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**Letter from the President**

Reflecting on the past year I continue to be encouraged by progress that was made on major Lake District projects, the amazing results of last year's treatment for Eurasian Water Milfoil, and the never ending support by the Board Members.

With the retirement of Nancy Bentz from the Board at the end of her term last July and after many attempts to fill her vacant commissioners' position, John Epple accepted the nomination and was appointed to fill the vacant position at the Feb. 2016 Board meeting. John and his wife Kathy recently moved to Cumberland and live toward the northern end of the lake off Highway H. John recently retired after a 35 year career in the airline industry. He spent many years with Northwest and Delta airlines and most recently with American/US Air as line supervisor of aircraft maintenance.

After receiving two Planning Grants in Feb. 2015, Edmond Oliver Resources –EOR has been working on developing plans for the Moser Field and the SW Library Lake storm water "ponds". In May 2016, Mayor Bert Skinner, Keith Hardie – City of Cumberland Director of Public Works, Jay Michels along with Derek Lash from EOR and I met with 3M and the Cumberland Hospital representatives. Derek and Jay presented the current draft plan for the respective storm water projects for each location that would require 3M and the Hospitals support. The Moser Field Storm water facility could treat much of the storm water from the north part of Cumberland. The SW Library Lake facility/pond would treat the storm water that currently flows down the Hyw 63/48 hill from the west into Library Lake and redirect it to a pond facility along 5th Ave. on property owned by the hospital. Once plans are finalized, grants will be applied for that will cover much of the costs for construction of these projects.

On Feb. 1, 2016 the BDLMD applied for a Wisconsin Lake Protection Grant for the construction of the NE Library Lake Storm water pond that will be located west of the parking lot behind Nezzy's. In mid-April the BDLMD was notified that a grant in the amount of \$182,108.12 had been approved with a 25% match requirement from the BDLMD. Bids for the work will be let by mid-summer with the construction of the facility and pond to begin in Sept. following Rutabaga Festival. A previous Planning grant for developing plans for the NE storm

water pond and Acquisition Grants for obtaining property easements for the location paved the way for the eventual construction of the project. Developing the NE Storm water Pond has required cooperation from all the residents along the south side of Grove Street with resolving their property lines, the owners of the property granting easements for the project, the WDNR with their continued support of grants, Jay Michels - EOR for his tireless support, Cheryl Clemens - Harmony Environmental who writes and submits the detailed Grant Applications and the City of Cumberland administration. The project should be a real enhancement to the appearance of the NE corner on Library Lake.

During late July 2015, the issue of Japanese Knotweed was brought to the Lake Districts attention. This invasive plant was seen growing on the Lake Districts' property at the end of Hines Lakeview Drive. Japanese Knotweed like many other invasive species was brought to the USA as a plant to be used for hedges, borders and other landscaping applications. The stem structure looks like bamboo with large leaves and the fall flower is very fragrant and is attractive to bees. The plant however is very aggressive in spreading via its root structure. The roots can penetrate through concrete foundations and into basements. It can grow under roads and penetrate through cracks in black top and concrete. If it gets to the edge of a lake, river or stream the plant can multiply and grow so thick that is all but impossible to get through. In Sept. BDLMD Commissioner John Thon and I removed a pickup truck of the Knotweed from the Lake District's property and adjacent property across the road. Then in Oct. the remaining shoots and re-growing leaves were treated with an approved herbicide. John Thon is heading the effort to locate and erratic Japanese Knotweed in other locations with the Lake District boundaries. This will require residents to help locate and notify the City of Cumberland or the Lake District of locations where Japanese Knotweed is growing.

In August 2016, I was contacted by the residents along 3rd Ave. about dredging the east channel off of Rabbit Bay. Some of the channel had been dredged in 2014, and they were interested in having the channel dredged along their shoreline. Unfortunately, the permit that was used for the 2014 dredging did not include their residents. Rather than each property owner applying for separate dredging permits, the Lake District with the agreement of the WDNR applied for and received a dredging permit to restore the channel to a navigable depth. In addition to the residents funding the permitting and dredging cost, other sources of funding are being pursued to offset the impact of the dredging on the residents. Once the funding is secured the dredging will be done in Feb. or March of 2017 per the permit requirements.

At the suggestion of the Alex Smith – WDNR

Spoooner office, I accepted being nominated for a “Crew Member” position at the 11th Wisconsin Lake Leaders Institute. The Institute operates under the guidance of the Wisconsin Lake Partnership composed of the WDNR, the Wisconsin Lakes, and the Univ. of Wisconsin–Extension and is administered at the College of Natural Resources, University of Wisconsin-Stevens Point. My application was accepted and as a member of Crew 11, I attended the first of three - 2 day sessions on May 19th and 20th. Future sessions are in Sept. and Oct. 2016. The course material covers managing water resources (aquatic ecology and watershed management), leadership techniques, lake organizations and politics involved with and affecting lake management. Networking with others representing lakes from throughout the State of Wisconsin, as well as WDNR and UW staff has already been beneficial to me. I look forward to sharing my experience in future newsletters and/or articles.

If 2015/2016 fiscal year was busy, 2016/2017 is looks to be even more challenging and hectic. With the continued support of Lake District members, City of Cumberland Administration, the WDNR, Barron County Representatives, contractors EOR, Barr Engineering, Lake Restoration, Endangered Resource Services, and others, I have no doubt that Beaver Dam Lake will continue to be the beautiful gem that we all enjoy and treasure.

Don't forget to visit our revamped website at [www.beaverdamlake.org](http://www.beaverdamlake.org) I hope to see you at the July 9th Annual Meeting.

*Tom Schroeder – President BDLMD*

### **Water Quality Monitoring**

Volunteers around the state measure water clarity, using the Secchi Disk method, as an indicator of water quality. Volunteers also collect chemistry, temperature, and dissolved oxygen data. These measurements are recorded on the DNR website for all the lakes in the state that are currently being monitored. You can go to

<http://dnr.wi.gov/lakes/clmn/> to see the data.

The following is the report for Beaver Dam Lake - “A location NE Of Eagle Pt At Deepest Section was sampled 6 different days during the 2015 season. Parameters sampled included:

water clarity - temperature - dissolved oxygen  
total phosphorus - chlorophyll

The average summer (July-Aug) secchi disk reading was 12.5 feet. The average for the Northwest Georegion was 8.5 feet.

The average summer Chlorophyll was 1.9 µg/l (compared to a Northwest Georegion summer average of 19.1 µg/l).

The summer Total Phosphorus average was 12.5 µg/l. Lakes that have more than 20 µg/l and impoundments that have more than 30 µg/l of total phosphorus may experience noticeable algae blooms.

## 2016 Eurasian Water Milfoil (EWM) and Curly Leaf Pond Weed (CLP) Treatment

As background for understanding the 2016 treatment plan it is necessary to review the 2015 treatment results. Due to the late “ice out” on Beaver Dam Lake in 2015 the treatment for EWM was completed the week after Memorial Day. A follow-up Aquatic Plant Survey that is required as part of the treatment permit was completed in mid-July. The results showed that the EWM had been all but eradicated from all the lake sampling locations that were included in the treated 2015 treatment plan.

Cemetery Bay and Library Lake were not treated in 2015 as only a few small areas of EWM remained after the 2014 treatment. The WDNR recommended and the BDLMD agreed to just monitor the EWM in these two small parts of Beaver Dam Lake to see what expansion of EWM would occur. By the July 2015 survey the EWM had expanded to several other locations in Cemetery Bay and Library Lake. A team of volunteers with assistance from Matt Berg, Endangered Resource Services, hand pulled about a pick truck full of EWM from Library and Cemetery Bay.

A follow up survey in Oct. showed that the EWM had returned to only several locations on the entire “West Lake” and to the part of the “East Lake” referred to as City Bay (the part of the lake north of highway 48 to where the lake goes to the east toward Norwegian Bay and to the channel going west under Hwy. 63.) The total Littoral Zone (the water depth at which EWM can grow) percentage of Beaver Dam Lake was less than 1% if Library Lake and Cemetery Bay are excluded. This data was used to determine the 2016 treatment plan. It was decided that the “West Lake” and the small patches of EWM in the “East Lake” outside of “City

Bay” would not be treated but would be hand pulled by DASH (Diver Assisted Suction Harvesting – watch the Advocate for more on this later).

On April 22, 2016 Library Lake was treated as the water temperature was within the permitted guidelines. However; the treatment of Cemetery Bay, and City Bay was delayed due to the unusually cold temperatures during late April. Even though the water temperatures were not yet within the permit guidelines, EWM was observed to be actively growing in Cemetery and City Bay’s. With the concurrence of the WDNR, the treatment was completed on May 2, 2016. We will see what the July and Oct. Plant survey reveals as to the reoccurrence of EWM.

The other invasive aquatic plant, Curly Leaf Pond (CLP) weed, was prevalent in areas of the lake through 2012. However; following several years of treatment to eradicate CLP the invasive plant was nearly eliminated. However, CLP has again multiplied in several areas especially the Eastern part of the Lake called “City Bay”. The regrowth of CLP will be included in the agenda for the Jan. 2017 treatment planning meeting.

Over all Beaver Dam Lake remains in great shape but we need to continue to be aware of not only the invasive species like EWM and CLP, but also the Chinese & Banded Mystery Snail, and Rusty Crayfish that are currently in the Lake. Critters like Zebra Mussels, Asian Clams, New Zealand mudsnails, and the Quagga Mussel must be prevented from entering the lake. All these invasive species affect the health of our Lake by altering the ecoculture.

Your help in keeping invasive species out of all Wisconsin Lakes is important. For information about invasive species google wi dnr invasive species.

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## Spring Fed What Does It Mean?

*John Epple, District Board Member*

In northern Wisconsin there are three types of lakes.

**Drainage Lakes:** This is the most common lake we have. These lakes consist of ground water runoff, which is delivered to the lake by rain and or snow melting into the lakes from creeks and riverbeds. The water quality in drainage lakes with a high basin can be very clean and clear. As where the shallow river drainage lake 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.

**Seepage Lakes:** This is the second most common type of lake in N. WI. 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 well as Beaver Dam Lake but it also has springs in it.

**Spring fed lakes:** The least common type of lake in northern Wisconsin. They generally will have cleaner

water and always have an outlet. These lakes are not as susceptible to low water levels during dry years and water will generally be colder.

Wikipedia’s definition of spring fed is a “Natural situation where water flows from within the earths aquifer to the earth surface.” It is a component of the hydrosphere. What is hydrosphere you ask? It’s the combined mass of water found on, under and over the surface of the planet.

More fun facts; 97.5 % of the worlds water is saltwater. Only 2.5 % is freshwater and of that 0.3 % is lakes and rivers and approximately 30% is ground water (aquifer). Approximately 69 % is locked in glaciers in the form of ice and snow.

One danger to spring fed lakes is the lack 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!

All Fresh water lakes are one of our most precious resources we all share and we need to do our part in keeping them that way.

**Beaver Dam Lake Management District 25th Annual Meeting**  
**Saturday July 9, 2016**  
**Cumberland City Hall**  
**Cumberland, Wisconsin 54829**  
**Doors open at 9:00AM, Meeting begins at 9:30 AM**

Pursuant to Sec. 33.30 (1) of the Wisconsin Statutes and the by-laws of the Beaver Dam Lake Management District, the annual meeting and budget hearing will be held at the Cumberland City Hall at 9:30 AM on Saturday, July 9, 2016.

**Annual Meeting Agenda, July 9, 2016**

- |  |                          |
|--|--------------------------|
| <b>1. Welcome and Introductions</b>                        | <b>Tom Schroeder</b>     |
| <b>2. Approval of 2015 Annual Meeting Minutes</b>          | <b>Doris Laursen</b>     |
| <b>3. Treasurer's Report</b>                               | <b>Dr Alan Carlson</b>   |
| <b>4. Audit Report</b>                                     | <b>Mary Biros Rogers</b> |
| <b>5. Election of Commissioners</b>                        | <b>Tom Schroeder</b>     |
| <b>6. Update on Storm Water Improvements Project</b>       | <b>Jay Michels, EOR</b>  |
| <b>7. Review of District Activities</b>                    | <b>Tom Schroeder</b>     |
| <b>8. Present Budget for 2016-17, discussion, approval</b> | <b>Dr Alan Carlson</b>   |
| <b>9. Other items as needed</b>                            |                          |
| <b>10. Adjourn</b>   |                          |

**Immediately following the Annual Meeting there will be a Rain Garden Workshop for those interested in learning about plants and maintenance techniques. RAIN GARDEN MAINTENANCE 101, will consist of a hands-on workshop that will include information on how to care for a rain garden to keep it functioning effectively and looking beautiful throughout the year. Topics discussed will include: native plants, weed removal tactics, rain garden hydrology, and sediment removal.**

**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 8th meeting by Doris Laursen**
- 2. Treasurer's Report – Dr. Alan Carlson**
- 3. Election of officers**
- 4. Set next meeting date**
- 5. Adjourn**

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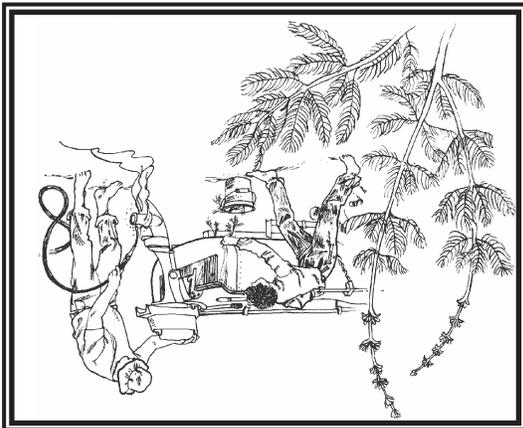
**Proposed Budget**

<b><u>Revenues</u></b>		<b><u>Expenses</u></b>	
Tax Rev. (Est mil rate 0.94)	\$210,723	Mailings, Notices, Mtgs.	\$ 3,000
Milfoil Unused Funds	50,000	Stormwater/Outflow Grant Matches Total	
Grants Remaining		LPL-1565-15 Library Lake SW	7,200
LPL-1565-15 Library Lake SW	6,030	LPL-1559-15 Moser Field	4,092
LPL-1559-15 Moser Field	6,072	Construction NE Treatment Facility	242,810
LPT-484-15 NE Library Lake		Milfoil/CLP Control with Plant Surveys	155,000
Acquisition	75, 546	Aquatic Plant Mgmt. Plan-ongoing	5,000
Transfer from C.D.	86,723	Insurance	4,800
LPT-50416 NE Library Lake		Boat Landing Monitors	2,800
Stormwater Pond	182,108	Fireworks	1,000
<b>Total Revenues</b>	<b>\$617,202</b>	Water Safety	650
		Walleye Stocking	10,000
		Website Updates	350
		Education/Conference	1,500
		Shoreline Restoration Site	2,500
		Highway 63 Bridge Study	40,000
		Library Lake SW Acquisition	70,000
		Third Street/Plum Street and Lake Street	
		Sediment Collection	36,500
		Library Lake Outflow Cleanout	30,000
		<b>Total Expenses</b>	<b>\$617,202</b>

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

Or Current Resident

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



**Upcoming Events:**  
**July 9th, 2015 9:30 AM**  
Annual Meeting and Budget Hearing of  
Beaver Dam Lake Management District  
See agenda inside.  
**NOTE LOCATION CHANGE**  
**CUMBERLAND CITY HALL**