



CRYSTAL WHITECAPS

The Newsletter of the Crystal Lake & Watershed Association

"Protecting the integrity of Crystal Lake, Benzie County, now and for the future."

® Vol. 11, No. 1

Summer 2015

BOAT WASH IS UP AND RUNNING!

Local and visiting watercraft in Benzie County are now enjoying free spa treatments before entering the pristine waters of Crystal Lake. Beginning its third summer of operation, the CLWA boat washing station, at the Michigan DNR Boating Access Site on Mollineaux Road, is helping rid vessels of invasive hitchhikers and educating the recreational public on the need to protect our precious aquatic environment.

Over a decade ago, when the state Department of Natural Resources proposed construction of a new public access site, the Crystal Lake community became concerned about the effects of vastly expanded usage—and the proposed construction itself—on the clear waters of this exceptional lake. Thanks to generous public support and tireless, committed leadership, the CLWA was able to mitigate the scale of the project and reach an agreement to install a facility for cleaning any harmful invasive entities from boats that may have previously operated in other infested waters.

The CLWA employs an attendant to staff the boat wash and assist its patrons during the busiest parts of the summer, but the equipment is easy to use by anyone and available 24/7. Volunteer helpers are always welcome too! New and improved signage in 2014 has helped direct drivers towing boats to the wash facility before proceeding down the launch ramps.

County-wide boaters are also being reminded that washing their craft is now required by ordinance in all the townships surrounding Crystal Lake. Thanks especially to efforts spearheaded by Ron Edwards, past CLWA program coordinator, a \$500 fine can be imposed for failure to clean a vessel that has operated in other waters within ten days of entering Crystal Lake.

Now that boat washing is fully operational and well established at the principal access site, CLWA is turning its attention to the numerous secondary "road end" access points around Crystal where smaller boats are frequently launched. Since no washing facilities are available there, CLWA has recently installed eight new signs explaining the

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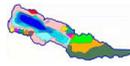
Connor Smith ready to wash boats at the CLWA facility at the Mollineaux Rd public access site.

CLWA ANNUAL MEMBERS MEETING 2015

SATURDAY, JULY 18, 9:30 A.M.

CONGREGATIONAL SUMMER ASSEMBLY COMMUNITY BUILDING

**All are welcome to come and hear reports on CLWA's current activities
and new initiatives to control swimmer's itch on Crystal Lake.**



PRESIDENT’S MESSAGE: SUMMER RETURNS

The enjoyable summer season is here again and Crystal Lake is buzzing with activity. Docks are in; fishermen, recreational boaters and sailors are plying the waters; kayaks and paddle boards are hugging the shores, and our summer friends are returning once again to this magical place.

The CLWA is at the core of all this with regard to Crystal Lake. This organization represents the care and understanding we share as we protect and preserve the water quality of this Lake that brings us all together. The programs and activities of the CLWA are designed to monitor our water quality, protect our shorelines from erosion, provide data to track our progress, and respond accordingly to the practical priorities of our members and neighbors.

This summer you will see the CLWA in action, addressing many of your concerns:

Swimmer’s itch control. Over the past two months 25 volunteers used agricultural pyrotechnic devices (modified fireworks) to bluntly encourage our common merganser to find other nesting grounds.

Swimmer’s itch research. Swimmer’s itch identification and prediction studies are underway on Crystal Lake, conducted by Oakland University graduate student Maddie Messner. Maddie’s essential study is financially supported by the CLWA with several of our members providing logistical support to her work.

Plan for the future. The Betsie River/ Crystal Lake Watershed Management Plan is in final draft review. The completion of this two-year project is critical to the funding of lake protection priorities.

Aquatic invasive species control. CLWA’s free public boat washing station at the MDNR Mollineaux Boating Access Site is open 24 hours every day for all to wash their watercraft before entering Crystal Lake. If you have recently been enjoying any other waters, washing your motor boat, sailboat, kayak or canoe at our boat wash prior to launch is one simple step you can take that prevents an invasive species from infecting our lake. Please enjoy Crystal Lake responsibly!

Invasive plant control. CLWA is working with property owners and local organizations to control invasive plant species within our watershed. Your financial support helps the CLWA fund a current initiative of treating a phragmites infestation near the boat launch on the southeast shore.

Building state-wide collaboration. The CLWA leads a growing list of Michigan lake associations, government agencies, universities, state and federal officials, and other stakeholders in the Michigan Swimmer’s Itch Partnership. It is time we work together to find solutions to the public health and economic threat posed by swimmer’s itch.

This is only a taste of what we can do when we work together to protect and preserve Crystal Lake. Thank you to all who help fund our work through your generous gifts. Thank you to all who volunteer their time and expertise to make our programs effective and meaningful.

Respectfully,
Joel A. Buzzell, *President CLWA*

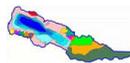
SCHMIDTS RECEIVE CRYSTAL CIRCLE AWARD

On certain occasions we recognize the opportunity to celebrate the outstanding achievements of CLWA members. The Crystal Circle Award is given to persons who demonstrate a commitment that can only be described as a true passion for the mission of the Crystal Lake & Watershed Association. At our 2014 Annual Members Meeting we gratefully recognized Susan and Robert Schmidt with our Crystal Circle Award.

Bob and Susan’s commitment to the health and well being of our community helped to bring the former Crystal Lake Association and the Crystal Lake Watershed Fund together into the Crystal Lake & Watershed Association we are today. Bob’s excellent management skills established a strong and lasting financial base for the merged organization that continues to keep us on firm ground.



Thank you Susan and Bob!



SWIMMER'S ITCH UPDATE

The spring pyrotechnic and fall hunting programs have been successful in driving mergansers (primary carriers of swimmer's itch) away from Crystal Lake in 2014 and again in 2015.

PYROTECHNIC PROGRAM

The CLWA pyrotechnic program is designed to disrupt the merganser duck as it migrates north in the spring looking for a suitable nesting site. The goal of the program is to convince this primary swimmer's itch vector to find a home other than Crystal Lake. The pyrotechnic program commenced in Spring 2014, with 15 volunteers participating from late April (as soon as the ice breaks) to June 15. The significant number of mergansers on the lake in late April dwindled to a few by June 15. The program ended on June 15, as the merganser may not legally be harassed during its nesting season.

The program resumed in early April 2015 and continued until June 15. This year we have 25 volunteers working every corner of Crystal Lake. The number of mergansers on Crystal in 2015 is substantially lower than recorded in 2014, with few mergansers observed on the lake since early May. A volunteer noted there were no sightings of mergansers when driving around the lake on two different occasions during the last week of May.



BOAT WASH IS UP AND RUNNING!

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ordinances and directing those whose boats need to be washed to the main facility. We are exploring the options for portable washing equipment or a permanent facility at a second location, such as Crystal Lake Yacht Club.

Most important are the CLWA's ongoing efforts to educate the public who use and enjoy the clear waters of Crystal Lake about what they can do to help preserve this treasure for future generations. Please stop by CLWA's booth at area art fairs this summer or attend our Annual Meeting for more information and answers to your questions!

New sign installed by CLWA at Lobb Road access point

HUNTING PROGRAM

There were no mergansers found on the lake during the 2014 fall hunting season. This program has been underway since 2002. During the first 10 years many mergansers were harvested according to Michigan's hunting regulations. The lack of merganser sightings during the 2014 hunting season may be a sign that this swimmer's itch carrier is finding a better place to roost than Crystal Lake.

Many thanks to the volunteers who are working to control swimmer's itch in our beautiful Crystal Lake! Mergansers have gotten the message: ENJOY SWIMMING ON OTHER LAKES!

Two other important events have taken place since summer 2014:

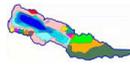
CLWA is one of 20 lake associations that joined in a new coalition called the Michigan Swimmer's Itch Partnership. Formed in fall 2014, the new partnership represents stakeholders across Michigan coming together in a cooperative effort to find ways to control swimmer's itch.

The formation and work of this partnership is a huge step forward in our quest to eradicate this problem from our statewide lakes.

A graduate student and professor from Oakland University are working with CLWA/CLSIP as they work to model a swimmer's itch identification and prediction method this summer on Crystal Lake. CLWA is financially supporting this essential research and our members are also providing logistical support to help to make this project possible. Data collected by CLWA in past years, particularly the invaluable statistics compiled at the Congregational Assembly beach, will serve an important role in this scientific research.

CLWA/CLSIP continues to explore and incorporate every approach available to find solutions to protect all of us that enjoy our lake from swimmer's itch! If you would like to volunteer, contact Chair Ted Fisher at (summer) 231-399-0067; fisher5531@gmail.com.





BETSIE/CRYSTAL WATERSHED MANAGEMENT PLAN NEARING COMPLETION

Most field work for the Betsie River/Crystal Lake Watershed Management Plan was completed this past summer – with help from CLWA volunteers and interns – and the project is scheduled for completion in the summer of 2015.

The Watershed Management Plan (WMP) is expected to guide future efforts to preserve and improve water quality in the Crystal Lake and Betsie River watersheds. CLWA worked with Networks Northwest (formerly the Northwest Michigan Council of Governments), Grand Traverse Regional Land Conservancy, Friends of Betsie Bay, Green Lake and Duck Lake Association, Conservation Resource Alliance, Benzie Conservation District and others to win approval of a grant to write the plan.

The \$162,000 grant from the Michigan Department of Environmental Quality is routed through Networks Northwest, with CLWA as the primary subcontractor. CLWA president Joel Buzzell chairs the WMP Steering Committee. Past President Ed Hoogterp is coordinating the field work and working with regional planners from Networks Northwest to write the plan.

One major effort has been to create a “shoreline conditions inventory” for Crystal Lake. CLWA employed two interns – Erica Plesha of Frankfort and Jodi Montieth of Interlochen – to assist with that task. Over the summer of 2014, the two worked with CLWA volunteers to cruise the lake’s entire 22-mile shoreline and make note of such conditions as erosion, seawalls, and greenbelts. The project resulted in nearly 1,000 photographic images, each with GPS coordinates and data from a shoreline conditions checklist. CLWA vice president Jim Hamp and board member Rick Cassard provided boats for the effort. The images and data provide “baseline data” to show how the shoreline is faring over the coming years.

In another segment of the work, staff from the Conservation Resource Alliance inspected road-stream crossings in the watershed to look for erosion, fish passage problems and other issues. Their findings are on-line at www.northernmichiganstreams.org.

The grant also paid for mailing a 12-page questionnaire to 1,000 property owners in the watershed. Respondents rated water quality very highly, but had some concerns about fish habitat. Swimmer’s itch was ranked as the watershed’s most severe “impairment.”

The WMP Steering Committee has identified a number of objectives. Here are some that are of significance to Crystal Lake:

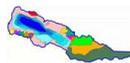
- ✔ Consistent, long-term water quality monitoring at 19 designated locations on lakes and streams
- ✔ Demonstration projects to promote natural shoreline management
- ✔ Management practices to reduce erosion at Bellows Road and other road ends
- ✔ Identifying and protecting important viewsheds

- ✔ Developing a comprehensive strategy for aquatic and terrestrial invasive species
- ✔ Increased monitoring of biology in stream and shoreline areas
- ✔ Research funding and action to manage swimmer’s itch
- ✔ Improved lake-level control
- ✔ Continued *E. coli* monitoring on public beaches
- ✔ Preservation of existing wetlands
- ✔ Development of clear education and enforcement procedures for use of holding tanks
- ✔ Engineering and funding options to address the run-off, nutrient and *E. coli* issues on Cold Creek and Beulah Beach at the east end of Crystal Lake.

The plan is to be submitted to the Michigan Department of Environmental Quality and the United States Environmental Protection Agency this summer. Once approved by those agencies, the priorities outlined in the plan become eligible for future grant funding.



Ed Hoogterp, Jim Hamp, Erica Plesha and Ellen Herscher conducting shoreline conditions inventory for Watershed Management Plan.



CONTINUOUS LAKE LEVEL MONITORING

The setting of some “level” for Crystal Lake acceptable to all has been a subject of controversy for more than a century. A high level is desirable in summer to promote recreation, and a low level is desirable in winter to prevent erosion. Control of the discharge over the Outlet dam is needed to minimize downstream flooding and sediment transport.

A “natural level” of 600.48 ft above mean sea level was set in 1909. The permanent dam was built in 1911 and reconstructed in 1977. One or more of five gates (boards) are raised/lowered to maintain the official lake level at 600.25 ft in summer (01 May – 31 Oct) and 599.75 ft in winter (01 Nov – 30 Apr), as managed by the Benzie County drain commissioner. Over the years the level on the average has been ~ 600 +/- 0.25 ft, but has ranged from “high and wet” to “low and dry.”

Control of the level within such narrowly constrained limits has been problematic. The need to implement

better control led the CLWA to install a solar-powered automated system for continuous lake monitoring. The system, which became operational in July 2014, consists of lake level and water temperature sensors submerged in the lake, and solar power and precipitation detectors on land. Data can now be collected, recorded, and telemetered to a website at fifteen-minute intervals throughout the entire year.

The data recorded over almost eleven months of operation is providing evidence for both short-term and long-term events that affect the level of Crystal Lake. Factors such as wind, temperature, waves, sun, rain and snow melt all have an impact.

While the actual control of the lake level still must be done by hand management of the gates at the Outlet, the value of continuous monitoring is two-fold: it provides earlier warning of small changes to enable more timely intervention,

and it increases understanding of the environmental factors that affect the fluctuating water levels, thereby making them more predictable. The CLWA’s ultimate goal is to mitigate the destructive shoreline erosion caused by extreme and unpredictable variation of the lake levels.

(The CLWA gratefully acknowledges the assistance of TIA Software, Ltd, Glen Lake.)



Joel Buzzell installing the sensor conduit.

CRYSTAL LAKE “WALKABOUT”

The Crystal Lake “Walkabout” was held on Thursday, October 9, 2014, for 180 students from the 8th grade classes of Benzie Central and Frankfort/Elberta Area Schools. The enthusiastic participants encountered a crisp fall morning to visit four interpretive sites to learn about the many facets of the Crystal Lake watershed.

The Crystal Lake “Walkabout” is a CLWA-organized continuing educational program that teaches students, property owners, and visitors about the Crystal Lake watershed using a “hands-on” approach of observational monitoring and environmental exploring. The program focuses on hydrology – how water moves about the watershed - but also addresses water quality, invasive species, ecology, geology, land use and zoning, wells and septic tanks, green belts, sustainable development, watershed

management, and local history. Participants “walk about” a selection of interpretive sites that represent different facets of the Crystal Lake watershed, where they interact with environmental professionals from the cosponsoring organizations. The “Walkabout” program includes twelve different interpretive sites in all. Visited in Fall 2014 were Crystal Lake at the Congregational Assembly beach, the Point Betsie lighthouse, the Betsie Valley Trail, and the U.S. Coast Guard Station-Frankfort.

The “Walkabout” is supported by the dedicated teachers and administrators of the Benzie County schools whose inquisitive students participate in the event. Special thanks are extended to the Fall 2014 site interpreters: Ed Hoogterp and Jim Laarman, Crystal Lake & Watershed Association; Lisa Richter Manrow, Benzie Conservation

District; Roberta Dow, MSU Extension (Retired); Pete and Nancy Weir, Jay Burt, Roger Dewey, Cheryl Gross, Julie Herrick, Wally Herrick, Bill Pearson, Friends of Point Betsie Light; Kaitlyn Fredericks, Sleeping Bear Dunes National Lakeshore (National Park Service); and the crew of U.S. Coast Guard Station-Frankfort.

Dr. Stacy L. Daniels of the CLWA has been the coordinator of the “Walkabout” since its inception. Now in its 22th year, this successful program has been presented to more than 5,500 students, residents, and visitors to the Crystal Lake watershed. Each participant receives a commemorative T-shirt with a colorful map of the Crystal Lake watershed and (in the Fall) a copy of the “Walkabout” Interpretive Manual.



CRYSTAL LAKE & WATERSHED ASSOCIATION

P.O. Box 89 • Beulah, MI 49617

Tel 231/882-4001

Fax 231/882-7810

www.CLWA.us • info@CLWA.us



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CLWA ANNUAL MEETING 2014

The 2014 Annual Meeting of the CLWA was held Saturday, July 19, 2014, 9:30–11:00 a.m. at the Congregational Summer Assembly Community Building. Remarks by President Joel Buzzell and updates on committee activities were followed by a short business meeting with elections of officers and Board members. New Board members are: Susan Brown, Charles H. (Chuck) King IV, Tom Kucera, and Ann Pepper. President Joel Buzzell and Secretary Ellen Herscher were reelected for second terms.

Ted Fisher, Al Flory, and Lois M. Verbrugge presented an informational program on the Crystal Lake Swimmer's Itch Partnership's ongoing programs and research to reduce swimmer's itch.

Full minutes of the meeting are available on the CLWA's website, clwa.us. CLWA thanks the Assembly for the use of their facility!

MEET THE CLWA 2015!

The CLWA will be participating in these local events during the summer of 2015. Please visit our booth and say hello!

New information on protecting our watershed will be available. CLWA T-shirts and watershed maps will be for sale.

July 11 Beulah Art Fair

July 22 Congregational Summer Assembly Arts and Crafts Fair

August 14-15 Frankfort Art Fair

August 22 Dedication of
Historical Marker at Crystal Lake Outlet
(co-sponsored by Benzie Area
Historical Society and Beulah Boosters)



Ellen Herscher and Alan Marble at CSA Fair 2014

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