

Maintaining Your Septic System: Special Considerations for Shoreline Property Owners

Reviewed and updated by John M. Jemison, Jr., Extension water quality and soil specialist

If you live on shorefront property, maintaining your septic system requires more care than maintaining a similar system located elsewhere. Soil and water conditions near the shoreline may make the system less efficient, which could, in turn, cause harmful pollutants to get into your lake, stream or pond.

This fact sheet is designed to help shoreline property owners understand what they can do to effectively maintain their septic systems to preserve the quality of their lake, stream or pond and protect the health of their families. Use these tips in conjunction with *Your Septic System*, a water quality fact sheet.

How Septic Systems Work

The purposes of a septic system are to treat liquid wastes from your house and to prevent biological and nutrient contamination of your well and nearby lakes and streams. Most of this treatment happens in the soil below the absorption field.

Because septic systems on shoreline property are often close to both surface and ground waters and absorption fields are sometimes saturated during high water periods, partially treated waste water is likely to enter adjacent lakes and streams. Also, when shorelines erode, the distance between the septic system and the shoreline decreases,

making it more likely that waste water could move horizontally through the soil to the shoreline and then quickly into the lake or stream. Pollution can happen even though your system appears to be working well and complies with local health department codes.

Effects of Septic Wastes on Lake and Streams

Nutrients (especially phosphorus) from leaky septic systems play a major role in causing excessive weed and algae growth in lakes and ponds. Just a small amount of additional phosphorus in a lake or pond can make a large difference in aquatic weed and algae growth.

Excessive weed and algae growth affects the ability of fish to survive and could even result in major deaths. Excessive weed and algae growth also makes boating, fishing and swimming less enjoyable.

Waste water from your septic system that reaches adjacent surface waters also increases the chance that swimmers near your shore could catch a variety of infectious diseases associated with these wastes.

How to Tell if Contaminants are Reaching the Water

Look for these symptoms:

- **Excessive weed or algae growth in the water near your shore.**

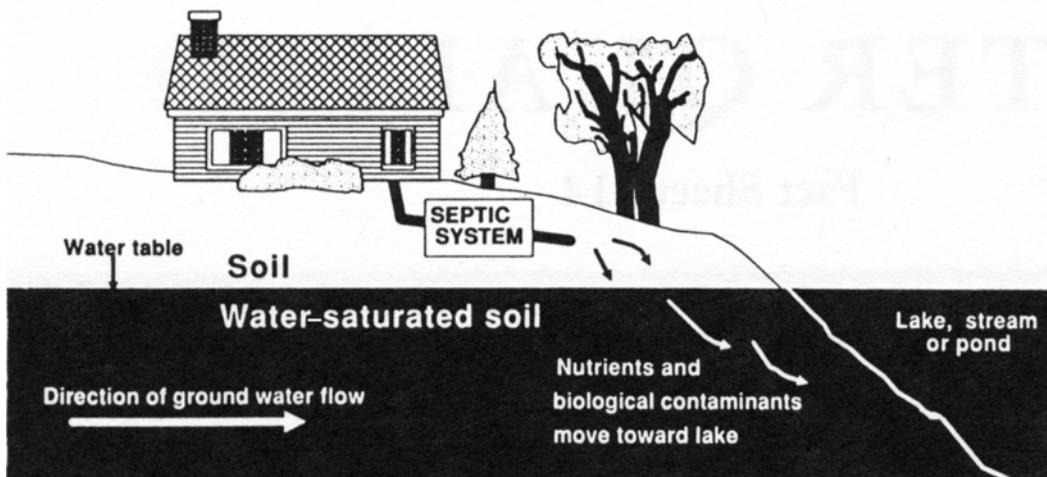
Phosphorus leaking from septic systems would be a major cause of this type of growth. Other factors, such as a combination of shallow water and a lake bottom rich in organic matter, or sediment and lawn fertilizers runoff, could also lead to this type of problem. Septic systems, however, are often prime suspects as sources of these pollutants.

- **An increase in infections or illnesses associated with swimming in the area.** These are most often minor ailments, such as ear or eye infections, but could be major diseases, such as dysentery or hepatitis.

Water test results indicate the presence of biological contamination.

These tests may show the presence of harmful bacteria in the water. Although wastes from septic tanks are not the only source of these contaminants, they are likely suspects. Your local health department can advise you about testing sites.

- **Indicator dye put into your septic tank reaches lakes or ponds.** Special dyes available from your local health department may locate hidden problems. This method can help verify the other symptoms listed above.



When septic systems are near lakes, ponds or streams, the water table is often close to the surface, and the absorption field is near open water. This can result in nutrients and biological contaminants “leaking” into the water, causing excessive weed and algae growth in lakes and ponds.

How to Prevent Problems

You can do many things to help prevent the problems associated with having a septic system near shoreline areas. Try these activities:

- **Regularly pump and maintain your septic system.** This is the simplest yet most effective thing you can do to prevent excessive amounts of pollutants from reaching your lake, stream, pond or water supply. Regular maintenance also protects the value of your home by helping to ensure a safe water supply and disposal system. Shoreline property sells for a premium, but a failed septic system can reduce that value tremendously, even to the point of making the property unmarketable until the system is repaired or replaced.
- **Conserve water in your home.** Use detergents without phosphorus. The smaller the amount of water that enters your septic system, the less the likelihood that liquid wastes will reach lakes or ponds. Water conservation devices, such as faucet aerators, water-saving shower heads and toilet tank inserts installed in your bathroom and kitchen, are inexpensive and effective. Other practices, such as spreading the daily effluent load by running the dishwasher and clothes washer at night, are easy and prevent problems.
- **Redirect surface water flow away from your absorption field.** Many times, water from driveways, roof downspouts or lawns travels toward the absorption field. This puts an extra load on the system. Make modifications to drain water away from the septic system.
- **Plant a greenbelt between your absorption field and the shoreline.** This involves planting areas of small shrubs and trees to help intercept and absorb some of the nutrients before they reach the shoreline. They also can reduce erosion and create a very attractive landscape.
- **Participate in a community sewage system, if available.** Sometimes these systems offer cost-effective, long-range solutions to the problems caused by septic systems. Contact the Maine Department of Health Engineering (207-289-5672) regarding alternative disposal methods. Before you select a community-based solution, be sure that it will yield the anticipated results. Many factors contribute to excessive weed growth and other effects. It's possible that wastes from septic systems may have a relatively minor impact on your lake or stream quality.
- **Replace your septic system.** Although this alternative is costly, sometimes it's the only alternative, especially when your system is undersized because of conversion of a seasonal residence for year-round use. Consult a licensed site evaluator for designs.
- **If you're building a new home, construct the septic system as far away from the shoreline as possible.** This distance should be even farther than health department codes require. Those regulations are designed primarily to protect human health rather than prevent other effects, such as excessive weed growth. Pollutants, especially nutrients, can easily travel farther than those minimum distances in some soils. Also, design the system to meet your present as well as future needs. If, for example, you are building a small summer home with plans to enlarge and convert it to year-round use when you retire, design the septic system to accommodate that increased future use.

Where to Go for Help

For advice about your septic system's operation, condition or possible alternatives, contact the Maine Department of Health Engineering or your county Cooperative Extension office.

Adapted from "Maintaining Your Septic System," a set of Cornell Cooperative Extension fact sheets. Original authors include D. Solomon, E. Dersch, J. Saumier, A. Meyer, M. Keith, J. Saumier, and M. Shortlidge.

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