

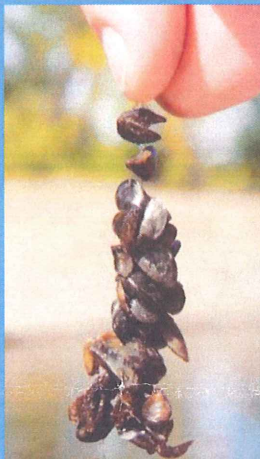
What Can YOU do to Halt the Spread of Aquatic Invasive Species (AIS)?



Zebra Mussels impact recreational use of lakes



Zebra Mussels attach to plants



Juvenile Zebra Mussels are small



Zebra Mussels on a native clam - ALSO: Zebra Mussels deplete food supply for native fish

- **Hire dock and boat lift installers that are DNR trained Lake Service Providers (LSP).** It's the law for anyone working for hire in Minnesota public waters. The business needs a permit - the worker needs DNR certification. (DNR website - search **LSP**)

Ask to see the DNR issued certificate of the LSP dock and lift worker. Businesses and workers that are properly trained will be happy to show you their credentials.

- **Know that watercraft and all water-related equipment can spread AIS.** This includes fishing boats, jet skis, wakeboard boats, sailboats, scuba gear, float planes, canoes, kayaks, all fishing gear, waders, docks, boat lifts, moorings, and waterfowl hunting gear.

- **Learn to identify each aquatic invasive** (zebra mussels, Eurasian watermilfoil, spiny water fleas, etc). Establish a lake monitoring team for early detection of new AIS infestations which translates to quicker and more effective treatment options. Be aware of AIS not currently in MN but considered a threat such as hydrilla. (DNR website - search **aquatic invasive identification**)

- **Know where designated infested waters are** in Minnesota and other states. (DNR website - search **infested waters**)

- **Educate guests!** Make sure transported watercraft or water-related equipment of guests arriving from other lakes/ivers (including out-of-state) are free of zebra mussels and other Aquatic Invasive Species. (Eurasian watermilfoil, spiny water fleas, Flowering Rush and others)

Watercraft coming from infested waters should adhere to recommended dry times or professional decontamination. (100thmeridian.org - search **dry time estimator**)

- **Encourage resorts/campsites/hotels to train marina employees** on AIS and to use precautionary measures when working with water-related equipment arriving from other lakes and rivers. All arriving watercraft and water-related equipment needs to be free of AIS and **Clean/Drain/Dry** before entering the water.

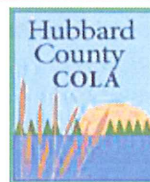
- **Organize a volunteer inspection program** for public accesses and contact the DNR for training. Be "**Eyes and Ears of the Lake**". (DNR website - search **watercraft inspection**)

- **Promote good AIS relationships** among your lake neighbors, the DNR AIS Specialist and law enforcement by including DNR and law enforcement as speakers during your lake association meeting. (DNR website - search **aquatic invasive species contacts**)

- **Report suspected new AIS sightings to the DNR.** It's the law!

- **Know current laws and follow them.** Before leaving public accesses, water must be drained from all water-related equipment. All bait containers with lake water must be drained and watercraft must be transported with the plug out. (DNR website - search **invasive species laws**)

QUESTIONS: Minnesota Coalition of Lake Associations MinnesotaCOLA@gmail.com
DNR - Ecological and Water Resources - 651-259-5100 www.dnr.state.mn.us
Local Sheriff or Conservation Officer



Produced and distributed by
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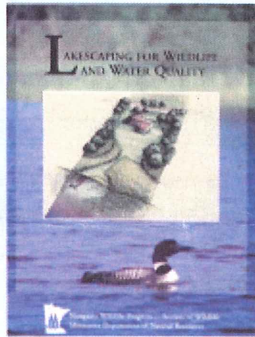
Shoreline Alterations: Natural Buffers and Lakescaping



Where can I find additional information?

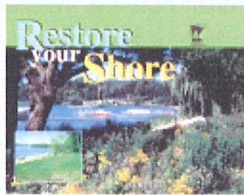
Book

Lakescaping for Wildlife and Water Quality (C.L. Henderson, C.J. Dindorf, F.J. Rozumalski, 1999, Department of Natural Resources*) is a book showing techniques to prevent shoreline erosion and restore wildlife habitat, wildflowers, and clean water.



CD-ROM

Restore Your Shore (2002, Department of Natural Resources*) is a sequel to the lakescaping book. This instructional CD-ROM presents ideas to use in protecting and restoring natural shorelands. Visit the *Restore Your Shore* website at <http://www.dnr.state.mn.us/restoreyourshore/index.html>



Web Links

Information about native plants and suppliers is available through the DNR, University of Minnesota Extension Service, and Wild Ones:

- <http://www.dnr.state.mn.us/gardens/nativeplants/suppliers.html>
- <http://www.extension.umn.edu/distribution/naturalresources/DD7357.html>
- <http://www.for-wild.org/landscap.htm>

Technical assistance is available from local watershed districts and soil and water conservation districts:

- <http://www.mnwatershed.org/alpha.htm>
- <http://www.bwsr.state.mn.us/directories/SWCDs.pdf>

*Available through Minnesota's Bookstore:
<http://www.minnesotasbookstore.com>

What can I do to create a more natural shoreline?

A natural shoreline is a complex ecosystem that sustains fish and wildlife and protects the entire lake. Native vegetation along the shore acts as a buffer zone, intercepting nutrients and reducing runoff, erosion, and sedimentation. Aquatic plants provide food and shelter for ducks, songbirds, and other animals while reducing problems caused by Canada geese and burrowing muskrats. Plants growing in and near the water are critical for wildlife and fish habitat and a healthy lakeshore. Tall plants like bulrush, lake sedge, and cattail can reduce the energy of wave action to minimize erosion and help maintain water quality.

Creation of a buffer zone is the essence of the lakescaping concept. A buffer zone is an unmowed strip of native vegetation that extends both lakeward and landward from the water's edge. A buffer zone that extends 25-50 feet from shore is preferable, but even 10-15 feet provides benefits. Installing a buffer zone can restore many functions critical to the health of the lake that may have been eliminated previously by sod, hard structures, or mowing. Planting native grasses and species of flowering plants will diversify and enhance your shoreline and provide a seasonal show of color.



A buffer zone of vegetation provides a natural appearance to your shoreline and protects wildlife habitat, water quality, and fish.

Creating and maintaining natural buffer zones along the shore does not mean your property has to look unkempt. Buffers and upland islands of trees, shrubs, and flowers can bring natural beauty to your yard. Additionally, tall native plants typically have deep root systems. They will slow erosion, decrease ice damage, increase rain infiltration, and act as a barrier to discourage geese from walking on your shoreline property.

Your shoreline is part of a larger community and ecosystem. Individual choices by many have cumulative impacts on a lake and its ecosystem. Your actions can restore or degrade the quality of the ecosystem. Restoring your lakeshore to a more natural condition is important, even if your neighbors are not restoring theirs, because it can help wildlife habitat, water quality, and fish.