

Did you ever wonder about the origin of the term “septic system”? The dictionary tells us, “Septic is to make putrid.”

When people become septic or have a septic condition called septicemia, they are being poisoned by pathogenic microorganisms and their toxic products. An intervention such as surgery or antibiotics may be needed to turn that situation around.

Looking at the dictionary again, it tells us that a septic tank is “an underground tank for receiving waste matter to be putrified and decomposed through bacterial action.” Hmm...bacterial action making things happen. That is a very different story from just being rotten and smelly. It means something is changing. Things are happening.

That is the difference between old fashioned cesspools and current systems involving a tank for settling and initial bacterial action and then a leaching area. In the leaching area or “soil absorption system”, naturally occurring good bacteria, along with chemical changes brought about by the positive and negative charges on surfaces of sand particles and the presence of oxygen, all work together to make the effluent safe enough to join the ground water. The septic condition has changed to a non-septic one or one that is free from disease producing microorganisms.

So, the term “septic system” is really not very accurate. It also should not be called a “waste disposal system”. We want to accomplish more than just dispose of it. We want to treat it or allow for treatment to happen, making the waste matter safe enough to join our ground water. It is a wastewater treatment system. That is something to be proud of and to take care of.

The cesspools were simply disposal systems. Quite often, they were dug right down to the groundwater, so that nature could flush the cesspool with its rising and falling groundwater. That’s pretty gross, when you consider drinking wells and bathing beaches were near these. Dysentery kills so many children each year throughout the world because of unsafe water polluted by untreated sewerage.

Ever since 1995 we have been trying to make certain that our groundwater is protected. In 1995, soil evaluation classes became required for accurately determining the seasonal high ground water. When water sits for awhile, it cause changes in the soils. Some areas become depleted of color and are stripped down to their original substance. In New England, that usually means tiny grains of grey granite. In other areas, the grains become saturated with a coating of the iron oxide, so prevalent in our area. These spots of depleted grey and concentrations of iron form the typical “mottling” or redoximorphic features in the soil and they determine the seasonal high groundwater. Those marks or mottles are used as the high groundwater elevation by the engineer designing your new septic system, even when water was not seen there on the day of the perc test. The engineer uses the mottles because she or he knows that water is there at times and for long enough to have made those color changes in the soil. When a wastewater treatment system is built over that area, the engineer (and the health agent) want to know that the leaching area has enough time and distance to allow nature’s chemistry to make the effluent safe enough to join the groundwater.

That is how and why the so-called “mounded” systems came to be. There needs to be two to five feet, depending-on which state you live in and what kind of additional treatment might be used, between the seasonal high groundwater and the bottom of leaching areas. It is not that there is anything better about a mounded system. It is

simply getting a typical leaching area up above, a sufficient amount above, the seasonal high groundwater. It works. It's safe. It keeps our groundwater safe.

These mounded systems are filled with sand above whatever natural soils passed a percolation test. They achieve the safe distance to groundwater but they do not and cannot replace naturally occurring percable or permeable soils. If soils do not pass a perc test, we cannot build a mounded system over it.

Soils and wetlands are two related but still different issues. They are different in that we are not supposed to be building houses in or putting septic systems in wetlands. Sometimes we need local by-laws to protect the wetlands.

We need to protect our groundwater from pollution. Our waters sitting on top of the ground also need protection. They need to be protected from becoming septic or putrid.