

The Saluda River is listed among 1,044 impaired lakes, ponds and rivers in South Carolina. The entire Saluda watershed has been targeted as officials search for ways to find and fix failed septic systems. KEN OSBURN/STAFF

NO EASY FIX

REPAIRING SEPTIC SYSTEMS KEY TO CLEANUP OF STATE'S CONTAMINATED WATERS, PROPONENTS SAY

By Nathaniel Cary
Staff writer
ncary@greenvillenews.com

In the mountains high above Greenville the Saluda River runs clear and cold. But it also runs polluted.

Too many nutrients — the product of human and animal waste — flood into the river or its smaller feeder streams.

Much of the pollution flows from homes with failed septic tanks, officials say. Rather than seeping into the ground, waste floods into the river when heavy rains fall.

The excess nutrients make the water unsafe to drink. Swimming or wading in the water can lead to stomach illnesses, skin infections or ear, nose and throat infections and, rarely, hepatitis A, meningitis or encephalitis, according to DHEC and the EPA.

The Saluda is listed among 1,044 impaired lakes, ponds and rivers in South Carolina. The entire Saluda watershed has been targeted by state and federal officials as a priority in their quest to find and fix failed septic systems.

But no one knows exactly how many tanks are broken along the Saluda or elsewhere, and South Carolina has no laws to require homeowners to in-

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Ken Howard, owner of Dr. Flush in Greer, prepares to pump out a septic system holding tank. Howard said septic systems should be inspected and pumped out every three to five years, but that homeowners often don't pay attention until there's a problem. KEN OSBURN/STAFF

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spect or repair their septic systems.

And though cities and counties have spent millions in recent years to repair aging sewer pipes under consent decrees from the Environmental Protection Agency, homeowners on septic tanks have largely escaped federal notice.

South Carolina has roughly 1 million septic tanks statewide, said Lindsey Evans, spokeswoman for the state Department of Health and Environmental Control. The EPA estimates that 10 percent of septic systems — 100,000 in South Carolina — fail in any given year.

Those who study septic tank issues, like Ben Turetsky, the executive director of the Friends of Lake Keowee Society, say the number of failed tanks could be much higher, as many as 20 percent.

South Carolina doesn't keep track of how many septic tanks fail because the state doesn't require permits to repair or service septic tanks, Evans said.

"We do not document systems that have failed; however, we do investigate complaints of failing systems to ensure that they are repaired," Evans said via email.

Of homes served by septic systems, 46 percent are located in the South, compared with 22 percent in the Midwest, 19 percent in the Northeast and 13 percent in the West, according to the EPA. Across the country, the number of houses served by septic systems has grown by 1.6 million since 1985 to more than 26 million homes, according to EPA statistics.

If the Upstate continues its cycle of sprawl and residents increasingly move into locations that aren't served by public sewers, septic pollution will likely increase, said Brad Lee, a University of Kentucky associate professor and nationally recognized research leader in septic tank maintenance, regulation and training.

Once viewed as a temporary solution to dispose of human waste, the use of septic systems is now a permanent part of the nation's infrastructure, Lee said.

Lee, who has spent time in South Carolina training regulators and septic service personnel on how best to help homeowners with septic system problems, said the best way to address the number of failed systems in the state would be to require inspections when a home is sold.

But that's a solution that failed to gain acceptance in South Carolina in the past.

What's left for those seeking to keep pollution from seeping into the state's waterways are homeowner-education campaigns and reliance on find-and-fix programs using dwindling federal funds.

That's what's happening in the Middle Saluda Watershed this year, with mixed results.

Worst-case scenarios

When representatives with the Greenville County Soil and Water Conservation District approached home and business owners with a program that would help them pay to fix their septic systems, they met resistance, said Kirsten Robertson, manager of the conservation district. The district offered to administer federal Clean Water Act grants in the Middle Saluda Watershed in Greenville County's scenic Highway 11 area, which includes locations around Caesars Head and Jones Gap state parks.

Homeowners were hesitant to accept the 60 percent match the government would pay to fix their systems, Robertson said.

In the first year of the three-year program, grants assisted just two homeowners, according to the state's 2013 nonpoint source management program annual report. The district has money to fix approximately 60 systems, Robertson said.

"The biggest problem is a lot of people don't want the government involved in their personal lives so they choose not to take part," said David Reid, repair and installation technician with Upstate Septic, a county-procured contractor on the Middle Saluda project.

But what contractors found in those first two homes was alarming.

In one case, sewage backed up and filled a homeowner's bathtub, and the kitchen-sink drain simply emptied into the yard nearby, according to the DHEC report. The low-income homeowner couldn't afford the repairs, but a Duke Energy Foundation grant covered the homeowner's 40 percent match, the report states.

In the second, the homeowner lived directly next to the Saluda River, and the repair took a direct stream of pollution from the river, the report states.

Repairs to tanks in the watershed are compounded by the difficulty of the work, Robertson said.

The slope of the land and proximity to the river has made some projects technically difficult, Reid said.

"It gets ugly," Reid said. "For the repair crew, it's a nightmare sometimes."

Robertson urged residents to let them help. She's turned into sort of a program recruiter, displaying flyers in gathering spots and assembling a septic tank model that she uses in presentations in the watershed.

Now she plans to take the show on the road to area churches.

Lake Keowee

West of Greenville, a different sort of septic program has taken shape on the shores of Lake Keowee.

The program is organized by the Friends of Lake Keowee Society and its goal is to preserve Lake Keowee's picturesque deep blue water from contamination that has, in recent years, caused an algal bloom on Lake Greenwood, another Upstate drinking water source, Turetsky said.

Already, 4,000 septic systems dot Keowee's shorelines and 4,700 docks have been approved, which means another 700 systems could come online shortly, Turetsky said.

Duke Energy's shoreline management plan would eventually allow 9,000 houses — all on septic systems — around the lake, Turetsky said.

Since 1999, FOLKS has administered projects using $600,000 in federal Clean Water Act grants to fix septic systems and fence cattle out of feeder streams near the lake, he said.

As part of the agreement with Duke Energy to relicense the Keowee-Toxaway hydroelectric project, FOLKS asked to start a source-water protection program. Duke Energy and stakeholders agreed, and Duke included $1 million in the agreement to start the program, which will monitor water quality, provide funds to fix pollution runoff and educate homeowners on septic system maintenance and repair.

"To us, it is probably one of the most important things that is in the relicensing agreement," he said.

A million dollars doesn't go as far as it used to, though.

Turetsky estimates there are 30,000-40,000 septic systems in Oconee and Pickens counties. Most of those eventually flow into Lake Keowee or Lake Jocassee. If 10 percent have failed, and FOLKS splits the average $10,000 cost to repair or replace a septic system with a homeowner, it would cost $15 million to make all the repairs, he said.

"It would be a large find-and-fix program," he said. "But believe me, $1 million is not enough."

He hopes to leverage the funds with grants over time to keep the program running.

"As we make headway and get people to inspect their systems and have them pumped before they fail, that would reduc failures over time," h said.

Impaired water

Analysis by *The Greenville News* of the state's most recent list of impaired waters shows slight improvement overall, though contamination persists in many Upstate waters.

The number of impaired water bodies dropped to 1,043 in 2012 from 1,105 in the 2010 report.

The number of sites that showed fecal coliform — the measurement of raw sewage in the water — also dropped from 317 to 258 sites.

In the Upstate, the Reedy River and Saluda Rivers in Greenville County, Boyd Mill Pond and Lake Greenwood in Laurens County, Lake Jocassee and Whetstone Creek in Oconee County, Six Mile Creek and the Twelve Mile Creek arm of Lake Hartwell in Pickens County, Tyger River in Spartanburg County and Rocky River and Lake Hartwell in Anderson County are all notable inclusions in the impaired water bodies list.

Despite the number of impaired sites, South Carolina's portion of federal cleanup funds has been cut by more than $1.3 million in the past decade, according to DHEC's annual report. The Clean Water Act section 319 grant program operated in 2013 on 64 percent of its 2003 budget, the report states.

The state health department does not use state funds for septic tank repairs, Evans said.

Are changes needed?

A septic system should be regularly inspected and pumped out every three to five years to ensure its performance, said Ken Howard, owner of Dr. Flush Inc., Pumping Service Inc. and Upstate Sep-

tic in Greer.

In 90 percent of cases, that's not what happens, Reid said. Homeowners don't pay attention until there's a problem. Then it's usually a more costly repair, he said.

More often than not, problems crop up during the holidays, when the extended family comes to visit and the system backs up, Turetsky said.

The best way to ensure maintenance of septic systems is to require inspections, either on a regular basis or when a home is sold, said Lee, the University of Kentucky-based septic system expert.

In 2008, South Carolina modified its septic tank regulations and considered requiring a point-of-sale regulation, but the measure failed to get support of the House Agriculture and Natural Resources Committee.

Realtors were concerned about adding potentially costly strings to home sales at a time when real estate was crashing, Turetsky said.

The measure has not come up again. Maybe in a couple of years, when the industry has recovered fully, he will try again, said Turetsky, who spoke to the subcommittee in favor of the bill in 2008.

The second issue: South Carolina doesn't require permits to repair septic systems, so there's no database that shows problem areas, types of problems or other information that could help the state address septic tank issues, he said.

Maryland requires septic system inspections annually. Wisconsin requires inspections every three years. Massachusetts requires an inspection within two years prior to sale of a property or within six months after the sale of a property.

In South Carolina, a DHEC inspector will visit a site to ensure soil and location are adequate for a system when it's installed. Beyond that, DHEC gives a list of recommendations for maintenance and inspections.

Isle of Palms and Folly Beach have adopted their own point-of-sale inspection laws.

Regulators may now be getting a hand with septic inspections from an unlikely source — mortgage lenders.

Howard said his septic inspections have quadrupled in the past two years because mortgage lenders are starting to require inspections as part of the property sale.

The mortgage lenders hold all the cards, Lee said. That could be the solution to the septic system maintenance equation in South Carolina, he said.

"They are the ones that can weigh in," Lee said. "And if they weigh in, everyone pays attention."

Contact reporter Nathaniel Cary at 864-298-4272.



Officials say much of the pollution flowing into the Saluda River is coming from homes with failed septic tanks. KEN OSBURN/STAFF