



## Shorelands Management

### What lakefront property owners should know and do

By Progressive AE

Proper shoreland management is vital to protect both water quality and fisheries. During pre-settlement days, much of the shoreland around lakes was forested, wetlands, or grassland. Natural habitat was abundant. Over time, as shorelands were developed, much changed. Shoreland vegetation was removed, and natural areas that allowed rain waters to infiltrate were replaced by rooftops, roads, driveways, and other hard surfaces. Now, rather than infiltrating, storm water runs off these hard surfaces, often carrying fertilizer, oil, and other pollutants to the lake. Problems associated with excessive shoreland development include increased aquatic plant growth, diminished fisheries, and poor water quality. How we manage our shorelands can have a direct and profound impact on the quality of our lakes.

Protecting shorelands is straightforward: Maintain or restore as much natural shoreland as possible. That is not to say that you can't—or shouldn't—have an area to swim, moor boats, fish or lounge by the shore. However, manicured lawn to the water's edge and boundless seawalls are not conducive to healthy lakes, nor is large-scale removal of aquatic vegetation.

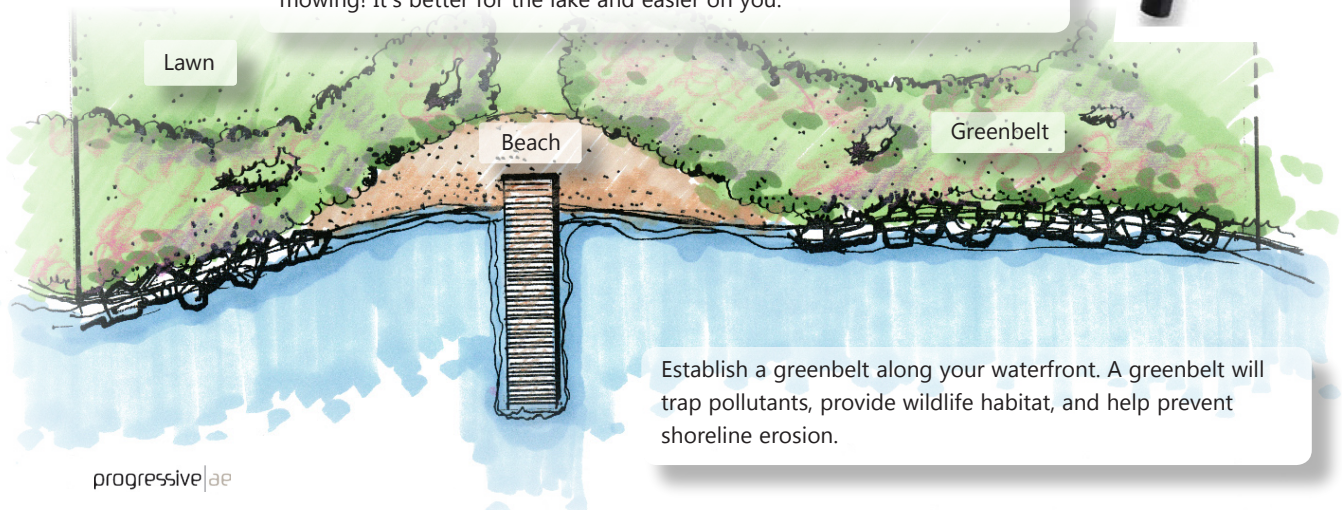
In addition to protecting or restoring natural shoreland, you should also be careful about the application of lawn fertilizers, especially fertilizers containing phosphorus. Phosphorus is the nutrient that most often stimulates excessive growth of aquatic plants and causes premature lake aging. Fertilizers should only be used sparingly near lakes, if at all. If you must use fertilizer, only use a phosphorus-free fertilizer. Once in the lake, a pound of phosphorus can generate hundreds of pounds of aquatic vegetation. This vegetation is most evident in the near-shore areas of the lake where we swim and recreate.

Take a look at the following illustrations. Then take a look at your shoreland and see what you can do to help preserve the natural features of your lake.



**Look for the middle number!**  
A zero in the middle means phosphorus free!

Minimize lawn area. Less turf means less fertilizer, less pesticides—and less mowing! It's better for the lake and easier on you.



Establish a greenbelt along your waterfront. A greenbelt will trap pollutants, provide wildlife habitat, and help prevent shoreline erosion.

# Caring for Your Shoreland

**Your shoreland can be maintained to provide beach and boat access for you while maintaining habitat for fish and wildlife.**

Don't dump into storm drains; pollutants may be piped directly to the lake.

Most lakeside soils have more than enough phosphorus to grow lawns, trees, and shrubs. Adding phosphorus fertilizer is usually not necessary, and can cause excessive growth of aquatic plants.

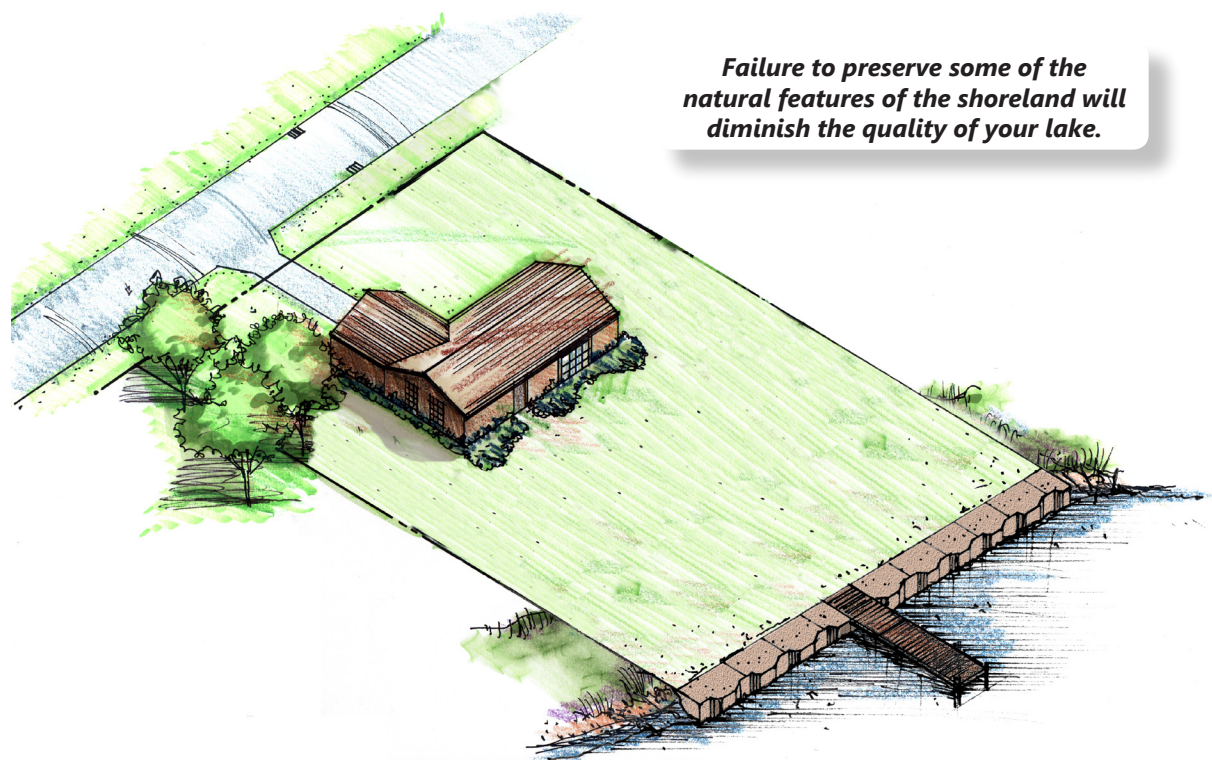
Maintain a greenbelt of trees, shrubs, and ground cover—it's habitat for fish and wildlife, and helps protect water quality too.

Build a raingarden to infiltrate rain water and reduce runoff into the lake. Visit [www.raingardens.org](http://www.raingardens.org).

Minimize lawn area to reduce the need for fertilizer.

Establish a greenbelt to filter runoff and discourage nuisance geese.

You can maintain a small beach and dock area—it's "habitat" for you!



**Failure to preserve some of the natural features of the shoreland will diminish the quality of your lake.**

**Aquatic plants are part of a healthy lake. They produce oxygen, provide food and habitat for fish, and help to stabilize shoreline and bottom sediments.**

Insects and other invertebrates live on or near aquatic plants, and become food for fish, birds, amphibians and other wildlife.

Plants and algae are the base of the food chain. Lakes with a healthy fishery have a moderate density of aquatic plants.

Aquatic plants provide habitat for fish and other aquatic life.

Aquatic plants help to hold sediments in place and improve water clarity.

Roots and stones absorb wave energy and reduce scouring of the lake bottom.

Predator-fish such as pike hide among plants, rocks, and tree roots to sneak up on their prey. Prey-fish such as minnows and small sunfish use aquatic plants to hide from predators.

Trees and shrubs prevent erosion and provide habitat.

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Seawalls deflect waves and cause scouring of the lake bottom.

Scouring of the lake bottom reduces water clarity.

The nuisance exotic plant Eurasian milfoil often invades disturbed lake bottoms, such as areas along seawalls.

Excessive plant control reduces habitat, impairs water quality and is not healthy for the lake.

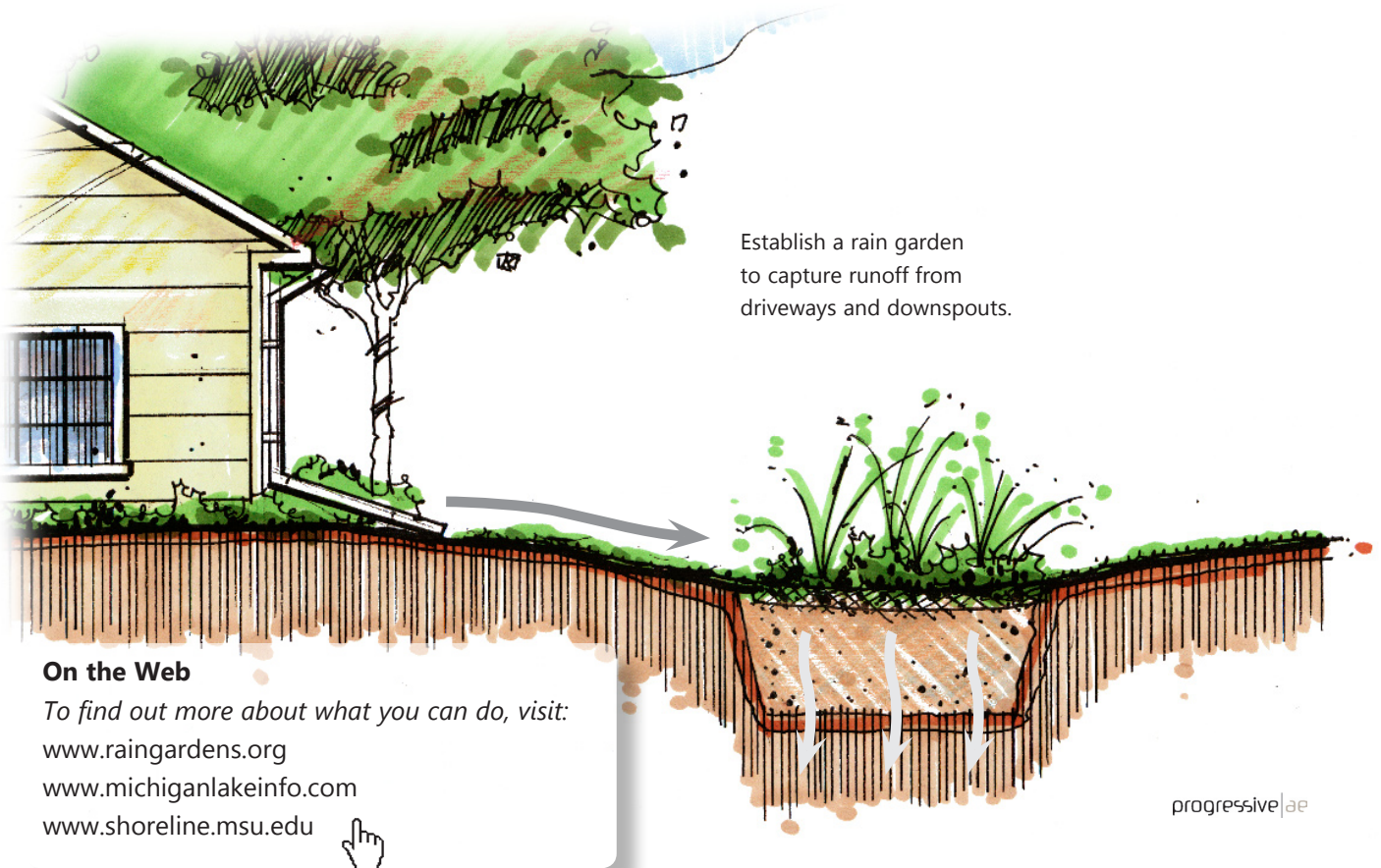
Seawalls do not provide habitat for fish or other aquatic life.

Seawalls prevent the migration of frogs and other amphibians to shore.

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# 10 Ways To Protect Your Lake

1. Don't use lawn fertilizer that contains phosphorus. If you use a professional lawn care service, insist upon a fertilizer that does not contain phosphorus.
2. Use the minimum amount of fertilizer recommended on the label — more is not necessarily better!
3. Water the lawn sparingly to avoid washing nutrients and sediments into the lake.
4. Don't feed ducks and geese near the lake. Waterfowl droppings are high in nutrients and may cause swimmer's itch.
5. Don't burn leaves and grass clippings near the shoreline. Nutrients concentrate in the ash and can easily wash into the lake.
6. Don't mow to the water's edge. Instead, allow a strip of natural vegetation (i.e., a greenbelt) to become established along your waterfront. A greenbelt will trap pollutants and discourage nuisance geese from frequenting your property.
7. Where possible, promote infiltration of stormwater into the ground. Build a rain garden to capture runoff from driveways and downspouts.
8. Don't dump anything in area wetlands. Wetlands are natural purifiers.
9. If you have a septic system, have your septic tank pumped every 2 to 3 years.
10. Don't be complacent — your collective actions will make or break the lake!



Establish a rain garden to capture runoff from driveways and downspouts.

## On the Web

To find out more about what you can do, visit:

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

[www.michiganlakeinfo.com](http://www.michiganlakeinfo.com)

[www.shoreline.msu.edu](http://www.shoreline.msu.edu)

