined as three days before or after the count date. The great horned owl listed for NW and the pileated woodpecker are also cw birds.

The totals for all four counts are sent to the Wisconsin Society for Ornithology for their permanent records. The total number of species (67) is the sum of the four counts and is used only for Woodland Dunes' records.

Bernie Brouchoud, Environmental Educator

Aegolius Bird Club

The Aegolius Bird Club meets at Woodland Dunes the second Tuesday of each month from September through May at 7:00 p.m. Field trips on Saturdays are taken to places rich in bird life. Membership is open to anyone interested in birds, but you need not be a member to enjoy meetings or field trips. For more information and field trip details, call John or Julie Woodcock at (920) 683-3878.

Field Trips

March 31, 8:00 a.m. Meet at the Hwy 42, JJ, and I-43 Park and Ride to carpool to the Collins and Killsnake Marshes to see waterfowl, cranes, and snipe

April (No field trip due to Crane Count)

May 19, 7:30 a.m. Meet at the Hwy 10, 310, and I-43 Park and Ride to carpool to the Dodge Preserve to see woodland songbird migrants

June, July, August (No field trips)

September 15, 8:00 a.m. Meet at the UW-Manitowoc Parking Lot to carpool to Fischer Creek, Kingfisher Farm, and Cleveland to see early fall migrants

October (No field trip due to Owlfeest)

November 10, 8:00 a.m. Meet at Manitou Park to see late fall migrants there and at Evergreen Cemetery

December (No field trip due to winter bird counts)

Species	SW	SE	NW	NE	Total
Canada Goose	1	977		632	1610
Cackling goose (subspecies)		3			3
American black duck		4		3	7
Mallard	2	146	2	119	269
Greater scaup		1963		136	2099
Long-tailed duck				81	81
Bufflehead		29		24	53
Common goldeneye		341		81	422
Common merganser		11		33	44
Red-breasted merganser		221		57	278
Ring-necked pheasant				2	2
Ruffed grouse			1		1
Wild turkey	54	42	203	118	417
Red-throated loon		5		1	6
Great blue heron				1	1
Turkey vulture				1	1
Bald eagle	4	4			8
Northern harrier	2		2	3	7
Sharp-shinned hawk				1	1
Cooper's hawk	1	1	2	2	6
Red-tailed hawk	25	20	21	4	70
Rough-legged hawk	6		2	8	16
American kestrel	8	5	16	4	34
Peregrine falcon	1				1
American osprey		2			2
Ring-billed gull		3	20	4	27
Herring gull	6	194	29	370	599
Glaucous gull		12		19	31
Great black-backed gull				10	10
Gull sp.				16	16
Rock pigeon	399	256	243	160	1058
Eurasian collared-dove	2				2
Mourning dove	11	62	90	99	262
Eastern screech owl	1	5			6
Great horned owl	5	6	cw	1	12
Barred owl		1			1
Red-bellied woodpecker	12	11	8	12	43
Downy woodpecker	29	21	21	26	97
Hairy woodpecker	9	14	12	14	49
Northern flicker	1			1	2
Pileated woodpecker			cw		0
Northern shrike	2	2	2	1	7
Blue jay	31	23	21	28	103
American crow	167	245	241	282	935
Common raven		1			1
Horned lark				1	1
Black-capped chickadee	84	220	163	137	604
Red-breasted nuthatch		7		7	14
White-breasted nuthatch	28	44	37	15	124
Brown creeper	3		1	1	5
Golden crowned kinglet		3	2	3	8
American robin		2			2
European starling	586	1391	1454	30	3461
Cedar waxwing			67	43	110
Yellow-throated warbler				cw	0
American tree sparrow	41	8	39	19	107
Chipping sparrow				1	1
Song sparrow	1				1
Dark-eyed junco	75	162	63	87	387
Lapland longspur			70		70
Snow bunting		70		15	85
Northern cardinal	22	33	31	48	134
Red-winged blackbird				350	350
Purple finch			4		4
House finch	23	92	28	47	190
Common redpoll		2	1	2	5
Pine siskin	14	27	8	98	147
American goldfinch	281	167	88	127	663
House sparrow	514	554	716	118	1932
Totals	2450	7414	3708	3503	17075

Thank You, Volunteers



Spring Volunteers Highlight

Tom and Betsy Kocourek have been supporters of Woodland Dunes and have helped as volunteers in many different capacities for years. Betsy first became involved with Woodland Dunes through our education programs, and continues to support both education and fund-raising efforts. You can see some of her work in the restrooms at Woodland Dunes: she supplies suitable reading material. But it is her “can do” approach that we most appreciate.

After Tom’s retirement in 2010 from the position of Executive Director of Big Brothers/Big Sisters of Manitowoc Co., he joined our Board. He was elected Chairperson of our board in 2011 and re-elected in 2012.

In addition to his role as chairperson, Tom serves on our Finance, and Nominating Committees, and is helping with our organizational assessment and strategic planning. He and Betsy both serve on the Development Committee and continue to volunteer their help with our education programs and many of our events, especially our Getaway with the Dunes, and donate generously to the organization. Thank you, Tom and Betsy, for all you do for Woodland Dunes.

Thank You, Volunteers

Winter World Teacher-Naturalists and Helpers

Geri Berkovitz	Ellen Lewellen
Lou Ann Gray	Bill Hoeltke
Jeannie Miller	Mary Ozarowitz
Susie Polk	

Spaghetti Dinner Volunteers

Mr. B’s Family Restaurant Staff	
Jean Biegun	Lyn Brouchoud
Bernie Brouchoud	Kathy Danielson
Lou Ann Gray	Miki Leigh
Ellen Lewellen	Dick Luchsinger
Mary Savage	Jean Marie Stahl
Leroy Stahl	Gina Welch
Rachel Welch	John Woodcock
Julie Woodcock	Lucy Zeldenrust

Candlelight Night Volunteers

Helen Bleser	Jean Biegun
Donna Drexler	Craig Gates
Lou Ann Gray	Kay Kauffman
Betsy Kocourek	Barb Kussman
Anna Moyer	Susie Polk
Jim Powers	Kyle Newman
Mary Savage	Jim Welnetz
Lucy Zeldenrust	



New to the Board

Bruce Robinson joined Woodland Dunes board of directors this January. Bruce was born in Two Rivers. His mother, Betsy Kocourek, is a long-time volunteer and supporter of Woodland Dunes, and for the past five year, Bruce has also been a strong supporter.

Bruce now lives in Maribel with his wife, Beth, five rescue cats and three rescue birds. A carpenter with 20 years of experience, he built his home from a barn frame that was more than a hundred years old. Because he has always been an avid nature lover, he moved the original site chosen for the home to protect an area where white trilliums grow.

Three years ago, Bruce started Green Construction to provide an eco-friendly option in the area. As part of his concern for the environment, Bruce began a shingle recycling program, which, in the past two years, has kept more than 1.7 million pounds of shingles from being disposed of in landfill.

We look forward to Bruce’s suggestions for making Woodland Dunes more eco-friendly.

Breaking News!

We welcome Dr. Jon Henry as a new member of the Woodland Dunes board of directors. Dr. Henry is an orthopedic surgeon at Aurora Medical Center in Two Rivers. He, his wife Annette, and his children live near the preserve. They have been improving their land for wildlife by planting trees and native prairie species. They have been supporters of the organization for some time and have helped make new trail development possible. We are happy that he is able to join our board.

For years our staff has chosen an annual Volunteer of the Year. Because there are more than 100 volunteers, the choice is difficult and excludes many people each year who deserve recognition. Starting with this issue, we will recognize a volunteer in each of our newsletter editions rather than just one a year. However, EVERY volunteer is precious to us—whatever you do to help is appreciated.

Thank You



The following reflect gifts, donations and memberships received through February 15, 2012.

Grants

Cellcom \$250 Sponsor of Candlelight Night
Arthur J. Donald Family Foundation, Inc \$300
Kohl's Associates in Action \$500
Thrivent Financial for Lutherans
\$600 for 2011 folk concert series
Walmart \$1,500 education program
West Foundation \$25,000 education program

Matching Funds

US Bancorp Foundation (Robin Callan)
Thrivent Financial for Lutherans (concerts)

Monetary Donations

Barb Bartleson
Trish Cummings
Richard Luchsinger (Wisconsin Bowhunters Assoc.)
Sunrise Optimist Club of Manitowoc, Inc.
Ken Magyar: Closing Guarantee Donation

Donations

Rosie Bugs, bird game display
Fricke Printing Service, Candlelight Night pPosters
Melvin Hagedorn, vacuum repair parts and labor
Kay Kauffman, binoculars
Betsy and Tom Kocourek, calendars
Kwik Trip, hot chocolate for Candlelight Night
Janet Steuer, sticks, three skulls, furs, bird nests
Gail Terry, cross country skis, boots and poles
Two Rivers Building Supply, kids picnic table

Fund Drive

Joe Branks
Ned and Janet Breuer
Lyn and Bernie Brouchoud
Daniel and Catherine Cole
Trish Cummings
Kristin Epstein
Bruce Huffer
Philip and Margaret Rees
James Tetzlaff
Richard and Jean VanDreel
Crystal Pathway LLC

Adopt an Owl

Adopt a saw-whet owl that was caught, banded and released at Woodland Dunes. Receive a certificate of adoption with the band number of your owl, a photo of a saw-whet owl, an information sheet, and a form for recording recaptures. \$25. Email jessicaj@woodlanddunes.org for details.

Recent Adoptions

Tracy Folz
Alais Fortier (from James Fortier)

2011 Membership List Omissions

Robert and Carol Hansen
Lois Hoeft
Don and Jeanie Miller
Joe and Barbara Muench
Arlette Petty
Victor and Marilyn Ponce
Peter and Susan Popp
Lori Popple
Charles and Marjean Pountain
Wm. R. Torrison

Memorials & Honorariums

In honor of Scott Schuette' birthday
Rosalyn Bourgeois
In memory of Mr. and Mrs. Edwin Boettger
David and Mary Ann Cunningham
In memory of Dr. Robert Bush
Julie and Jeffrey Rathmanner
In memory of Edith Garey
Edward and Helen Hintz
In memory of Dolores Jelinek
Geri Berkovitz
In memory of David Schaap
Jeffrey and Janet Kohn
In memory of Father
Karen Shaw
In memory of Joseph Vareka
Beverly Vareka
In memory of Logan and Taylor Van Serke
Dean Brennan Transport Inc.

Memorial Correction

In Memory of Edwin Boettger
Susan Boettger
Helen and Don Bleser

New Members

Kevin and Laurie Crawford
Catherine Egger
Beverly Flanigan
Sue and Chuck Lewis
Steve and Clara Mikkelsen
Lee Mueller
Sarah Stewart
Bob Waulkner
Steve and Alison Wienert

Corporate Members

Trailblazer (\$1,000 and up)
Orion Energy Systems
Explorer Level (\$500-\$999)
Bank First National
Browns of Two Rivers
Fricke Printing Service
Ecologist Level (\$300-\$499)
Crafts, Inc
Conservator Level (\$151-299)
Foster Needle Co., Inc
Investor's Community Bank
KI - Manitowoc
Lakeshore Express, Inc
Lakeside Foods, Inc
Red Arrow Products Company, LLC
The Manitowoc Company, Inc
Schneck, SC
Vinton Construction
Defender Level (\$50-\$150)
Associated Bank of Manitowoc
Carron Net Company, Inc
Cawley Company
Dramm Corporation
Green Construction, LLC
Hamann Construction Co.
Heresite Protective Coatings
Ihlenfeld, Skatrud and Anderson, Inc
Jagemann Stamping Company
M.D. Remodeling, LLC
Northern Labs, Inc
Schaus Roofing and Mechanical
Twin River Turf
Wisconsin Webwriter, LLC

Name our Kids' Room

Little Wings Natural Play Area has become a highlight for families visiting Woodland Dunes. To augment this area, we are developing a kids' room which will include equipment for families to use while they explore the play area and preserve. Please think about items that might improve the room and make your time at Woodland Dunes more educational and meaningful. We welcome input from visitors. Please contact Kelly Vorrone, Education Coordinator with your suggestions: (920) 755-2761 or kelly@woodlanddunes.org.

Helping the Dunes

Wish List

- Two C D wallets that zip shut and hold at least 50 discs
- Medium sized Rubbermaids or containers with mouse proof lids
- Metal or wood shelving unit with closable doors no more than 34" wide, about 52" tall and 28" deep

Need to get rid of an old cell phone or cell phone battery?

Woodland Dunes has teamed up with Cellcom as a drop off site for unwanted cell phones and cell phone batteries. Drop off cell phones and old cell phone batteries Monday through Friday 9:00 a.m. to 4:00 p.m. and Saturdays 9:00 a.m. to noon (April-October). Cellcom sends unwanted cell phones and cell phone batteries to a recycler and receives money for salvaged materials. Cellcom uses this money in its Green Gifts Program, which offers grants to area organizations, programs and projects dedicated to supporting environmental sustainability. Woodland Dunes received a Green Gift in October of 2011.

Native Tree and Shrub Sale

We are still accepting orders for the Native Tree and Shrub Sale. When you order trees and shrubs through this sale, you receive quality native plants and help Woodland Dunes at the same time. Native plants are well-adapted to our conditions and provide food and shelter for birds and other wildlife. Order forms can be downloaded at <http://www.woodlanddunes.org/pdf/Tree-Sale.pdf> or pick one up at the Nature Center. Orders accepted until Friday, March 16. Every attempt will be made to fill your order; however supplies are limited so order early. Orders will be available for pick-up on Friday, April 20 from 10:00 a.m. to 3:00 p.m. and Saturday, April 21, 9:00 a.m. to noon.



Annual Fund Drive

Although Woodland Dunes depends on a wide range of sources to support its programs in environmental education and land preservation, it is you, our members, who are our most dependable resource. Without your contributions through membership fees and the fund drive, we would not be able to continue our work. Please don't disappoint us; we rely on you.

I want to help ensure Woodland Dunes' continued operations.

Enclosed is my tax deductible Annual Fund Drive donation.

Total Enclosed \$ _____

Make checks payable to Woodland Dunes Nature Center and send to:

Woodland Dunes, P.O. Box 486, Two Rivers, WI 54241

Memorial Bricks and Boulders

Celebrate the life of someone dear to you by purchasing a brick or boulder to reflect their love of nature, or memorialize a favorite relative whose personality brought light to your life, or someone with whom you shared precious moments. Your message will be engraved and highlighted in black.

Please place your order by March 31 so it can be included in this year's order. Choose from a 4" x 8" brick paver or a basketball size boulder made of natural stone. The brick pavers will border Woodland Dunes paths and gardens near the Nature Center.

To purchase a brick or boulder, fill out the form below and send it to Woodland Dunes. If you have any questions, contact Jessica at 793-4007 or jessicaj@woodlanddunes.org

Name: _____
 Address: _____
 City/State/Zip: _____
 Phone: _____
 Email: _____

4 x 8 Brick Paver (12 characters per line, maximum two lines) \$75

Natural Stone Boulder (12 characters per line, maximum two lines) \$200

Please make checks payable to Woodland Dunes Nature Center
 PO Box 486, Two Rivers, WI 54241-0486

Woodland Dunes

Become a member!

Name _____
Address _____
City _____
State _____ Zip _____
Phone _____
Email _____

- \$25 Individual
- \$35 Family
- \$50 Patron
- \$100 Contributor

Guarantors

- \$250 Conservator
- \$500 Benefactor
- \$1,000 Steward
- \$5,000 Guardian

Please send this form and your tax-deductible donation to Woodland Dunes today.

Board of Directors

Officers

Tom Kocourek

Chairman

Don DeBruyn

Vice Chairman

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Headquarters

Hwy. 310 west of Two Rivers

Hours

Monday - Friday: 9 a.m. to 4 p.m.

Saturday:

Summer • 9 a.m. to noon

Winter • by appt. or for events

Hiking trails open year round

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