

Friends of Lake Wingra



Promoting a healthy Lake Wingra
through an active watershed community

Wingra Watershed News

Spring / Summer 2006

volume 3, number 1

A Healthy Lake: Keeping Rain Out of the Drain

Cheryl Bauer-Armstrong & David S. Liebl

While watershed residents and visitors enjoy many benefits from Lake Wingra, its place in an urban landscape creates special challenges for protecting and improving water quality. Urban development brought concrete, asphalt, rooftops and other impervious (hard) surfaces. These replaced the native trees, grasses and wildflowers that once blanketed the land. The original native vegetation and associated porous soils encouraged rain and melting snow to seep slowly into the ground and only a small quantity of rain became surface runoff. The groundwater was replenished to feed springs and thus provided Lake Wingra with a constant supply of clean, cool water, sustaining a healthy lake ecosystem.

Continued on page 4.



Turn to page 7 to learn about Wings Around Wingra. This is a female Twelve-Spotted Skimmer. Photo: Derek Johnson.

Taking the Long View of Lake Protection and Restoration

Anne Forbes

From our beginnings in 1998, the Friends of Lake Wingra has been building an active watershed community. Our goal is to include as partners those with management authority (city, county, and state government); organized groups (neighborhoods, nonprofits); school and university programs; property and business owners; and all individuals who live, work, or play in the watershed.

Some of our events offer an education and outreach focus; others provide partners with the opportunity to learn about what others are doing and plan future work with the big picture in mind. Toward this end, we've held partner meetings in 2001 and 2003 where everyone helped identify current and planned activities in the watershed. For the *Report of 2003 Partner Meeting*, go to www.lakewingra.org/library. We continue to check in with partner groups to find out what actions they have completed since 2003, what is continuing, and what is in the works that's new.

We're using all that we've learned since 1998 to prepare a draft set of long-term water quality and habitat goals for Lake Wingra. In early March 2006, the Friends were invited to a meeting with faculty, staff and students of the Long Term Ecological Research (LTER) project at UW-Madison. We found out there is a wealth of LTER data that can be used to help base community goals in solid scientific information. So, stay tuned – and get in touch with us if you'd like to be part of this goal-setting process.

For more information on the background and projects of the watershed partnership, see *Community Stewardship in the Lake Wingra Watershed* by Jim Lorman and David Liebl (Winter 2005 issue of LakeLine, North American Lake Management Society) at www.lakewingra.org/library.

Friends of Lake Wingra, Inc.

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Mission

We promote a healthy Lake Wingra through an active watershed community.

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Thanks

Thanks to Mary Ellen Gabriel, Kay Gabriel, Alysa Remsburg, Bob Liska, Hannah Harris, Anders Olsen; Edgewood College for serving as our fiscal sponsor; and Dane County and the City of Madison for partnership on DNR grants.

Become a Friend

To become a Friend of Lake Wingra, send your tax-deductible contribution to Friends of Lake Wingra, c/o Office of Advancement, Edgewood College, 1000 Edgewood College Drive, Madison, WI 53711-1977. Please make checks to Edgewood College – FOLW.

Wingra Watershed News

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Wisconsin Wetlands Association field trip participants learned about invasive Phragmites, cattails, and honeysuckle at Gardner Marsh. See *Regional Conference Brings Attention to Wingra's Wetlands* on page 5 to learn more.

From the Chair

When my children were very young, we spent many happy days at Vilas Beach taking swimming lessons, building sand castles and eating gritty sandwiches. Recently, I received an email from a student telling me that even when beaches are open, her mother won't allow her to touch the water because of the fear of disease. This message saddens me and strengthens my resolve to support the efforts of Friends of Lake Wingra. I want our children and their children to have a chance to enjoy their own priceless experiences at Lake Wingra.

I see storm water impacts to water quality and threats from invasive species to native communities (see photo below) that, without the involvement of the watershed community, will inevitably erode all that was so valuable about Lake Wingra to my young family. I believe Friends of Lake Wingra is an organization that can help us to work together to guide change in a manner that preserves and enhances Lake Wingra and its watershed.

Friends of Lake Wingra has grown rapidly over the last eight years. It has demonstrated its ability to bring partners together, successfully apply for grants and support innovative on-the-ground projects. I am committed to supporting the Friends of Lake Wingra as we grow, demonstrate our commitment to Lake Wingra, and increase the number of effective citizen stewards. Building an active watershed community is the most effective way to preserve the lake and quality of life. If you are not already involved, I encourage you to join in your community's watershed efforts.

I'm pleased to introduce this Spring / Summer issue of the Wingra Watershed News to you because it illustrates the reasons I find hope for the future of the lake in the work of the Friends. This issue highlights a range of our interests and activities. You'll find articles that address science, restoration and natural history and others on watershed partnership, tips for property owners, a calendar of events and workshops, and a report on celebrating the lake through keeping a journal.

Have a good summer,

Cheryl Bauer-Armstrong



A Report on WoW! Cycle of Seasons-Sense of Place in the Wingra Watershed

Our Winter 2006 Windows on Wingra event was a huge success. About 20 people spent a morning noting the qualities of the winter season and beginning a visual journal – a “watershed wheel of the year” – to continue throughout the coming spring, summer, and fall.

Jim Lorman and Anne Forbes led the group through an exploration of the watershed concept and how the movement of the earth around the sun creates the seasons. Most of the



Mother-daughter team, Janice and Zoe, used lively patterns and colors to decorate their watershed wheel.



Joan Laurion is ready to take her project home to fill in the events in her watershed wheel through the coming year.

morning was spent with individuals and family groups joining in the creative process. First came the choice of a map or symbol of the watershed for the center. Then, they began to add observations and reflections for each of the seasons. Paper scraps, scissors, markers, pencils, and glue were flying! One joyful adult participant noted, “I can’t remember the last time I used crayons.”

This way of tuning in to the everyday aspects of nature in our lives is great for families to do together and also for individual journal-keepers, experienced or aspiring. For more information on the visual wheel of the year calendar, contact Anne Forbes at 257-3485 or amforbes@charter.net.



Cody Marennes and Chelsea Baus show off their completed watershed wheels.

Keeping Rain Out of the Drain

(Continued from page 1)

Experts report that a 15% reduction in a watershed's natural, vegetated landscape will seriously affect water quality due to increased runoff volumes (Fig. 1). Today, 30% of the Wingra watershed is covered with hard surfaces where no water can infiltrate, and another 50% is planted in turf-grass where very little water infiltrates. With each new road, sidewalk, building, or other impervious surface built in the watershed, spring flows continue to decrease and the quantity and speed of surface runoff increases, carrying pollutants and excess nutrients to the lake. As a result, polluted storm water runoff is now a major problem. The Wisconsin Geological Survey estimates that urban development caused a 64% reduction in groundwater flow to Lake Wingra, resulting in the loss of 30 springs that once replenished the lake.

Improving storm water management is critically important for protecting and improving water quality in Lake Wingra. A good approach is to allow rain water to infiltrate close to where it falls, keeping it out of the storm drain system in the first place. Accomplishing this on a large scale means involving the whole watershed community—homeowners, business owners, neighborhoods, and government agencies. The cumulative effect of all our actions is the key.

What can we do? See *Be a Friend to Lake Wingra* sidebar on this page for tips on what you can do on your own property. In addition, please add your voice during public comment periods when redevelopment projects are on the docket in your neighborhood. As plans are made to rebuild parking lots, streets, and building complexes, ask for lake-friendly engineering designs that help keep the rain out of the drain. These projects often represent once-in-a-lifetime opportunities to decrease storm water runoff and increase protection for Lake Wingra.

Be a Friend to Lake Wingra – Leave Your Neighborhood Storm Drains High and Dry!

Laura England

You can help keep runoff and associated pollution out of Lake Wingra by making changes that put rain water to work in your own yard!

Redirect your Downspout

Did you know that there is a city ordinance prohibiting homeowners from directing downspouts to paved surfaces that carry runoff into the city storm sewer system?

Disconnect your downspout from the storm sewer system by redirecting it to a grassy or otherwise vegetated area of your lawn.

Build a Rain Garden

Rain gardens are planted shallow depressions designed to collect and infiltrate water from downspouts, driveways and other impervious surfaces. Rain garden plants and soil help filter runoff as it soaks into the ground. Rain gardens can be attractive elements of your yard and can attract beautiful birds and butterflies too.

Install a Rain Barrel

Don't have space for a rain garden? A rain barrel is the perfect way for you to collect rain that falls on your roof and use it for watering lawns and gardens, car washing, and window cleaning. Build one yourself or purchase one ready-made. There are many designs available; here is one Website with many options: www.composters.com/docs/rainbarrels.html. Sustain Dane is selling rain barrels as a way to encourage sustainable landscaping. Volunteers will even install the rain barrels for you on May 6th and 13th! For more information go to www.sustaindane.org.

Visit www.lakewingra.org or www.myfairlakes.com for more information and resources on these and other ways you can help protect our Lake Wingra and other local waters.

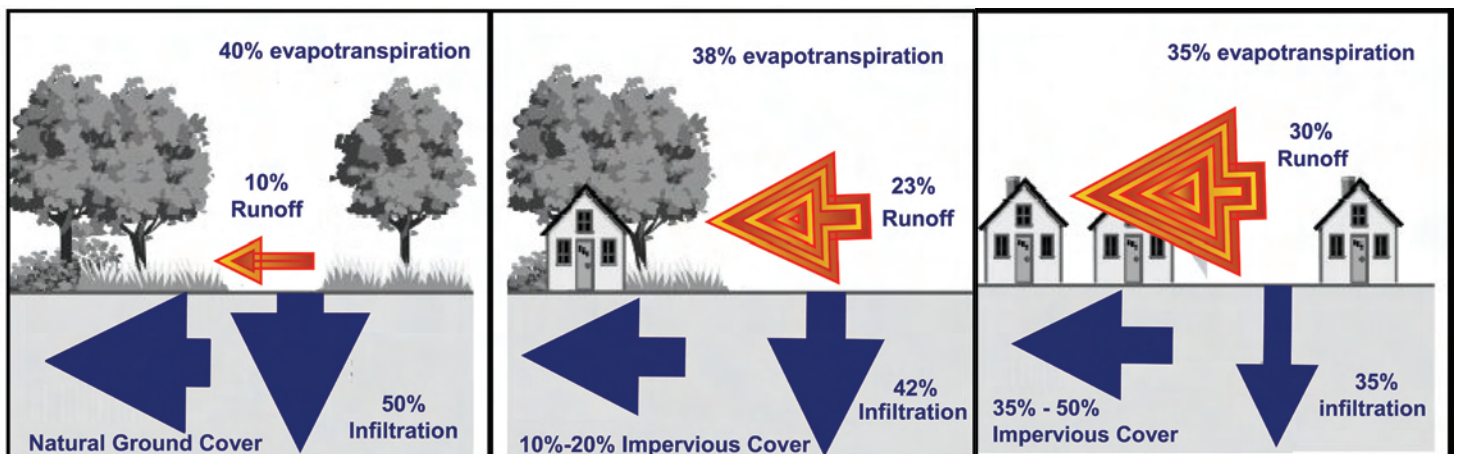


Figure 1. The three above scenarios show that as impervious (hard) cover takes up more space on the landscape, infiltration of rain into the soil decreases and surface runoff to the lake increases. More impervious surface also means less trees and grass, so water that might have been released to the air by evapotranspiration instead becomes even more to surface runoff. Illustration from Federal Interagency Studies Review Work Group.



Tess Begay, one of the AESIS students working on wild rice restoration in Lake Wingra, learns traditional rice harvesting at the Bad River reservation.

Featured Partner: AISES Combines Watershed Science and Traditional Culture

Jim Lorman and Anne Forbes

The mission of the American Indian Science and Engineering Society (AISES) is to substantially increase the representation of American Indian and Alaskan Natives in engineering, science and other related technology disciplines. Madison's chapter of AISES, led by mentors Joni Theobald and Patti Christie, is introducing middle school students to Lake Wingra watershed science and renewing traditional cultural values at the same time. The Friends of Lake Wingra are pleased to work with AISES as a partner in watershed restoration.

Might we restore the wild rice beds that were abundant in the Lake Wingra before urban development? The Wild Rice Cultural Awareness and Ecological Restoration Project (<http://www.madison.k12.wi.us/tnl/titlevii/wildrice/>) is addressing this question. Eight Native American students have been compiling historical, cultural, and biological information on wild rice, documenting the status of wild rice beds in southern Wisconsin and interviewing native and non-native experts. Collaborators include Bad River tribal elders, Edgewood College, and the Madison Metropolitan School District's Title VII Indian Education project.

The students also conducted wild rice germination studies in the laboratory and, to our surprise, established a small but healthy stand of rice near the Edgewood College pier. AISES and the watershed partners are now evaluating whether and how to follow up with larger scale wild rice restoration efforts. If you would like more information on wild rice restoration planning for Lake Wingra, please contact Jim Lorman (lorman@edgewood.edu).

In August 2005, the scope of the students' learning started to take them far beyond the Wingra Watershed. As guests of

the Bad River Ojibwe reservation, elders included them in their traditional wild rice harvest and reseedling activities. In May 2006, two Ojibwe students, Tess Begay (Spring Harbor Middle School and Lac du Flambeau Band) and Katie Allen (Wright Middle School and Lac Courte Oreilles Band), will represent the U.S. at the United Nations 4th Annual Children's World Water Forum in Mexico City.

Regional Conference Brings Attention to Wingra's Wetlands

Katy Wallace and Steve Glass

A group of 30 wetland enthusiasts from the Wisconsin Wetlands Association's (WWA) annual Wetland Science Forum braved dropping temperatures to travel by bus for a tour of UW Arboretum's Gardner Marsh, located between Wingra Creek and the Carver-Martin Neighborhood. As dead cattails shook in the wind, FOLW board members Katy Wallace, Steve Glass, and Jim Lorman introduced participants to the history, ecology, and management of this urban wetland, which is severely threatened by storm water runoff.

Gardner Marsh is dominated by the invasive cattail, a nearly sterile hybrid of the narrow-leaved and broad-leaved cattails. Twenty years ago, this marsh was a meadow of native sedges, forbs and grasses. Beginning in 1999, Arboretum researchers Isa Woo and Dr. Joy Zedler investigated the loss in plant diversity and found that hybrid cattails had almost completely replaced native plants in the northern and northwestern parts of the marsh. They studied how nutrients carried by storm water change marsh vegetation and experimentally applied fertilizer to mimic nutrient inputs from storm water in a small section of the marsh. The fertilizers increased the biomass (total mass of plant leaves, stalks, and roots) of cattail, but not of the native sedges and grasses. These results indicate that the reduction of storm water and associated nutrients, especially phosphorus, will be key to the conservation and restoration of urban wetlands like Gardner Marsh.

The WWA conference participants also toured the shoreline restoration project at Vilas Lagoon with Jim Lorman and the carp enclosure along the north shore of Lake Wingra with Dick Lathrop of Wisconsin DNR. For more information about these projects, please visit www.lakewingra.org.

The UW Arboretum currently has a restoration action plan for Gardner Marsh. Researchers will:

- Learn how to restore native vegetation
- Study how to tackle the invading hybrid cattails to restore native sedge meadow
- Perform experiments to remove hybrid cattails and encourage native shrubs
- Establish a water quality monitoring program in the Marsh

For more information about this project, contact Steve Glass at sbglass@wisc.edu.

Wingra Creek Monitoring and Restoration

Kay Gabriel

The Lake Wingra watershed is connected to the rest of the 3,800 square mile Rock River watershed via Wingra Creek. Historically, this corridor consisted primarily of wetlands with a small stream meandering from Lake Wingra to Lake Monona. This stream, now known as Wingra Creek, was widened and channelized and adjacent wetlands were filled for urban development. In the early 1900's, the Wingra Dam was constructed to control the lake level.

Since 2002, the Rock River Coalition - Water Action Volunteers have been checking the "health" of Wingra Creek by testing water temperature, turbidity, dissolved oxygen, stream flow and biotic life (<http://clean-water.uwex.edu/wav/>). So far, monitoring results put the creek in the "poor to fair" category for water quality, and it is also listed by DNR as an 303(d) impaired water way. Yet, in places, the creek remains very picturesque, with bike paths, fishing holes and paddling opportunities, and habitat for birds and other critters.

In 2003, the City of Madison recognized the recreational and ecological importance of the creek corridor and approved a master plan to upgrade this urban green space, with a more natural appearing streambed and stabilized banks, using combinations of native vegetation, wetland shelves, and boulders. The first phase of construction, between Park Street and Baird Street, will start in October 2006. Check in for details and updates at www.cityofmadison.com/engineering/stormwater.

Everyone who lives within the watershed can help improve Wingra Creek by reducing storm water runoff from their properties. The storm sewers that feed directly into Wingra Creek have an especially severe impact on the sedimentation, pollutants, excess nutrients and invasive species. With both City and citizen help, the Wingra Creek corridor can become a truly beautiful urban green space.

Hats Off to Hands-On: Help the Friends with Watershed Restoration

Put your hands to work for Lake Wingra this spring and summer by helping out with one of our on-the-ground restoration projects. Work parties for each of these projects are being scheduled – watch our Website, www.lakewingra.org, for dates and details.

Rain Garden Street Planting

Nothing is sweeter than the scent of freshly turned earth in the spring. It starts the whole year off right. Come and help the Adams Street neighbors, Friends of Lake Wingra and the City of Madison plant the Adams Street rain gardens. This project will infiltrate storm water runoff from the streets, and is the first test of this street design in Madison. The planting will take place from June 8 - 14. Please watch your mailbox for a postcard with details on when and where your help is needed. Don't miss the chance to make a difference and have fun doing it! Meet your neighbors and help grow a healthy watershed. Project contact: Sue Ellingson (suellingson@sbcglobal.net).

Shoreline Habitat Restoration Project

We got a great start last summer thanks to more than 150 volunteers who helped plant a native vegetation buffer along more than 500 feet of lagoon shoreline in Vilas Park. Together we removed turf, laid erosion blankets, seeded, dug holes, and planted more than 5,000 prairie and wetland plants. This spring and summer we will plant an additional 60 feet of shoreline as well as weed and mulch last season's plantings. Work parties will be scheduled soon. Project contact: Jim Lorman (lorman@edgewood.edu).

Southwest Bikepath Restoration and Stewardship

The second year of the Dudgeon Monroe Neighborhood Association/FOLW sponsored citizen stewardship project along the SW Bikepath resumes on Saturday April 22 and will continue monthly through October (see calendar for dates and times). Project goals are to reduce the influence of invasive plant species; increase the abundance and diversity of native species; and improve storm water management practices. Volunteers can join in pulling weeds, cutting brush, planting native species, watering plants and publicizing the work parties. Project contacts: Robin Ryan (lessie@chorus.net), Sandy Stark (sestark@wisc.edu), and Steve Glass

Wow: Windows on Wingra

Lake Clean-up and Learning About Lake Critters

Saturday, June 17, 9:30 a.m. - Noon
Wingra Park

Insects Up Close - Dragonflies and Damselflies

Saturday, July 29, 1:00 - 3:00 p.m. (raindate July 30)
Mazzuchelli Center, Edgewood Campus

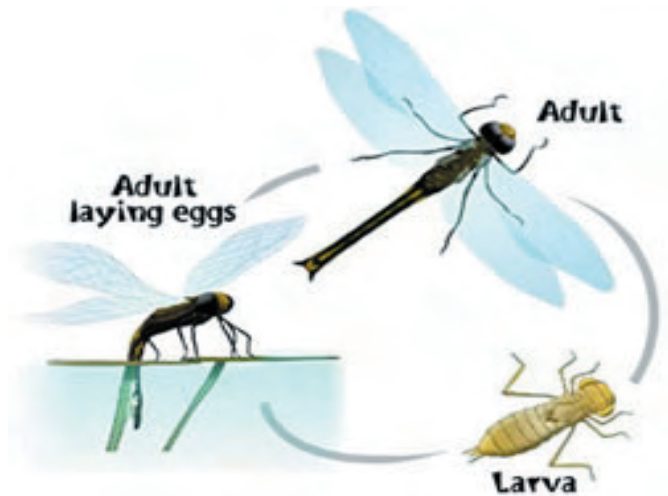
Families welcome! Please see the Calendar on page 8 for more details.



Wings Around Wingra

Alysa Remsburg

Most of us have been mesmerized at some time by the speed and agility of dragonflies in flight or the delicate heart shapes that damselflies form while mating. Dragonflies and damselflies must be doing something right. This group of spectacularly colorful insects (scientific order: Odonata) has been flying relatively unchanged far longer than birds - around 250 million years, as evidenced by fossil records. Consuming mosquitoes is just one of the things odonates have done right. Success of these insects over the millennia must have to do with their versatility. Dragonflies eat any small insects they can get their massive jaws around. Hence the name Odonata, or "toothed jaws." Each of the more than 5000 species of odonates worldwide is unique in appearance, habitat, or behavior, but all odonates are voracious predators in their larval and adult stages. We're



Dragonfly life cycle from egg to larva to adult to egg. C. A. Howells, www.amonline.net.au/insects/insects/metamorphosis.htm.

fortunate enough to find about 25 species inhabiting the Lake Wingra watershed.

The days we see dragonflies around lakeshores and streams give us only a brief snapshot of their lifespan. In Wisconsin, most flying adults have already undergone one to three years of development in their freshwater larval habitat. They have hatched from eggs, hunted other insect larvae, shed their skins for larger armor 9-15 times, hidden from fish, and finally trekked onto the shore to unfold new wings. Emergence of young odonate adults usually takes place in early morning, requiring 1-2 hours for new wings to unfurl and harden. During the short adult stage (3 days to 2 months), some dragonflies hardly ever stop flying; they are so well adapted to flight that all of the main adult chores - hunting, eating, territory-guarding, mating, and egg-laying - are accomplished in the air.

Dragonfly watching is an increasingly popular hobby. Come give it a try on July 29 for *WoW! Windows on Wingra: Insects Up Close - Dragonflies and Damselflies*. Learn about fascinating odonate neighbors such as darners, bluets, baskettails, and meadowhawks. We will pursue larvae in the water and adults in the air, view them up close, and learn identification basics for the major odonate families in Wisconsin. Odonates rest up in trees when the weather is too cool or cloudy, so note that the alternative rain/cloud date is July 30. Please go to the calendar on page 8 for workshop details. Until then, keep your eyes out for the array of dragonflies emerging from Lake Wingra and other waters from May through September.



This young adult Baskettail has recently emerged from its aquatic larval stage. Not quite ready to fly, it perches above the water to shed larval skins. Photo: Alysa Remsburg.

Learn More

Interested in learning more about Lake Wingra and the Friends' work in the watershed? See our growing online library of management planning documents, scientific reports and proposals at www.lakewingra.org.

Spring / Summer Calendar

See our online calendar at www.lakewingra.org for more details on these and other upcoming events.

Monthly FOLW Board Meetings.

May 25, June 22, July 27, August 24 and September 28, 5:30 – 7:30 p.m., Mazzuchelli Center, Edgewood Campus. All are welcome. Contact info@lakewingra.org or 663-2838 to confirm the location and agenda.

Monthly Southwest Bikepath Stewardship Work Parties.

April 22, May 20, June 17, July 15, August 12, September 9, and October 7, 9:00 am to 12 noon. Meet at Glenway and the bike path. Volunteers will be welcomed by project organizers, briefed on goals for the morning, and given tools and training as needed.

Saturday, May 13 Friends of the Arboretum Native Plant Sale

Over 100 varieties of woodland and prairie plants for sale from 9:00 am – 2:00 pm at Wildflower tent near the UW-Madison Arboretum Visitor Center. Details online at: www.uwarboretum.org.

Week of June 8-14 Adams Street Rain Garden planting.

Volunteers are needed to help plant and mulch the terrace gardens on Madison's first rain garden street. Details TBA; watch for a postcard in your mailbox.

Saturday June 10 - Sunday June 18 Yahara Lakes Week in Dane County.

Details TBA online at www.danewaters.com/events/yaharalakes.aspx.

Saturday, June 10 Capitol Water Trails Annual Wingra Creek Cleanup

9:00 a.m. Goodman Park 1402 Wingra Creek Parkway (previously Franklin Field)
Bring a canoe if you have one. Drinking water, trash bags, provided. Children under 16 to be accompanied by a guardian. Contact cwt@capitolwatertrails.org or 223-0995.

Saturday, June 17 WoW! Windows on Wingra: Lake Clean-up and Learning About Lake Critters.

9:30 a.m. - Noon Join FOLW and Dudgeon Monroe Neighborhood Association for the annual clean-up in Wingra Park, view aquatic animals and plants by microscope, and go on a trash and treasure hunt. Contact info@lakewingra.org or 663-2838.

Saturday, July 29 WoW! Windows on Wingra: Insects Up Close - Dragonflies and Damselflies

1:00 – 3:00 pm; Mazzuchelli Center, Room 104, Edgewood College Campus. Families welcome. No fee. Please register by contacting info@lakewingra.org or 663-2838. See page 7 for details. Rain/cloud date: Sunday, July 30.

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