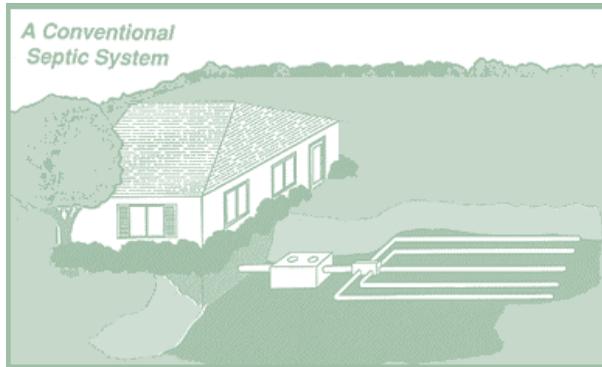


Berkshire



Septic System Maintenance for Lakefront Homeowners



MADEP



Berkshire Regional Planning Commission

Berkshire Planning Tools

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Why Maintain Your Septic System?

Failing septic systems are expensive to repair or replace, and poor maintenance is a common cause of early system failures. When septic systems fail, inadequately treated household wastewater is released into the environment. Failed septic systems can also cause property values to decline. Sometimes building permits cannot be issued or real estate sales can be delayed for these properties until systems are repaired or replaced.



Microsoft ClipArt



Lake Buel
BRPC



Monterey
BRPC

Reasons to maintain your system include

- To replace a failing septic system typical cost are between \$3,000 to \$10,000 compared to approximately \$50 to \$300 for inspection / pumpout
- Failing systems release inadequately treated wastewater into the environment posing significant health risks and potential contamination of nearby wells, groundwater, and lakes.
- Failing septic systems can contribute to weed growth in lakes.
- Failing septic systems can cause property values to decline. Often building permits cannot be issued or real estate sales can be delayed.

How Septic Systems Work

Septic systems are a very simple way to treat household wastewater and are easy to operate and maintain. Although homeowners must take a more active role in maintaining septic systems, once they learn how their systems work, it is easy for them to appreciate the importance of a few sound operation and maintenance practices.

Household wastewater first flows into the septic tank where it should stay for 2-3 days. In the tank, heavy solids in the wastewater settle to the bottom forming a layer of sludge, and grease and light solids float to the top forming a layer of scum.

The sludge and scum remain in the tank where naturally occurring bacteria work to break them down. The bacteria cannot completely break down all of the sludge and scum, however, and this is why septic tanks need to be pumped periodically.

The separated wastewater in the middle layer of the tank is pushed out into the leachfield as more wastewater enters the septic tank from the house. If too much water is flushed into the septic tank in a short period of time, the wastewater flows out of the tank before it has had time to separate. This can happen on days when water use is unusually high (laundry day, for example), or more often if the septic tank is too small for the needs of the household.

Leachfields provide additional treatment for the wastewater by allowing it to trickle from a series of perforated pipes, through a layer of gravel, and down through the soil. The soil acts as a natural filter and contains organisms that help treat the waste. Solids damage the leachfield by clogging the small holes in the leachfield pipes and the surrounding gravel, and excess water strains the system unnecessarily.

What happens when a septic system fails?

Septic systems fail when the tank gets clogged and wastewater is unable to flow from the tank to the leachfield or when the leachfield gets clogged by solid materials or grease. When the leachfield is taxed wastewater is unable to move through the soil. A saturated leachfield is unable to filter toxics, bacteria, viruses, and other pollutants. These pollutants then enter the groundwater. The groundwater transports the pollutants to nearby wells and nearby lakes.

Preventing groundwater pollution from failing septic systems should be a priority for every community. Contamination of the groundwater source can lead to the pollution of local wells, streams, lakes, and ponds—exposing family, friends, and neighbors to waterborne diseases and other serious health risks.

Nitrate and phosphate, also found in domestic wastewater, can cause excessive aquatic weed growth, which can impair recreational use, cause aesthetic problems and impair the aquatic habitat.

HEADLINE

SEPTAGE EFFLUENT CLOSES BEACHES...
*Risk of E. coli among other
bacterium*

Is your septic system failing?

Some signs that indicate that you should have your system inspected include, slowly draining sinks and toilets, gurgling sounds in the plumbing, plumbing backups, sewage odors in the house or yard, ground wet or mushy underfoot, grass growing faster and greener in one area of the yard, and tests showing bacteria in well water. However, your system could be failing even if you don't see these signs.

How does this affect you?

According to one survey, lakefront property owners included water clarity, quality of swimming, and scenic beauty when purchasing their home. Failing septic systems can degrade all of these factors by reducing water clarity, contributing to excessive weed growth, and causing algae blooms. Unpleasant odors and beach closures can also be linked to failed septic systems.

A study conducted in Maine shows that with a decrease in water quality there is a corresponding decrease in property value. Lakefront property values represent huge personal investments. The study showed that on one lake 15% of the property value was dependent on water quality. This means that if water quality is reduced the resale value of a \$100,000 - \$200,000 home could be reduced by \$15,000 - \$30,000.



For example, the Diagnostic / Feasibility Study conducted at Lake Buel in 1982 recommends, as a high priority action, that a septic system maintenance program be put in place for all dwellings within 300 feet of Lake Buel. The Study describes septic system leachate as the most controllable, external source of nutrient loading to Lake Buel. For this reason, the Study advocated septic system pump-outs every five years for seasonal dwellings and more frequently, once every three years, for year round dwellings.

What can you do?

There are 6 key methods of maintaining your system.

1. Use water wisely - Water conservation is very important for septic systems because continual saturation of the soil in the leachfield can affect the ability of the soil to naturally remove toxins, bacteria, viruses, and other pollutants from the wastewater. Excess water use can add as much as an additional person to your household, dramatically affecting the ability of your system to function according to design. Water-saving devices can reduce water use by up to 50 percent. Low-flush toilets, using a toilet dam or putting a container filled with rocks in the toilet tank can significantly reduce water use. Try to space out activities requiring heavy water use (like laundry) over several days. Divert roof drains, surface water, and sump pumps away from the drainfield.
2. Know what not to flush - What you put into your septic system greatly affects its ability to do its job. Remember that your system is not designed to be a garbage disposal, and that solids build up in the septic tank and eventually need to be pumped out. Avoid washing food scraps, coffee grinds, and other food items down the drain. Grease and cooking oils contribute to the layer of scum in the tank and also should not be put down the drain. Garbage disposals can increase the amount of solids in the tank up to 50 percent and are not recommended for use with septic systems.



3. Avoid hazardous chemicals - To avoid disrupting or permanently damaging your septic system, do not use it to dispose of hazardous household chemicals. Even small amounts of paints, varnishes, thinners, waste oil, photographic solutions, pesticides, and other organic chemicals can destroy helpful bacteria and the biological digestion taking place within your system and can pollute the groundwater. Household cleaners, such as bleach, disinfectants, and drain and toilet bowl cleaners should be used in moderation and only in accordance with product labels. To help prevent groundwater pollution, be sure to dispose of leftover hazardous chemicals by taking them to an approved hazardous waste collection center. Some septic system additives that claim to help or clean your system also contain hazardous chemicals and should be avoided.
4. Protect your system - Grass is the most appropriate cover for the drainfield. Roots from shrubs and trees can cause damage. Don't allow anyone to drive or operate heavy machinery over any part of the system, and don't build anything over the leachfield.
5. Inspect and pump your tank regularly - Inspections can reveal problems before they become serious, and by checking the levels of sludge and scum in your tank, you can get a more accurate idea of how often it should be pumped. Pumping your septic tank is probably the single most important thing you can do to protect your system. If the buildup of solids in the tank becomes too high and solids move to the leachfield, this could clog and strain the system to the point where a new drainfield will be needed.
6. Support a Septic System Maintenance Program - There are a variety of different programs that can be instituted by a lake district, lake association or other community, such as a group of neighbors.

