

Lake Redstone

PROTECTION CONNECTION

SPRING 2017

NEWS FROM THE LAKE REDSTONE PROTECTION DISTRICT

In this issue

Water Sampling	3
Public Survey	3
Spillway Update	4
Lake Fair 2017	5
Soil Health Luncheon	5
Dredging	6
LRPD Annual Meeting	6
Clean Boats Clean Waters	7



PHOTO: BRUCE VERMILYEA,

Lyle, grandson of Bruce and Trisha Vermilyea, with his catch. Little ones like Lyle are one of the most important reasons we work to protect Lake Redstone. Lake Management is complex, but it's worth it because it means we all can enjoy the lake today knowing we will leave it as good – or better – for future generations.

“
If you're lucky
enough to live
at the lake,
you're lucky
enough.
”

Lake Management Planning is Complex

By Dave Blumer, LEAPS, Lake Education and Planning Services

Purpose

The purpose of Lake Management Planning is to address water quality in Lake Redstone. A Comprehensive Lake Management Plan addresses as many of the sources of lake degradation as possible including nutrient loading (natural and human derived sources), non-native invasive species, land use near the lake and within the larger watershed, aquatic plants and algae, and lake use. Addressing water quality in a lake essentially means addressing the entire watershed of the lake, so a comprehensive plan equates to a watershed plan.

Requirements

Every two years, the Wisconsin Department of Natural Resources (WDNR) is required by the Environmental Protection Agency (EPA) through the Clean Water Act to create a list of impaired waters in the state. The EPA further requires that a TMDL eventually be prepared for waters on the list. TMDL means Total Maximum Daily Load and is a document that calculates the maximum amount of a given pollutant that can occur in a water-body before there is a potential for negative consequences. It also allocates reductions to given pollutant

Continued on next page

Management from page 1

sources that are necessary to either maintain or restore the water-body. Some of the most common pollutants are phosphate, an essential nutrient that causes plants and algae to grow and chlorophyll indicating the presence of algae.

Lake Redstone is a 612-acre reservoir created in the mid 1960's when a 38-foot high earthen dike was installed across Big Creek in north-western Sauk County

with the intent of creating >1500 lots for development. The lake reached full pool in 1966 and water quality issues including algae blooms, low dissolved oxygen, and sedimentation, emerged almost immediately. The lake

reflects the extensive agricultural watershed that it drains (>19,000 acres). Runoff from the watershed includes sediment and phosphate, which leads to late summer algal blooms, thereby causing the chlorophyll that is found in the water. Organic decomposition near the bottom depletes the oxygen below 12 feet during the summer. Because of these conditions, Lake Redstone was placed on the Wisconsin "impaired waters" list in 2014.

An impaired water is a water-body that does not meet water quality criteria that support its designated use. A designated use is a legally recognized description set by a regulatory entity like the WDNR, of a desired use for a given water-body. Examples include: life support for aquatic organisms, fish consumption, or recreation activities such as swimming. Lake Redstone, as a deep lowland drainage lake, was officially listed in 2014 as impaired because

of total phosphorus concentrations that exceeded designated thresholds for recreational use for at least 3 months between June 1 and September 15. Total phosphorus values did not exceed thresholds for fish and aquatic life. Further assessments in 2016 showed total phosphorus data continued to exceed thresholds for recreational use and in addition,



County representatives stressed the importance of practices which benefit farmers, the watershed, and Lake Redstone water.

chlorophyll data exceeded thresholds for both recreational and fish and aquatic life. High levels of algae prompted a "high" priority ranking by the WDNR and recommended the development of a TMDL within 10 years.

Guidelines

In 2008, the EPA published a guide for developing watershed plans. The process planned for Lake Redstone follows this guide and is fully supported by the WDNR.

Developing a comprehensive lake management plan involves multiple steps, including nine key elements that are critical for achieving improvements in water quality.

Nine Key Elements

1. Identify causes and sources of pollution
2. Estimate pollutant loading into the watershed and the expected load reductions
3. Describe management measures that will achieve load reductions and targeted critical areas
4. Estimate amounts of technical and financial assistance and the relevant authorities needed to implement the plan
5. Develop an information/education component

PHOTO: RAY DEMASKIE



Lake management includes efforts to keep sediment from running into the lake like this.

PHOTO: KEN KEEGSTRA



Not all shorelines are created equal. This is an example of a shoreline that protects our lake.

6. Develop a project schedule
7. Describe the interim, measurable milestones
8. Identify indicators to measure progress
9. Develop a monitoring component

Through a WDNR small-scale lake management planning grant awarded in 2016, the Lake Redstone Protection District (LRPD) began the process of assembling a Comprehensive Lake Management/Watershed Plan for the lake. We hope to apply for a grant later in 2017 to support development of the Comprehensive Plan and then begin development of the Plan in 2018. More information of the planning grant activities as well as the details for developing a Comprehensive Lake Management Plan are located on the LRPD web site. ■

Lake Redstone Water and Stream Sampling

By Ken Keegstra and Tom Happ, LRPD board

PHOTO: DON MCCUNE

Lake Water Sampling

Shortly after Lake Redstone was built in the mid-1960s, it began to experience problems with algal blooms caused by the presence of high levels of phosphate in the water. In 1981, the first major study of the water problems in Lake Redstone was performed by a team from the Water Resources Management Program at the University of Wisconsin-Madison. Since that time several studies have examined the water quality issues facing Lake Redstone.

One important component of improving the water quality in Lake Redstone is to monitor various parameters of water quality, including phosphate levels, chlorophyll levels, and oxygen levels. Such water monitoring programs began shortly after the 1981 report and have continued monthly from April or May through October since that time (visit <http://dnr.wi.gov/lakes/CLMN/Station.aspx?id=573124> to see some of the data). After performing water sampling for many years, Gary Botsford and Bob Roloff turned over the sampling duties to a new team of volunteers about three years ago (see the photo). The new team has joined again with the Citizens Lake Monitoring Network (<http://dnr.wi.gov/lakes/CLMN/>) in an effort to make the data available to a wider audience.

Streaming Water Sampling

Stream sampling continues year after year to give LRPD an idea of the quantities and location of sediment and nutrients that are entering the lake from the watershed. Five different locations were sampled in 2016, the locations are provided by Sauk County Conservation, Planning, and Zoning Department. Stream sampling gives LRPD an idea of the type of sediment,



The 2016 Lake Water Sampling Team (from left) Wally Moeller, Tom Walters, Paul Burke, Ken Keegstra, and Chuck Ecklund, not shown are Don McCune and Steve Atkinson. The white pipe with black depth marks on the extreme right is an integrated sampling device that allows harvesting of a water sample from the top six feet of lake water.

clarity of the water, and the amount of phosphorus entering the lake. The sampling takes place May through October each year. Two samples are collected for each of the sites, once per month. Results of the previous year are presented by Sauk County

during our LRPD monthly meeting usually during the month of April.

Water Stream Sampling Team 2016

Marietta (Geeg) Drum
Tom Happ
Dee Happ
Carolyn Guss ■

TAKE A SURVEY

The LRPD board values YOUR input

In 2006 the Lake Redstone Protection District board conducted a survey of district residents in 2006 to seek their opinions regarding issues facing the district. The results guided the activities of the board over the next ten years. We need your help again!

Take the survey any time during the month of June:

Online:

Go to » **LAKEREDSTONEPD.ORG**

Click on the tab » **2017 SURVEY**

Share your email address and we'll send you periodic updates and information about Lake Redstone.

Not online?

A limited number of paper surveys will be available at the La Valle Town Hall during normal business hours.

The results will be made available to all district residents on our web site.

Ken Keegstra, and the LRPD Board

Fallen Rock in Spillway Triggers Inspections and Possible Repairs

By Paul Burke and Ken Keegstra, LRPD Board Secretary

On December 7, 2015, a visitor noticed that a large rock had fallen in the spillway that is part of the Lake Redstone dam. The DNR was contacted and, in turn, contacted Sauk County, the owner of the dam. Since that time, a number of events and studies have occurred. This update provides only a short synopsis, with most information coming from Matt Stieve, the head of the Sauk County Parks & Recreation Department.

- The plunge pool was filled with rock to combat erosion.
- During the summer of 2016, the water level in Lake Redstone was drawn down about 6 inches to prevent water flow over the spillway so that it could be inspected. This required repairs on the sluice gate before the valve could be operated to lower the water level in the lake.
- Inspections showed that the spillway is sound, but the report recommended that additional studies be performed to determine the impact of weathering and water flow over the past 50 years since the dam was formed.
- During this past winter, Sauk County retained Ayres Associates to assist with further inspections and possible repairs. It is likely that the water level will be lowered again during the summer of 2017 to perform additional studies of the spillway.
- If the studies done this summer determine that repairs are needed, the repairs will not likely be performed until 2018 or possibly 2019, to allow time for Sauk County to apply for grants from the state to fund the repairs.
- Depending upon the nature of the repairs, it is possible that the

PHOTO: TOM WALTERS



Fifty years of rapid flow through the spillway has caused weathering that may require maintenance and repairs

PHOTO: TOM WALTERS



Workers make repairs to the sluice gate prior to opening the valve to lower water levels in Lake Redstone.

water level in the lake will need to be lowered significantly (possibly as much as 12 feet) to allow the repairs to proceed.

- If a significant reduction in the water level is needed for spillway repairs, it might be advantageous to coordinate these repairs with possible mechanical dredging.

Sauk County intends to keep the LRPD and district residents informed of further developments. You are encouraged to attend the LRPD Annual Meeting to hear more recent information. Also please provide the LRPD with your email address so that we can communicate additional information to you. ■

LOVE YOUR LAKE

Volunteer Opportunities For Everyone

Your business expertise and valuable skills are needed to help make our lake a better place for boating, fishing, and recreation – and to maintain Lake Redstone's water quality for all to enjoy.

Volunteers help shape our future, plan events, and accomplish goals important to everyone who lives on or enjoys our lake. Please volunteer. Lake Redstone Protection District Board welcomes your involvement!

For more information about volunteering, see lakeredstonepd.org or contact any Lake Redstone board member.

Lake Fair 2017

Biennial fair celebrates recreation, conservation, and education

By Tom Walters, LRPD Lake Fair Committee

The Lake Redstone Protection District and the Dutch Hollow Property Owners' Association are once again co-hosting the Lake Fair at the Dutch Hollow Clubhouse on Dutch Hollow Lake. The Lake Fair will be held on June 3, 2017, from 9 a.m.-2:30 p.m. This biennial event will have the theme "Recreation, Conservation and Education" in 2017.

Admission is free and we have five speakers planned with presentations planned as follows:

- An educational rainfall simulator demonstrating rainfall, soils, and runoff by Brian Sadler from Sauk County. (The LRPD helped pay for the simulator).

- Lake Ecology and Health presented by Dave Blumer, of LEAPS, the consulting firm the LRPD uses.
- Fish Ecology by Nathan Nye, the area's WI DNR Fishery Manager.
- North American Cranes, The International Crane Foundation, TBD
- "Take a Stake in Your Lake" Jeanne Scherer WI DNR, Ken Keegstra, LRPD, Tom Miller Dutch Hollow Property Owners.

Additionally, we will have a kid's fishing contest from 10 a.m. to noon,

FREE
Lake Fair 2017
Saturday, June 3, 2017
9 a.m. to 2:30 p.m.
Dutch Hollow Clubhouse

with tackle boxes given to the first thirty entrants, and "maker space" a craft activity for kids using recyclable materials.

There will be interesting booths and tables with information for all ages,

ranging from invasive species, shoreline restoration, pontoon rides, boater safety, bee keeping, and many other topics and activities. We expect to have nearly 30 booths and information tables available that pertain to our theme. We hope to see you at both the Lake Fair on June 3rd, and the LRPD Annual Meeting in August. ■

Luncheon with Watershed Farmers Shines Light on Soil and Lake Health

By Geeg Drum, former LRPD board member

The LRPD hosted a soil health luncheon with watershed farmers at The Summit in February. The goal was to promote communication, education, and partnerships pertaining to soil health in the watershed of Lake Redstone.

Jon Field and Greg Lowe, representatives of Juneau County, and Serge Koenig of Sauk County, stressed the importance of cover crops and no till practices to reduce sediment runoff, which benefits the farmers, the watershed, and eventually Lake Redstone water. Information regarding added incentives for cover crops from LRPD funds to augment similar federal programs was specifically



County representatives stressed the importance of practices which benefit farmers, the watershed, and Lake Redstone water.

addressed by Jon Field (NRCS).

Justin Morris, NRCS Regional Soil Health Specialist shared his expertise regarding soil health, soil management, crop rotation, cover crops & soil biology.

In a presentation, he showed the benefits of no till vs tilling of soil, compaction of the soil, filtration and soil health related to these practices. He also discussed the benefits of fertilizing options, crop rotation, crop

diversity and rotational grazing.

The benefits of no till farming and use of spring and fall cover crops are especially important practices for improving the health of the Lake Redstone waters and soil retention for the

PHOTO: GEEG DRUM



Justin Morris demonstrates water holding capacity of different soils.

upstream farmers. The LRPD hopes to encourage these practices through improved agricultural incentives, education, and communication with all parties involved.

Thanks to Jon Field and Serge Koenig for helping organize this event. Learn more about this program at our 2017 Lake Fair. ■

Accumulating Sediment in Lake Redstone Calls for Dredging

By Glen Choroszy and Tom Walters, *Dredging Committee, Lake Redstone Protection District*

The Lake Redstone Protection District (LRPD) is moving forward on the dredging project. LRPD hired Ayres Associates to survey the lake bottom in 2015. As a result they surveyed 29 bays and found that we have just over 100,000 cubic yards of sediment on top of the original lake bed in the shallow areas of those bays. Sediment samples were taken from several locations and analyzed for chemicals and composition to confirm that sediment was safe for disposal.

Two dredging methods to consider

Both hydraulic and mechanical dredging are viable options. Hydraulic dredging is the removal of the sediment by pumping a slurry of sediment and water to nearby land where the sediment accumulates. Mechanical dredging is removal of the sediment mechanically to a barge for drainage; the sediment is then trucked away. The final decision on which methods to use will depend upon several factors, such as cost,

logistics, and availability of land to dispose of the spoils.

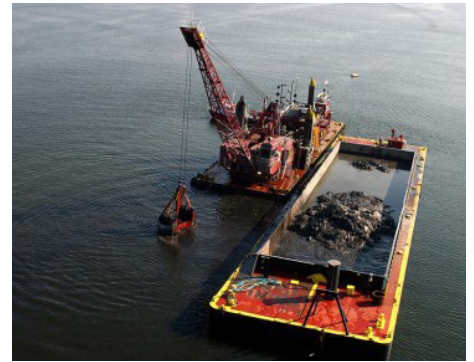
Another important consideration is to determine which areas of the lake can be dredged without disruption of critical habitat areas around the lake. The LRPD is working with DNR officials to determine the best ways to protect and/or restore critical habitat.

Concurrent spillway repairs

On a separate but related matter, Ayres Associates, hired by Sauk County, will conduct tests and determine the extent of repairs needed to the spillway. The scope of repairs could affect our dredging timeline, since the two projects will need coordination.

The bottom line is that dredging is a very complicated and expensive project with many variables. District residents are encouraged to attend the LRPD Annual Meeting in August for updates and to offer your opinions. ■

PHOTO: GLDD.COM



Mechanical dredges work by digging sediment from the bottom.

PHOTO: MIIDD.COM



Hydraulic dredges, act like a giant floating vacuum, removing sediment.

Join us for our Annual Meeting August 5, 2017

By Tom Walters, *LRPD Board Chair*

We not only hope you'll come to our annual meeting, but we encourage you to get involved. Two commissioner seats are open for election this year. If you are interested in running for one of these two positions, please contact any board member for more information. To become a candidate, send a short biography to the LRPD



board secretary at P.O. Box, 313, La Valle, WI or by email to ken.

keegstra@gmail.com. A meeting reminder and agenda will be mailed in mid July, which will include the proposed budget, and biographies of Board candidates.

"Take a Stake in Your Lake" is one of the themes of this year's Lake Fair on June 3.

Becoming a Board member gives

you the opportunity to do just that. Please consider candidacy.

Come for coffee. Stay for the donuts. And lake news.

There will be donuts and coffee at 8:00 a.m., with the annual meeting beginning at 8:30 a.m. at the LaValle Town Hall, 314 Highway 33/58.

We hope to see many of you at the Annual Meeting. ■

Clean Boats Clean Waters and You

By Bev Vaillancourt and Chuck Ecklund, CBCW volunteers

Last summer the Lake Redstone Protection District funded the Clean Boats Clean Waters (CBCW) program as part of its continuing effort to educate lake-goers on the negative effects of invasive species, and to help prevent additional invasive species from entering Lake Redstone.

The Wisconsin CBCW program is managed by staff at the University of Wisconsin-Stevens Point. Collectively, Gary Herritz and Alana Voss logged 213 hours interacting with 1,480 individuals and groups during the 2016 boating season at the three boat landings on Lake Redstone.

Why is this important?

Invasive species are aggressive and eventually use up food sources or alter environments required by native species to flourish. Invasive species are brought to a lake by individuals who are unaware that their boats are transporting an invasive species from another lake, or unknowingly plant an invasive on their lake property. Invasives are costly to control and alter sensitive ecosystems.

Very problematic invasives such as Zebra Mussels, found in a plethora of Wisconsin lakes and the Wisconsin River, and the Banded Mystery Snail, first found in Dutch Hollow Lake in 2011, are as close as the next contaminated boat entering Lake Redstone. Education is key to preventing additional invasives from compromising the Lake Redstone ecosystem. The Clean Boats Clean Waters program is, an effective way to share information about invasive species and educate the public on how to prevent their spread.

Clean Boats Clean Waters helps manage invasive species on Lake Redstone in the most efficient and cost effective ways possible. ■

LOVE YOUR LAKE

Help keep additional invasives from invading

- 1** Help support the Clean Boats Clean Waters program by stopping to say hello to the CBCW folks wearing blue vests at our boat launches. Let them know you appreciate their efforts.
- 2** Share the literature they are happy to give you with your friends and family.
- 3** Spread the word about the important measures you can take — listed in the right column.

INSPECT your boat, trailer, and equipment.

REMOVE any attached aquatic plants or animals (before launching, after loading, and before transporting on a public highway)

DRAIN all water from boats, motors and all equipment

NEVER MOVE live fish away from a waterbody.

DISPOSE of unwanted bait in the trash.

BUY minnows from a Wisconsin bait dealer

ONLY PLANT native species on your property (non-native species require a permit).

KNOW YOUR LAKE

Two invasive species in Lake Redstone

PHOTOS: ELIZABETH J. CZARAPATA



Eurasian water-milfoil, Myriophyllum spicatum

Eurasian Water-Milfoil

- First found here in 1989
- Often mistaken for coontail, a native species
- Form floating mats of vegetation
- Prevent light penetration for native aquatic plants
- Impedes water traffic

PHOTO: WISCONSIN DNR



Curly-leaf pondweed, Potamogeton crispus

Curly-Leaf Pondweed

- First found in 1989
- Drops to lake bottom by early July

Lake Redstone

**A Beautiful Lake in a
Progressive Community**

P.O. Box 313
La Valle, WI 53941
lakeredstonepd.org

To: FIRST AND FIRST LASTNAME
000 LAKE DR
LA VALLE, WI 54566

BOARD OF COMMISSIONERS

LAKE REDSTONE PROTECTION DISTRICT

Board Meetings

Monthly at 6 p.m.
on the second Tuesday
Town of La Valle Hall
324 Highway 33

Agendas are posted at:

- The La Valle Post Office
- The Town of La Valle Hall
- Hartje's Travel Center, Market & Hardware in La Valle

Find agendas, minutes,
newsletters and other
information at:

lakeredstonepd.org

*Protecting and rehabilitating the water quality of Lake Redstone
for its residents and the public.*

Chairman: Tom Walters

608-985-7030 or walterstom51@gmail.com

Vice Chairman: Tom Happ

608-985-8156 or thapp@mwt.net

Secretary: Ken Keegstra

608-985-8259 or ken.keegstra@gmail.com

Treasurer: Glen Choroszy

608-963-8213 or ChoroszyG@firstweber.com

Commissioner: Chuck Ecklund

608-985-8280 or cecklund@mwt.net

LaValle Town Representative: Ray Demaskie

608-985-8033 or raydemaskie@townoflavallo.us

Sauk County Representative: John Dietz

(608) 393-1641 or JDietz@co.sauk.wi.us

NAMEPLATE AND MASTHEAD PHOTOS: TOM WALTERS