



# CRYSTAL WHITECAPS

The Newsletter of the Crystal Lake & Watershed Association

Protecting Crystal Lake Now for Generations to Come.

Vol. 16, No. 1

Spring 2020

## INVASIVE WATERMILFOIL TREATMENT 2020

This July the Crystal Lake & Watershed Association will begin its program to control the aquatic invasive plant, Eurasian Watermilfoil ("EWM," *Myriophyllum spicatum*) in Crystal Lake. CLWA's comprehensive aquatic plant survey (2016-2018) identified the presence of this invasive on 6.05 acres of the lake's 10,000 acres of bottomland.

EWM occurs in virtually every county of Michigan and efforts to control it have become the dominant lake treatment budgetary item for state and local riparian organizations. Currently over \$24 million is spent annually in Michigan for chemical control of aquatic nuisance plants, most of it

for EWM. Many Michigan lakes have a regular continuing program of herbicide control.

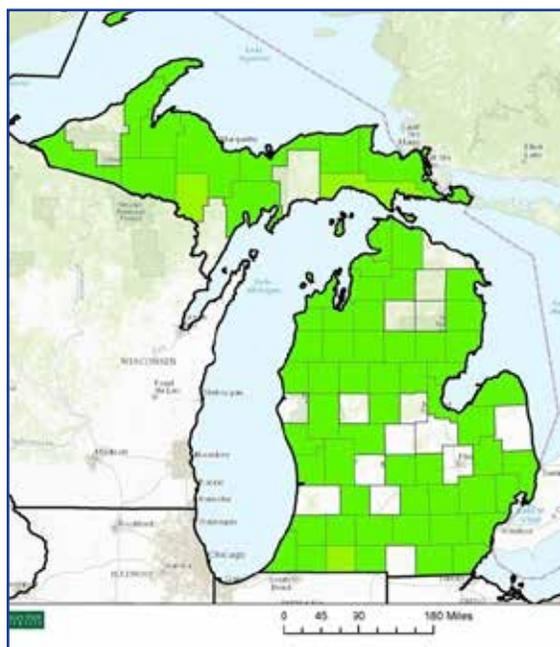
CLWA has been aware of limited EWM in Crystal since 1996, and fortunately the survey demonstrated that the local aquatic invasives are still relatively limited in comparison to those found in most other Michigan lakes. EWM was the only invasive found, with no evidence for other harmful plants such as European Frog-bit, Curly-Leaf Pondweed and Starry Stonewort, which thrive elsewhere in our state.

The survey also importantly documented the presence of the native beneficial aquatic plants that

have long been in the lake and which are essential to its healthy ecosystem.

The EWM infestation is primarily at the entire east end of the lake, most dense around the Beulah beach and public boat launch, where itinerant fisherman or recreational boaters likely introduced it at least 25 years ago. Intermittent colonization continues along the southeast shore up to and past the DNR boat launch and around Railroad Point into Onkeonwe Bay. Colonies are established at the Lobb road-end launch but none found going west from the Crystal Conference Center on South Shore Road. The western and northern shores appear to be virtually EWM free.

*Continued on pages 4 and 5*



*Eurasian watermilfoil presence in Michigan*



*Dense bed of E. watermilfoil*

**YOU CAN ASSIST THE CLWA'S SWIMMER'S ITCH RESEARCH AND CONTROL PROGRAM BY REPORTING SIGHTINGS OF MERGANSER BROODS OR NESTS, OR CASES OF SWIMMER'S ITCH. YOU WILL FIND THE LINK ON CLWA'S HOME PAGE, [WWW.CRYSTALLAKEWATERSHED.ORG](http://WWW.CRYSTALLAKEWATERSHED.ORG).**



## PRESIDENT'S MESSAGE

COVID-19 has made this a Spring like no other. The birds, flowers, and summer residents are arriving later than usual. The list of postponements and cancellations of summer events grows. It's difficult to imagine life returning to normal.

We know that many people's summer plans are uncertain or disrupted, and the CLWA's may be as well. We want our members to follow official guidance and stay healthy, so we can all resume enjoying the lake when it's possible.

Rest assured, though, that CLWA programs will continue protecting the lake over the summer. This requires the diligent work of many of your fellow CLWA members who volunteer their time to make it happen. Over the winter there has been a tremendous amount going on behind the scenes.

Steve Roszell and Al Flory have ensured that our merganser trap and relocate program can continue to reduce the overall incidence of swimmer's itch. Working with

Swimmer's Itch Solutions LLC, our knowledge about this pest will continue to increase.

Ron Ahrns and his team reviewed the boat wash operation to ensure it's running efficiently. They are doing everything possible to minimize the inflow of aquatic invaders, and we urge you to do your part. Remember: it is the *law* in Michigan to wash your boat.

Dr. Jim Hamp, Bruce Gerhart, and others have worked tirelessly to implement a treatment program to control the invasive aquatic plant, Eurasian Watermilfoil. Collaboration with the local communities has been vital, and our contractors are set to begin in late June.

Tom Kucera, Tassie Boshier, and their committee devoted countless hours on studying possible revisions to the Crystal Lake Watershed Overlay District zoning that will better protect the lake's water quality. What was a very progressive zoning ordinance in Michigan 25 years ago is now in need of an update.

Meanwhile, Hugh Walton and Bruce Gerhart, working with John Ransom of the Benzie Conservation District and Benzie County Drain Commissioner Ed Hoogterp, are responsible for ongoing monitoring of water quality and lake level management.

Your membership dues and contributions make these efforts and others possible. Thanks very much for your support. We will continue to do everything in our power to make certain CLWA is "Protecting Crystal Lake Now for Generations to Come."

**Dave Wynne, CLWA President**



## CLWA WEBSITE NOW ACCEPTS CREDIT CARDS

CLWA is happy to announce that its website, [CrystalLakeWatershed.org](http://CrystalLakeWatershed.org), now has the capacity to accept online donations and membership dues by credit card or PayPal account. Just click the "Join/Donate" button at the top of the home page, and you will find an easy to use process. It even gives you the option to make donations in memory of someone or in honor of a special event. If you haven't yet paid your dues for 2020, try this out now!



# SWIMMER'S ITCH 2020

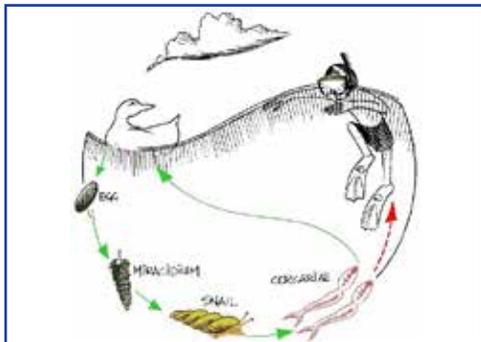
In 2020 CLWA will resume its successful merganser relocation program for the fourth summer, in the hope that Crystal Lake will continue to experience a decline in the incidence of swimmer's itch. Our local team of Tim Reznich and Tom Thorr are ready with their equipment and necessary permits to capture merganser broods when they appear on the lake and relocate them to sites approved by the Michigan DNR. *Please note that they can only trap broods of ducklings, which likely will begin to appear on the lake in early June.* They do not capture individual adult birds.

*Please report sightings of merganser BROODS and cases of swimmer's itch at the CLWA website: [CrystalLakeWatershed.org](http://CrystalLakeWatershed.org).*

While COVID-19 is curtailing much summer research around the Great Lakes, CLWA is planning to continue its study of swimmer's itch, in collaboration with Swimmer's Itch Solutions LLC (SIS).



*Common merganser hen and brood*



*Life cycle of the swimmer's itch parasite*

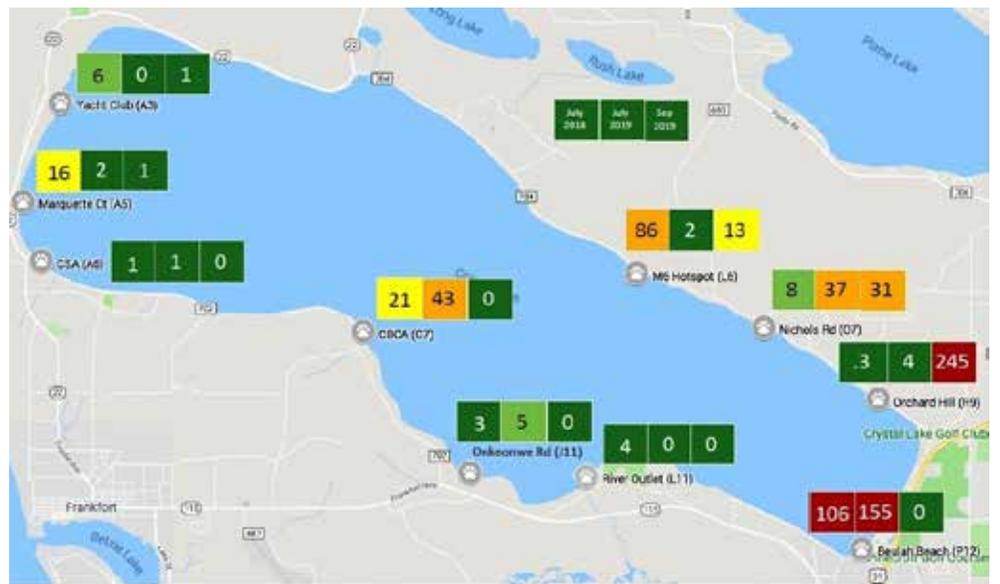
**Water sampling for DNA analysis.** In July 2018, SIS collected water samples from 10 sites around the lake (see map) and analyzed them for the presence of avian schistosomes, the parasite that causes swimmer's itch. Last summer, the CLWA team collected two sets of samples (July and September) from the same locations and submitted them to SIS for analysis. The results indicated a slight decline in the numbers of cercariae over the time period. DNA analysis using the qPCR method showed that the only species present was *T. stagnicolae*, whose avian host is the common merganser. CLWA will carry out expanded testing at the same 10 sites this summer.

**Assessing snail infection rate.** CLWA has contracted with SIS to resume study of the rate of infection in *Stagnicola emarginata* snails, the species that hosts the swimmer's itch parasite in Crystal Lake. At least 2,000 will be collected from the same 10 sites that are used for water sampling. SIS will compare these results to the 10,000 snails collected in

2016 and the 2,000-plus in 2018. SIS will also test 500 *Heliosoma* snails to determine if they are also infected on Crystal Lake.

**Community reporting.** The CLWA website will once again be available for members of the public to report their cases of swimmer's itch. Although not statistically scientific, these reports provide invaluable information about SI "hot spots" and general levels of severity. Record-keeping at the Congregational Summer Assembly beach has provided important data on SI occurrence for several years, but it is unclear to what extent COVID-19 will impact their activities in 2020.

**Research reports.** An article by J.P. Sckrabulis, A.R. Flory and T.R. Raffel, published in the journal *Parasitology* (Cambridge University Press, 2020) presented their research on Crystal Lake that concludes that swimmer's itch infection is more severe in the morning and when the wind is directly on shore. Reports on other past research can be found on the CLWA website.



*Map of sampling sites: The colored boxes display the number of cercariae found per 25 milliliters of water on the 3 testing dates.*



# INVASIVE WATERMILFOIL TREATMENT 2020

Continued from page 1



J. Ransom, Benzie Conservation District, collecting *E. watermilfoil* during CLWA aquatic plant survey, 2016

Uncontrolled, EWM can outcompete local beneficial aquatic plants, and can affect fish, amphibian and benthic invertebrate populations as well. It can form large mats of floating vegetation that block light from native aquatic plants and severely impede boating, swimming, fishing and all recreational activities. This is an all too common result on smaller, shallower lakes throughout the state. Property values have declined on lakes with severe EWM infestation.

Following thorough investigation and consultation with scientific

experts, the CLWA has determined that it is crucial to begin treatment now in order to halt the spread of EWM while still at a manageable stage and before the plant can hybridize with our native milfoil into a form that has no known effective treatment methods. In addition, should the infestation expand, it would be more difficult and costly to treat in the future.

For the existing conditions on Crystal Lake, treatment with chemical herbicides is most suitable and cost effective. This is the most widely used treatment for EWM and has over 50 years of safe usage in the U.S. The method is quick and relatively inexpensive, especially for smaller plant masses in shallow water. It usually requires two treatments per year in our climate and is professionally applied by licensed companies. Monitoring for changes over time will be required: the aim is to control the invasive plant, which cannot be permanently eliminated.

The specific agents used for EWM, 2,4-D or Triclopyr, have

been thoroughly tested as safe for humans, the native plants, fish or other animals of the lake, and at the dilute concentrations used, quickly disappear by biodegrading either through photosynthesis or bacterial breakdown. Registering an aquatic herbicide requires 84 to 124 different studies over 6-10 years, followed by 1-3 years of scientific assessment by the EPA before approval.

A boat-based technician dispenses the granular product in a controlled fashion at close range directly on the plants and it sinks to the lakebed. The CLWA's treatment program will include drone-guided application of the product to insure that placement is highly accurate and not excessive.

The first treatment is scheduled for June 24, 2020, depending on favorable weather conditions, before the plants reach a mature stage. The second treatment will occur on July 29. Total cost for the 2020 treatment program is estimated at up to \$10,000, **to be fully paid by the CLWA.**



Growth of *E. watermilfoil* at DNR Mollineaux Road boat launch: (left) launch under construction 2012; (right) launch site 2018 during 6th season of use



# INVASIVE WATERMILFOIL TREATMENT 2020

*Continued from page 4*



*Higgins Lake South State Park boat launch site: severe infestation of EWM and Starry Stonewort, 2019*



*Aerial drone-guided application of granular herbicide on invasive aquatic plants*

Treatment will proceed only after property owners grant permission to include their specific riparian bottomland property. Much of the affected property is in public hands: Beulah Village (public beach), Michigan Department of Natural Resources (DNR boat launch), and Benzie County (Railroad Point area) have all provided their appropriate permissions. All enthusiastically recognize that maintaining Crystal Lake's health is in the public interest for the entire county.

In mid-March the CLWA sent a letter to all 156 private owners describing the project and requesting their permission. No refusals so far indicate that the lake community supports this project. If you received a letter and have not yet responded, please do so as soon as possible. If we have to skip your property, the invasive will ultimately spread onto neighboring property and continue to grow denser until it interferes with lake recreation. Treatment then is more difficult and would be at the landowner's expense.

Applicators must be licensed by the Michigan Department of Agriculture and Rural Development and an Aquatic Nuisance Control Permit from EGLE (formerly Michigan DEQ) is required. CLWA has contracted with Clear Water Lake Management, Inc., of Rockford, Michigan ([www.clearwaterlakemanagement.com](http://www.clearwaterlakemanagement.com)) who now has the EGLE permit for the Crystal Lake project in hand (permit #ANC9805924). Zero Gravity Aerial LLC of Traverse City will provide aerial drone real-time oversight that will facilitate highly accurate placement of the treatment materials.

To insure the utmost safety, EGLE suggests a 24-hour swimming restriction in the immediate treatment area and within 100 feet on either side. This restriction keeps swimmers out of the way of the applicator boat, minimizes disturbance, and maximizes plant uptake of the active ingredient. The EPA restricts swimming for 24 hours following treatment with 2, 4-D.

Clear Water Lake Management will post notification signs in the affected locations a week in advance of treatment.

The CLWA is grateful to the entire Crystal Lake community for its collaboration and support for this critical project. By uniting to control Eurasian watermilfoil before it inflicts irreversible harm on our precious water resource, we are taking an important step to protect Crystal Lake for future generations. The CLWA is continuing to monitor aquatic plants in the lake and is on the lookout for new species of invasives. We can all help by thoroughly cleaning our watercraft before launch.

**Jim Hamp**, *CLWA Water Quality Committee*

VISIT THE CLWA WEBSITE  
([crystallakewatershed.org](http://crystallakewatershed.org))  
FOR LINKS TO MORE  
INFORMATION ABOUT EURASIAN  
WATERMILFOIL AND ITS CONTROL



# BOAT WASHING TO PREVENT INVASIONS



*Boat trailer with aquatic plants attached*

When it comes to invasive species in Crystal Lake, the old cliché is true: an ounce of prevention is worth a pound of cure.

Aquatic invasives are commonly introduced into an inland lake via contaminated watercraft, boat trailers, or bait containers that previously have been used in infested waters. The locations of the invasive Eurasian watermilfoil in Crystal Lake – that now must be chemically treated for control (see

p. 1) – provide graphic evidence for this phenomenon. The infestations are concentrated around the area of the Beulah public beach boat launch, the DNR Mollineaux Road boat launch, and the Lobb road-end launch site. Once an invasive has arrived it will have a permanent presence. It cannot be eradicated, only controlled and monitored.

In order to prevent the arrival of additional harmful plants and animals, lakes and localities have

encouraged and legislated the practice of cleaning watercraft and other items that travel from lake to lake.

The CLWA boat wash at the Mollineaux Road launch was one of the pioneers of these efforts in northern Michigan. In 2020 it will open for its eighth season of operation. The CLWA provides this service FREE TO ALL. It supplies high pressure hot water, the most effective way to dislodge clinging unwelcome hitchhikers.

The boat wash is staffed from mid-May to mid-October, seven days a week, from 9 a.m. to 4 p.m., subject to weather and boat traffic. It is designed to be self service, so is available for use at all times, and only takes a few minutes.

Any kind of watercraft (e.g. kayaks, canoes, jet skis) and aquatic gear should be washed if they have been in other waters besides Crystal Lake within the last 10 days. All three townships that surround Crystal, plus Beulah village, have passed ordinances requiring these procedures. A new Michigan State law, effective last year, requires additional cleaning,



*DNR Crystal Lake Boating Access Site at Mollineaux Road: parking lot with CLWA boat wash facility*



# BOAT WASHING TO PREVENT INVASIONS Continued from page 6

such as draining bilges. Full information on current laws and ordinances is available on the CLWA website.

The Benzie Conservation District is expanding local boat washing through its Aquatic Invasive

Species Pathways program, thanks to a 3-year grant from the state of Michigan awarded early this year. They currently own two mobile boat washing machines that can be used at launch sites where permanent boat washing is not in place.

*CLWA boatwash facility is seeking part-time help for the summer season that runs mid-May thru mid-October. Flexible hours available, starting pay \$14/hr. For information, call Gary at 970-618-9885.*



*Location of CLWA boat wash on Crystal Lake*



*CLWA boat wash manager Gary Herbert at work, July 2019*



*Jane Perrino, Benzie Conservation District, using mobile boat washing machine at Beulah public beach*

## ANNUAL CRYSTAL LAKE WALKABOUT SUCCUMBS TO VIRUS

After more than a generation of outdoor watershed education for Benzie County middle school students, this year's Crystal Lake Walkabout had to be cancelled when Michigan closed its schools to prevent the spread of the coronavirus.

Teachers had requested that the Fall 2019 Walkabout be moved to early June 2020, in order to better conform to the regular academic year curriculum. CLWA and the many experts and volunteers who support the event were happy to make the change, hoping for

a lovely spring day instead of the drizzly Octobers that have become traditional.

CLWA looks forward to resuming this day of fun, learning, and exploration as soon as conditions allow.



## CRYSTAL LAKE & WATERSHED ASSOCIATION

P.O. Box 89 • Beulah, MI 49617  
Tel 231/882-4001  
Fax 231/882-7810  
info@CrystalLakeWatershed.org  
CrystalLakeWatershed.org

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is published twice a year and is a benefit of membership in the Crystal Lake & Watershed Association. Back issues and membership information are available on the CLWA website:

[crystallakewatershed.org/  
education/newsletter](http://crystallakewatershed.org/education/newsletter)

## CLWA ANNUAL MEMBERS MEETING 2020

All are welcome to come and hear updates on swimmer's itch control, invasive species treatment, and other current CLWA activities.

**SATURDAY  
JULY 18 AT 9:30 A.M.  
CONGREGATIONAL SUMMER ASSEMBLY  
COMMUNITY BUILDING**



*Courtesy WalkSoftly Photos*

## MEET THE CLWA!

The CLWA will be participating in these local events during the summer of 2020. Please visit our booth and say hello! Let us know what's on your mind. Information on protecting our watershed will be available. CLWA T-shirts and hats will be for sale.

- |              |   |
|--------------|---|
| July 22      | Congregational Summer Assembly Arts and Crafts Fair<br>10 a.m. – 4 p.m. |
| August 1     | Beulah Sidewalk Sale and Community Showcase<br>10 a.m. – 4 p.m.         |
| August 14-15 | Frankfort Art Fair  |

**Watch the CLWA website for possible changes and cancellations.**