



Minnesota, land of 11,842 lakes and 69,200 miles of rivers and streams, is also home to a not-so-little dirty secret: Each day around the state, thousands of gallons of sewage trickle or seep into lakes and streams from homes and communities that lack adequate wastewater treatment. By helping communities explore treatment options and choose what's best for their circumstances, Extension's Small Community Wastewater Education Program is enhancing Minnesota's water quality and health.

Coming Clean

Extension helps enhance water quality in small communities

"If you only knew the magnitude of this problem you would be less prone to let your kids or grandkids swim in the lakes," said Extension educator Doug Malchow.

The problem Malchow is talking about is the release of inadequately treated sewage into Minnesota's surface waters. For a variety of reasons, ranging from lack of awareness to lack of funds, small communities around the state—perhaps 1,000 of them, according to estimates by Minnesota Pollution Control Agency senior pollution control specialist Barbara McCarthy—have insufficient wastewater treatment and infrastructure manage-

ment. Meanwhile, many dispose of their toilet flushings and other household wastewater through catch-as-catch-can (or can't) systems, ranging from pipes that drain right into rivers to outdated septic systems that ooze onto lawns or into lakes. Environmentally unsound, unhealthy and illegal, such systems are in serious need of replacement and ongoing care. But how?

As individuals, neighborhoods, cities and towns struggle to upgrade their sanitation to meet basic health standards, Extension's Small Community Wastewater Education Program (SCWEP) is there to help.

"What we try to do is go out and work with small communities that generally don't have a lot of resources of their own and hopefully help them better understand the process they will go through to upgrade their wastewater treatment," said Malchow, one of eight members of Extension's Onsite Sewage Treatment Program team.

A small community's first impulse when trying to solve its wastewater blues often is to turn to an engineering firm for assistance. Such advisers often recommend large-scale fixes—building a centralized wastewater treatment plant, for example, or tying into an existing one—and they may not be familiar with alternatives to the "big pipe." A decentralized, soil-based treatment approach—variations on individual septic systems—may be cheaper and better-suited for the site.

"There can be multiple solutions to the problem," said Renee Pardello, Extension natural resources and environment program leader. "We provide communities with multiple

Inadequately treated sewage ends up in Minnesota's lakes and streams because many small communities around the state lack sufficient wastewater treatment and infrastructure management.



options so they can select what's appropriate to them with respect to their community needs, values and aesthetics."

Malchow and his colleagues introduce communities to a five-step process for cleaning up their act: Understand the situation, explore options, make decisions, carry out the plan, and manage the system. Through information sessions and hands-on help, the team members help their clients ask—and answer—questions such as "What are the different ways communities can handle their wastewater?" "Which approach is best for us?" and "Who can help us pay for this?"

"It's great because they've got more knowledge than what we had," said Pam Sheeran, city clerk, council member and resident of Seaforth, Minn., which began working with Malchow three years ago to solve its wastewater treatment problem. "For them to explain to the citizens the different types of sewage options, it really helps people understand it."

Malchow notes that the communities are not the only beneficiaries of Extension's money-saving advice. Lower costs means state and federal loan programs can help more communities and more waterways.

"So we're not only trying to help individual communities make good choices, we're helping society as a whole. We're helping to clean up the environment. We're helping to protect public health. We're helping make the taxpayer's dollar go a little further because they're making more informed decisions," he said.

For more information, see septic.umn.edu/scwep/



In southern Minnesota, Shane Hastings (left), community programs specialist with USDA Rural Development, and Extension educator Doug Malchow work together to help small communities find resources to solve wastewater management problems.



City of Seaforth finds its wastewater solution

Seaforth city clerk Pam Sheeran is part of a team working with Extension to address the town's wastewater problems.

Seaforth, Minn., pop. 85 or SO, is like many small Midwestern towns: two churches; a bar; white clapboard houses with lilac-bordered yards and kids' trikes parked in the driveway; a dusty road—and a tiny creek that carries raw sewage into the nearby river.

Seaforth put down roots in 1901, before anyone was too savvy about the health and environmental issues surrounding wastewater. As residents put in plumbing, most hooked their outflows to the clay drain tile that carries water through town and eventually to the Redwood River. Today it has the dubious distinction of being the only unsewered community in Redwood County.

"They knew they had to do something," said Shane Hastings, community programs specialist with USDA Rural Development. In 2003, the city called in an engineering firm to help. The proposal—to run a line to the treatment plant at nearby Vesta—came back at more than \$1.4 million, a daunting cost for a town where median annual household income hovers around \$30,000.

Fortunately, Hastings let regional Extension educator Doug Malchow know about Seaforth's situation. In cooperation with community leaders, county staff, and others, Malchow helped Seaforth residents explore options, test soils, put together proposals for bids, and learn about funding opportunities. Today, Seaforth is preparing to put in a soil-based treatment system that is expected to be half the cost of the Vesta option, with lower operation and maintenance expenses as well.

"They were very excited about it, and I'm kind of excited about it, too," said Hastings. "They saved themselves some money, they saved the government some money, plus they will be able to move forward with the project a little sooner."

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