

How can I protect my shoreline and property from high water levels?

When considering what actions to take along the shore to combat high waters, it is important to consider the health and the dynamic variability of both the Great Lakes and inland lakes and the potential impacts on neighboring property. Excessive or poorly designed structures can increase damage to neighboring properties and disrupt natural processes along the shoreline.

What is the best way to protect existing structures?

The best option for the health of the lake and your pocketbook, is to protect existing structures by moving them back from the shoreline. Home movers can successfully remove a house from its foundation and put the structure on a new foundation at a safer location. Moving your house farther landward gives you a natural buffer from shoreline erosion and often costs much less than construction and maintenance of permanent shore protection. Visit watershedcouncil.org for FAQs on Moving Your House.

For example, sandbags are not an effective solution for long-term shore protection. Sandbags are not a preferred method of protecting against erosion as the bags are temporary; they cannot withstand wave energy or ice movement. The bags break open and become litter that impacts water quality and wildlife on the shoreline and in the lake; they slump and cannot hold the slope, and shoreline erosion continues.

In addition, using lake bottomlands as a source of sand to fill sandbags also has an adverse impact on the environment and public trust. This will likely not be permitted because doing so removes natural sand from the water's edge that provides necessary material for shoreline and beach creation, stabilization, erosion protection, and wave energy dispersal.

Excessive boulders or concrete walls are not ecologically preferred solutions. Hardening the shoreline, through riprap or revetments, can actually create erosion for your property and adjacent areas. They can alter sand movement and water current, and can create unpleasant visual and aesthetic impacts. Furthermore, once a bluff or beach is reinforced, it is an ongoing financial investment to maintain the structure, which will be battered and worn down by the lake over time. It is also important to note that homeowners are responsible for damage caused to neighboring properties from their individual actions. If a seawall or riprap is installed incorrectly or fails and causes erosion of your neighbor's property, you are civilly liable for the damages your actions caused.



Photo Credit: Brian Marshall, EGLE

Could bioengineering be another option for shoreline protection on inland lakes?



Another option for inland lakes is bioengineering. Bioengineering is a form of erosion control that incorporates biological, ecological, and engineering concepts to produce a living, functioning shoreline system through the use of live and dead plant material, native soils, and structural materials.

It can be used to restore a shoreline where native vegetation has been removed. Bioengineering provides fish and wildlife habitat and water quality benefits that may be lost with other stabilization methods. It can be designed in conjunction with riprap for high energy systems, allowing the shoreline to be stabilized while providing additional benefits to the lake ecosystem.

Bioengineering is usually less expensive than structural methods like concrete seawalls. Some applications can be done by the homeowner while other applications will require a contractor. The estimated cost of installing a natural shoreline, including bioengineering materials, averages from ten to twenty dollars per linear foot. The financial cost of hard armoring the shore (using seawalls and bulkheads) can range from forty-five to two hundred dollars and up per linear foot. Contact the Watershed Council for guidance and recommendations with respect to developing plans for an appropriately-designed bioengineered shoreline.

WATERSHEDCOUNCIL.org
231.347.1181

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SPECIAL THANKS TO: Petoskey-Harbor Springs Area Community Foundation and Charlevoix County Community Foundation for supporting this educational publication.



What happens if my home falls into the lake?

A property owner is legally responsible for ensuring that their structures, such as homes and docks, are removed from lake bottomlands and water in the event these structures fall into the water.



What permits are needed for shoreline protection activities?

To install shoreline protection on the Great Lakes, you will need a permit from both the Michigan Department of Environment, Great Lakes, and Energy (EGLE) and the United States Army Corps of Engineers (USACE).

Only one application is needed for both agencies; however, the permits are issued separately. For inland lakes, a permit is only needed from EGLE.

The Joint Permit Application is submitted through www.Michigan.gov/MiWaters. Other local regulations may also apply.

Many shore protection projects qualify for expedited review under general permits. In addition, permits will be expedited, often within a matter of days, if a house or critical infrastructure is in immediate danger due to high water levels. EGLE can also issue emergency conditional permits when needed to protect the public health, safety, or welfare. These emergency permits are often granted the same day they are applied for. It is important to note that if there is not active and ongoing erosion onsite, a permit should not be approved for modification of the shoreline, as this would be to the detriment of the environment, public trust, and riparian interests of adjacent owners.

It is also recommended that anyone considering a shoreline protection project contact EGLE prior to submitting a permit application. Shoreline property owners can request a pre-application meeting with EGLE Water Resources Division staff. A pre-application meeting can provide landowners with a written copy of EGLE's findings regarding the need for a permit along with any other written comments or suggestions such as ways to avoid impacts to aquatic resources. You can contact EGLE's Water Resource's Division Gaylord District Office at 989-731-4920.

Who can I contact for general shoreline questions?

ELGE Assistance Center (EAC)
800-662-9278
EGLE-Assist@Michigan.gov
www.Michigan.gov/HighWater

EAC is staffed Monday to Friday,
8:30 a.m. to 4:30 p.m.
Tell the operator that you are calling about shoreline erosion; you will be transferred to a field staff person. After hours, leave a message, and someone will reply on the next business day.

USACE High Water Levels Website
www.lre.usace.army.mil/Missions/Great-Lakes-Information/Great-Lakes-Information.aspx#ICG_ETH_22302

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