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POLLUTION PREVENTION VIEW

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NEWSLETTER FROM THE CONNECTICUT DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION

Recycling – Think H₂O

When recycling is mentioned, most people think of bottles, cans, and paper. But water also can be recycled. California and other drought-prone states definitely need to do this, but why bother in Connecticut since we get plenty of rainfall? (Almost 45 inches annually.) The demand for water is on the rise in our state too, due to increased land development, irrigation for landscaping at homes and commercial properties, and longer dry periods as a result of the changing climate.

Water recycling and water reuse are essentially the same thing — reclaiming wastewater (treating wastewater from washing, flushing, etc.) so it can be used again. Doing so provides environmental benefits, even in a state like Connecticut. Water reuse can extend the life of a septic system, reduce nutrient pollution being discharged to Long Island Sound and other water bodies, and lessen the demand on our drinking water supply.

On the national level, the U.S. EPA published **guidelines** for water reuse and several states have done so as well, including a few in the northeast (Massachusetts, Rhode Island).

Advanced technologies have been developed and are now being used to rid wastewater of impurities. Connecticut DEEP has issued permits for a handful of water reuse projects, and has new **case studies** on two popular destinations in the state.

Lake of Isles golf courses, owned by the Mashantucket Pequot Tribal Nation and located adjacent to Foxwoods Resort and Casino, is reusing close to 1 million gallons of water per day to maintain their greens during peak watering season. It takes a lot of water to keep a golf course looking good, so it seemed wasteful to the Tribal Nation to use drinking (potable) water to irrigate turf grass. An



Purple is used to designate piping that carries reclaimed water.

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environmentally proactive solution was to utilize the treated wastewater from the resort and casino. The wastewater is processed through an advanced water treatment system with a very high level of purification, including filtration, ultraviolet disinfection and chlorine. During the past 5 years, approximately 228 million gallons of water has been reclaimed, allowing the golf course to maintain top-quality greens while substantially reducing the need for fresh water.

Water's Edge Resort and Spa, located on Long Island Sound in Westbrook, is also reusing water — resulting in a savings of more than 2.5 million gallons of potable water each year. A few years ago the owner wanted to build additional guest units, but due to its proximity to Long Island Sound, the site did not allow for the increased volume of wastewater discharge that would result from the addition.

Similar to Lake of Isles, very advanced alternative wastewater treatment systems were incorporated at Water's Edge making reuse options possible. Here, about 1 million gallons a year of recycled water is being used for toilet flush water in a section of the resort, rather than using drinking water for this purpose. It is dyed blue to clearly identify it as recycled water. The resort also has a unique closed-loop system in its laundry operations. Water is continuously treated and reused within the laundry cycle, reducing the total gallons of fresh water that would be needed by about 1.5 million gallons annually.

In both of these examples, the ability to use reclaimed water comes with many daily monitoring requirements and very stringent conditions. The treatment systems provide a highly advanced level of disinfection and a separate piping system is used. Purple is the designated color for pipes and fixtures that carry reclaimed water so they can be easily identified.

While states like California, Texas and Florida lead in water reuse due to their immediate needs, Connecticut continues to evaluate new recycling opportunities to be prepared for the future. For more information on the environmental benefits of water recycling/reuse — [EPA's brochure](#) or on water planning in CT — [2014 Water Planning Council Report](#).

What's New in P2?

Honey, We Should Buy an Electric Car

Follow the adventures of a Connecticut couple as they consider buying an electric car (EV). This humorous video addresses the top concerns that potential buyers have expressed about purchasing EVs. [www.ct.gov/deep/videos](#) or [YouTube CTDEEPVideos](#).



Paint Smarter

Quinn (the 5th grader who joined the Wastebusters in their most recent episode) video blogs about how you can paint with less waste. He gives tips on how to calculate how much paint to buy, the correct way to store it, and where to get rid of any unwanted paint. [www.ct.gov/deep/videos](#) or [YouTube CTDEEPVideos](#).



GreenCircle Awards Focus on Sustainability

Since 1998, DEEP's GreenCircle Awards have recognized individuals and groups for activities or projects that promoted natural resource

conservation or environmental awareness. Starting this year, the awards program has a new focus on *sustainability* and will recognize those who take a coordinated and holistic approach to reducing their environmental impact and resource demands of their operations and activities. The Hartford Business Journal and DEEP will join together for a very special evening event to celebrate and recognize the winners, and to spread the word about the strides that companies right here in Connecticut are making. Any business, institution, individual or group operating or living in the state of Connecticut is eligible to participate.

Projects will be recognized in Energy, Transportation, Pollution Prevention and Recycling. Nomination deadline is **February 15, 2016** – more information at [www.ct.gov/deep/greencircle](#).



Be Septic Smart

Would you buy an expensive car and never change the oil? Or would you use your vacuum cleaner for twenty years without emptying the bag? Of course not! But many home and business owners never think about maintaining their septic system until the system fails and they see or smell sewage bubbling up in the yard or flooding the basement. Proper maintenance will protect your property value and save you from the hassles of a failed system.

A septic system is essentially an individual treatment facility for the building's wastewater, which is often referred to as sewage. Septic systems are used where municipal or regional treatment facilities are not accessible by sewer lines, usually in rural and suburban locations.

A typical septic system treats the building's sewage, temporarily holding it in the septic tank where heavy solids and lighter scum are allowed to separate from the wastewater. The solids and scum remain in the tank and are partially decomposed by bacteria. Wastewater ("effluent") leaves the tank and flows into a

distribution box that directs the effluent into the drainage system, sometimes referred to as the "leaching field." Usually a network of perforated pipes in trenches, the drainage system disperses the effluent into the surrounding natural soils. The effluent is purified by the soil's organisms, thus protecting groundwater and in turn, public health and the environment.

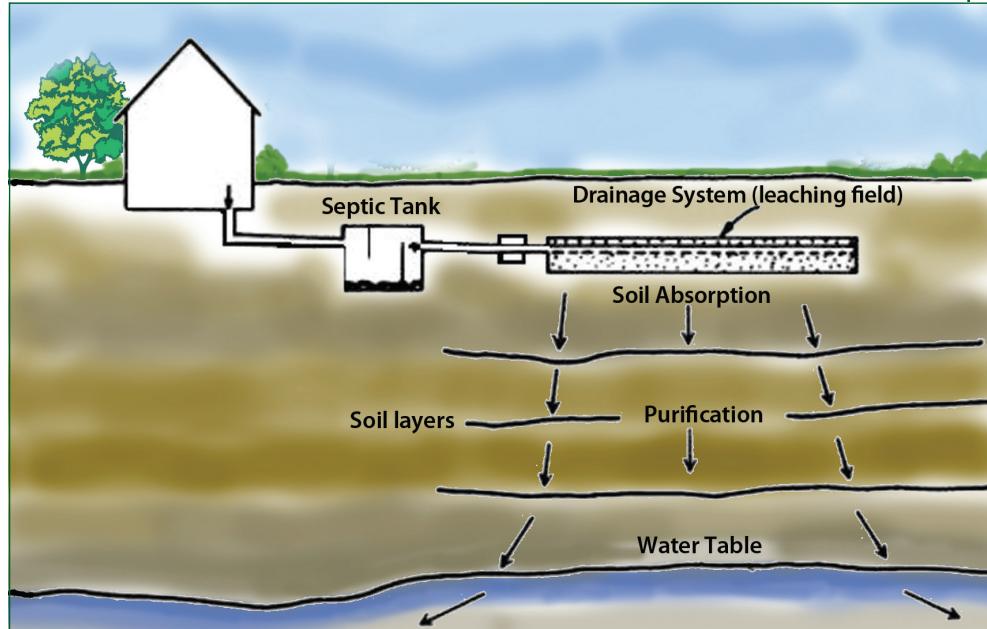
In order to prolong the life of your septic system, the accumulated solids at the bottom of the tank along with the lighter scum should be pumped out every two to five years by a licensed firm. If not removed, the solids will eventually overflow, accumulate in the drainage system and clog up the soil's pores (openings) — no longer allowing the effluent to flow into the soil. Sewage will then back up into your home or business or bubble up on your property. If this happens, you may need to construct a new drainage system on a different part of your lot, which can be quite expensive.

Other ways to avoid trouble with your septic system is to avoid pouring cooking grease or fats down the drain. Grease hardens in the tank and accumulates until it clogs the inlet or outlet pipe. Garbage disposals are not recommended for houses with septic systems because their use significantly increases the amount of solids and greases entering the tank, resulting in the need for more frequent pumping.

Paints, pesticides, poisons and other chemicals should not be dumped down the drain since they may kill soil microorganisms that help purify the sewage. Overuse of cleaning products such as bleach, disinfectants, and drain and toilet bowl cleaners can also harm the beneficial organisms. And there is no need to use commercial septic tank additives. Some products contain chemicals that may damage your drainage system or contaminate the groundwater.

Even though it's winter, you can get your tank pumped out as long as the ground above the cover can be dug up. When there is frost on the ground, you can often find the tank location easier — the soil above tends to not freeze because of the warm water entering the tank. You can check out whether an individual is licensed as a subsurface sewage disposal cleaner (or installer) on CT's e-licensure webpage: <https://www.elicense.ct.gov>.

If you have questions on your septic system, including its size and location, contact your **local health department**. For more tips on how to take care of your septic system, check out the CT Dept. of Public Health's **website**, which includes **Septic Systems 101**.



Ask Eartha



Is it okay to throw dog poop in the woods if I put it in a biodegradable bag? If not, what's the best thing to do — put it in my compost bin?

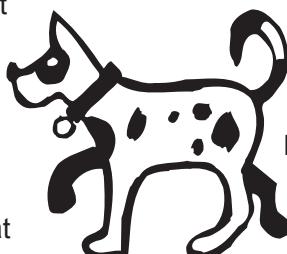
Ellen P., Simsbury, CT

Given that close to 30% of households in Connecticut are dog owners you ask an important question about the proper disposal of pet waste.

Decomposition is nature's way of recycling organic material into a rich soil amendment and it is reasonable to wonder if dog waste could be safely left to decompose in the woods. A **past issue** of *P2 View* described the environmental problems that can result from dog poop left on the ground where it gets carried by storm water run-off and pollutes our lakes, ponds and streams before it can ever decompose.

Unfortunately, putting the poop in a biodegradable bag does not prevent it from harming the environment. Wildlife may view bagged poop as a food source, and possibly

choke or otherwise clog their digestive systems on the plastic, resulting in death. Even if a bag is correctly labelled as **biodegradable** it can take up to one year to break down by natural means, e.g., microorganisms, air, water, sunlight according to the Federal Trade Commission's **definition**.



While chicken, cow and horse manure can all be used as fertilizer, dog excrement is fundamentally different than that of other animals. Since dogs are omnivores, their feces contain harmful bacteria as well as parasites. To kill the almost 8 billion bacteria and parasites in pet waste requires a constant temperature of 165 degrees Fahrenheit for at least 5 days, a basically impossible achievement in home composting

situations. Leaving a biodegradable bag filled with dog poop in a forest, park or woods would not kill the harmful organisms either.

So bagged or unbagged, dog doo-doo doesn't belong in the woods or on the beach or in our parks or yards. Leaving it allows pathogens to pollute ground and surface water and could result in beach closures. Pet waste has been shown to be a significant source of nitrogen in many streams, ponds, and larger water bodies, contributing to **eutrophication**.

An environmentally sound way to pick up dog poop is with a used plastic bag (like one from a store or the newspaper. If you don't have any, ask your friends for theirs). Then place the bag in a garbage can where it will end up being burned at one of Connecticut's trash-to-energy plants.

Eartha

Eartha answers selected environmental questions. Email your question to judith.prill@ct.gov and watch future issues for your answer.

**Got new toys over the holidays, like a new TV, computer, laptop, or tablet?
It's easy to recycle your unwanted ones – www.ct.gov/recycle**



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