

Think septics are always bad? Then you don't know sewage

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I am encouraged by the recent debates over Maryland's proposed "flush tax" because additional funds are needed if we are going to clean up the Chesapeake Bay.

But the ingrained view that septic systems (septics) are worse than wastewater treatment systems (sewers) is unfair. I am not defending the current state of septics; I heartily agree that they need to be better inspected and maintained, but the same applies to sewers.

Septic systems treat the waste of about 4 million people, or 25 percent of the Bay's population. Septics are typically regarded as bad and needing to be replaced by sewers. Septics are old-fashioned, almost a second cousin, to outhouses. Sewers are high tech and good.

"It makes more sense to upgrade septic systems than to replace them with sewers."

Take a closer look, though. Using data from the Chesapeake Bay Program, the big-picture assessment is the other way around. Per person, septics contribute only 60 percent of the nitrogen that typical sewers do (3.7 pounds/year versus 6.0 lbs/year) from plants when both systems lack nitrogen removal technology. This is the opposite of what most people think.

In addition, septics contribute no phosphorus while sewers contribute 0.36 pounds per person per year—each year, Baywide, that is 0.0 pounds of phosphorus from septics compared with about 4.3 million pounds from sewers.

Upgrading plants with advanced nitrogen removal technology would substantially reduce nitrogen contributions from sewers to 1.6 pounds per person. However, if septics were upgraded, their nitrogen contribution would be 0.9 lbs/person, again, almost

half that of sewers.

It makes more sense to upgrade septic systems than to replace them with sewers.

Experts argue that it would be costly to fully upgrade septic systems and difficult to regulate because they are privately owned and individuals must bear the upgrade costs. But sewers are far from cheap, are financed with large amounts of federal and state dollars (thus, septic users have been paying for sewer upgrades for a long time), and are far from easy to regulate.

The debate doesn't end with nutrients. Sewers, even new ones, leak.

Was any of the 418 million gallons of sewage reported spilled in Maryland between 1996 and 2001 or the 241 million gallons spilled in Northern Virginia between 1997 and 2001 some of yours? What about any of the approximately 3 billion gallons of combined sewer overflow spilled annually in the District of Columbia through pipes carrying waste to the Blue Plains treatment facility?

These reported spills are of much greater volume than if all of 1.3 million septic tanks in the watershed cracked and spilled everything. Faith that the contents of a toilet attached to a sewer system make it to a treatment plant needs more reflection.

In addition, the usual pathways for sewers are streams, which are torn up with long-term damage as the outfalls dramatically change the hydrology of the receiving waterway.

Increased runoff from associated development causes erosion, which contributes much of the Bay's worst pollutant, sediment, and exposes once-buried lines to breaks and blocks fish migrations.

Septics, by contrast, recharge groundwater while also maintaining local hydrology. We should change our attitudes and policies about septic systems and, with equal vigor, upgrade them.

Understand that relying solely on the expertise of the homeowner is the wrong approach. We don't do that with our furnaces, we hire experts.

Upgrades in sewer treatment plants, which used to discharge practically untreated waste, have been the most important factor in the remarkable improvements of the Potomac River.

Sewers are the best technology for meeting dense population demands. But we must also install them with the best of care, especially in regard to sewer pipes, and have rigorous inspections of the whole system, not just the plant. It doesn't matter if the treatment plant is 100 percent efficient if the stuff never makes it there.

Put the right technology where it works best. Sewers are the best mechanism for keeping growth well-planned and connected to bigger themes like major highways, service infrastructures, city identity and schools. However, any wastewater treatment technology, when poorly sited, maintained and inspected, is bad. Use septics when the soil conditions are right and where long runs of sewer pipelines are risky.

Both systems work. Both need improvements in technology, installation, maintenance, and inspection. It is not a question of which is better, because each has its place. But septic, sewer, and let us not forget waterless technologies, should be used correctly, evaluated fairly, and improved at every opportunity.

The Potomac River has become a national showcase for successful programs to restore highly polluted waters. This turnaround has created economic benefits. Shorelines once considered practically worthless because of the odor and appearance of the river are now considered prime real estate.

Our continued investments in all forms of wastewater treatment and other nutrient reductions will return benefits in the form of new jobs, increased property values and tax revenues, reduced water treatment and health care costs, improved wildlife and inland fisheries and importantly, in our ability to enjoy them.

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