



Wisconsin Lakeshore Restoration Project Some Preliminary Results

By Dan Haskell, Research Associate Scientist, Michigan Technological University, Mike Meyer, Research Scientist, DNR, Anna Schotthoefer, Project Scientist, Marshfield Clinic Research Foundation, and Patrick Goggin, Lakes Specialist, UWEX Lakes

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Original article found at <http://www.uwsp.edu/cnr/uwexlakes/laketides/>*

In 2007, the first-ever National Lakes Assessment confirmed the significance of lakeshore habitat to lake biological health. The most widespread stressors were those that affected the shoreline and shallow water areas, especially the alteration of lakeshore habitat. That same year, the Wisconsin Department of Natural Resources (DNR) initiated a ten-year study to measure the ecological benefits of shoreland restoration in Vilas County. Local conservation departments, contractors and nurseries, landscapers and designers, and others worked with the DNR to rehabilitate lakeshore habitat by planting native trees, shrubs, and groundcover, and installing erosion management systems in the shoreland area.

This update summarizes the first seven years of the project and examines whether our endeavors led to enhanced wildlife habitat and upgraded water quality. We assessed whether wildlife populations and native plant diversity increased on restored lakeshores and whether the restored habitat approximates the habitat found on similar lakes with little or no development. We

(Continued on page 2)



Dan Haskell

Project botanists record vegetation data at a lakeshore site in June 2007.

measured habitat and wildlife variables at restored lakeshores and shores where landowners did not participate in restoration on the developed lakes and compared both to the less-developed lakes with similar aspect, slope, and fetch.

Carnivore distribution

To learn more about the effect of residential development on the mammalian carnivore community in this region, we paired ten low-development lakes with ten high-development lakes and conducted winter track surveys in early 2008. Five of the nine species recorded were only detected on low-development lakes (see Figure 1). Coyotes (*Canis latrans*) were the most encountered species (n = 34) across all lakes. Red foxes (*Vulpes vulpes*) and raccoons (*Procyon lotor*) had the highest encounters on high-development lakes. Overall, there were twice as many carnivore species on low-development lakes (n = 8) than on high-development lakes (n = 4). White-tailed deer were abundant on all high-development lakes, but were detected on only half of low-development lakes. Our results suggest that high-development lakes are having a negative effect on the carnivore community in this region.

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Native plant communities

We quantified and compared the abundance and diversity of trees, saplings, and shrubs measured at fifty plots on less-developed lakes and forty-nine similar plots on developed lakes (Figure 2). We also compared canopy openness using digital photography and analysis software and counted and measured the amount of coarse wood (logs, snags, stumps) present (see Figure 3).

We found the total number of trees per plot and the tree species diversity were significantly greater at vegetation plots on reference lakes; however, trees were larger on the developed lakes. Our results support the overarching goals for restoration efforts – to increase the density and diversity of small saplings and shrubs, to augment downed woody material when needed, and to work towards a plant community with greater canopy closure once mature.

Measuring the value of wildlife habitat restoration on lakeshores

Previous research has shown that lakeshore housing development is associated with changes in breeding bird guild structure, and green frog (*Rana clamitans*) abundance and habitat suitability on developed lakes in the Northern Highlands. In this project, staff members from Michigan Technological University, North Lakeland Discovery Center, and Moon Beach United Church of Christ conducted wildlife surveys (avian, frog calling, and small mammal) on targeted lakes since 2007.

Breeding bird surveys

Levels of development on lakeshores in northern Wisconsin appear to affect the composition of avian communities, which is of concern for the health of these forested lacustrine habitats. To test whether lakeshore restoration can mitigate these effects, a 250m line transect method was used to characterize breeding bird communities along targeted lakeshores. Transects were placed in our three lakeshore treatments (control, restored, and paired reference). In this study, there is no indication to date that any of the indicator species are responding consistently to

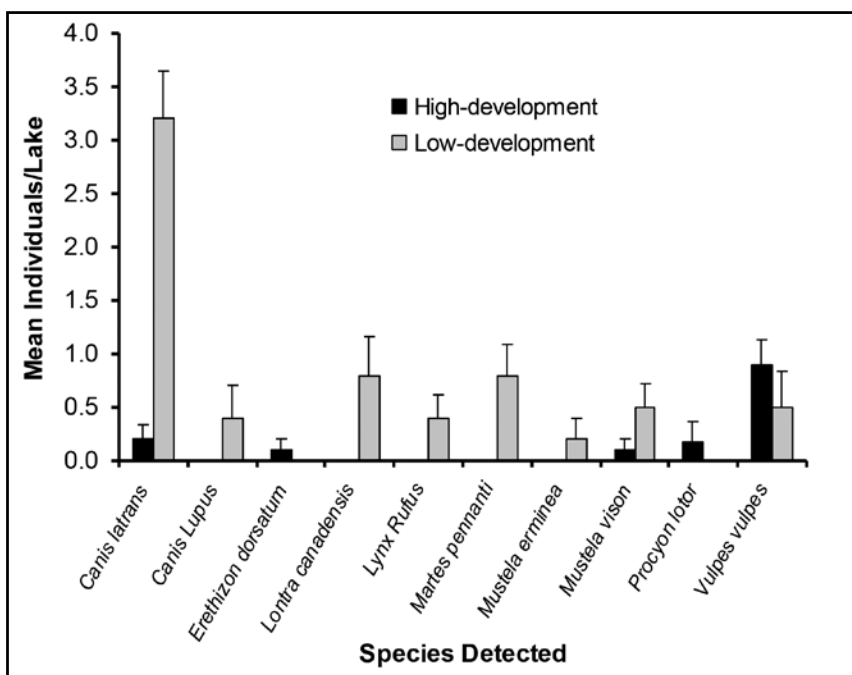


Figure 1. The mean and standard error of individual species detected by snow track surveys within pairs of ten lakes, each pair containing a low- and high-development lake, in Vilas County, Wisconsin, USA. Data was collected in January and February of 2008 (Haskell et al. 2013).



restoration. This lack of response may reflect: a) the need for maturation of the restoration sites; b) that the restorations are of insufficient scale to promote avian colonization; or c) that the landscape within which the restorations occur may more strongly influence guild and species composition than the lakeshore restorations themselves.

Calling frog surveys

Woodford and Meyer (2003) found lower green frog (*Rana clamitans*) abundance on developed lakes in the Northern Highlands. Habitat features associated with green frog presence included adjacent wetlands, shoreline shrubs, and emergent and floating vegetation, which were frequently less on developed lakes. In this study, green frog abundance was quantified by conducting nocturnal calling surveys by canoe along 250m transects adjacent to our treatment lakeshores. To date, we found no increase in frog abundance at the restored lakeshores.

Small mammal surveys

No previous work was conducted in the Northern Highlands to evaluate the effects of lakeshore housing development on small mammal abundance and distribution. To measure possible effects, Sherman live traps were placed along 250m transects on our treatment lakeshores. To date, there is no clear pattern of association with small mammal abundance, diversity, or species occurrence between lake development types. Of interest, however, was the finding that nearly all mice trapped along developed lakes were the white-footed mouse (*Peromyscus leucopus*), a species previously distributed in central and southern Wisconsin. The northern deer mouse (*P. maniculatus*) was previously common in the Northern Highlands but trapped only at a few sites, mostly on one undeveloped



Volunteers from the North Lakeland Discovery Center's Bird Club (in nearby Manitowish Waters, Vilas County, Wisconsin, USA) perform a bird survey at a lakeshore site in June 2007.

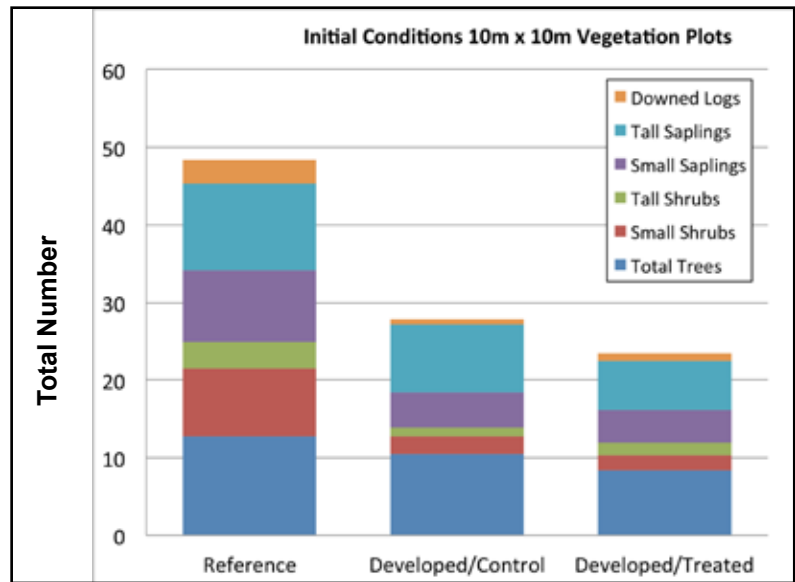


Figure 2. Initial habitat structure at vegetation plots along reference shorelines on undeveloped lakes (n=5) as compared to vegetation plots at control shorelines on developed lakes (n=5) and treated shorelines (shorelines selected for habitat restoration) on developed lakes (n=5).

(Continued on page 4)



reference lake several miles from any permanent human settlement.

In 2011 and 2012, staff from Marshfield Clinic Research Foundation collaborated with us to investigate how lakeshore development in Vilas County alters the risks for tick-borne infectious diseases (TBIDs). Our results indicate the probability of a small mammal harboring at least one tick at the developed, non-restored sites was significantly higher than that found at the undeveloped lakes. Moreover, small mammals captured at the restored sites had a significantly lower risk of harboring ticks compared to the developed sites and overall were infested with a lower abundance of ticks (see Figures 4 and 5). These observations suggest there may be higher risks of TBIDs at the developed lake sites and that lakeshore restoration may somehow mitigate these risks. Efforts are underway to investigate these possibilities further.

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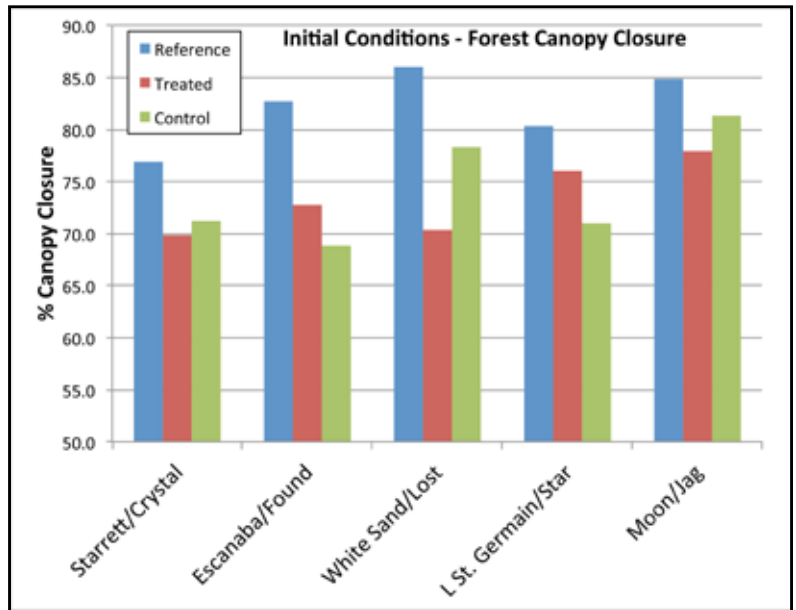


Figure 3. Initial forest canopy closure at vegetation plots along reference shorelines on undeveloped lakes (n=5) as compared to canopy closure at vegetation plots at control shorelines on developed lakes (n=5) and treated shorelines (shorelines selected for habitat restoration) on developed lakes (n=5).

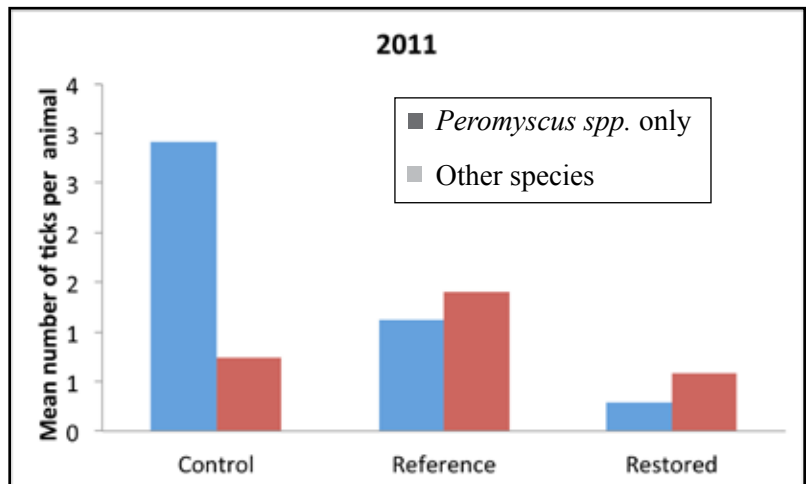


Figure 4. The mean number of ticks infesting *Peromyscus* spp. (white-footed and deer mice) and all other small mammal species captured at the lakeshore treatment sites during 2011.

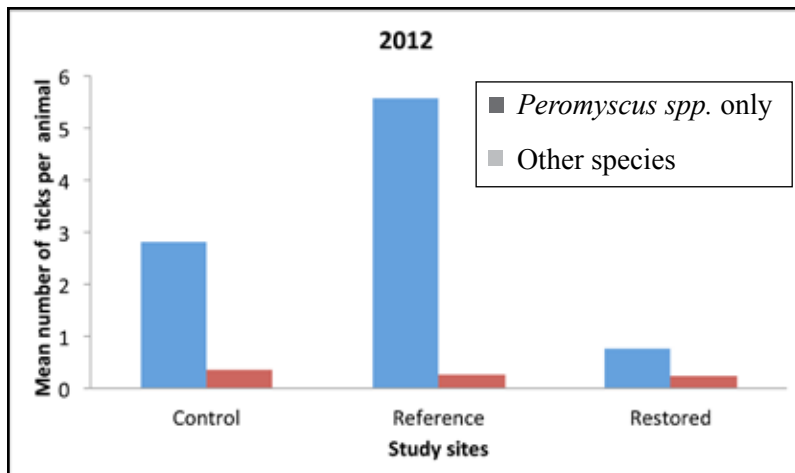


Figure 5. The mean number of ticks infesting *Peromyscus* spp. (white-footed and deer mice) and all other small mammal species captured at the lakeshore treatment sites during 2012.



Work with your Regional Water Guard!

This summer, we are fortunate to have 12 Water Guards working across the state to spread the word about aquatic invasive species (AIS) prevention and regulations. These Water Guards are Deputy Conservation Wardens with the Department of Natural Resources whose primary concentration is ensuring compliance with the state's AIS regulations. To do this, Water Guards conduct watercraft inspections at boat landings, talk with lake users about AIS laws, and provide AIS educational information at various outreach events. Check the map below to find the contact information for the Water Guard in your area.

Spoooner

Garett Bunkelman
715-416-3596
garrett.bunkelman@wisconsin.gov

Woodruff

John Preuss
715-416-2482
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Green Bay

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Rebecca Dick
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Wisconsin Rapids

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Sam Schroeder
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Fitchburg

Greg Stacey
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Aaron Maass
608-445-4733
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Waukesha

Samantha Lindquist
608-712-4869
samantha.lindquist@wisconsin.gov

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Karen Stoll
262-822-5081
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Lessons learned in the art and science of intelligent tinkering on lakeshores

- Landowners are essential to any restoration strategy; without willing lakeshore property owners, opportunities for rehabilitating lakeshore habitat are minimal. Within the Northern Highlands, we found interest low among lake property owners. Finding local, on-lake champions of lakeshore rehabilitation work, like lake association officers or master gardeners, can make for effective peer-to-peer learning and project buy-in. Two lakes involved with this project had less success with securing landowners because no effective local lake champion could be found to make the case for recruiting suitable lakeshore property owners.
- Natural resource educators, contractors, planners, and other consultants to these landowners need to be hands-on with their assistance. They must openly communicate with landowners to understand their vision for their lakeshore properties on access points, view corridors, plant selection, storage needs, landscaping preferences, and other facets of the project.
- Finding erosion control solutions to challenges from ice heave and wave action are critical to success. This fact often brings willing landowners to the table for doing shoreland rehabilitation, so we need to make sure we address these concerns effectively.
- Shoreland zoning and other regulatory instruments alone are not enough to protect lakeshore habitat. Lakes with minimum frontage lake lots at 200 feet versus 100 feet (or less) withstand the stressors of human disturbance more positively.
- Holistic and inclusive lake community partnerships can support lakeshore restoration work of all kinds. Be open to possible project helpers like lake organizations, scouting groups, master gardeners, churches, and other community organizations.
- Lakeshore rehabilitation projects are good for local economies and small business owners. Expenditures from these lake projects provide income to area contractors, nurseries, landscapers, erosion control specialists, and others employed in facets of the work.
- Selecting native plant species that are proven work horses, namely sedges, grasses, and rushes, is beneficial. Upland species can be a challenge to get established without proper maintenance.
- Maintenance is a vital part of the process (i.e., monitoring for ample watering regimes; invasive species control needs; browse protection systems like spray deterrents, temporary fencing, or motion-sensory sprinkler plans; proper dock storage; etc.).
- Few wildlife survey results illustrate clear relations to restoration activities 2-5 years post restoration. It could be that: 1) the scale of restoration is too small to affect change; 2) it is too early to anticipate change given the lack of development of habitat on the restored sites; 3) our survey techniques to date are not sensitive to real changes that may have occurred for birds, frogs, and small mammals; and/or 4) new surveys need to be implemented to measure change that occurs at the scale of our lakeshore restorations. 💧



Did you know most leeches are not blood suckers?

DYK

By Bleu Heindl, UWSP Student

With summer now upon us we are enjoying cookouts, boat rides, and of course, swimming. In Wisconsin, our abundance of lakes, streams and ponds make it natural for you to come across a leech or two. I recently discovered that there are actually 26 species of leech in Wisconsin, 11 of which were all found in the same lake! Many people are fearful of leeches but don't necessarily know why. Maybe it is because they could suck your blood, or perhaps it's their slimy, black, undulating body that's so frightening, or maybe it's simply the fear of the unknown! After doing some research on leeches, I realized some of the tremendous things they do! In more ways than one, leeches should be recognized as a blessing in disguise, rather than something to fear.



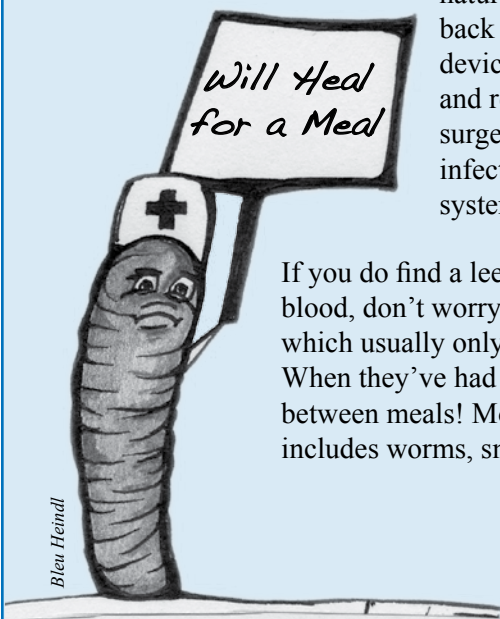
Robert Korfh

Many of us know that leeches are great bait for fishing, but their benefits to humans go far beyond catching that next walleye. Throughout history leeches have vastly benefitted humans in our continuous medical research; because a leech's nervous system is very similar to that of a human's, they are a great benefit to us in our quest to find answers to many health problems. Even though a leech has three jaws and 300 teeth, its saliva contains a natural anesthetic (which is why you can't feel it latch on), along with a natural anti-inflammatory, and an agent that prevents bacteria from infecting a wounded area. A leech's saliva also contains Vasodilator, which causes human blood vessels to open, and an anti-coagulant that can help blood from pooling near a wound – remarkably effective in saving a limb. In a way, leeches are like teeny tiny

natural drug stores, and they have been used for medical purposes as far back as 460 BC. Leeches are now classified as FDA-approved medical devices and are used as tools in medical procedures such as skin grafting and reattachment surgery. They have also been used during plastic surgery, for improving brain circulation. Some leech therapy can cause infection due to a bacteria (*Aeromonas*) that lives in the leech's digestive system.

If you do find a leech attached to your ankle and are terrified of it drinking all of your blood, don't worry - leeches, on average, can only drink five times their body weight, which usually only amounts to about 20 milliliters (0.67 ounces) per hour of feeding. When they've had enough, they will simply fall off, and then can go for up to 6 months between meals! Most leeches are not even parasitic, so their idea of a good meal includes worms, snails, insect larvae and crustaceans.

So, are leeches a friend or foe? We're not saying you have to pick sides, but consider all of the marvelous things they do before you run away screaming.



Jewelweed

A Popping Good Time

By Patrick O. Goggin, Lakes Specialist, UWEX Lakes

If you're lucky, you've heard a child shout: "Let's go looking for 'poppers'!" "Poppers," in this case, refer to the wonderful exploding seedpods of one of our most spectacular annual wildflowers, namely orange jewelweed (in the plant family *Balsaminaceae*, and having the binomial *Impatiens capensis* Meerb). The plant is also known as orange touch-me-not or spotted touch-me-not. The scientific name of *Impatiens* is Latin for "impatient" referring to the explosive action of its fruit dispersal; the term "*capensis*" refers to "of the Cape". Its yellow-flowered cousin, pale touch-me-not (*Impatiens pallida*), is found in deciduous woods around southern Wisconsin.

Some say this plant is named jewelweed for the water droplets that form on its leaf edges, sparkling like diamonds in the morning sun. The other common names, "touch-me-not" and "quick-in-the-hand," describe the exploding behavior of its seedpods. These seedpods are ready for popping in late August; have a trusting friend close their eyes and hold out a hand, then gently deposit several seedpods into their fast-closing hand and watch them jump as the pods come alive, quick-in-the-hand. Shaped like miniature green bananas, when bumped, the sides fly apart, coil open, and catapult the seeds into the air. I've heard one group of children wonder if we could cross jewelweed with other plants to get self-peeling bananas or oranges. Imagine their fun, running fingers down the fruit aisle at their local grocery store, bananas and oranges exploding in all directions!

Crushing the stem of jewelweed and rubbing its juice on the skin is said to alleviate symptoms of poison ivy and nettle stings.



Laura Herman

Jewelweed flowers bloom from August into October and have four petal-like sepals (the outermost whorl of the flower parts) that are usually orange-yellow with brown or reddish spots. These flowers are tubular shaped, drooping on thin stalks, with one irregularly shaped portion of the flower that is spurred and lipped into a spurred sac. Jewelweed leaves are simple leaves that alternate at different levels on opposite sides of the stem and are quite soft.

If the leaves are submerged in water they will take on a silvery look. In fact, jewelweed is completely waterproof! There is hair on the

Any avid hiker, wildflower lover, or hummingbird chaser has found them. By searching from August through October we can find them in moist woodland openings and partially-shaded floodplains along rivers and streams, near the edges of woodland paths, swamps, seeps and fens, lakeshore areas, and roadside ditches. This species tolerates disturbance better than most wet-footed plants, and has a native distribution from Saskatchewan to Newfoundland, Canada, down to Georgia, and west to Oklahoma and Missouri, USA.



Water drop repelled by Jewelweed's tiny leaf hairs.

lonchomeranger.com



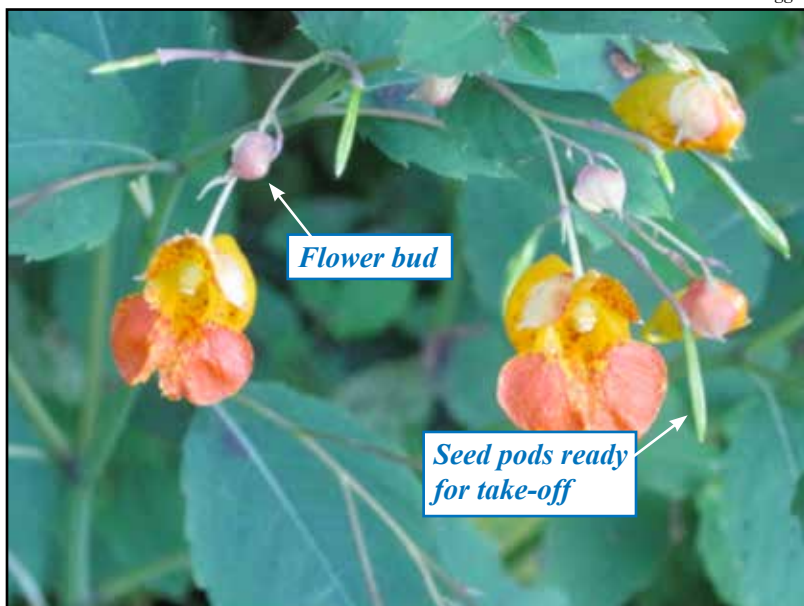
leaves that trap air and repel moisture. Beads of water appear as jewels on the leaves – yet another reason this plant is named jewelweed.

Crushing the stem of jewelweed and rubbing its juice on the skin is said to alleviate symptoms of poison ivy (*Toxicodendron radicans*) and nettle (*Urticaceae*) stings. The mucilaginous sap soothes skin irritation. Analysis of jewelweed shows it contains two methoxy-1, four naphthoquinone - which is an anti-inflammatory and fungicide that's the active ingredient of Preparation H. This sap also has fungicidal properties that can be used to treat athlete's foot!

Jewelweed flowers attract ruby-throated hummingbirds and long-tongued bees, including bumblebees and honeybees. Many of these bees steal nectar by chewing holes near the spur of the flower. Various smaller insects, like Syrphid flies, will visit the same holes to gather nectar after the bumblebees depart. Swallowtail butterflies are less common visitors but they seek its nectar as well. The caterpillars of several moths, including pink-legged tiger moths (*Spilosoma latipennis*), white-striped black moths (*Trichodezia albovittata*), and toothed brown carpet moths (*Xanthorhoe lacustrata*), feed on the foliage of jewelweed. White-tailed deer also like to chew on the leaves. Upland gamebirds, including the ruffed and spruce grouse, greater prairie chickens, and bobwhite quail, along with white-footed mice, eat jewelweed's large seeds.

Germinating and growing jewelweed is not too difficult. First, collect the seeds from native plants in your area. Remember that the seeds begin ripening in late August with the fruit capsules exploding on the landscape through autumn. Carefully collect the fruit by surrounding the seed capsules with your hand or a paper bag to catch the exploding bounty.

Dry out the seeds for a week or two in open paper bags hung in a cool, dark location. Germination results are then greatly improved by putting your dried seed through stratification. This is achieved by the following pre-planting technique: seal the seeds mixed with an equal amount of vermiculite or perlite, adding enough water to barely saturate the



mixture in a plastic container or Ziploc-style bag and put in 42 degree F or colder location for at least two months (like the back of your refrigerator or somewhere in your basement). Keep it in this cool, dry place until planted (up to three years).

So what are you waiting for? Take a kid looking for 'poppers' this summer. Collect some seed from this fantastic native plant and sow it in your yard. It will pay you back in dividends of happy pollinators, attractive orange flowers, and explorations of the exploding variety for children of all ages! 💧

Magic jewels

by Ray Laurance

*She brooks no condescension
From mortal hand, you know,
For, touch her e'er so gently,
Impatiently she'll throw
Her tiny little jewels,
Concealed in pockets small
Of her dainty, graceful garment,
And o'er the ground they fall.
Her tiny magic jewels
May be a fairy's gift,
For scattered by the brookside
They soon small leaflets lift.
What mortal knows the secrets
Of Flora's children shy,
Concealed in field and meadow,
That with the flowers die?*

Sources:

1. "Identifying and harvesting edible and medicinal plants in wild (and not so wild) places" by Wildman Steve Brill.
2. Schultz, Jan; Beyer, Patty; Williams, Julie. 2001. "Propagation protocol for production of container *Impatiens capensis* Meerb. plants"; USDA FS - Hiawatha National Forest, Marquette, Michigan. In: Native Plant Network < <http://www.nativeplantnetwork.org> > (accessed 9 May 2013). Moscow (ID): University of Idaho, College of Natural Resources, Forest Research Nursery.
3. "The Midwestern native garden: native alternatives to nonnative flowers and plants: An illustrated guide" by Charlotte Adelman and Bernard L. Schwartz.
4. "Impatiens capensis plant profile page" by the University of Wisconsin-Stevens Point (UWSP) Herbarium, < <http://wisplants.uwsp.edu/scripts/detail.asp?SpCode=IMPCAP> >.
5. "Jewelweed account / folklore story" by Wayne Pauly [from Dane County Parks ACTION Adult Conservation Team Newsletter.
6. Species account and photographs from Lady Bird Johnson Wildflower Center Native Plant Information Network (NPIN).
7. "The secrets of wildflowers" by Jack Sanders.



Our Future Flies on the Wings of Pollinators

By Patrick O. Goggin, Lakes Specialist, UWEX Lakes

Robert Korth



The life services [pollinators] provide are necessary for the reproduction of up to 90 percent of the planet's flowering plants!

Pollinators are essential for our natural world. The life services they provide are necessary for the reproduction of up to 90 percent of the planet's flowering plants! This includes at least two-thirds of the world's farmed crops, whose fruits and seeds sustain human life.

In Wisconsin, bees, flies, wasps, hummingbirds, butterflies, moths, beetles, and ants all play a role as critical pollinators. We can help these natural allies by providing healthy habitats in our backyards, along our shorelines, and within other areas of our developed landscapes. Through our efforts to protect and support pollinators, we can also ensure bountiful farms and home garden harvests, maintain vibrant native plant communities, provide food for other wildlife, and beautify our landscape with flowering plants.

As with all wildlife, pollinators have suffered as landscapes have changed. Pesticides, habitat

loss, invasive plants and animals, diseases and parasites, and monoculture cropping methods have negatively impacted pollinator populations. We stand at a crossroads. Honey beekeepers lose unprecedented numbers of their honey bee colonies every year. Once-common bumblebees are disappearing across North America and Europe. Heavily developed agricultural and urban landscapes lack the habitat to support a diversity and abundance of bees, butterflies, and other pollinators.

Wildlife and agriculture researchers are learning more about managing habitat for wild bees living around our farms and countryside. At the same time, the public is

coming to appreciate the crucial contribution pollinating insects make to our natural world. Consumers are starting to recognize that the most nutritious and tasty parts of their diet – apples, watermelons, blueberries, carrots, broccoli, almonds, orange juice, coffee,

and chocolate, to name but a few – are only possible because of insect pollination. Nature lovers and native plant enthusiasts are teaming up with pollinator protectors across the world. Together they promote native species and habitat management for this keystone group of animals. Gardeners across North America are noting bees in their backyards at their sunflowers for The Great Sunflower Project (<http://www.greatsunflower.org/>), or they are working with Monarch Watch (<http://www.monarchwatch.org/>) to tag monarch butterflies on their way to Mexico.

It is vital to build on this momentum and to share with friends and family the need for pollinator conservation. At the very least, we must reconsider our view of bees, ants, and

pollinator

noun \ 'pā-lā-, nā-tər\

a biological agent like an insect, bird, bat, or other animal that carries pollen from the male to the female parts of flowers for plant reproduction – it is an essential part of natural and agricultural ecosystems throughout North America.



other pollinators as “pests”. Like aquatic plants, it is both possible and ideal that we set aside a bit of what we consider “our land” to provide appropriate space for our natural allies. Pollinators have only a few basic habitat requirements: a flower-rich foraging area (like a perennial bed or rain garden); suitable host plants or nests where they can lay their eggs (think milkweeds or hollow stemmed grasses); and an environment free of pesticides if possible. Providing any or all of these options is a valuable first step. 💧



Amy Kowalski

While visiting flowers to collect nectar or pollen, pollinators brush against the reproductive parts of the flower, depositing pollen from a recently visited flower. This step is necessary for many plants to produce fruits and seeds.

Create your own pollinator-friendly garden habitat!

- **Go crazy with color.** Different-colored flowers attract different kinds of pollinators. Plan your garden to have a wide variety of colorful blooms throughout the spring, summer, and fall.
- **Stick with native plants.** Focus on plants that are native to your region, which are adapted to cooperate with many of your local pollinators. Consult the UW-Stevens Point herbarium for help at <http://wisplants.uwsp.edu/index.html>.
- **Create a big target.** Arrange pollinator-attracting plants in clumps, rather than single plants. This will help pollinators to find flowers more easily.
- **Choose a spot to “rewild.”** Find a small area of your yard away from high traffic areas that you can “rewild” for the wild things to roam. Place some old logs, sticks, rocks, and other yard debris for insects to use as nesting habitat. Let the grass (and other plants) grow - you are likely to attract frogs, toads, salamanders, and other helpful critters.
- **Transform a small space.** No yard? Add pollinator-friendly plants to window boxes, containers, and balconies!
- **Use pesticides responsibly.** Reduce the level of pesticides used in and around your home. If you must use pesticides, switch to those that are targeted to specific pests and try to spray only when pollinators are not in your garden, such as at night or when flowers are not in bloom.

Be Kind to Bees

Protect the bugs that play a critical role in our environment.

Bees are North America’s most important pollinators. Home gardeners and other pollinator enthusiasts can protect and enhance habitat for native bees by meeting three basic needs:

1. **Bees need a constant supply of food.** It is important for bees to have a diversity of plants with overlapping blooming times so flowers are available throughout the growing season.
2. **Bees need places to nest.** Most native bees are solitary, and they don’t build wax or paper structures like we associate with honey bees or wasps. Most bees nest in small warrens they construct underground, or in narrow tunnels often left behind by beetle larvae in dead trees. Bumblebees require small cavities, either in dead tree trunks, underground (often in old rodent burrows), or under clumps of fallen grass, to raise their young. The queens dig through undisturbed leaf litter to hibernate through the winter.
3. **Bees need protection from most pesticides.** Insecticides are primarily broad spectrum and are therefore deadly to bees. Careless herbicide use can remove many of the flowers that bees need for food. Foster bees by observing, protecting, and enhancing their nesting sites and by providing year-round sources of pollen and nectar.



Robert Korfh



Black Asphalt vs. Clean Water – Keeping PAHs Out of Our Lakes, Streams and Wetlands

David S. Liebl, UW-Extension stormwater specialist

Thinking about fixing up your blacktop driveway or parking lot? Did you know some of the sealcoats on the market could be hazardous to our health and the health of our waters and the creatures that live there? Polycyclic aromatic hydrocarbons (PAHs) can contaminate stormwater that runs off driveways, parking lots and playgrounds where coal tar-based asphalt sealcoats have been applied. This class of environmental pollutants contains carcinogens affecting both human and aquatic health.

Sealcoats are applied to improve the appearance and longevity of asphalt pavements. When pavements are in close proximity to water bodies, it is recommended that sealcoats low in PAHs should be used to minimize risk to people and the environment.

This class of environmental pollutants contains carcinogens affecting both human and aquatic health.

When shopping for sealcoats, or contracting with a sealcoat applicator, be sure to specify coal tar-free products for your asphalt surfaces. To learn more about protecting your health and the environment, and where to purchase coal tar-free sealcoats, check out the following UW-Extension fact sheets:

Coal Tar-Based Asphalt Sealcoats – A Health and Environmental Hazard

([www4.uwm.edu/shwec/publications/cabinet/p2/Sealants health and envir3.pdf](http://www4.uwm.edu/shwec/publications/cabinet/p2/Sealants%20health%20and%20envir3.pdf))

Avoiding Coal Tar-Based Asphalt Sealcoats

(www4.uwm.edu/shwec/publications/cabinet/p2/Non-Coal%20Tar%20applicators%206-7-13.pdf)

This factsheet gives names of Wisconsin applicators who have certified they do not use coal tar-based sealcoats, and also gives a list of carcinogens found in coal tar-based sealcoats.

Choosing a Coal Tar-Free Sealcoat

(http://www4.uwm.edu/shwec/publications/cabinet/p2/Choosing_A_Sealcoat_6-7-13.pdf)

B. Mahler



Lake Protection Grants: 2013 Bonus Round!

The Wisconsin DNR lakes grant program is announcing an open round of funding for Lake Protection Grants. These grants are normally due each May but under this bonus round, they will be processed on a first come, first served basis. Grant awards may fund up to 75 percent of project costs (maximum grant amount \$200,000). Because of the size, complexity, and technical nature of many projects, a pre-application meeting with the DNR is highly recommended, especially if the project requires plan or permit approvals. This will ensure the application will be complete and can be evaluated and considered for funding. Eligible projects include the following.

- § Purchase of land or conservation easements that will significantly contribute to the protection or improvement of the natural ecosystem and water quality of a lake.
- § Restoration of wetlands and shorelands that will protect a lake's water quality or its natural ecosystem. These grants are limited to \$100,000. Special wetland incentive grants of up to \$10,000 are eligible for 100 percent state funding if the project is identified in the sponsor's comprehensive land use plan.
- § Development of local regulations or ordinances to protect lakes and the education activities necessary for them to be implemented. These grants are limited to \$50,000.
- § Lake management plan implementation projects recommended in a plan and approved by DNR.

Contact your regional DNR Lakes Coordinator for more information!

<http://dnr.wi.gov/lakes/contacts/>

Q&A Lake Districts

We often get phone calls and emails from Lake Tides readers with a variety of questions about lake districts. Do you have a question about lake districts that you would like to see answered in Lake Tides? Send it to uwexlakes@uwsp.edu so we can include it in a future issue.

Q: How many votes does a family get at the lake district annual meeting if their property is held in a trust?

A. Trusts (not to be confused with land trusts) are a legal form of property ownership; they are increasingly popular due to some of the tax benefits that they can confer to family members, particularly when dealing with inheritances. Their prevalence can lead to confusion at the annual meeting when people are trying to sort out who gets to vote. The answer depends, in part, on whether or not the trust members are also electors in the community where the district is located. The voting rights at the annual meeting are granted to all U.S. citizens over 18 years of age who are either electors (qualified voters who live in the district) or property owners. When a property is recorded in a trust, corporation, association, or other organization, then the members of that organization must designate an official representative to vote on their behalf. As a result, trust members who reside and regularly vote in the district can each maintain their individual voting eligibility at an annual meeting. For trust members who reside outside the district, they collectively only receive one ballot for annual meeting votes.

For more information on lake districts, see *People of the Lakes: A Guide for Wisconsin Lake Organizations*, www.uwsp.edu/cnr/uwexlakes/districts.



Looking for a great gathering of lake lovers?

SAVE THE DATE!

2014 Wisconsin Lakes Partnership Convention

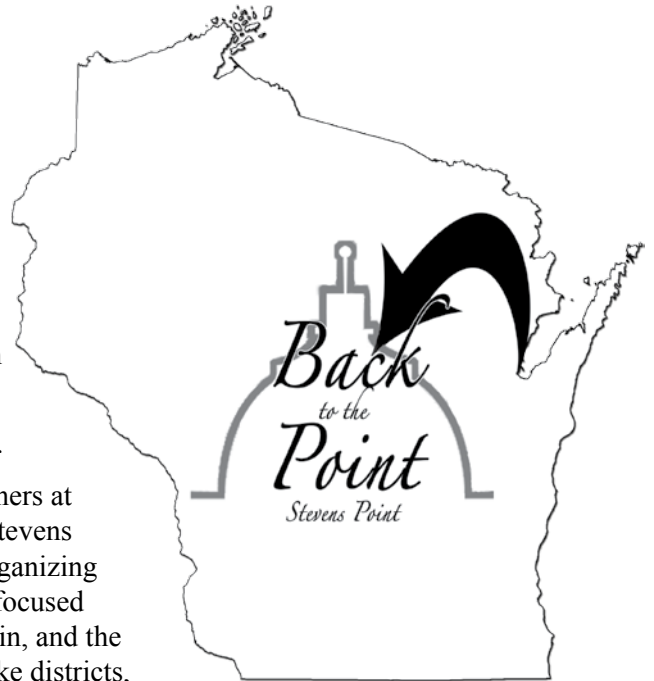
April 24-26, 2014
Holiday Inn Hotel & Convention Center
Stevens Point

Amy Kowalski



Derek Kavanaugh has some fun while making an aquascope at the "Do-it-yourself Lake Monitoring Gear" workshop during the 2013 Wisconsin Lakes Partnership Convention.

2014 marks the 36th year that folks will gather statewide to learn about and organize for the protection of Wisconsin lakes. In the early years, UW Extension organized gatherings of lake district commissioners at the UW Madison and Stevens Point campuses. The organizing committee at that time focused on the threats of acid rain, and the nuances of operating lake districts, which were still relatively new and uncommon. Now



there are more than 200 districts and many more incorporated lake associations all working hard to protect and restore our freshwater treasures.

To make it a little easier for all of us to get together in one place, we are moving the annual Lakes Partnership Convention back to Stevens Point in 2014. The new Holiday Inn on the city's east end will be an excellent gathering space, and the central location will make it a bit easier for lake lovers in northcentral and northwest Wisconsin to join us. We are also reverting back to a schedule that focuses the "meat" of the convention on Friday and Saturday, with optional half- and full-day workshops and field trips on Thursday. We hope that by having part of the convention on a Saturday, we can attract more folks who have weekday work commitments which, because of this, have limited their involvement in recent conventions. We believe that by holding the convention closer to the UW-Stevens Point campus, we will be able to better connect with professors, students, and others who can enliven our annual gathering.

If you are part of a lake organization, now is a good time to think about how many members you would like to send to the Wisconsin Lakes Partnership convention and who they might be. Early-bird registration for the 2014 convention will be approximately \$135 for Friday and Saturday with additional costs for Thursday workshops and tours (Friday only - about \$80, Saturday only - about \$65). Registration includes morning and afternoon breaks and lunches for these two days, a Thursday evening Welcome Reception, the Wisconsin Lake Stewardship Awards Banquet/Dinner Friday evening, and convention materials. There is a block of rooms being held at the Holiday Inn Hotel and Convention Center for this event (Single/Double = \$104/night, Suites = \$159/night), and breakfast is included with your stay.



2013 Invader Crusaders

Congratulations to this year's "Invader Crusader" award recipients! On June 11, 2013, the Wisconsin Governor's Council on Invasive Species celebrated these volunteers and professionals at the beautiful Olbrich Botanical Gardens in Madison:

Professional Individual – Government: Mindy Wilkinson, Invasive Species Coordinator, Wisconsin Department of Natural Resources, Madison, WI

Professional Individual DNR: Ann Kretschmann, Water Specialist/AIS Coordinator, North Lakeland Discovery Center, Manitowish Waters, WI

Volunteer Individual – Nonprofit: Daniel Wallace, Founder, Friends of Brooklyn Wildlife Area, Brooklyn Wildlife Area, WI

Volunteer Individual: Melissa Warner, Weed Out! Racine, Racine, WI

Volunteer Group: Habitat Healers, Riveredge Nature Center, Newburg, WI



To read more about these award recipients, go to <http://invasivespecies.wi.gov/awareness/section.asp?linkid=384>

CALL ENDR

September 5 – Deadline for comments on shoreland zoning - NR 115

If you didn't get a chance to attend any of the public hearings regarding proposed changes to minimum statewide shoreland zoning standards, you can file comments by U.S. mail to the Bureau of Watershed Management P.O. Box 7921 Madison, WI 53707 or by email to DNRNR115COMMENTS@wisconsin.gov. For more information on the shoreland zoning program search the DNR website for "shoreland."

September 10-12 – 9th Annual Great Lakes Restoration Conference, Milwaukee

Each year the Healing Our Waters-Great Lakes Coalition's annual conference brings together a diverse group of more than 400 people from across the Great Lakes region. The conference provides a 3-day forum for participants to learn about important Great Lakes restoration issues, network at the largest annual gathering of Great Lakes supporters and activists, and develop strategies to advance federal, regional and local restoration goals.

For more information: <http://conference.healthylakes.org/>

September 21 – Ocean Conservancy's International Coastal Cleanup

Take the *Pledge to Fight Trash* and join thousands across the nation as they volunteer their time to keep our coasts naturally beautiful.

For more information: www.oceanconservancy.org/keep-the-coast-clear/pledge.html

October 15-17 – 8th Biennial State of Lake Michigan and 13th annual Great Lakes Beach Association Conference, Sheboygan

The joint conference typically draws more than 350 resource managers, scientists, planners, elected officials, and interested citizens all working to improve and protect Lake Michigan and Great Lakes beaches. The conference will be held at the newly renovated Blue Harbor resort on the shore of Lake Michigan. In addition to 18 sessions on Lake Michigan and Great Lakes beach issues, there will be field trips to restoration project sites, workshops, and an evening poster reception. For more information: <http://aqua.wisc.edu/solm/>

October 30-November 1 – NALMS 33rd International Symposium - San Diego

"Lake Management in an Era of Uncertainty" is the theme for this year's international gathering of lake managers, regulators, educators, researchers, students, and corporate partners.

For more information: www.nalms.org (click on conferences & events)



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IN THIS ISSUE

Wisconsin Lakeshore Restoration Project.....	1-4, 6
Regional Water Guards.....	5
DYK about leeches.....	7
Jewelweed.....	8-9
Pollinators.....	10-11
Black Asphalt vs. Clean Water.....	12
Lake Protection Grants - Bonus...	13
Lake District Q&A.....	13
2014 Lakes Convention.....	14
2013 Invader Crusaders.....	15
Calendar.....	15

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Reflections

Handle a book as a bee does a flower, extract its sweetness but do not damage it.

~ John Muir

~ Alas, the same could be said of water! ~

