June 2022

BEAVER DAM LAKE
MANAGEMENT DISTRICT

Preserving and Protecting

www.beaverdamlake.org

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Letter from the President

It seems like yesterday that I was writing about the 30th anniversary of the BDLMD and already another year has passed but not without many challenges and accomplishments.

The first phase of the SE storm water pond construction was substantially completed in early November with the first of 3 ponds being constructed and the storm water catch basins along the City Parking lot being cut off from Library Lake and rerouted to the new pond. The weather cooperated as the hydro seeding of the area was completed the day before we received our first snow fall of the season. During an August pre-grant application meeting with the WDNR, we discussed the need for the Library Lake – Lake Management Plan to be updated before the Nov. 1. 2021 grant submittal deadline. To meet this requirement, a committee was formed to review and update the Plan. However, about mid-October, I was informed that the updated Plan needed to be completed and accepted by the WDNR by Sept. 1, 2021 rather than by the Nov. 1 2021 grant submittal date. Therefore the Lake Protection grant application that would have helped fund the Phase Two of the SE Storm water pond was cancelled. This will delay the Phase 2 storm water pond construction until 2023. However, three different grant applications not requiring an updated Library Lake Management Plan were submitted to help fund various Lake District projects. The BDLMD was successful in being awarded all three grants totaling $85,000. These grants will offset the cost to complete the previously mentioned Library Lake Management plan and the City's Storm Water Management plan, the planning costs for the SE pond Phase 2 and restoration costs for the area associated with the SE storm Water pond. All three grants were ranked number 1 in their respective categories by the WDNR scoring process.

After a lot of discussion centered on post treatment sampling of treatment areas in Cemetery Bay, this year's Eurasian Water Milfoil – EWM plan was submitted and approved by the WDNR. The treatment was planned to take place approximately 3 to 4 weeks after ice out. However, with the cooler than normal temperatures, the

EWM growth was slower than expected. The application using ProcellaCOR is currently scheduled for mid-June. ProcellaCOR is a herbicide that is approved for spot use on EWM and has been proven effective at dosages in the parts/billion (ppb) vs other herbicide application rates requiring parts/million (ppm). The treatment in Cemetery Bay was cancelled when it became apparent that getting equipment to and from the treatment locations was blocked by the highway 48 bridge project. We will do a plant survey in Cemetery Bay this Oct. to determine the level of treatment in 2023.

Over the winter the BDLMD, along with Emmons and Oliver Resources, Inc. (EOR), worked persistently to obtain a dredging permit to help in the continued restoration of Library Lake. The WDNR dredging permit was received to remove the cattails and sediment along the south east side of Library Lake. With the permit now in hand, plans are underway to create a bid package for the project. A "Fund the Library Lake Restoration" committee will be announcing goals to raise the funds necessary to cover the restoration costs. If sufficient funds can be raised by the end of 2022, the removal of the cattails and sediment will occur in late Jan. into Feb. 2023 otherwise it will be delayed to 2024.

WDOT engineers continue engineering the design for the replacement of the Highway 63 box culvert going between the east and west sections of the lake. The current design envisions a "bridge-like" structure. The design will allow for continuous traffic flow during the construction, similar to the setup on the current highway 48 project. The current schedule is for a public information meeting to be held during the 3rd quarter of 2022. The construction of the replacement structure is currently scheduled for 2025.

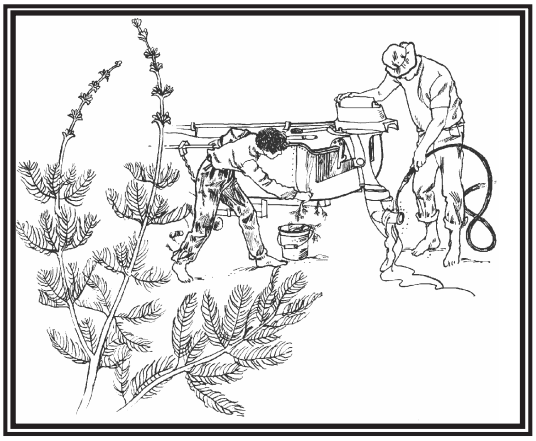
On Sept.4, 2021, I attended the Sand Lake Annual meeting to observe the discussion and approval of an ordinance addressing boat created waves and watercraft use on Sand Lake. Although wake boats that are designed to produce large wakes/waves were the focal point of the discussion, it was also pointed out that other watercraft can create equally high obtrusive waves. The ordinance was passed by a 4 in favor to 1 opposed margin. It created hours when boats can make waves greater than 18 inches and encourages operators to use the larger areas of the lakes to minimize shoreline erosion and other wave-created issues. The BDLMD commissioners have often discussed the watercraft created wave issue on Beaver Dam Lake. The consensus is that we should continue to encourage responsible operation of all water craft to minimize wave effect on the shoreline and occupants in other water craft but not pursue creating regulations and restrictions.

I want to thank the commissioners for their time and support. Also, I want to recognize Nancy Bentz for her 28 years of taking and submitting the lake water samples as part of the Wisconsin Statewide Lake Monitoring program. In addition, Nancy has edited the BDLMD Annual letter for at least the past 15 years, has served as a BDLMD commissioner and was a Director on the Wisconsin Lakes Association.

The continued relationship with Mayors Skinner and Shoemaker, the City Hall staff, the public works and utility employees is valued and appreciated. I want to thank the many volunteers who helped throughout the year on projects such as removing cattails from the Library Lake channel and removing beaver-created obstructions from the west channel off Rabbit Bay and under the Grove St bridge. The volunteers that help place and remove buoys in the lake and were involved with moving and returning the small stage at the City parking area (required for construction of phase 1 storm water pond project, are owed a much appreciated "Thank You" Without the volunteers helping throughout the year many BDLMD projects and activities would not be done.

The past year was very productive and rewarding and I look forward to the continued success of the BDLMD . Don't forget this year's Annual Meeting will be held at the Cumberland Middle School on Sat. July 9, 2022 at 9:30 AM. Hope to see you there!

Tom Schroeder, President



Help Prevent The Spread Of Aquatic Invasives.
Clean It Off! It's the Law!!!

Lake Classifications – What does spring- fed or seepage mean?

The only way to classify lakes is by the way the water enters and/or leaves the lake. Depending on who is doing the defining, generally there are 6 ways of classifying, as follows.

Drainage Lakes: This is the most common lake we have. The lake gets its water which is delivered to the lake by creeks, brooks and riverbeds. The lake will have an inlet (sometimes more than one) and an outlet. The water quality in drainage lakes with a high basin can be very clean and clear. As where, as contrasted to a shallow river drainage lake that is more likely to be dirty and murky. It is safe to say that deep drainage lakes are going to have better water quality then shallow ones. Lakes in our area that are Drainage Lakes are Rice, Bear, Upper & Lower Turtle, Chetek, Prairie, Red Cedar and Balsam Lake. Beaver Dam Lake is considered a drainage lake, but it also has many springs fed by ground water sources both close by and from afar. One danger on lakes that have springs is the variability of ice thickness during winter months. There can be a foot of ice on the lake and still have open waters over any springs or outlets! This is very common to see on Beaver Dam Lake.

Seepage Lakes: This is the second most common type of lake in northern Wisconsin. These lakes have no inlets or outlets. This type of lake have inconsistent water levels, and during major droughts may suffer with low water levels. Shell Lake in our area is listed as a Seepage Lake as is Silver Lake.

Spring- fed lakes: The least common type of lake in northern Wisconsin. They generally will have cleaner water and always have on outlet, but no inlet. These lakes are not as susceptible to low water levels during dry years and water will generally be colder. Many streams originate from Spring-fed lakes.

Drained Lakes: Like Spring lakes, drained lakes have an outlet but no surface inlet. A drained lake gets its water from rainfall, snow, and runoff in addition to spring supplied groundwater.

Perched Lakes: Perched lakes are truly landlocked. They have no inlet or outlet and have no contribution from groundwater. . They normally are found in high elevations above the water table with a hard bottom that hold in the water. Water levels in perched lakes can drop or come close to drying up during extended drought.

Reservoirs: Reservoirs have an inlet and outlet. They are created by the construction of dams. Lake Mead and Lake Powell are examples of large deep water reservoirs. The water quality can vary greatly depending on the soil makeup in the drainage area of the reservoir, the amount of annual precipitation, the size/acreage and depth of the reservoir, the flow in and out and water retention time.

Interesting data; 97.5 % of the world's water is saltwater. Only 2.5 % is freshwater and of that 0.3 % is contained in lakes and rivers and approximately 30% is ground water (aquifer). . Approximately 69 % is locked in glaciers in the form of ice and snow.

References;

John Epple -BeaverEpple –Beaver Dam lake homeowner and past BDLMD Commissioner
Ted J Rulseh –*A Lakeside Companion,* published by University of WI. Press, 2018
Wisconsin DNR lake web site.

Reminder

Also, a reminder to all boaters, please observe the "No Wake" zone areas, the speed restrictions close to shore, and required distances from other boats while under power. We would ask that you observe "slow, no wake" close to shore, especially during the high water conditions.

Have a safe, and enjoyable boating season.

Beaver Dam Lake
Management District
P.O. Box 232
Cumberland, WI 54829

Or Current Resident

Upcoming Events:

July 9th, 2022 9:30 AM
Annual Meeting and Budget Hearing of
Beaver Dam Lake Management District
See agenda inside.
CUMBERLAND CITY HALL

Beaver Dam Lake Management District 31st Annual Meeting

Saturday July 9, 2022
Cumberland Middle School
Cumberland, Wisconsin 54829
Doors open at 9:00 AM, Meeting begins at 9:30 AM

1. Welcome and Introductions –Tom Schroeder
2. Approval of 2021 Annual Meeting Minutes –Tom Schroeder
3. Annual Treasurer' Report –Dr. Alan Carlson
4. Audit Report –submitted by Mary Biros Rogers, presented by Dr. Carlson
5. Present Budget for 2022-2023, discussion, approval –Dr. Alan Carlson
6. Election of Commissioners –Tom Schroeder
7. Jay Michels –EOR, update on SE Storm Water Pond
8. Review of District Activities –Tom Schroeder
9. Other items as needed
10. Adjourn

Proposed Budget 2022-2023

Revenues		**Expenses**	
Tax Rev.	$210,723	Mailings, Notices, Mtgs.	$ 3,000
Grants Remaining		Grant Matches	
LPT 71421 Lib Lk SE Const.-1	175,000	LPT-71421 Lib Lk SE Construction	
LPL 183022 Lib Lk Mgmt/Storm	6,198	LPL 183022 Lib Lk Mgmt/Storm	23,550
LPL 181022 Lib Lk SE Plan 2	10,000	LPL 181022 Lib Lk SE Plan 2	14,500
LPL 73422 Lib Lk Prot/Reveg	41,062	LPL 73422 Lib Lk Prot/Reveg	40,875
Total Revenues	**$442,983**	Milfoil/CLP Control with Plant Surveys	150,000
		Aquatic Plant Mgmt. Plan-ongoing	5,000
		Insurance	6,000
		Boat Landing Monitors	3,000
		Fireworks	1,000
Water Safety		650	
		Website Updates	800
		Shoreline Restoration Site	2,500
		Highway 63 Bridge Improvement	30,000
		Feasibility Study	6,000
		Storm water Pond Maintenance	15,000
		Lb Lk SE Const.-2	70,000
		Replace Cash Reserves	70,389
		Total Expenses	**$442,983**

Tom Schroeder –President; Alan Carlson MD –Treasurer; Jon Bavier –Secretary; Don Phernetton, Mike Werner –Commissioners; Doris Laursen–City of Cumberland Rep., Craig Turcott - Barron County Rep.

Approximately 15 minutes following the adjournment of the Annual Meeting the BDLMD will hold a brief Board meeting with the following agenda.

1. Approve minutes from June 13, 2022 meeting.
2. Treasurer' Report –Dr. Alan Carlson
3. Election of officers
4. Set next meeting date
5. Adjourn

Insert

2021 Water Quality

Beaver Dam Lake - NE Of Eagle Pt At Deepest Section was sampled **7** different days during the 2021 season. Parameters sampled included:

- water clarity
- temperature
- dissolved oxygen
- total phosphorus
- chlorophyll

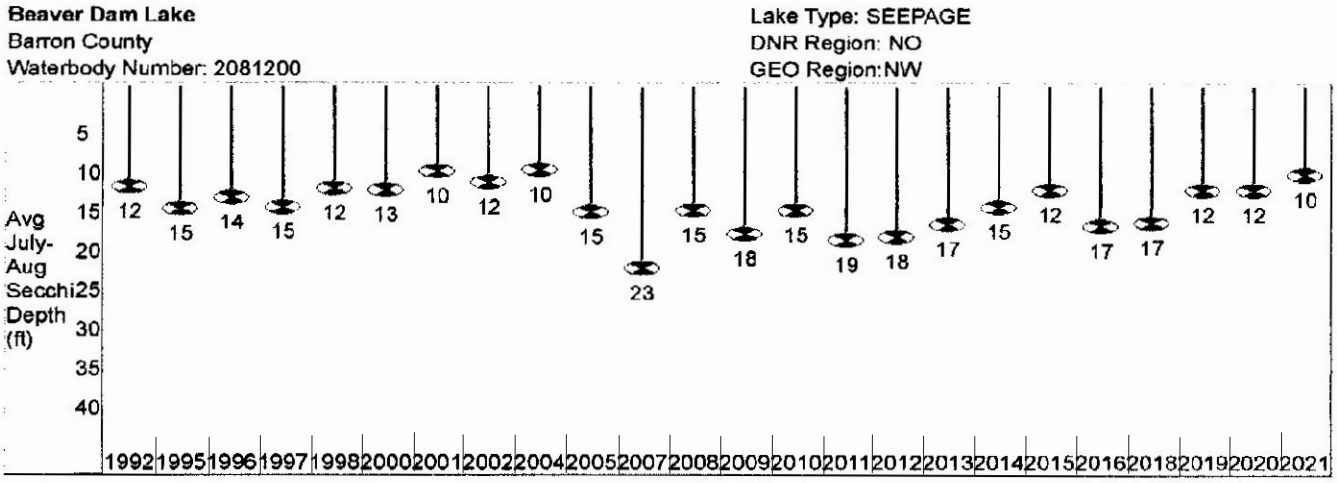
Chemistry data was collected on Beaver Dam Lake - NE Of Eagle Pt At Deepest Section. The average summer **Chlorophyll was 2.7 µg/l** (compared to a Northwest Georegion summer average of 13.2 µg/l). The summer Total **Phosphorus average was 12.6 µg/l.** Lakes that have more than 20 µg/l and impoundments that have more than 30 µg/l of total phosphorus may experience noticable algae blooms.

The average summer (July-Aug) secchi disk reading for Beaver Dam Lake - NE Of Eagle Pt At Deepest Section (Barron County, WBIC: 2081200) was 10.5 feet. The average for the Northwest Georegion was 8.9 feet. Typically the summer (July-Aug) water was reported as **clear** and **blue**.

Ref. https://dnr.wi.gov/lakes/waterquality

Secchi Readings for the last 30 years

Wisconsin Department of Natural Resources



Past secchi averages in feet (July and August only).

Editors Note:
Although I have throughly enjoyed doing the water quality testing on our lake for the last 28 years, I feel it's time to pass the Secchi disk on to someone else. If you're interested in doing this interesting job, please contact Tom Schroeder. If you have questions about the testing procedure don't hesitate to contact me at 715-822-4783.

Nancy Bentz