

**FIELD TRIP TO CLWA BOAT WASHING STATION AT
DNR CRYSTAL LAKE BOATING ACCESS SITE**

BOAT WASH RESOURCES PACKET



**MICHIGAN LAKES AND STREAMS ASSOCIATION ANNUAL CONFERENCE
MAY 6, 2023**

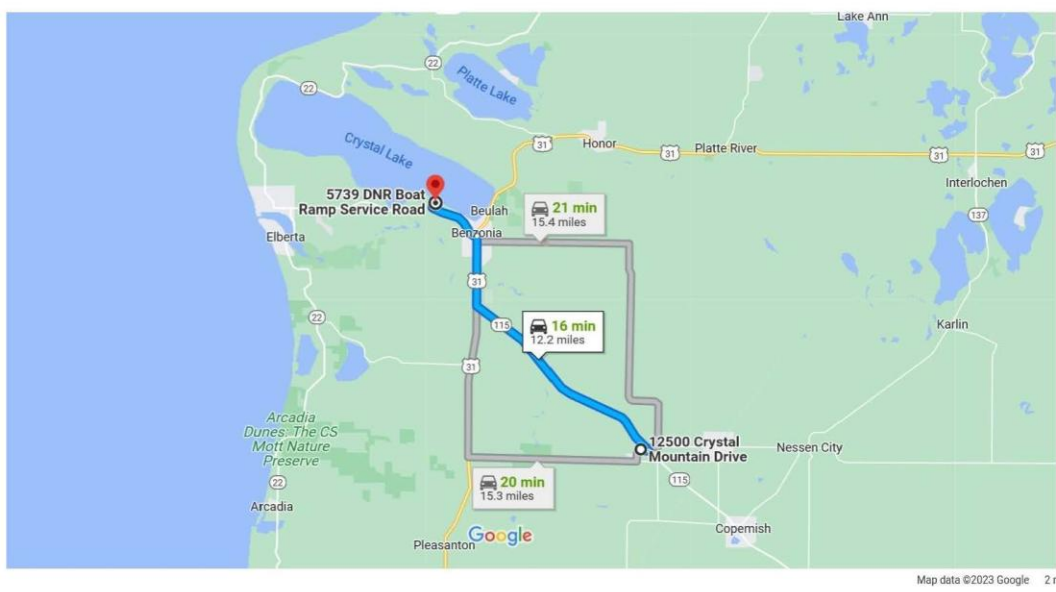


CRYSTAL LAKE & WATERSHED ASSOCIATION
P.O. Box 89 Beulah, Michigan 49617

"Protecting Crystal Lake Now for Generations to Come"

12500 Crystal Mountain Dr, Thompsonville, MI 49683 to 5739 DNR Boat Ramp Service Rd, Frankfort, MI 49635 Drive 12.2 miles, 16 min Cancel

You can enter notes here.



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The CLWA boat washing station is located at the DNR Crystal Lake Boating Access Site, off Mollineaux Road and M-115 on the southwest shore of Crystal Lake. It is 6 miles east of Frankfort (2 miles west of Benzonia/US-31).

Address:
5739 DNR Boat Ramp Service Road
Frankfort, MI 49635

The facility operates May-October, 24/7, part-time staffed and self-service at all other times. There is no charge. The process is quick and easy, taking no more than five minutes for most boats.

All the Townships surrounding Crystal Lake have ordinances (\$500 fine) requiring boats to be washed prior to being launched into the lake if they have been operated in another watershed in the last 10 days.



STOP AQUATIC HITCHHIKERS!



CLEAN BOATS CLEAN WATERS
Clean, Drain, Dry

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INFORMATION HANDOUT

(DISTRIBUTED AT ART FAIRS, CHAMBER OF COMMERCE, ETC.)



VIEW OF DNR LAUNCH SITE AT CRYSTAL LAKE

CLWA BOAT WASHING STATION ON CRYSTAL LAKE

INTRODUCTION

The Crystal Lake & Watershed Association (CLWA) developed and funded the boat washing station at the DNR Crystal Lake Boating Access Site at Mollineaux Road and M-115 in Benzie County. The station began operation in summer 2013, following the opening of the access site in 2012. Unlike most new boat washes that must be designed to fit the confines of existing launch sites, the Crystal Lake station was installed as part of the construction plan for a new access site. Authorization for the wash station came as part of a court settlement between the Michigan Department of Natural Resources and the CLWA.

Scientific studies show that washing with a high-pressure stream of water is a practical and effective way to remove invasive species from boats and equipment. Washing with moderately hot water is doubly effective in destroying the VHS fish virus.

Boat washes require water and power sources, provision for wastewater runoff, cooperation from the launch-site owner, and enough space for vehicles and boat trailers to wash without blocking the launch ramps.

This document compiles relevant information from the CLWA's experience which may be helpful to other lake associations interested in similar strategies to combat the introduction of invasive species.

HISTORY

Crystal Lake, at nearly 10,000 acres, is the 9th largest inland lake in Michigan. Boaters can access the lake at a number of points, including a launch ramp in the village of Beulah, but those sites are limited by parking, water depth, wind and other factors. Thus the Michigan DNR had long identified the need for a state-owned access site that would better meet the needs of the boating public.

In early 2004 the DNR presented a plan for the launch at a hearing before the Michigan Department of Environmental Quality (DEQ, now EGLE). The CLWA and other groups expressed grave concerns about the size and environmental impact of the proposed plan, but nevertheless the DEQ granted the permit for the project.

The CLWA recognized that Crystal Lake needed better boating access, but had an obligation to protect the lake's water quality for future generations. It objected to the proposed plan on the basis that it violated the Wetlands Protection Act and the Environmental Protection Act in size,

scope, and design – specifically that it destroyed large amounts of wetland, required excessive dredging of lake-bottom sediments, and would install an expanse of impervious paving. The CLWA sought not to block the launch, but to achieve a substantial reduction in size.

Thus began a six-year legal struggle at a cost of more than \$100,000.

In the [final settlement](#) (2010) CLWA withdrew its objections to the development of the boating access site, while the DNR agreed to make several environmental improvements (more wetland preservation, much less impervious surface, a smaller lakeshore footprint) and to make space available for the wash station.

EQUIPMENT

- The wash station is located in the upper parking area of the Crystal Lake Boating Access Site.
- A 10 by 14 foot building houses the equipment and provides “office” for staff and storage space for hand-outs.
- Water source: well water, heated to 110 degrees and applied to boats through a high pressure nozzle.
- Pumping mechanism is a commercial carwash unit.
- A retractable hose reel was mounted on the end of the building, along with a push-button to activate the pump and heater. (The hose reel has since been removed.)
- Heat source: on-demand propane-fired water heater.
- Drainage: used wash water drains to a swale that was created to catch parking lot runoff.
- Motion activated exterior lighting allows night use (without being too intrusive to the neighbors).
- “Off-the-shelf” closed circuit video system: allows staff to monitor number of boats using the self-service option while station unstaffed, also assists with security.

OPERATIONS

- The boat wash is open to all users, free of charge.
- Tow vehicle and trailered boat approach in a single lane on a one-way paved loop off the main entrance to the boat launch site. Traffic cones and signs show drivers where to stop.
- A spray wand, similar to those in a self-serve car wash, is used to clean vessels, trailers and equipment before boaters proceed to the launch ramp.
- At times when the station is not staffed, boaters may activate the system automatically at the touch of a button.

- Cameras monitor usage and building security. Video is reviewed daily to document number of launches and washes.

Annual statistics (similar for last three years):

- Launches – over 4,000
- Washed – ca 800 (i.e. about 20%)

Reminder: boat only needs to be washed if it (1) has been in another lake and (2) it has been out of the water for less than 10 days. The majority of our launches are for boats that only stay on Crystal Lake, so do not need to be washed each time. Those boaters are given a “Green Pass” to indicate their status to the attendant.

STAFFING

The station is available for self-serve use 24/7 once freezing temperatures are over. However we staff the wash as much as possible during normal boating hours, normally 9 a.m. to 4 p.m. from May 15 to October 15 (depending on weather). Usually one person is on duty, two during busy weekends (mainly July 4).

Personnel: Manager and 2-3 part-time, currently one volunteer.

Part-time employees typically high school or college students, but we have had retirees (especially during gaps when students return to school). Manager has held position for 10 years.

CONSTRUCTION COSTS

The DNR provided a no-cost lease for use of the site, in addition to performing site excavation and paving the road to the wash station. The boat-wash construction and operation are entirely funded by CLWA.

ORIGINAL BUDGET (April 2012)

Fixed Wash Unit (Turnkey Systems Inc)	\$9,774
<i>Install water heat unit (LD Heating)</i>	\$600
Concrete Work	\$6,785
Well	\$5,806
Building	\$2,778
<i>Electrical</i>	\$600
<i>Plumbing</i>	\$600
<i>Permits</i>	[\$500]
Overhead service wire to site (DNR)	-----
<i>Underground wire to building (Consumers)</i>	[\$800]

SUB-TOTAL	\$28,243
<i>Initial propane fill</i>	\$800
TOTAL	\$29,043

Note: Actual cost to open was approximately \$27,000. Permits were budgeted but not required because the site is state-owned. The DNR agreed to pay the cost of the underground service wire.

The Crystal Lake & Watershed Association raised more than \$45,000 in private contributions to build the station and support the first year of operation.

CURRENT ANNUAL OPERATING COSTS

- Staff: paid \$15/hour, with increases for return employees; total payroll ca. \$25,000
- Other expenses:
 - Propane and electric \$1,000
 - Maintenance of building and equipment \$1,000-\$2,000 (includes seasonal plumbing winterizing and opening; the equipment has been very reliable)

RULES AND ORDINANCES

Our general rule of thumb is that boats need to be washed if they have been in any other waterway in the past 10 days. We use a “Green Pass” system to move the “clean” boats through. Boaters may also choose to wash their vessels *after* leaving Crystal to prevent the transfer of species into other lakes.

In 2013 the CLWA proposed an [Aquatic Nuisances Ordinance](#) that was quickly adopted in the Village of Beulah and the three townships surrounding Crystal Lake. Accompanied by a fine of \$500, it requires that people wash off boats, trailers or other gear before launching if they have operated in other bodies of water within 10 days, and prohibits the dumping of bait boxes or aquariums.

A new [Michigan boating law](#) went into effect in March 2019 that requires thorough cleaning of all watercraft (including non-motorized), emptying all water from the craft, and also restricts disposal of fish and bait.

COMMUNICATION/OUTREACH

Our initial outreach plan referenced the “seat belt model,” the process that encouraged American motorists to buckle up. It had three elements:

1. Extensive education to create awareness of the problem of invasive species and the benefits of boat washing

2. Provide equipment convenient and simple to use, quick and free
3. Laws to provide back-up and convey seriousness

Items 2 and 3 were in place by 2014, but that was only the beginning of what we knew would be a long continuing educational effort to develop buy-in from the boating community.

Education, not law enforcement, would be the key to success.

Signage:

- CLWA developed and installed signage for the new wash station and other lake access sites for an initial cost of about \$3,000. The signs explained the importance of boat washing and that it was required by local ordinance; they made clear that service at the wash station was free.
- Signage at the wash station was improved in 2020 at a cost of \$1,000.
- In 2021 the CLWA installed upgraded signage at 25 secondary launch sites around the lake (e.g. road ends) at a cost of ca \$3,500; these signs explain legislative boat washing requirements and provide a map to the boat wash station.

Printed materials:

- Staff developed the “Green Pass” handout for repeat users of the boat launch who have been educated. If they have not been to other water bodies within 10 days, they display the pass and go through to launch.
- Staff distributes the [EGLE rack cards](#) developed for the Clean Boats Clean Waters program

CLWA website <https://crystallakewatershed.org/boat-wash/>

CLWA newsletter [“Crystal Whitecaps”](#)

Events:

- CLWA hosts a booth at 3 annual area art fairs, where we distribute information on invasive species, boat cleaning, and maps to the boat wash.
- Participated in two Great Lakes Aquatic Invasive Species Landing Blitzes; in 2018 collaborated with the Benzie Conservation District and its mobile boat wash at the Beulah village boat launch, where we distributed maps to the boat wash.

The video surveillance at the boat wash indicates that washing compliance has improved over the years – even when the wash station is not staffed – as boaters have become more educated. Our area has also benefited from the outreach activities of the Benzie Conservation District’s mobile boat washing program. Still, we recognize that more effort now needs to be

focused on paddle craft and Crystal's secondary sites where no boat cleaning equipment is provided.

Finally, our experience confirms that personal contact is by far the most effective method of promoting boat washing. The staff is trained not only in the proper techniques of boat washing, but also how to approach and converse with boaters in an informative and non-confrontational way. In the ideal world, the day may come when boat washing becomes an automatic part of recreational activity, but until then the CLWA aims to provide as much staff coverage as possible.

CONCLUSION

Invasive Eurasian watermilfoil and zebra mussels already are present in Crystal Lake, but so far no additional harmful invasives have been detected. Clearly the CLWA has invested heavily in its boat washing installation, but other lakes are spending much more than this to try to manage infestations of invasives that have become completely established while enjoyment of these lakes has degraded.

Crystal Lake remains one of America's highest quality lakes for fishing, swimming, and recreational boating. Any damage to the lake would have unacceptable impacts on our local area economy and quality of life.



More information: Michigan Clean Boats Clean Waters
https://www.canr.msu.edu/clean_boats_clean_waters/

GREEN PASS

When to wash your watercraft: If it has been in any other lake in the last 10 DAYS

Do your part to keep this lake clean. If you do not need to wash your watercraft, show attendant your green pass.

Michigan State law and local township ordinances require that all motorized and non-motorized watercraft, trailers and equipment be free of invasive species before entering Crystal Lake.

Crystal Lake is one of the few inland lakes in Michigan still relatively free of aquatic invasive species. Our goal is to keep it that way. Invasive organisms can significantly affect the quality and enjoyment of this precious resource. The free boat inspection, information distribution, and power washing program at the Mollineaux Road DNR public access site is part of the Crystal Lake & Watershed Association's invasive species control program.

IT IS MUCH EASIER TO PREVENT THE INTRODUCTION OF NEW INVASIVES THAN TO ERADICATE THEM ONCE THEY ARE ESTABLISHED!

Many invasives arrive as hidden hitchhikers on watercraft, trailers, or equipment, or in bait buckets, bilges, or ballast tanks. They can be very tiny and can lodge in the smallest crevice or pocket.

The CLWA aquatic plant survey has already demonstrated the presence of invasive Eurasian milfoil in Crystal Lake, but its distribution is still limited and possible to control. It's no coincidence that its concentration is in the areas where boats are most frequently launched: Beulah beach, Lobb Road end, and the Mollineaux Road site.

Zebra mussels are also present in Crystal, but their even more damaging cousin, the quagga mussel, has not yet been detected. This tiny mollusk can form dense colonies that clog pipes and consume algae and plankton that form an important part of the aquatic food web.

In addition to quagga mussels, potential threats that have been found in nearby waters and are of immediate concern include the New Zealand mud snail, starry stonewort and hydrilla.

FOR MORE INFORMATION ON MICHIGAN INVASIVE SPECIES: www.michigan.gov/invasives



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An aquatic invasive species **ALERT** from the **Crystal Lake & Watershed Association**

Michigan state law and local township ordinances are now in effect that require boat, paddle craft, and personal watercraft operators to help prevent the introduction of invasive species into Crystal Lake. These regulations aim to insure that craft are thoroughly cleaned and free of lingering water before being launched.

Steps to remember:

- Launch your boat at the DNR site on Mollineaux Rd., the only public launch on Crystal Lake with a boat wash. It is staffed from mid-May through September, and available for self-service 24/7.
- Allow your boat, trailer and other equipment to be inspected and power washed if necessary.
- Drain bilges, live wells, ballast tanks and other water from your boat before it is transported.
- Do not dump bait into the water.

Under agreement with the Michigan Department of Natural Resources, the **Crystal Lake & Watershed Association** constructed and operates this boat washing facility as a public service for the protection of Crystal Lake...

Now for generations to come.

The Crystal Lake & Watershed Association is a 501(c)3 volunteer organization dedicated to preserving the environment and natural beauty of Crystal Lake and its surroundings. It monitors water quality and land use, and engages in action to combat threats such as invasive species and swimmer's itch.

For more information, visit www.CrystalLakeWatershed.org.

THE CLWA WELCOMES YOUR SUPPORT!

DONATION \$ _____	NAME _____
Donate on line at www.CrystalLakeWatershed.org OR make checks payable to Crystal Lake & Watershed Association (CLWA) , or charge to your MasterCard, Visa, Discover, or AmEx.	ADDRESS _____
Card No. _____ / _____ / _____ / _____	_____
Exp. _____ / _____ Sec. code _____	_____
Signature _____	

Send to: CLWA, P.O. Box 89, Beulah, MI 49617

New Boating Law Effective 2019

New requirements to stop the introduction and spread of Aquatic Invasive Species!



It's the law!

- ✓ **DO NOT** launch or transport watercraft or trailers unless they are free of aquatic organisms, including plants.
- ✓ **DO NOT** transport a watercraft without removing all drain plugs and draining all water from bilges, ballast tanks, and live wells.
- ✓ **DO NOT** release unsorted bait into the water.

Violation of the law is a state civil infraction. Violators may be subject to fines.

Follow these steps:

1. **CLEAN** boats, trailers and equipment.
2. **BRAIN** live wells, bilges, and all water by pulling drain plugs.
3. **DRY** boats and equipment.
4. **DISPOSE** of unsorted bait in the trash.

Aquatic invasive species such as zebra mussels and Eurasian watermilfoil are often introduced and spread through recreational boating and angling activities and can have long lasting negative impacts such as reduced native species diversity, waterways choked with weeds and reduced opportunities for fishing, boating and swimming. Fortunately, boaters can help prevent the spread of invasive species with just a few simple steps.

- ✓ **INSPECT** boats, trailers and equipment and remove all mud, debris and aquatic plant material from trailers and watercraft before launching or entering a watercraft. Use a hose or power washer when available and dry all equipment thoroughly before leaving the Access area.
- ✓ **BRAIN** live wells, bilges and all water from boats before leaving the access site. Drain/flush live wells and bilges with a bleach solution (1:1 cup bleach to 5 gallons of water) when possible. Fish diseases and microscopic life stages of aquatic invasive species can be hiding in seemingly clean water, so draining is an important step.
- ✓ **DISPOSE** of unsorted bait in the trash. Do not release bait into the water. Release of bait and shrimps can lead to the unintended introduction of aquatic invasive species.
- ✓ **DO NOT TRANSFER FISH** to water bodies other than where they were caught. This helps prevent the spread of both aquatic invasive species and fish diseases.



Inspection points on boats, trailers, and vehicles for aquatic invasive species. Be sure you're prepared!



Michigan Department of Environment, Great Lakes, and Energy (EGLE)
Environmental Assistance Center: 800-452-5279





SIGNAGE INSTALLED AT 25 SECONDARY LAUNCH SITES

2021