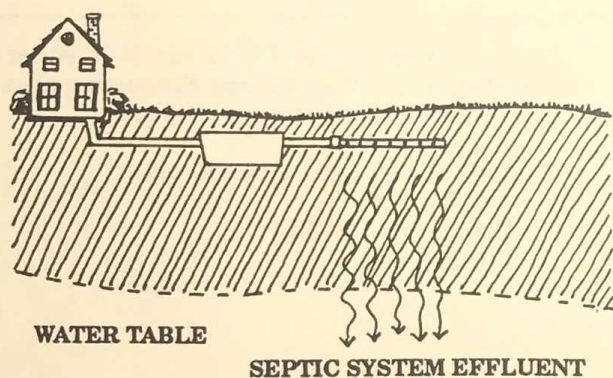


SEPTIC SYSTEM MAINTENANCE

In Michigan, most rural residents depend on a septic system for wastewater treatment. If the septic system is suitably located and adequately designed, it can provide safe, economical, and effective treatment for household wastewater. Septic systems must be properly maintained, however, to preserve their effectiveness. Many people are not aware that septic systems require periodic maintenance, or simply do not make the effort to keep their system operating effectively. Neglecting a septic system can result in expensive system failures, contamination of groundwater and surface water, and threats to public health.

How Septic Systems Work

Septic system wastewater treatment occurs in two stages. First, wastewater from the home enters a septic tank where solid wastes (sludge) settle out. Bacteria consume most of these wastes. The remaining liquid then flows into a distribution system called a drainfield, where the wastewater is allowed to seep into the soil. Here the water is filtered by the soil and the wastes are further consumed by microorganisms.



Threats to Groundwater and Surface Water

On-site septic systems often pose a threat to water quality, especially when they are located near a lake or stream. Septic systems in certain soil types do not completely remove nutrients such as phosphorus and nitrogen. The nutrients are transported to the lake where they can cause excess algae and weed growth.

This process is called lake aging, or eutrophication, and results in decreased water quality.

Septic systems can also pose a threat to groundwater. Improperly functioning septic systems can contaminate nearby wells with nitrate, which can pose a serious health threat to infants and some adults. Effluent from septic tanks can also carry bacteria, viruses, and protozoans that pose health risks. Even if the septic system is functioning properly, it can still cause contamination of a well that is located nearby. Proper siting of septic systems is critical to groundwater protection.

The Importance of Septic System Maintenance

Proper septic system maintenance can prevent many contamination problems from occurring. It will also assure that your septic system operates effectively throughout its expected lifetime of 20 to 30 years. Replacing a septic system can cost from \$2,000 to \$4,000, so proper maintenance makes good economic sense.

There are several important things you can do to ensure that your septic system is properly maintained:

- **Inspect the tank every two years for sludge level.**
- **Pump the tank** when the sludge level exceeds 1/3 of the volume. Year-round use will necessitate more frequent pumping than seasonal use.
- **A group pumping program** can be coordinated by a group of neighbors. Individual pumping costs about \$55, but group rates can be as low as \$40.
- **Avoid using chemicals** such as drain cleaners and large amounts of bleach because they kill the bacteria which break down sludge in your septic system.
- **Do not put the following items down the drain:** grease, hair, cigarette butts, facial tissues, paper towels, feminine hygiene supplies, band aids, paint, solvents, motor oil, or any household hazardous wastes. (For more information on Household Hazardous Wastes, request Groundwater Fact Sheet #3).

- **Do not substitute commercial products** that claim to clean septic tanks for proper maintenance. These products turn the organic material in septic tanks into liquid that goes into the drainfield. This can increase the potential for nutrient contamination of groundwater and nearby waterways.

There are other things you can do to maintain proper functioning of your drainfield:

- * Direct rainwater from gutters away from the drainfield
- * Never build or pave over a drainfield. Keep vehicles away from the drainfield and septic tank.
- * Do not fertilize around a drainfield because the nutrients saturate the soil and cause it to stop absorbing nutrients from the wastewater.
- * If you live on a lake or stream, plant or retain a natural strip of woody vegetation along the water's edge to intercept and utilize nutrients. This greenbelt is also important for stopping erosion and filtering of surface runoff.

Watch for Signs of Septic System Problems

There are several signs you should watch for that will alert you to septic system problems. If toilets or sinks back up, it may indicate that the septic field is becoming saturated. Foul odors around the septic tank or drainfield indicate that effluent is reaching the surface of the soil, and the septic system is not functioning properly. Lush green grass at the drainfield may also indicate a problem with absorption. Finally, if you live near a lake or stream, excessive weed or algae growth may appear along the shoreline. This indicates possible nutrient runoff from the septic field. If you observe any of these problems, it is definitely time to have your septic system inspected.

Other Things You Can Do

You can also increase the life of your septic system by conserving water. The less water you use, the better your septic system will treat wastes. Excessive water use can cause solids to flow into the drainfield, which will clog the system. There are a variety of ways you can reduce water consumption.

Water saving showerheads and toilets reduce water use substantially. Dishwashers and clothes washers should be run only when you have a full load. Dripping faucets and toilet leaks should be repaired. A small amount of effort at reducing water consumption can have a substantial payoff in increased life of your septic system.

For further Information about septic system maintenance, contact the Watershed Council or request brochure E-1521, "Maintaining your Septic System", from the Cooperative Extension Service, Michigan State University.

Other Groundwater Fact Sheets are available on these topics:

What is Groundwater	Number 1
Nitrate Contamination	Number 2
Household Hazardous Wastes	Number 3
Fuel Storage Tanks	Number 5

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