



## Maintaining Your Septic System Special Considerations for Shoreline Property Owners

If you live on shoreline 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.

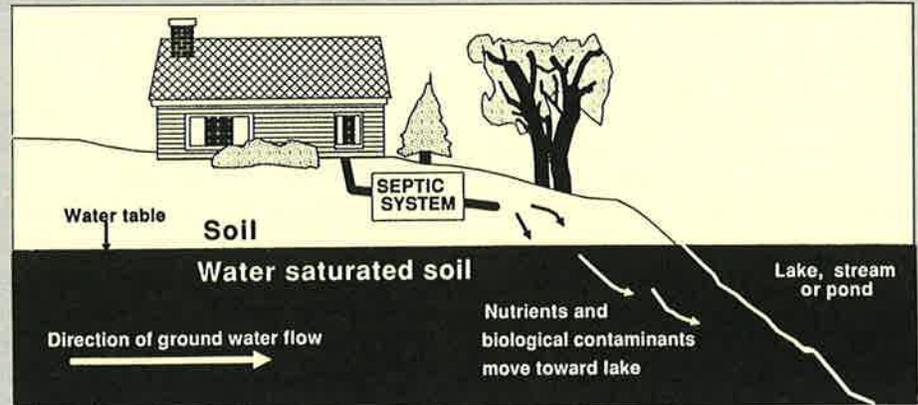
This fact sheet is designed to help shoreline property owners understand what they can do to effectively maintain their septic systems to preserve the quality of their lake, stream or pond and protect the health of their families. These tips are best used in conjunction with the information in Cooperative Extension publication FS-1 — *Your Septic System*.

### How Septic Systems Work in Shoreline Property Areas

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 wastewater 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 wastewater could move horizontally through the soil to the shoreline and then quickly into the lake or stream.

This pollution can happen even though your system appears to be working well and complies with local health department codes.



**Figure 1.** When septic systems are near lakes, ponds or streams, the water table is often close to the surface and the absorption field near open water. This can result in nutrients and biological contaminants "leaking" to the water causing excessive weed and algae growth in lakes and ponds.

### The Effects of Septic System Wastes on Lakes 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 growth.

Excessive weed growth, in turn affects the ability of fish to grow and could even result in fish kills. Excessive weed growth also makes boating, fishing and swimming less enjoyable due to weed-tangled boat motors, weedy swimming areas, etc.

Wastewater 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 that are associated with these wastes.

### How to Tell if Contaminants are Reaching the Water

Look for these symptoms to tell if waste from your system is reaching surface water:

- **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 fertilizer 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.
- **Unpleasant odors, soggy soil or sewage flow over the land surface.** These symptoms often indicate failure and the need for drastic action such as replacement of the system. Under these conditions, wastewater could travel directly into nearby surface waters instead of being treated in the soil.

- **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 as to where to have testing done.

- **Indicator dye put into your septic tank reaches lakes or ponds.** Special dyes may be available from your local health department and may help to find problems that may otherwise be difficult to notice. This method can help verify the other symptoms listed above.

## 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.** The smaller the amount of water that enters your septic system, the less the likelihood of liquid wastes reaching 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 don't change your present lifestyle.

- **Redirect surface water flow away from your absorption field.** Many times, water from driveways, roof downspouts or lawns travels toward

the absorption field putting an extra load on the system. Make modifications to drain this 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 or alternative disposal methods, if available.** Sometimes these systems offer cost-effective, long-range solutions to the problems caused by septic systems. Alternative systems may include multiple-home "cluster" septic systems, mound septic systems, gray water recovery and reuse systems, or improved treatment systems. The use of some of these systems may be restricted by local health department codes or require design and construction by experienced engineers and contractors, as well as special permits. Consult your local health department regarding alternative disposal methods.

Before selecting a larger-scale, community-based solution, be sure that it will yield the anticipated results. Many factors contribute to excessive weed growth and other effects, so it is possible that wastes from septic systems may have a relatively minor impact on lake or stream quality.

- **Replace your septic system.** Although this alternative is costly, sometimes it is the only alternative, especially when your system is undersized because of conversion of a seasonal residence for year-round use.

- **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 your local health department, or Cornell Cooperative Extension.

## For More Information About Your Water and Septic System...

Check other fact sheets in the series.

- SS-1 — *What to Do if Your Septic System Fails*
- SS-3 — *How to Conserve Water in Your Home and Yard*
- SS-4 — *Your Septic System: What You Need to Know When Buying or Selling a House*
- SS-5 — *Your Septic System: Considerations When Building or Remodeling a Home*

plus Extension publication...

- FS-1 — *Your Septic System*

This publication was developed by Cornell Cooperative Extension as part of an educational project supported by a grant from the Water Resources Institute at Cornell University with funds provided by the New York State Legislature through the New York State Department of Agriculture and Markets.

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