Managing Aquatic Plants and Algae (continued) Page 8

from page 7...

The other huge piece of the puzzle of managing the algae and excessive plant growth is reducing the nutrients that come into the lake through the stream, and runoff from the urban landscape. Elsewhere in this newsletter we have discussed the new steps the LRMD is taking to reduce the nutrients entering the lake through the inlet creek, but it is not only large landscape projects that can make a difference. Landowners around the lake can reduce their use of fertilizers and clean up after their pets. Rain gardens and vegetated shoreline buffers intercept runoff before it can get into the lake while providing habitat for wildlife and beauty to the landscape. As the Lake District and landowners work on projects large and small, Lake Ripley will see increased water clarity and more reasonable plant growth. It won't happen overnight, but it will happen.

Stormwater runoff is heavy with sediment and nutrients. Phosphorus is the main nutrient that fuels algae and aquatic plant growth.

Ripples

Lake Ripley Management District

Vol. 25, No. 2 Summer 2018

Lake District Office

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www.lakeripley.org

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(608) 921-1340

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Treasurer
(608) 423-4603

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Secretary
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Andrew Sabai
(608) 423-4537

Weed Harvest Crew

Dick Langer
Ed Grunden
Bruce Crump
Richard Trailer

FROM THE HELM

Jimmy DeGidio examines aquatic plants with DNR staff.

The LRMD board of directors has always worked extremely hard to manage the budget and to be as fiscally responsible to the district tax payers as possible, and this year's proposed budget is no different. The proposed annual budget for 2019 is published in this newsletter, and you will find the total proposed operating budget to be slightly less than 2018. We can do more within the preserve and continue the cost share programs as in the past. We have purchased, with the assistance of many donations, 40- plus wetland acres from the DNR last year which the inlet stream runs through to better protect Lake Ripley. We are collecting critical data in the stream to identify the root cause of the pollutants entering the lake. As we are starting to create a long-term solution for what we are finding from the research and data being collected we will need to find additional funds to continue the work on Lake Ripley. We will be applying for two grants over the winter, which will allow us to engineer a plan to slow the rush of water entering the lake during rain events, to reduce the sediment and phosphorus coming into the lake. As more opportunities present themselves, the board will continue to be proactive in our approach to protect Lake Ripley. In future budgets we will continue to review the options to raise money to continue the great work that needs to be done.

Over the last several years the district has been collecting data to identify the critical habitat areas around the lake. That work is now almost complete, and we are working with the DNR to complete the process. Once completed we will present the findings to the district, hopefully sometime this year or early 2019. Having this completed will allow us to apply for grants to help with the implementation of the work needed to be done in the preserve to protect the lake. As we get more active in creating solutions to better the health of the lake we will continue to find additional sources of funding.

We are in the process of updating the 10-year Lake Ripley Improvement Plan. In this plan we include everything that affects the lake: lake ecology, water quality, aquatic plants, water levels, the inlet stream, Lake District Preserve etc. You can view the current plan on the web site. We will be sending out surveys to the district to get your input and interests of Lake Ripley and what you feel are the most important factors that affect you. The lake is already a great asset to the community, but we must continue these efforts to protect and restore the lake, so we can continue to enjoy this great resource for many years to come. Please continue to self-monitor your actions on and around the lake, the Lake Ripley Board of Commissioners appreciate your support.

Jimmy DeGidio

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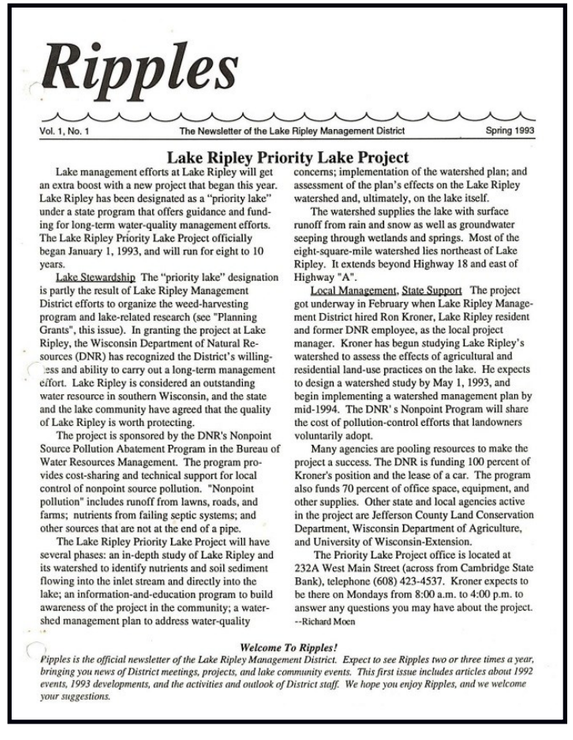
25 years of the *Ripples* Newsletter!

Way back in 1993 Vol 1 No. 1 of the Ripples newsletter was printed and distributed to residents and lake users. The front page of the news letter explained the Lake Ripley Priority Lake Project which officially began January 1st of that year and was to run for 10 years. Ron Kroner was hired as the project coordinator, in effect the first lake manager for the LRMD. Other articles appearing in the newsletter were: Planning Grants, Lake Community Survey, Tips for Safe Boating, From the Helm, Weed Harvesting, and the Lake Ripley Carp-a-thon. Editorial staff for that first issue were Richard Moen – Editor, Celeste Moen – Layout and Production and John Molinaro - LRMD Board Liaison, these people, and others laid the foundation of the newsletter.



Ripples

Vol. 1, No. 1 — The Newsletter of the Lake Ripley Management District — Spring 1993

Lake Ripley Priority Lake Project

Lake management efforts at Lake Ripley will get an extra boost with a new project that began this year. Lake Ripley has been designated as a "priority lake" under a state program that offers guidance and funding for long-term water-quality management efforts. The Lake Ripley Priority Lake Project officially began January 1, 1993, and will run for eight to 10 years.

Lake Stewardship The "priority lake" designation is partly the result of Lake Ripley Management District efforts to organize the weed-harvesting program and lake-related research (see "Planning Grants", this issue). In granting the project at Lake Ripley, the Wisconsin Department of Natural Resources (DNR) has recognized the District's willingness and ability to carry out a long-term management effort. Lake Ripley is considered an outstanding water resource in southern Wisconsin, and the state and the lake community have agreed that the quality of Lake Ripley is worth protecting.

The project is sponsored by the DNR's Nonpoint Source Pollution Abatement Program in the Bureau of Water Resources Management. The program provides cost-sharing and technical support for local control of nonpoint source pollution. "Nonpoint pollution" includes runoff from lawns, roads, and farms; nutrients from failing septic systems; and other sources that are not at the end of a pipe.

The Lake Ripley Priority Lake Project will have several phases: an in-depth study of Lake Ripley and its watershed to identify nutrients and soil sediment flowing into the inlet stream and directly into the lake; an information-and-education program to build awareness of the project in the community; a watershed management plan to address water-quality concerns; implementation of the watershed plan; and assessment of the plan's effects on the Lake Ripley watershed and, ultimately, on the lake itself.

The watershed supplies the lake with surface runoff from rain and snow as well as groundwater seeping through wetlands and springs. Most of the eight-square-mile watershed lies northeast of Lake Ripley. It extends beyond Highway 18 and east of Highway "A".

Local Management, State Support The project got underway in February when Lake Ripley Management District hired Ron Kroner, Lake Ripley resident and former DNR employee, as the local project manager. Kroner has begun studying Lake Ripley's watershed to assess the effects of agricultural and residential land-use practices on the lake. He expects to design a watershed study by May 1, 1993, and begin implementing a watershed management plan by mid-1994. The DNR' s Nonpoint Program will share the cost of pollution-control efforts that landowners voluntarily adopt.

Many agencies are pooling resources to make the project a success. The DNR is funding 100 percent of Kroner's position and the lease of a car. The program also funds 70 percent of office space, equipment, and other supplies. Other state and local agencies active in the project are Jefferson County Land Conservation Department, Wisconsin Department of Agriculture, and University of Wisconsin-Extension.

The Priority Lake Project office is located at 232A West Main Street (across from Cambridge State Bank), telephone (608) 423-4537. Kroner expects to be there on Mondays from 8:00 a.m. to 4:00 p.m. to answer any questions you may have about the project.

--Richard Moen

Welcome To Ripples!

Ripples is the official newsletter of the Lake Ripley Management District. Expect to see Ripples two or three times a year, bringing you news of District meetings, projects, and lake community events. This first issue includes articles about 1992 events, 1993 developments, and the activities and outlook of District staff. We hope you enjoy Ripples, and we welcome your suggestions.

Starting with the first edition, the Ripples has been reporting on the Lake Ripley Management District's many projects, events on the lake and has educated the lake users about lake ecology, use and issues. The Ripples remains the District's most important outreach tool. As the new Lake Manager, I hope that I can continue the tradition of delivering news and information to the people who love Lake Ripley. If you think of a subject that should be in the Ripples, please contact me.

Aquatic Plant Species

Sago Pondweed (*Stuckenia pectinate*) is a common native aquatic plant found in Lake Ripley. Its many narrow leaves provide refuge for young gamefish, and its seeds and small tubers are some excellent food for waterfowl. Sago Pondweed is so good for wildlife it is one of the few species widely planted in bodies of water.

Sago Pondweed

Managing Aquatic Plants and Algae (continued)

from page 6...

This summer the lake experienced some bad algae blooms by Lake Ripley standards, but a brief look to the Yahara lakes to our west shows that we could have had it much worse. The algal bloom on Ripley was nowhere near as bad and was delayed by a few weeks because of the plants in Milwaukee Bay and elsewhere on the lake. The same nutrients that caused excessive growth algae also contributed to an increased density of aquatic plants, that established early on the lake this year, so there is a trade off when managing the lake's plant life.

Thick aquatic plant growth near the marina makes for clear water, and helps the algae bloom on July 19th from getting as bad as the blooms on the Madison lakes this year.

Balancing Act

The Lake District must do its best to balance the needs of the sometimes conflicting recreational interests and the environment. The most visual way we manage excessive aquatic plant growth is through harvesting the plants. Our plant harvester cuts at a depth to allow boats to pass over without plants getting stuck in their props. That depth isn't always possible in shallow water, because we have to avoid damaging the harvester's blades, and disturbing the bottom, which would promote the growth of invasive species. The District's harvest program operates under a permit with the Wisconsin Department of Natural Resources. This permit determines the areas we are allowed to harvest for navigation, or to control invasive plants like Eurasian water-milfoil. Because of the harvester's large size and slow steering we can't cut close to piers, but we can cut a lane between groups of piers to open water. The permit only allows us to cut in seven areas of the lake. Most of the aquatic plants are off limits to us. If we did cut the entire lake like a lawn, it would greatly increase the number, and severity of algae blooms, and decrease the health of the fishery.

The Lake District is working hard to make efficient use of our harvesting program. The harvester has been fitted with a GPS unit and we will be more closely monitoring the results of the harvest program. Although our harvest permit does not expire for several years we will be applying for a new one this winter to provide us more flexibility and better fit the needs of different lake users. We believe we can conduct the harvest program in a way that allows for better navigation, while balancing the needs of water quality and perhaps even improve fish habitat.

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... continued page 8

Managing Aquatic Plants and Algae in Lake Ripley

When lake users were last surveyed in 2009 for the current management plan their number one and two concerns were water clarity and algae, also high on the list was aquatic plants (weeds) and the recreational impairment they can cause. Since these concerns rank so highly the Lake District spends much of its time and resources either managing these three things directly or indirectly.

Algae bloom near the outlet July 19, 2018

The Problems

Each year is a little different than the next, but generally there is at least a short period in the summer where algae significantly clouds the water. Phytoplankton, algae that is suspended or floating in the water, can reduce water clarity and can sometimes smell bad. Although algae are one of the bases of the food chain that eventually feeds fish and then us, in high quantities it is not only esthetically bad, but it is bad for the environment too.
are the main sources. These nutrients combined with sun, heat and lack of wind can start an algal bloom, or within hours turn a small bloom into a major one.

The troublesome algae of summer are the blue-green algae, also known as cyanobacteria. These are tiny photosynthesizing organisms that are present year-round in every lake, river and even trout streams. Under certain conditions they can grow to levels that impair our enjoyment of the lake. Algae blooms are fueled by excessive nutrients, largely phosphorus, that come off of the landscape. Fertilizer and animal waste from farm fields, and eroded soils

Aquatic plants in large quantities can have similar esthetic problems as the algae, but they also present a physical impairment to boaters and swimmers. Together with algae they form the base of the lake's food chain, but they also provide water quality benefits and crucial habitat for fish and food for wildlife. Aquatic plants protect water quality by pulling nutrients from the water that would otherwise fuel algal growth. Their roots and physical structure work to keep sediment and the nutrients stored in them in place, keeping the water clear. They also hide tiny creatures that feed on algae.

Water quality Dynamics of Lake Ripley

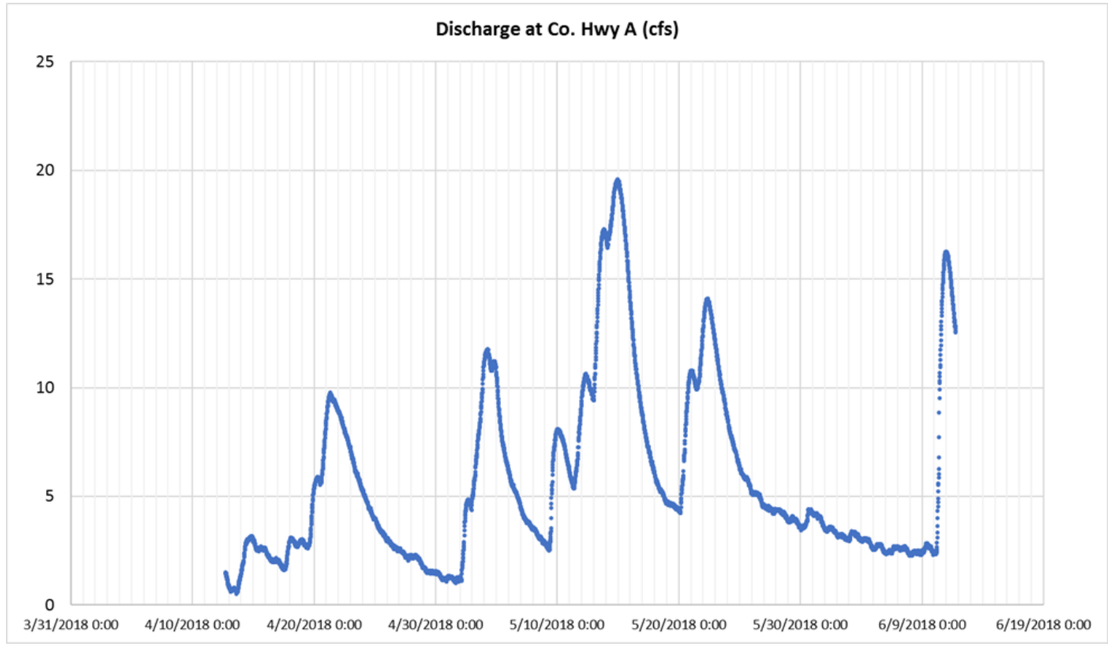
Even before European-style settlement and the nutrient runoff from farms Lake Ripley would have had aquatic plants and algae, otherwise it would have had no fish. As the prairies were tilled, forests cleared, and wetlands drained more nutrients and sediments washed into the lake, increasing the growth of algae and aquatic plants. In the last 50 years or so there have been a number of improvements in agricultural and construction practices, but nutrient filled runoff is still excessive and makes its way to the lake largely by way of the creek. There it spreads out into Milwaukee Bay where it is met by an underwater "forest" of plants. These plants grow densely, but they are the first defense against algae blooms elsewhere in the lake. The plants pull nutrients like phosphorus out of the water. As the water passes from the creek to the center of the lake many of the nutrients are removed and sediment drops out of the water column because of these plants. This filter has probably been at work for centuries, but in the last 150 years it has become a crucial component making Lake Ripley as clean as it is.

… Continued page 7

Stream Monitoring

Stream Monitoring

Monitoring phosphorus, and water quality parameters on the inlet stream continues. The project, outlined in the last issue of the *Ripples*, aims to gain a firm understanding of the water quality of the stream in order to begin efforts to clean it up, and therefore Lake Ripley. This project and some of the data that has been collected so far will be presented at the annual meeting.
One of the interesting aspects of the creek we are looking at is stream discharge. Discharge is so important to this study because it allows us to calculate the total amount of phosphorus moving through the creek and into the lake. Stream discharge is the volume of water passing through the creek at a given point, it is usually reported in cubic feet per second in the United States.
Stream cross-sectional area, and the velocity of the water are of secondary importance by themselves but are needed to calculate discharge.
The tricky part about calculating discharge is to get the stream velocity. This can be done by noting the time it takes a float to travel a predetermined distance. The float method has several drawbacks, so the District opted to purchase



a flow meter, which solves those problems and obtains more accurate results.

What we found so far is that the discharge of the inlet creek is highly variable. Snow melts, and especially rain events cause a rapid rise in stream discharge which then subsides within several days.

Using a staff gauge to measure steam levels at Ripley Road

Early results of our monitoring show us that these events bring in most of the nutrients into the lake. The results are preliminary, but we will be able to use these data to calculate the volume of water we need to clean, and other factors that will go into having a cleaner creek and lake with fewer algae blooms.

Annual meeting August 18th

In addition to the normal annual business of the lake district, such as approval of the budget and the voting for board members, the Lake Manager will be presenting information about the stream monitoring/phosphorus reduction project. Also, we will be having a vote on naming the inlet creek. The main source of water and pollution into Lake Ripley has no official name. Something so important to our lake should have a name, even if we only use it locally.

Georgia Gomez-Ibanez is up for re-election for the Lake District Board of Commissioners. Due to a clerical error at the District she will have to be a write-in candidate. Taxpayers in the District can also be write-in candidates at the annual meeting.

New Boat

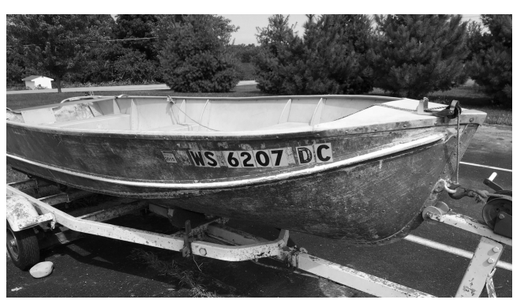
The Lake District has a new boat thanks to Dave DeGidio. Dave donated his 14-foot v-haul aluminum boat and trailer. The District has approved the purchase of a motor. This will allow the lake manager to more rapidly respond to needs on the lake and better monitor the aquatic plant harvest program and water quality. The boat will share the new GPS/sonar unit with the harvester, and it will allow us to map the lake bottom and aquatic vegetation. With this data we can better understand the changes in the aquatic plant community and physical habitats of the lake. This fall when the monitoring season winds down the boat will get some new paint and the Lake Ripley Management logo on the sides. Many thanks to Mr. DeGidio for the donation of this new tool for the management of Lake Ripley!

Budget Hearing
August 18, 2018
9 a.m. at Oakland Town Hall

Annual Meeting

Immediately following budget hearing

I. Call to Order
II. Approval of 2017 Annual Meeting Minutes
III. Nomination of Board Candidate-one position
IV. Chairman's report
V. Treasurer's report
VI. Discussion and possible action on other Business that can be legally considered by the District
VII. Approval of budget and tax levy
VIII. Tabulation of vote and election of Board Members
IX. Presentation on Phosphorus Reduction in the inlet creek
X Adjournment



New LRMD Boat

LAKE RIPLEY MANAGEMENT DISTRICT
2019 PROPOSED BUDGET

	2017 ACTUAL	2018 BUDGET	2018 JAN-JUNE ACTUAL	2018 JAN-DEC ESTIMATED	2019 BUDGET
Revenues:					
Real Estate Tax Levy	$ 120,055	$ 122,916	$ 87,827	$ 122,916	$ 121,471
Grants	2,025		1,381	1,381	
Interest Income	568		283	566	
Carryover		18,768			22,891
Restricted Funds, Net	<2,140>		<1,381>	<1,502>	
Authorized use of Unrestricted Funds	7,700	10,000		10,000	6,000
Other	1,918		25	25	
Total Revenues	130,126	151,684	88,135	133,386	150,362
Projects:					
Various	503	1,000	448	1,000	1,000
Operations:					
Landowner Cost Sharing	600	20,000	0	0	10,000
Weed Harvesting	8,362	10,450	808	9,259	10,436
Preserve Restoration/Management	15,581	15,250	4,327	15,250	15,250
Staff Payroll/ Fringes/Taxes	53,794	54,669	32,266	60,928	62,976
Insurance	7,011	8,100	1,062	8,100	8,300
Legal & Accounting	9,998	5,000	150	5,600	2,800
Dues & Conferences	1,841	2,865	0	1,165	2,900
Office & Community Outreach	10,805	8,650	3,101	8,250	8,500
Commissioner Stipends	4,950	4,900	2,700	5,400	5,400
Rent	1,800	1,800	1,050	1,800	1,800
Capital Reserve, Land/Equip Acquisition	15,000	15,000	5,338	15,000	15,000
Miscellaneous	444	4,000	0	4,000	6,000
Total Disbursements	130,689	151,684	51,250	135,752	150,362
Balance	$ <563>	$ 0	$ 36,885	$ <2,366>	$ 0

THE LRMD HAS NO INDEBTEDNESS

Restricted Funds:	LAKE RIPLEY PROTECTION FUND
Estimated Balance (12/31/17)	$ 26,566
Additional 2017 Activity	
Increase	37,048
Decrease	<41,219>
Final Balance (12/31/17)	22,395
2018 Estimated Activity	
Interest Earned	121
Increase	9,762
Decrease	<4,605>
Estimated Balance (12/31/18)	$ 27,673