



Preventing the Introduction of Exotic Species

Shoreland Best Management Practices

Number 15 of 18 in the Series

What Are Shoreland BMPs?

Best Management Practices (BMPs) are actions you can take to reduce your impact on the environment. BMPs have been described for agriculture, forest management, and construction. This fact sheet describes BMPs you can adopt on your shoreland property to help protect and preserve water quality. In many cases, the best management for shorelands may be retaining the natural characteristics of your property.

Why Are Exotic Species a Problem?

Today, "exotics"-the term for organisms that have been introduced into areas where they are not native-are considered to be among the most severe, worldwide agents of habitat alteration and degradation. They are a major cause in the continuing loss of biological diversity throughout the world. They have caused extinction of some native species. Exotic species can be thought of as "biological pollutants."

Moving plants or animals, accidentally or intentionally, from one habitat into another where they have never been before is risky business. In the absence of predators, parasites, pathogens, and competitors from their native habitat, species introduced under favorable conditions will often overrun their new home and crowd out important native species. Once established, exotics can rarely be eliminated.

To Protect Your Lake from Exotics

There are many BMPs you can adopt as an individual to minimize the spread of aquatic exotic plants and animals:

- **Learn** what these organisms look like and monitor for their presence. If you suspect a new infestation of an exotic plant or animal, report it to Minnesota Sea Grant Extension in Duluth, (218) 726-8712, or the MN Department of Natural Resources (DNR) Exotic Species Program in St. Paul, 1-800-766-6000 or (612) 296-2835, or a local DNR fishery office.
- **Consult** the DNR for recommendations and permits before you try to control or eradicate an exotic pest. Remember, exotic species thrive on disturbance. Do-it-yourself control treatments often make matters worse and can harm native species.
- **Organize** educational campaigns and committees. Contact Sea Grant if you would like to become a volunteer zebra mussel monitor. Your lake association or civic group could also undertake an educational campaign in your area.
- **Conduct** public awareness events at water accesses (at DNR accesses, notify the DNR before planning an activity).
- **Don't transport water, animals, or plants from one lake or river to another.** In Minnesota, it is illegal to transport surface water

aquatic plants, or exotic species.

- **Remove** plants and animals from your boat, trailer, and accessory equipment (anchors, centerboards, trailer hitch, wheels, rollers, and axles) before leaving the water access area.
- **Drain** your livewell, bait bucket, and bilge water before leaving the water access area.
- **Empty** your bait bucket on land, never into the water. Never dip your bait bucket into one lake if it has water in it from another. A never dump live bait from one water body into another.
- **Wash** your boat, tackle, downrigger cables, and trailer with hot water. Flush hot water (at least 104°F) through your motor's cooling system and other boat parts that normally get wet. If possible, spray your boat, trailer, and accessories with hot, high pressure water everything dry for five days before transporting your boat to another body of water (both hot water and drying will kill zebra mussel).

Species of Concern

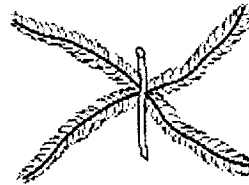
Aquatic exotic species that are causing particular concern in Minnesota today are shown below. Other exotics of concern are the common sea lamprey, rusty crayfish, white perch, flowering rush, and curly leaf pondweed. Species are not drawn in correct proportion to each other.



Don Luce
Bell Museum of Natural History

Zebra Mussel (*Dreissena polymorpha*)
Size: 1/4 to 2 inches

Eurasian Water Milfoil
(*Myriophyllum spicatum*)
Leaflet: 1/2 life size



MN DNR



M. Baradlai

Eurasian Ruffe (*Gymnocephalus cernuus*)
Size: 2 to 5 inches



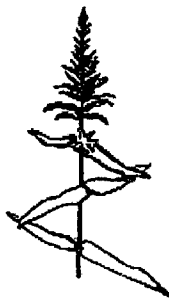
Donna Francis

Round Goby (*Neogobius melanostomus*)
Size: 2 to 12 inches



Don Luce
Bell Museum of Natural History

Spiny Water Flea (*Bythotrephes cederstroemi*)
Size: 3/8 inch



Purple Loosestrife
(*Lythrum salicaria*)
Size: 2 to 7 feet

MN DNR

For More Information...

call

regional offices of MN State agencies:

- Minnesota Sea Grant's Exotic Species Information Center,
2305 East 5th Street, Duluth, MN 55812-1445; (218) 726-8712
- MN Department of Natural Resources (DNR), Exotic Species Program

read

Zebra Mussel WATCH Citizen Network Guide. Early Detection of Adult Zebra Mussels. Available from Sea Grant.

A Field Guide to Aquatic Exotic Plants and Animals. Available from DNR or Sea Grant.

Exotic Species Information. A resource list of publications and videos. Available from Sea Grant.

Mussel Menace! Zebra Mussels and You. Leader training manual, videotape, and slide-audiotape set. Available from Sea Grant.

Clean Boats, Clean Waters: Exotic Species Handbook. Available from DNR.

Part of a series. . .

This fact sheet is one of a series designed to assist shoreland property owners in protecting and preserving water quality. The series include

1. Understanding Shoreland BMPs
2. Maintaining Your Shoreland Septic System
3. Installing a Shoreland Septic System
4. Ensuring a Safe Water Supply
5. Limiting Impact of Recreation on Water Quality
6. Developing Shoreland Landscapes and Construction Activities
7. Stabilizing Your Shoreline to Prevent Erosion
8. Minimizing Runoff from Shoreland Property
9. Caring for Shoreland Lawns and Gardens
10. Managing Your Shoreland Woodlot
11. Valuing Your Shoreland Trees
12. Preserving Wetlands
13. Managing Crops and Animals Near Shorelands
14. Reducing the Use of Hazardous Household Products
15. **Preventing the Introduction of Exotic Species**
16. Accessing Information to Protect Water Quality
17. Shoreland Stewardship Scorecard
18. Conserving Water
19. Property Management System form
20. Septic System Information form

This series of fact sheets is a cooperative effort of the following agencies:

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Minnesota Board of Water and Soil Resources
Minnesota Department of Health
Minnesota Department of Natural Resources, Division of Fish and Wildlife,
Division of Waters, Division of Forestry
Minnesota Pollution Control Agency
Minnesota Sea Grant Extension Program
Mississippi Headwaters Board
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