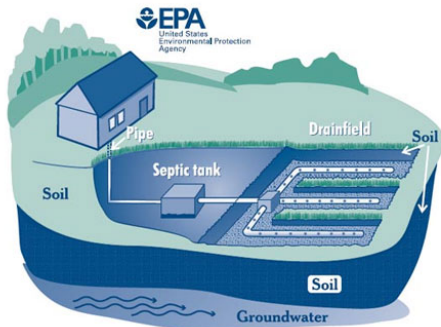
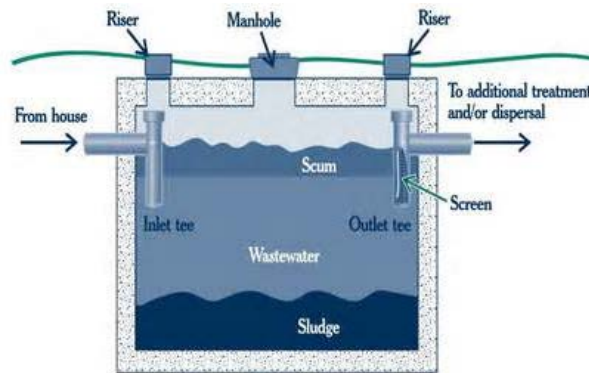


Septic Systems and Water Quality

Did you know that approximately one-quarter of U.S. households use septic systems to treat wastewater? Properly maintained septic systems are effective at treating wastewater and returning clean water to the environment. However, a septic system that is not functioning properly is more likely to release harmful nutrients and bacteria into our waterways.

Septic System Basics

Household waste is sent to a septic tank, which temporarily stores the wastewater and partially treats it. Solid wastes are allowed to settle to the bottom of the tank to form sludge, while oils and grease float to the top, forming scum. Solids are partially decomposed by bacteria that develop in the tank. As new wastewater is added to the tank, partially treated wastewater is pushed into a drainfield, where it drains into the soil. The soil then filters the nutrients and bacteria from the wastewater as it infiltrates the ground.



Septic tanks can be overloaded with wastewater, which can cause two problems. An abundance of water can disturb the sludge at the bottom of the septic tank and move it to the drainfield. This may clog the drainfield and prevent wastewater from filtering through the soil properly. In addition, large volumes of water may not be able to infiltrate the soil quickly enough, regardless of whether or not the

drainfield is clogged. The end result of both scenarios is that untreated wastewater will seep out of the ground around the drainfield.

How Can Septic Systems Impact Water Quality?

Nutrients from untreated wastewater, such as nitrogen and phosphorus, are deposited into the ground by faulty septic systems. These nutrients can be washed into rivers and streams through stormwater runoff.

Stormwater is precipitation that flows over hard surfaces, such as rooftops or pavement, and into storm drains. Stormwater may flood over soil in areas where there are many hard surfaces, since there is less available surface area for the soil to absorb water. When large quantities of nitrogen and phosphorus reach bodies of water via stormwater runoff, they increase algae growth over the water surface. Excessive algae prevent submerged aquatic plants from receiving sunlight. As a result, less oxygen is available for fish and other organisms. Areas with depleted oxygen levels from algae blooms do not have enough oxygen to support healthy ecosystems and are referred to as “dead zones.” The problems related to excess nutrients degrade habitat for a number of important species, such as crabs, rockfish, and oysters. By having a properly functioning septic system, you can do your part to reduce the amount of nutrients that make it into waterways.



Keeping Your System in Working Order

The most common way that septic systems release nutrients and bacteria to the ground is by being overloaded with water. Here are some ways that you can prevent your septic system from being overloaded and keep it working properly:

- Conserve water.
- Avoid emptying hot tubs, pools, water heaters, or any other large water-holding receptacles through your septic system. Drain these very slowly, if necessary.
- Septic systems should be inspected every three years by a professional
- Septic systems should be pumped every 3-5 years by a professional.
- Avoid disposing household cleaners, chemicals, oils, or any other solid material that is not biodegradable down the drain.
- Avoid cleaners and chemicals, such as disinfectants and water softeners, that kill the bacteria in septic tanks that assist in breaking down septic waste

Visit the websites below for more information on septic systems and stormwater.

http://www.epa.gov/owm/septic/pubs/homeowner_guide_long.pdf

<http://www.cbf.org/about-the-bay/issues/sewage-septic-systems>

