PennState Extension

Protecting Your Septic System from Flooding

Although your septic system may work well during dry weather, too much water from flooding or heavy rains can cause problems.

There are steps that you can take to help prevent issues, like septic waste backing up into your home during flooding. Photo: "Yard Flooding" by Editor B is licensed under CC BY 2.0.

Rain events that lead to local flooding happen all across Pennsylvania. If there are forecasted floods for your community or a flood has already occurred, take a moment to protect your septic system and property. Here are some things to consider before, during, and after a flood.

Too much water in your septic system's drainfield may cause it to overload and may slow down or stop your wastewater treatment. If this occurs, you may risk septic waste backing up into your home, particularly if your drainfield becomes clogged. In wet weather, a rain-soaked drainfield may become too saturated to operate correctly for the effluent (liquid portion of your wastewater) to percolate down through the soil. You can take steps before this happens to help protect your system.

From the Start

As a preventive management step, you should **direct your stormwater runoff away from your system as** much as possible. You should divert water from roofs and driveways away from the septic tank and drainfield area. Make sure your downspouts aren't pointed directly at your drainfield. The soil over your system should be mounded slightly to encourage stormwater to flow off it instead of onto it. You may consider constructing berms to redirect surface runoff around your system.

A well-maintained septic system is better able to withstand the stresses of heavy rains or flooding. **Have your septic system inspected annually** to look for signs that the system is clogged or not emptying properly. You should check the drainfield periodically for odors, wet spots, or surfacing sewage. Have a professional check the sludge and scum levels inside the tank and inspect the baffles to ensure they are present and not severely corroded.

During an inspection, you may also want to talk to your septic professional about **waterproofing electrical connections** to of any pumps in your system. If your system floods, you do not want to create an electrical hazard.

Schedule a professional to pump your septic tank on a routine basis. Pumping is an essential ongoing maintenance step. Your municipality might even require it on a two or three-year schedule.

When a septic tank overfills with floodwaters, the water will look for any path to escape, which could be up through your showers, sinks, and toilets. If you live in a flood-prone area, consider having a licensed plumber **install a backflow preventer** on the building sewer so sewage cannot back up into your home during a flood.

Ensure that **subsurface drains or sump pumps are not connected to your septic system**. If your basement or crawl space is flooding, you don't want those waters directed into your septic system and overloading it.

Site selection is essential if you plan for a new septic system. Choosing a location for your septic system must include consideration for regulated distances from sensitive areas like streams and wells. Another factor to include in your decision-making is planning for stormwater runoff to move past your system instead of collecting on its surface. If you

choose a flat area at the bottom of a slope, you may invite system flooding during heavy storms.

Before a Forecasted Flood

If you know a potential flood is coming, you should **minimize water use in your home**. Try to limit showers, laundry, and other activities that could put a lot of water into your system. If your tank or drainfield becomes saturated or flooded during heavy rains, it could lead to long-term problems. Outcomes could include solids entering and clogging your drainfield, sediments and soils entering your tank, and backups entering your home.

If a flood is imminent or has happened, **delay septic tank pumping** until water levels have receded to normal. An empty septic tank can be buoyant and rise out of the ground during a flood.

You might need to schedule emergency repairs and service when a major flood happens. Before you are in that emergency condition, it is a good idea to **organize your septic system records as a preparatory measure**. It will be helpful to have any diagrams of your system, including the locations of electrical components. If you do not have diagrams like this, you might be able to find them on record with your local municipality.

During a Flood

Do your best not to use your septic system during a flood. If your drainfield or mound is underwater, you should stop all use of your system.

Turn off the electricity to your septic system if you have any. Some systems use pumps to move wastewater from one tank to another or your mound or drainfield. During a flood, it is best to leave your wastewater in place and use your system as a holding tank until the flood waters recede. If your drainage area is flooded, you run the risk of pump solids and sediments into the system and clogging it.

Do **not pump flood waters into your sinks or toilets** if a flood enters your home. Those drains will direct even more flood water into your septic system. If you have sinks or other household drains in your basement that lead to your septic system, **plug those drains** to prevent flood waters from flowing into them.

Turn off your household water treatment devices that automatically run and discharge water on a cycle (like water softener recharging)

After a Flood

Do not use your septic system until flood water in your drainfield has receded below your home's level. This may take several weeks.

If you suspect damage, **do not use it until a professional properly inspects it**. If your tank has filled with soil and sediments, you do not want to encourage their movement out of your tank and into the perforated pipe in your drainfield. They can lead to significant clogs and further problems.

If you have a private well or spring, **do not drink your water until you can get it tested for contaminants** from your septic system, such as *E. coli* bacteria and nitrates.

If you are pumping flood waters out of your home, **direct pump hoses away from your septic system and drainfield**.

Saturated soil can lead to excess sediment and soil entering the tank. Once flood waters have receded, you should **get your tank pumped to remove sediments that may have filled the system.** An empty tank may still pop out of the ground, so if the ground is still saturated more than usual, you may want to refill your tank with clean water.

More Information

Additional information on managing your septic system during a flood is available from the U.S. EPA publication "Septic Systems - What to Do after the Flood" and the PA DEP factsheet, "What To Do With Your Septic System After A Flood." You can also contact your local municipality or Sewage Enforcement Officer for additional advice and assistance.

For information on funding repairs to your septic system, refer to our article Funding for Private Well and Septic System Repairs.

Engineers and scientists who answer wastewater-related questions can be reached via the National Small Flows Clearinghouse assistance lines at 304-293-4191 or 800-624-8301. Read more at the National Environmental Services Center.

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