Cornell Cooperative Extension

Fact Sheet SS-1

What to Do if Your Septic System Fails

Discovering that your septic system is failing is a miserable experience. This fact sheet is designed to help you recognize this problem, determine what to do if it happens and, most importantly, learn how to prevent it. These tips are best used in conjunction with the information in Extension publication FS1 — *Your Septic System.*

What is Septic System Failure?

A septic system should effectively accept wastewater from your house and prevent biological and nutrient pollutants from getting into your well and nearby lakes and streams. Anytime your septic system is not treating or disposing of sewage in an effective manner, the system is failing.

For example, when wastewater backs up into your home or is bubbling up in your backyard, the system has obviously failed. If significant amounts of biological or nutrient pollutants reach your well or surface waters, the system is also failing, even though it may appear visually to be working just fine.

Why Septic Systems Fail

Most septic systems will fail eventually. These systems are designed to have a useful life of 20 to 30 years, under the best conditions. Eventually, the soil in the absorption field becomes clogged with organic material, making the system unusable.

Many other factors can cause the system to fail well before the end of its "natural" lifetime. Pipes blocked by roots, soils saturated by high water tables, crushed distribution pipes, improper location, poor original design or poor installation can all lead to major problems.

By far the most common reason for early failure however is improper maintenance by homeowners. When a system is poorly maintained (not pumped out on a regular basis) solids build up in the septic tank, then flow into the absorption field, clogging it beyond repair.

How to Know If Your System is Failing

Look for these symptoms to determine if you have a serious problem:

- **Sewage backup in your drains or toilets.** This is often a gray or black liquid with a disagreeable odor.
- **Slowly draining sinks, bathtubs and toilets.** The drains in your house will drain much more slowly than usual, despite the use of plungers or drain cleaning products.
- **Surface flow of wastewater.** Sometimes you will notice soggy areas or standing water on the ground above or near your septic system. There may or may not be a foul odor.
- **Lush green grass over the absorption field, even during dry weather.** Often, this indicates that an excessive amount of liquid from your system is moving upward through the soil instead of downward, as it should. While some upward movement of liquid from the absorption field is good, too much could indicate a problem.
- **The presence of nitrates or bacteria in your drinking well.** This indicates that wastewater from the system may be flowing into the well through the ground or over the surface. A water test will indicate if you have this problem. Your local health department can advise you where to have testing done.
- **Excessive growth of aquatic weeds or algae in lakes or ponds adjacent to your home.** This may indicate that nutrient-rich septic system waste is leaching into the surface water. This may lead to both inconvenience and possible health problems.
- **Unpleasant odors around your house.** Often, improperly vented or failing septic systems cause a buildup of disagreeable odors around the house.

Health and Economic Effects of a Failing System

The most serious effect of a failing system is the potential for serious disease from the improperly treated wastewater. Dysentery and hepatitis can be spread by these wastes. In addition to these diseases, mosquitoes and flies that can spread infectious diseases can breed in areas where liquid waste reaches the surface.

Chemical or nutrient poisoning can also be a problem. Many of the products you use around the house, such as strong cleaning products, can be poisonous to humans, pets and wildlife if they travel through soil to your well or on the surface to lakes, streams or ponds. Excess nitrate levels in drinking water can pose serious health threats to infants.

The health of plants around your home also can be seriously affected.

The economic costs of failure are no less important. The most obvious effect is the direct expense of replacing your septic system. This could cost up to $5,000 (or more depending on where you live). Also consider the indirect cost of losing the use of your house while the system isn't working and the long-term inconvenience of a system that doesn't operate properly.

There is no proof that chemical or enzyme additives are effective remedies for a failing system, contrary to what ads for those products may claim.

What to Do if Your System Fails: Immediate Actions

Follow these steps if you notice any of the symptoms listed above:

- **Call your local health department.** This is the first thing you should do. Health department staff members have the expertise to assess your situation quickly and offer advice on how to cure the problem.
- **Exercise caution in working near an opened septic tank.** Toxic and explosive gases present a hazard. *Never enter a septic tank.*
- **Have your septic tank pumped.** This will help the problem temporarily, especially when it is combined with drastic water conservation. If a clog does not exist between the house and the septic tank, or if very high water levels are not the cause of the problem, pumping may be an effective solution provided that the absorption field is still in good condition.
- **Conserve water in your home.** This is particularly effective if your system has not failed completely. It can help lessen the problem for a short time. Water-saving devices and reduced consumption, especially in your bathroom, can have a significant effect.
- **Fence off the area.** If liquid waste is seeping to the surface, prevent people and pets from coming into contact with the effluent.

What to Do If the System Fails: Long-Term Options

In many, if not most, cases, redesigning and replacing the system in a new location is the only practical long-term solution. This type of work only should be performed by a qualified contractor. Local health department permits are required before construction can begin.

Other solutions include:

- **Increase the size of the absorption field.** This may help if the original field was too small for the size of your family or if the soil does not allow water to percolate very well provided that the tank size is adequate.
- **Conserve water in your home on a long-term basis.** The smaller the amount of water flowing through your system, the longer it will last. For systems that perform marginally or leak nutrients into nearby lakes and streams, this is a good alternative.
- **If periodically saturated soils are a main cause of problems, consider installing perimeter drains.** This involves installing tile drains underground at a specified distance around the absorption field to help lower water levels. It works in some but not all situations and requires the assistance of a qualified contractor. The location should also be evaluated by your local health department.
- **Connect to a community sewage system, if one is available.** Although the long-term costs may seem high, the benefit of reduced worry and lowered maintenance for the homeowner are often worth the cost.
- **If septic system failures are common in your area, consider participating in the development of a small community "cluster" system or other similar alternatives.** These systems are designed for small communities and some rural areas and are generally much more cost effective than a conventional sewage treatment system.

How to Prevent the Problem

The key to preventing your septic system from failing is *proper maintenance.* Regularly pumping the tank, being careful what you put down the drains and avoiding things such as planting trees over the absorption field or covering the system with patios and home additions are important to keep the system running well.

Proper design is another critical aspect in preventing system failure. Be sure the system is designed to meet your present and future needs. If, for example, you are building a small home with plans to enlarge it as your family grows, design the septic system to accommodate the largest size you expect your family to grow to. Consider asking your contractor to include such useful features as junction boxes and observation ports, which aid in assessing the condition of the system.

Many septic systems are doomed from the start because they are put in poor locations or constructed improperly. Be sure a new system is installed in an area with proper soil conditions and at sufficient distances from your house and well as regulated by local health department codes.

Water conservation was mentioned earlier as a method to keep a marginal system operating, but it may also prevent future problems from occurring.

Where to Go for Help

If you believe your system is failing or just want advice about its operation or condition, contact your local health department or Cornell Cooperative Extension. Also they can assist you in finding reputable septic system installers and pumpers in your area.

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

Check other fact sheets in the series.

- **SS-2** — *Maintaining Your Septic System: Special Considerations for Shoreline Property Owners*
- **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*

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