LakeViews

The Newsletter of the Yahara Lakes Assoication

AUGUST 2014

STORMWATER ALUM PROJECT LAUNCHED AT UW-ARBORETUM

By Donna Paulnock - Interim Director, UW Arboretum and YLA Board Member

Collecting samples from Lake Wingra
Photo credit: Donna Paulnock

The Rock River Basin report prepared in 2011 for the US Environmental Protection Agency (EPA) and the Wisconsin Department of Natural Resources (WDNR) raised concerns about phosphorous and sediment concentrations in lakes, rivers, and streams in this southern Wisconsin watershed area. As a result of information in this report, the City of Madison now has been required by the EPA/WDNR to effectively reduce storm water pollutant discharge into our rivers and lakes and must meet new EPA/WDNR target levels for the total maximum daily load levels of storm water discharge of Total Suspended Solids and Phosphorus.

In June, City of Madison engineers initiated a demonstration project at Marion Dunn/Glenway Pond at the UW-Arboretum as part of the approach to meeting these requirements. The project at this site will test the effectiveness of aluminum sulfate, commonly called alum, in reducing downstream discharge of suspended solids and phosphorus from this urban storm water pond into Lake Wingra following storm events. Alum has been used in the treatment of water and wastewater for over 100 years. When added to a body of water, alum binds to most pollutants, including phosphorus, solids, and heavy metals, removing these items from the water column and retaining them in the lake or pond. In addition, alum has been recognized since the 1970s as aiding in the control of nutrient levels in many natural lakes, including several in Wisconsin.

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Mark Your Calendars

AUGUST 17, 2014
LAKE PATROL FUNDRAISER AT NAU-TI-GAL RESTAURANT

JUNE 23, 2015
YLA ANNUAL DINNER MTG AT BLACKHAWK COUNTRY CLUB

FOR MORE LAKE EVENTS
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THANK YOU TO OUR CORPORATE MEMBERS FOR THEIR SUPPORT :

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PLEASE SUPPORT THE BUSINESSES THAT SUPPORT YLA!

STORMWATER ALUM PROJECT con't.

By Donna Paulnock - Interim Director, UW Arboretum & YLA Board Mbr

(Continued from page 1)

The use of alum treatment for water quality improvement has been identified as one possible measure for control of phosphorus inputs to the Yahara chain of lakes in Dane County.

The City of Madison plans to conduct the alum treatment demonstration project for a two-year period. They will monitor downstream concentrations of a variety of pollutants over the course of this experiment, to test the effectiveness of this treatment in an urban setting. However, the full ecological effect of alum has not been fully detailed. For example, relatively little is known about the impact of alum addition on various bacterial functions important in freshwater ecosystems, including decomposition of organic matter and nitrogen fixation. To help bridge this knowledge gap, the Arboretum has recruited University of Wisconsin researchers to monitor ecological effects of alum treatments, tracking how alum affects natural bacteria community composition and activity levels. Arboretum staff and volunteers also are helping with data acquisition by surveying the pond invertebrate community, recording changes in the number and types of species present before and after the addition of alum.

If the treatment process is successful, concentrations of target contaminants discharged into Lake Wingra would be expected to decrease; there also could be detectable changes in water clarity. It is expected that the results of the project will be of value in determining the utility of alum use in managing storm water effects in Wisconsin on a larger scale. More information on the project can be found at: http://www.news.wisc.edu/22045.

UW-Madison Graduate Students are participating in the project under the direction of Katherine (Trina) McMahon. Thank you to the City of Madison Engineering Department for providing information and support for this project.

DANE COUNTY MARINE AND TRAIL ENFORCEMENT FUNDRAISER

By Dick Adler and Ray Potempa, YLA Board Members

Dane County Marine and Trail Enforcement Fundraiser
When: Sunday, August 17th from 3 - 6 p.m.
Where: Nau-Ti-Gal Restaurant, 5360 Westport Road

With one patrol boat located on Lake(s) Monona, Waubesa and Kegonsa and two boats on Mendota, the Lake Patrol keeps us safe every summer. Come to the Nau-Ti-Gal on August 17th to listen to free live music, eat brats and burgers and take part in a silent auction to support our Lake Patrol. Thank you to the von Rutenberg family for their generous support of this event. You can read more about the Lake Patrol at https://danesheriff.com/Divisions/FieldServices/marine_trail.aspx

MANAGING THE YAHARA LAKES

By Kevin Connors - Director, Dane County Land & Water Resources Department
& Erika Hotchkiss - Mktg & Outreach Coordinator, Dane County Land & Water Resources Dept.

Summer is in full swing for in-lake and water quality protection activities in the Yahara Chain of Lakes. Among efforts currently underway are aquatic plant harvesting, monitoring and forecasting runoff and flow, and implementation of conservation practices to prevent nutrients from entering the waterways.

Lake weed harvesting
Photo credit: Carol Gillen

Aquatic Plant Management: Aquatic vegetation was delayed this spring due to the cool spring weather. The county has 10 harvesters in operation to maintain flow in the river and navigation in the lakes. More than 570 loads of vegetation have been harvested and transported for composting. The Barge Pickup program, a joint effort with the City of Madison, has collected over 60 loads of debris for City riparian owners and performs shoreline cleanup on Public lands located on Mendota and Monona.

INFOS: The Integrated Nowcast and Forecast Operation System (INFOS) is being developed to aid in managing the Yahara lakes. A hydraulic model simulates river flows that take into account hydraulic control structures (i.e. dams/bridges), time-varying vegetation, and water motions in lakes. Currently INFOS provides timely water information of the Yahara lakes and rivers for managers and the public. www.infosyahara.org (Read more about INFOS on page 4 of this issue.)

Rainfall: Rainfall falling over the landscape generates runoff water that enters our streams and lakes. Runoff is dependent on the characteristics of the rainfall event such as intensity, duration, and distribution. Rainfall is spatially variable and having rainfall maps provides insight into the amount of water entering the lakes and potential flooding areas. Rainfall maps produced from USGS stations provide generalized maps covering broad geographical areas, but do not provide detail at the Dane County scale. To fill in the spatial gaps, data is obtained from personal weather stations such as Weather Underground. In Dane County there are over 60 personal weather stations as compared to the less than 10 government-sponsored stations. We combine all data from government stations and personal weather stations to allow for spatial analysis of rainfall not previously considered possible in Dane County. The rainfall maps are generated in real-time and provided through INFOS.

Conservation Implementation: Landowners and producers are implementing the conservation practices of animal waste protection, nutrient management, and cropland erosion control, including grass waterways, diversions and grass buffers, to reduce phosphorus and sediment from entering our waterways.

WELCOME TO YLA!

YLA welcomes the following new 2014 members:

Wendy Eudey
Kevin & Leslie Even
Grant & Sarah Frautschi
Dan & Tamara Knickmeier
Nik & Lisa Komdorf
Daniel Larson
Amy Kaster & Dale Leibowitz
Jerry & Rose Pasdo
Bill & Nancy Pharo
Pharo Marine, Inc.

Thank you for joining YLA! We look forward to serving you!

INFOS FOR THE YAHARA RIVER CHAIN OF LAKES

By John R. Reimer - Dane County Land and Water Resources
& Chin H. Wu - UW Madison Civil & Environmental Engineering Professor

The Integrated Nowcast and Forecast Operation System (INFOS) for a River Chain of Lakes (RCLs) is developed to assist in planning and management of water levels for the Yahara River in Dane County, Wisconsin. The INFOS website http://www.infosyahara.org provides current (or nowcast) weather and water observations from several sources, e.g. National Oceanic and Atmospheric Administration (NOAA), United States Geological Survey (USGS), and University of Wisconsin-Madison. In addition, a suite of models is developed to predict (or forecast) hydrologic runoff from the watersheds, hydraulic river flows and water levels, and hydrodynamic lake circulation and temperature. For example, INFOS is employed to address the restriction of water conveyance caused by abundant aquatic plants in the lower Mud Lake. INFOS is used to identify the locations of flow restriction at the Monona outlet, Railroad Trestle, historical Fish Weir, etc. Dane County has utilized INFOS to evaluate management strategies for releasing water at three controlled dams (Tenney, Babcock, and Lafollette) to comply with the water level orders. Currently INFOS is being used to evaluate planning scenarios such as river dredging, bridge widening, and possibly pumping to improve flow conveyance at the Yahara RCLs. Overall, the online INFOS serves as a reliable planning and management tool for managers and the community.

Development of INFOS, located at Dane County, is accomplished by the collaboration and partnership from UW-Madison Civil & Environmental Engineering, City of Madison, Wisconsin Department of Natural Resources, USGS, and UW-Madison Center for Limnology. We encourage you to explore the website http://www.infosyahara.org.

MADISON BEACHES ON YOUR DESKTOP, TABLET OR SMARTPHONE

By Theresa Vander Woude - Communications Coordinator, Clean Lakes Alliance

The Clean Lakes Alliance (CLA) has released the new Greater Madison Beaches & Lakes mobile-ready website and we want your input! This first-of-its-kind information hub will allow residents to easily compare beach and water quality data for multiple locations. The website features an interactive map that displays a simple thumbs-up (beach open) or thumbs-down (beach closed) for each of 23 beaches. A separate map displays water clarity readings (e.g. good, fair, murky) and other near-shore data (e.g. water temperature, crowdedness, presence of algae) from all 44 CLA citizen-monitoring locations. “Our local lakes are dynamic,” says James Tye, CLA Co-Founder and Vice President. “Our monitoring efforts and how we share them should be dynamic, too.”

CLA teamed up with 100state and MIOsoft to create the tool, which integrates data from our partners at Public Health - Madison & Dane County, the UW-Madison Center for Limnology, the UW-Madison Space Science and Engineering Center, and our citizen monitors. Thermo Fisher Scientific and the Wisconsin State Laboratory of Hygiene provided generous in-kind support.

The site is a tool that will evolve as our capacity to monitor and share lake information expands. Soon, users will be able to access additional data from the WI DNR, beach updates from public lifeguards and crowd-sourced beach observations. Visit http://ccw.cleanlakesalliance.com/#/map .

Please contact Clean Lakes Alliance http://www.cleanlakesalliance.com with suggestions to improve the beta-phase tool.

YLA ANNUAL DINNER AND AWARDS

By Joe Tisserand, YLA Special Event Committee Member and YLA Board Member

The Yahara Lakes Association held our Annual Dinner meeting on Tuesday, June 17th at beautiful Blackhawk Country Club. We were served a delicious 3 course meal which included steak and shrimp dinner. Many of the nearly 100 YLA members in attendance went home with a door prize due to the generous support of our many business friends. Thanks to our sponsors and YLA board members for their efforts in gathering and donating great gifts.

Springfield manure digester
Photo credit: Carol Gillen

Jeff Endres of Yahara Pride Farms was honored as Citizen of the Year for his outstanding efforts in helping to clean up our lakes. Carol Gillen was also honored for her work as the 2013 President of YLA and as YLA Member of the Year for her outstanding leadership. YLA President, Dick Pearson, invited Corey Zarecki, Director of Engineering and Operations for Envision, a division of Gunderson Health System, who gave a very informative presentation on why Gunderson Health System built and is operating a manure digester in Springfield Township near Middleton. Corey explained the many benefits to the region, including clean energy production, phosphorous reduction from manure runoff, odor reduction and raw manure spill protection. He also pointed out Gunderson Health System's goal is to be 100% energy independent by the end of 2014 and would be the first health system in the world to achieve this objective. Corey's presentation along with Jeff Endres' and Carol Gillen's comments made for a very informative, interesting and enjoyable evening. Thank you to all who attended and contributed to this enjoyable event.

Save The Date ** June 23, 2015 ** for next year's Annual Dinner at Blackhawk Country Club. We hope to see you there!

CURRENTS

► Thank you to our many YLA members who signed up for the Clean Lakes Alliance (CLA) **Citizen-Monitoring Pilot Program**. They are collecting data at their shoreline on air/water temperature, water clarity and other measures. UW-Madison researchers will use the data to model the movement of toxic algal blooms and also provide timely reports on area beach conditions. (See article on page 4 for how this data is being used.)

► Dane County is offering interest-free loans and cost-sharing funds to help farmers pay for increased storage to avoid winter spreading of manure. According to Dane County data, up to 50% of the phosphorus entering area lakes does so in February and March when the ground is still frozen and snow melt and rain events have more impact. Farmers who participate in the program will also agree to avoid spreading manure in the winter and implement phosphorus reduction practices along with helping the county evaluate the water quality impact of the new program. (Reference: Jan Shepel's May 29th, 2014 article in the online edition of "Wisconsin State Farmer".)

►Do you have a scenic or interesting lake picture you'd like to share with other YLA members? Please send your photo with a brief description to info@yaharalakes.org.

PO BOX 22
WAUNAKEE, WI 53597

Yahara Lakes Association, Ltd. is a non-profit organization dedicated to representing lake property owners and advocating for the vitality of the Yahara chain of lakes so that all citizens may enjoy them.

Yahara Lakes Association, Ltd. Board of Directors

VISIT OUR WEBSITE
www.yaharalakes.org

To contact any Board Member or Advisor: phone: 239-1664 or email: info@yaharalakes.org