

Native Aquatic Plants

Native aquatic plant preservation and restoration is a best management practice for Michigan’s inland lakes. Aquatic plants play an extremely important role in lake processes by stabilizing sediments, reducing turbidity, absorbing wave energy, oxygenating the water, and providing habitat and food resources for a variety of fish and wildlife. Shoreline development projects that remove or shade submerged, emergent, and floating-leaf plants can reduce lake ecosystem services and alter fish recruitment and impair fishing and other recreational opportunities. Native aquatic plants are a vital component of inland lake systems, and preserving and restoring aquatic plants can benefit fishing and other recreational opportunities in addition to protecting shoreline properties and improving water quality.

ADVANTAGES of native aquatic plants

Stabilizes Sediment

Aquatic plants hold sediment in place which reduces turbidity and protects water quality. Turbid conditions result in a loss of biodiversity and reduced water quality.

Absorbs Wave Energy

Aquatic plants dampen wave energy and protect shoreline properties from erosion.

Fish and Wildlife Habitat

Aquatic plants provide valuable habitat and food resources for birds, amphibians, reptiles, invertebrates, and fish. Additionally, plants provide spawning and nursery areas for many species and refuge from predators.



Elimination of aquatic and nearshore plants have resulted in erosion, reduced recreational opportunities, and loss of productive habitat. Photo courtesy of Michigan Natural Shoreline Partnership.



Native aquatic plants of Michigan’s inland lakes are essential component of lake health. Water quality, biodiversity, and recreation depend on healthy native aquatic plant populations. Photo courtesy of Eric Calabro.

DISADVANTAGES of removal of native aquatic plants

Reduced Habitat Quality

Increased shoreline development and excessive removal of aquatic plants reduces habitat complexity and has had negative implications for fish and other aquatic species. Physically complex shore zones support a richer biota than simple ones, with higher species diversity.

Increased Erosion

The absence of wave dampening aquatic plants, in combination with shallow-rooted turfgrass, results in shoreline erosion.

Decreased Water Quality

Lack of sediment stabilizing aquatic plants results in increased turbidity and a decrease in water quality.

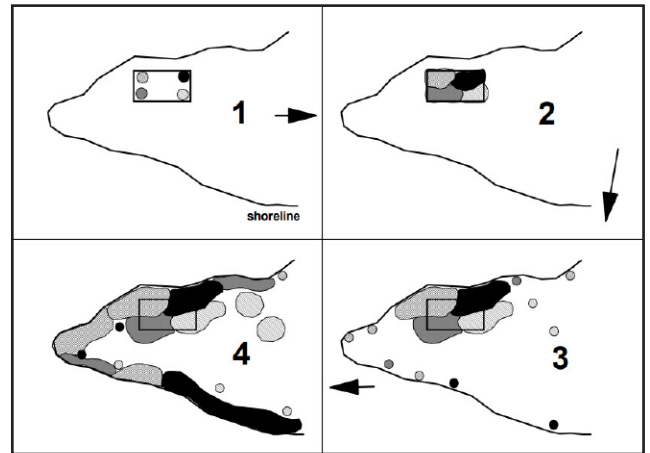
INLAND LAKE FACT SHEET SERIES: NATIVE AQUATIC PLANTS

Protect native aquatic plants by using selective control techniques for aquatic invasive species. Maintain an “aquatic garden” of native aquatic plants within your riparian area.

Minimize shoreline development and impacts. Design shoreline projects to minimize native plant removal and shading of native plants.

Restore native aquatic and wetland plants to shoreline areas. Coir logs or natural, biodegradable wave breaks can be used to establish plants along shoreline areas. There are a variety of restoration methods that can be employed in various situations. The resources referenced in the photo captions are a good starting point to narrow down restoration options for your property.

Reduce aquatic invasive species and use selective control techniques to manage aquatic invasive species.



Founder colonies (1) are established by planting in well-protected areas. Plants grow (2) to fill protected areas and begin to spread. Spread continues (3) and new colonies begin to develop from seeds and fragments. New colonies then spread (4) to provide large-scale fish habitat. Image credit: Smart, M., G. Dick, J. Snow, L. Williams. 2006. Aquatic Plant Establishment Workshop.



Different techniques for propagating aquatic plants. Left to right: Hand plant, weights, plaster, peat pot, and burrito. Image credit: Rohal, C.B., L.K. Reynolds, C.R. Adams, C.W. Martin, E. Latimer, S.J. Walsh, J. Slater. 2021. Biological and practical tradeoffs in planting techniques for submerged aquatic vegetation. *Aquatic Botany* 170 (2021) 103347

Apply for a Permit

If you would like to restore aquatic plants in your lake, a permit from EGLE may be required. Some activities may also be exempt from permitting. If your project meets the criteria in EGLE’s Minor Project Categories or General Permit Categories it can be processed on a faster timeline and at a reduced fee. For more information, and to submit a permit application at Michigan.gov/JointPermit.

For More Information

EGLE Inland Lakes: Michigan.gov/LakesAndStreams

Michigan Natural Shoreline Partnership: ShorelinePartnership.org

Michigan Inland Lakes Partnership: Canr.msu.edu/MichiganLakes

Michigan Shoreland Stewards: MiShorelandStewards.org



800-662-9278 | Michigan.gov/EGLE

The Michigan Department of Environment, Great Lakes, and Energy does not discriminate on the basis of race, sex, religion, age, national origin, color, marital status, disability, political beliefs, height, weight, genetic information, or sexual orientation in the administration of any of its programs or activities, and prohibits intimidation and retaliation, as required by applicable laws and regulations.

09/2021