

Dog Provides Low-Cost, Low-Tech Fix for Cities' Sewer Problems

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To the long list of jobs that dogs do for humans, add another: the detection of water pollution.

Meet Sable, a German shepherd mix with a nose for sewage.

Sable's trainer, Scott Reynolds, who works for an environmental consulting firm, Tetra Tech in Lansing, Mich., said the three-and-a-half-year-old mutt is the only canine known to reliably detect raw sewage or detergents flowing into sewers from illegal or bungled pipe connections.

The dog has sniffed out illegal connections in three Michigan counties. And field tests in 2007 and 2008 showed Sable was 87 percent accurate compared with traditional laboratory water tests, Reynolds said. When the dog errs, Reynolds said, it is probably due to the presence of animal, not human, waste in the sewers.

Word of Sable's exploits are spreading. Communities in Maine and New Hampshire struggling to protect their swimming beaches and shellfish beds from bacterial pollution are considering bringing the dog to New England.

Forrest Bell of consulting firm FB Environmental, which is coordinating the Maine and New Hampshire cleanups, said Sable can save money by reducing the number of dye tests -- where dye is dropped into toilets so investigators can see where it goes -- and follow-up lab work.

The price for trainer and dog to travel and work for a week would range between \$5,000 and \$10,000, but using other specialized tests -- say, genetic fingerprinting to help investigators distinguish between animal and human fecal bacteria -- would cost more than \$100,000, Bell said. "We think that Sable is going to be a good, cost-effective and accurate way to try to do some of these detections," he said.

Sue Kubic, senior engineer with Michigan's Genesee County Drain Commission, which has employed Sable, said the dog provides quick results. "Instead of sending a sample to a lab and finding out two weeks or two months later and having to go back and take three or four or five more samples, you can narrow it down and eliminate some of the tests you have to take," she said.

Sniffing sewage, Sable tracks the scent to where it originates upstream, obviating the need for additional rounds of lab testing downstream. "We can take it from 200 houses to maybe we only need to do dyed-water testing for 10," Reynolds said.

Said Kubic: "Sending that crew out day after day, going and spending an hour or two at each house, doing dye testing to find out if the sanitary is hooked up to the storm system - if you start adding up the people time and travel time, that's where the real money is."

And there is a lot of money being spent as cities whose storm sewers date to the early 20th century have struggled to clean up discharges into waterways from underground networks of pipes that have often never been mapped.

When Tetra Tech hatched the idea of training a canine to sniff out sewage, it turned to Reynolds, a former narcotics-dog trainer, to do the job.

Reynolds, 38, found Sable at a shelter and was impressed by the focus the dog showed in chasing tennis balls.

So Reynolds took Sable home and started him on a scent-tracking program in the spring of 2007, rewarding the dog for pursuing scents related to raw sewage and detergents. He then moved Sable to off-leash searching in difficult terrain and with false targets planted to help him differentiate between scents he would likely encounter in drainage areas.

By July 2007, Sable was working on field trials at a known illicit sewer connection; by August, he was a full-fledged member of the company's field crew.

Reynolds is now training two more sewage sniffers and has started his own company, Environmental Canine Services LLC. He offers detection services, as well as training for agencies that want their own scent-trained dogs.

The point, Reynolds said, is to make the service affordable for small communities and nonprofit organizations.

But does Sable, who lives with Reynolds and his family, think his job stinks?

Not at all.

"He loves it!" Reynolds exclaimed. "Every day, when I get ready for work, he runs and jumps on the counter, looking at his harness and hoping that he gets to work that day."

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