

DOCK SIDE

Warning! Beach advisory

Unfortunately we saw this sign too many times this past summer. When the county health department testing finds E. coli present in the area they are required to close the beach. The presence of E. coli makes it unsafe for any type of activity.

The presence of E. coli at the beach is a result of the large resident Canadian goose population there. The geese like to feed on the grass and then swim in the beach area. With as many as 50–75 geese present at the beach on a regular basis it has become an unhealthy environment.

One goose drops 1.5 pounds of excrement per day, or one quarter ton per year. Multiply this by 50 and you have quite a bit of goose poop. The volume will only increase as the goose population at the beach continues to grow.

This unsanitary problem with geese is not uncommon. This past year the town of Amery, WI worked with the Department of Natural Resources and the U.S. Fish and Wildlife Service to address the problem.

This coming January the USFWS will be in attendance at the Balsam Lake Village board meeting to discuss the options available to reduce the number of geese.

There are two primary and effective approaches. First, in the spring, volunteers seek out goose eggs and coat them with oil to prevent them from hatching. Second, using large nets, the USFWS gathers up the goslings and then relocates them to a different area. The Balsam Lake Protection & Rehabilitation District in conjunction with the Village of Balsam Lake are sharing in the cost of this project.

As everyone has noticed the resident goose population has significantly expanded and this unsanitary condition will only worsen unless we take action. ●



The Village beach was closed a good portion of this past summer due to the presence of E. coli bacteria there.

Escherichia coli bacteria, or E. coli, normally live in the intestines of healthy people and animals. Most varieties of E. coli are harmless and actually are an important part of a healthy human intestinal tract. However, some E. coli are pathogenic, meaning they can cause illness.

Source: CDC.gov/ecoli/general/

Balsam Lake Village Board meetings are held the first Monday of the month at 7 pm, at 404 Main Street in the Municipal Building. The public is welcome to attend.

In this issue...

PAGE 2

Chairman's letter
Commissioners and District contact info
Do we have your email?

PAGE 3

New phosphorus study
Lake planning grant and core sampling

PAGE 4-5

Healthy Lakes initiative

PAGE 6

Dredging and harvesting updates

PAGE 7

The curly leaf pondweed problem

CHAIRMAN'S LETTER



Tom and Mary Kelly

Hopefully this writing finds you enjoying the fall season with fond memories of a fun summer at the lake.

Thank you to those that attended the annual meeting as well as the board members, volunteers and Unity School. The participation and support from the membership was valued as we move forward with existing initiatives: East Balsam water quality, aquatic invasive species, curly leaf pondweed treatment, Clean Boats Clean Waters, waterfront runoff and Healthy Lakes grant funding, harvesting, navigation, and the dredging permit. New initiatives include joint venturing with Polk County on a study of the lake bed and watershed, resident goose water quality issue, and construction of the equipment storage facility.

Special thanks to the talented operating teams of our Clean Boats Clean Waters and harvesting initiatives. Also thank you to Dale Ulbrich who volunteered to work with Commissioner Preble on the project plan and permit application with DNR for dredging Forest Circle, Pine Island and Raskin bays.

The Healthy Lakes initiative returns for 2018!

The launch of the Healthy Lakes native plantings initiative in 2017 was well received by our members. We have twenty-one native plantings installed or in the process of being installed. The water runoff mitigation afforded by these plantings will make a positive contribution to the health of our lake as the plantings capture phosphorous and other nutrients that could otherwise reach the lake. See the information included in this *Dock Side* for how you can participate in 2018.

It was a busy summer, with spraying and harvesting (CLP) beds early summer and harvesting for navigation mid to late summer. Conditions were very favorable for weed growth as the phosphorous in the lake combined with early ice out (extended photosynthesis) and cool water temperatures early-mid season. An active boating season left many shorelines littered with weeds. Let's hope that mother nature balances herself with more favorable conditions in 2018.

In closing, I want to thank my fellow commissioners for their commitment and contributions to the lake, our membership and the board. ●

—Tom Kelly



Heavy boat traffic left many shorelines littered with weeds.

FROM THE SECRETARY

Do we have your email address?

The Balsam Lake Protection and Rehabilitation District publication *Dock Side* is currently provided to all documented lakeshore owners through the mail. We have mailing information for this group, but are sadly lacking in email capability.

To provide more timely and detailed information to you we would like to compile an e mail distribution list. In the future this list could be used for distribution of the *Dock Side*. Please send your email address to us at blprd76@gmail.com. Thanks for your help in improving communications with the BLPRD. ●

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Contact us

Please contact the commissioners with any questions, comments or concerns you have.

Commissioners meet on the third Saturday of the month, starting at 8:30 a.m. at Polk County Business Center, lower level conference room. You are welcome to attend the meetings.

2017 Meeting Schedule

October 21, 2017

November 18, 2017

December 16, 2017

East Balsam lake sediment phosphorus study

by William F. James
University of Wisconsin - Stout, Center for
Limnological Research and Rehabilitation

Probes have been installed in East Balsam to examine temperature stratification and dissolved oxygen patterns at the bottom of the basin. The equipment was deployed in the lake in late May and will record data through September.

During calm warm periods in the summer, the lake can temporarily stratify (i.e., form a warmer surface and cooler bottom layer). Isolation of the bottom waters from mixing with the surface can lead to loss of oxygen due to bacterial respiration. When dissolved oxygen is completely consumed by these bottom-dwelling bacteria located at the sediment surface, phosphorus that was once bound to iron compounds in the sediment become released and move into the water for use by algae.

This pattern of phosphorus recycling from sediment into the water during stratification is believed to play an important role in stimulating



Buoys mark the placement of a probe measuring dissolved oxygen patterns at the bottom of East Balsam.

algal blooms in East Balsam.

Information from this study will provide insight into the length of time bottom waters are anoxic (i.e., devoid of dissolved oxygen) and causing phosphorus recycling from the sediment. ●

New data collection project and lake planning grant application

This December, the Balsam Lake Protection and Rehabilitation District will partner with the Polk County Land and Water Resources Department to apply for a Wisconsin Department of Natural Resources Lake Planning Grant to complete a study on Balsam Lake.

The purpose of the study is to collect three years of data to provide information on the water quality and biological community of Balsam Lake. Each year the lake and its tributaries will be monitored for nutrients, dissolved oxygen, temperature, and additional parameters. Data will also be collected to determine the algae species present in Balsam Lake.

At the landscape level, land use in the Balsam Lake watershed (the area of land that drains to Balsam Lake) will be determined. This data will be used to determine areas where best management practices can be installed to improve the water quality of the lake. The study will also include a shoreline inventory to identify areas where shoreline improvements can be made to improve the health of the lake.

Lastly, the project includes the collection of sediment cores on Balsam Lake. Sediment cores provide data on changes that have occurred in lakes over the past 200 years, including changes in nutrients and algae. Although yearly water quality data does exist for Balsam Lake as far back as the late 1980's, a sediment core will provide an in depth

look at historical changes in the lake dating to pre-settlement times.

If the grant is received, data collection for the project will begin in the spring of 2018.



Jeremy Williamson, Polk County Land and Water Resources Dept., and Mark Edlund, St. Croix Watershed Research Station, take a core sample from Bone Lake in 2015.

Learn more

UW-Madison is known as the birthplace of limnology in North America. Learn more at limnology.wisc.edu.

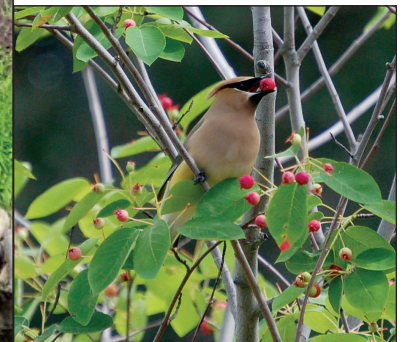
Healthy Lakes 2017-18

The inaugural season of the Healthy Lakes initiative brought favorable results and benefits to the lake and community.

We entered 2017 with thirty lakeshore owners pledging interest in installing native plantings on their property and as of this writing twenty-one have contracted and have installed, or are in the process of installing their plantings. BLPRD's consultant Harmony Environmental provided site assessment services to the participants that included a consultation on native plantings location and design, direction for those do-it-yourself participants and referrals to local landscapers.



Lambert's new native planting



Cedar waxwings are attracted to shrubs like Serviceberry, a very early bloomer that bears fruit in June.

Healthy lakes returns 2018!

The 2018 Healthy Lakes program mirrors 2017 as we will once again promote the installation of native plantings. In addition to the contribution to the health of our lake by reducing runoff, the lakeshore owner will benefit from the financial incentive of 75 percent of project costs not to exceed \$1,000 for a qualifying project installation and maintenance. We can also assist with rain gardens and diversion projects.

Ask us how!

**Call or email Tom Kelly if you have questions or need more information:
612-508-0879 mobile, email tkelly56@comcast.net**

Answers to common questions about native plantings

What's the cost for a 350 ft² native planting?

Your out-of-pocket costs will likely be \$100 to \$300. A 350 ft² native planting costs about \$1,200 for plants and installation. Property owners receive a 75 percent reimbursement of the cost up to \$1000. Your costs could be less if you do the planting yourself.

What do the plantings look like?

You can select a planting design based on your conditions and interests—bird/butterfly habitat, woodland plants for shade, deer resistant plants, plantings for bare soil areas to control erosion, or a low-growing planting to showcase your lake view. Rectangular, square, circular and kidney-shape designs are available. They're all beautiful!

Funding is available for other Healthy Lakes practices, too. The goal is to control runoff from your property and keep it from reaching the lake.

Each practice listed below is eligible for Healthy Lakes Initiative funding including allowances for consultation, design and installation. If you are interested in installing a practice like these, you can be included in the 2018 Healthy Lakes Initiative grant funding application. Contact Tom Kelly before November 10, 2017.

DIVERSION

A diversion practice redirects runoff that would otherwise move downhill into the lake to a dispersion area where it can soak into the ground. It may be used in connection with a rock infiltration or rain garden practice.

ROCK INFILTRATION

An upland practice, this is an excavated pit or trench filled with rock that reduces runoff by storing it underground to infiltrate. It is appropriate for sandy to loamy soils only (not clay!).

RAIN GARDEN

A landscaped shallow depression with loose soil and native plants designed to collect and infiltrate roof, path, and driveway runoff while also creating wildlife habitat and natural beauty.

Healthy Lakes practices are attractive landscape features that improve habitat and water quality.

Take the first step to help make Balsam Lake a healthy lake!

Sign and return the pledge card attached below and your property will be included in BLPRD's Healthy Lakes Initiative grant application. Grant funds are limited annually to the first 25 pledges.

Send your pledge card by November 10, 2017 for the 2018 program. You will receive notice of our grant funding approval in April, 2018, including details about completing your planting.

Other questions?

Contact Tom Kelly about this opportunity for you to help reduce runoff to Balsam Lake:

call 612-508-0879 mobile, or
email tkelly56@comcast.net.



*New England asters
and little bluestem
grass in autumn.*



*Native plants attract a
variety of butterflies and
other pollinators.*

Dredging and harvesting: 2017 updates

by Rod Preble

The dredging permit...

When I started this process of getting dredging permits I was told by others who have pursued these permits that it typically took five years. I thought “How can that be?” Now, three years into the process, I have a much better understanding of “why.”

There are many, many steps and details required to ensure that anything we do will not damage our lake or surrounding environment. Progress is being made, at times slower than we would like, but progress none the less.

Data collection, material tests, conference calls with the DNR, crossing “T”s, and dotting “I”s, is an involved task. We are nearing the point of sitting down with the DNR to review prior to submitting the Permit Applications. Updates to follow.

Reminder:

When you hear the word “dredging,” most people imagine a large piece of equipment “tearing up” the bottom of a beautiful lake or waterway.

The truth is, dredging is a “surgical” operation to remove only the unwanted and detrimental biomass material from the bottom of our bays and shallow areas that release high levels of phosphorus into our lake.

Modern equipment under the control of trained operators can remove the offending material without damaging the original bottom of our lake. Great care will be taken to insure this is successfully accomplished.



Small and transportable dredging unit

Curly leaf: Enemy No. 1

Curly leaf pondweed (CLP) was enemy number one for boaters and fishermen this summer.

With an estimated 100 acres in the west basin alone and a short window of time to harvest, an aggressive approach was needed.

The first two weeks of June brought many two-shift, 10- to 12-hour days of harvesting CLP. The harvester crews systematically worked the numerous beds, prioritizing by plant maturity, moving around the lake to provide navigation relief as well as preventing the spread of this invasive plant. Many CLP beds were harvested more than once to insure complete coverage.

This aggressive approach brought added benefits because many of these CLP beds coincided with areas harvested for navigation, thereby eliminating an added trip normally done in late June.

The harvesting crew, led by Don Coddington, did an amazing job this year tackling the task at hand, and did so under budget. The harvesting crew averaged 15 tons of plants removed per day of harvesting. Congratulations Guys!

I must add that we couldn't have harvested the many beds in the time frame required without this “machine.” It's capacity and capabilities were a key to our success along with a very capable crew. ●



At the helm of the Balsam Lake harvester

The curly leaf pondweed problem

by Ray Sloss

This year the conditions were exceptional for aquatic plant growth. Curly leaf pondweed (CLP), Balsam Lake's one invasive aquatic plant was no exception.

We were ready for it on East Balsam with a planned herbicide program that attacks the CLP early in the year. The results were spectacular. The CLP beds in East Balsam basin are shrinking, the turion count which measures next year's crop is decreasing.

We are enjoying the success of the herbicide program. The commissioners are in early discussion about expanding the herbicide program to cover other CLP beds that are now impeding navigation and favorite fishing holes on other parts of Balsam Lake.

To help ensure successes similar to that we have seen in the East Balsam beds, we will discuss and listen carefully to the recommendations from the lake's biologist and the herbicide contractor.

CLP spreads by two methods: 1) by forming turions (seeds) and dropping them late in July, and 2) by forming rhizomes, modified stems that grow horizontally underground, sending out roots and shoots, forming new plants.



Herbicide kills the plant early in its development. In order for the herbicide to be effective it needs to persist in the water around the plants for a full day.

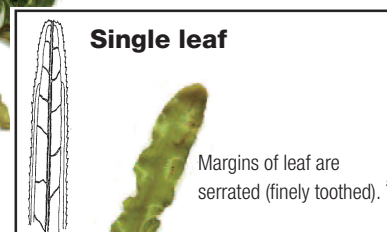
When the bed is affected by wind and water currents, the effectiveness of the herbicide is greatly diminished. In these areas we must utilize the harvester to help suppress the CLP from dropping turions and reseeding. Therefore, the harvester engages later in the plant's development. ●

Curly leaf pondweed

Potamogeton crispus

- Submersed plant with wavy leaves that resemble small lasagna noodles.
- Spaghetti-like stems reach the lake surface by mid-June or earlier.
- Leaf texture is crispy.
- Prefers water depths of 3 -10 ft.

Vegetative buds (turions) resemble small brown pine cones. Actual size 1-2 cm.



Dock Side

Balsam Lake Protection & Rehabilitation District
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Clean Boats Clean Waters

How the program benefits Balsam Lake

by Ray Sloss

The Clean Boats Clean Waters (CBCW) program was developed by Wisconsin DNR in response to the spreading of invasive species within the interstate lakes and streams system.

The program has three purposes:

1. first line of defense at the lake's landings,
2. informing the public,
3. collect data on transient lake users.

When the landing monitors are on duty, they engage a boating party with a series of questions before they launch their boats onto Balsam Lake. The purpose is to create a conversation, to learn where they have enjoyed water sports within the last five days and to convey the importance of minding their equipment to do their part in preventing the spread of aquatic invasive species. This year there was a focus on zebra mussel conveyance. Some of the surrounding lakes have them. Balsam Lake doesn't want them.

The number boats inspected by the landing

monitors exceeded 3,200. The number of people engaged by our landing monitors this year was over 6,500. That is 6,500 people who received some training on their responsibilities of entering and leaving the lake with clean equipment.

The landing monitors record data on a standardized form. The same form, with the same questions is used throughout Wisconsin. The data is entered into the state's web-based system and is available for analysis by scientists.

Balsam Lake benefits by having a set of eyes on boats entering the lake and by having an educated public that is using the lake. Balsam Lake is also fulfilling its obligation as one of hundreds of participants in the state's CBCW program.

The Wisconsin DNR does reimburse the lake district up to \$16,000 toward the cost of the program.

Thank you all for supporting the very important CBCW program. ●



Landing monitors talk with boaters about preventing the spread of aquatic invasive species.

Photo: Bob Boyd