

## Environmental Policy

The Higgins Lake Property Owners Association supports:

1. Maintaining the legal lake level established in 1926 as amended in 1982.
2. A comprehensive, science-based lake wide program to better understand and control Swimmer's Itch.
3. Efforts to reduce nutrient levels in Higgins Lake, including: the proper and frequent servicing and maintenance of septic systems, the use of phosphate free detergents, the preservation and restoration of shrubs and trees along the shoreline to utilize nutrients and reduce sedimentation, minimizing the use of lawn fertilizers near the lake and promoting green belts around the lake.
4. Sustainable development and land use practices, including: sound watershed management planning, the conservation of land around the lake and in the watershed, the preservation of old growth trees and plantings of trees that benefit wildlife, zoning regulations to maintain property values and ensure building densities which do not exceed the environment's capability to assimilate.
5. Efforts to reduce the impact of toxic substances in the lake, including: reducing hydrocarbon emissions from watercraft, reducing or eliminating the nearshore or in-the-water application of pesticides, herbicides and chemicals that are persistent and or become concentrated in the food chain (bioaccumulation).

The HLPOA does not support any activity that is unlawful or any regulated activity which is conducted without the necessary local, state and federal permits or that is conducted in violation of such permits.

## Shoreline Erosion

Shoreline erosion is a natural process affecting different areas of a lake differently. Factors which contribute to erosion include: location, water level, wind, waves, ice push, soil type, slope and runoff. Engineers have determined that wind-driven waves are the main factor in determining severity<sup>1</sup>.

Areas subject to erosion or where erosion is occurring require protection. In many cases, the best management practice for shoreline erosion is simply retaining the natural characteristics of your property. Clearing shoreline trees, shrubs and native vegetation and increasing runoff will increase erosion.

### Protecting your shoreline...



A landscaped shoreline can be beautiful, will minimize erosion, provide wildlife habitat and reduce nutrients entering the lake.

**Donations for further environmental studies can be sent to the HLPOA, P.O. Box 55, Roscommon, MI 48653.**

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<sup>1</sup> [www.mishorelinepartnership.org/shoreline-erosion-control.html](http://www.mishorelinepartnership.org/shoreline-erosion-control.html)

# Higgins Lake Property Owners Association



## Environmental Bulletin No.3

## Shoreline Erosion and Management Practices

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[www.hlpoa.org](http://www.hlpoa.org)

**Soft-armor** using plant materials and structures designed to withstand wave and ice action is appropriate anywhere there are adequate soil, sunlight and water conditions for plants to grow. Figure 1.



Soft-armed shoreline

The use of coconut or other natural fiber material and erosion control blankets such as jute, coir (coconut husk fiber) and wood-fiber blankets are useful on slopes for holding soil in place and helping establish vegetation.

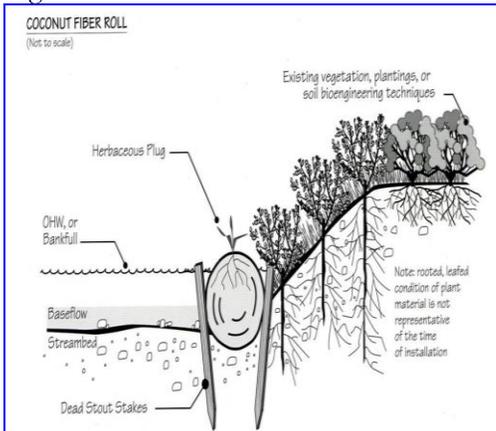


Figure 2. Cross section of erosion control blanket and coconut fiber log.

**Hard armor** Rip-rap is the placement of large rocks in the water and up the slope along the shoreline. Figure 3.



Hard-armed shoreline

Riprap should be lined with geotextile fabric to prevent soil loss behind rocks and “slumping” of the slope.

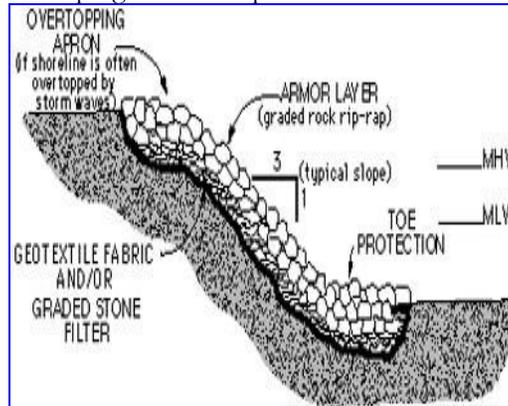


Figure 4. Rip rap/geomat cross section.

A listing of plant materials suitable for soil bioengineering is available from the [USDA/NRCS Plant Materials Technical Note – No. 1](http://www.usda.gov/nrcs/technical/note-no-1/) and Landscaping for Water Quality is available from the MDEQ [http://www.michigan.gov/documents/deq/wrd-nps-landscape4wq\\_401217\\_7.pdf](http://www.michigan.gov/documents/deq/wrd-nps-landscape4wq_401217_7.pdf)



Figure 5. “Joint planting” between rocks for a softer look and greater stability.

### Cost Estimates

The costs vary by what solution is needed. A homeowner can expect to spend an estimated \$45 - \$70 per linear foot on materials<sup>2</sup>. Visit Michigan Natural Shoreline Partnership for more information and reference materials.

### Regulatory Requirements

Dredging or filling and placement of a structure on bottomlands is prohibited without a permit from the Michigan Department of Environmental Quality. Permit fees are \$100 for minor projects and \$50 for activities covered under a general permit.

For more information contact the local MDEQ, WRD Cadillac field office: [deq-wrd-district-cadillac@michigan.gov](mailto:deq-wrd-district-cadillac@michigan.gov) or visit the Inland Lake and Streams Permits page of the [www.michigan.gov/deq](http://www.michigan.gov/deq)

<sup>2</sup> www.mishorelinepartnership.org