

Onsite Septic Systems: Educating the Homeowner

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“Out of sight, out of mind” is, unfortunately, a common theme among many homeowners with septic systems. Systems are tucked away underground, not to be thought about, until the system malfunctions or breaks down. This mindset is a major reason septic systems fail.

Some Reasons Homeowners Don't Maintain Septic Systems

Lack of information is a common reason homeowners don't maintain their systems.

“Because of prescriptive codes (state and local governmental rules and regulations), people involved in the onsite sewage industry have always focused on design and installation and hoped systems performed as they're designed to,” said Ken Olson, part-time farmer and full-time University of Minnesota onsite sewage treatment extension educator. “Everyone just forgot that once design and installation is done, the homeowner is in charge, but no one told the homeowner what to do.”

Misinformation is another reason homeowners don't maintain their systems. For example, many homeowners mistakenly believe that putting yeast or biological additives in their septic system is all they need to keep it functioning properly and avoid the need to have the solids pumped out of the septic tank. The state of Washington led in debunking this myth by proclaiming that most additives do not affect system operation positively and can contaminate groundwater aquifers. The Washington State Department of Health also placed restrictions on advertising claims by additive manufacturers. (See *Small Flows* newsletter, Volume 13, Number 4, Fall, 1999.)

Other homeowners have eagerly bought into various manufacturers' false claims that some onsite systems are maintenance free. What happened in Hamilton County, Ohio, in the early 1990s illustrates the problem. When aeration systems were installed there beginning in the 1950s, no one foresaw the overwhelming

environmental and health price the community would later pay because it believed manufacturers who touted their systems as maintenance free and capable of producing effluent the quality of drinking water. It took updating household sewage regulations, instituting a comprehensive



Homeowners can look to local government officials and university extension agents for advice and information about maintaining their septic systems. Photo courtesy of Susan Maczko.

program to permit and annually inspect both new and existing systems, and a whole lot of public relations and public education to get the community's sewage problems under control. (See *Small Flows* newsletter, Volume 13, Number 2, Spring, 1999.)

Still other homeowners know that septic systems need to be maintained, but not how often.

So they put it off, hoping to make it through yet another year without the added expense of inspecting the system and pumping the tank. Maintaining the septic system just doesn't have priority over the kids' braces or car repairs.

Then some individuals simply cannot afford to install a proper system or maintain the system they have. This is the situation for many individuals in Tyler, Texas.

"We have so many people who are on low or fixed incomes and those who are indigent. They often can't afford a basic system. Many individuals have to choose between buying food, paying utility bills, or installing a proper onsite wastewater system," said Leroy Biggers, regional manager of the Texas Natural Resource Conservation Commission (TNRCC).

Informing the Homeowner

While uninformed homeowners might look with wide-eyed astonishment upon a nonmaintained septic system that failed, informed homeowners know that a nonmaintained system is certain to fail eventually.

So what is the best way to inform the homeowner? One method that has consistently worked is education.

According to the U.S. Environmental Protection Agency (EPA), the goal for environmental education is to increase public awareness and knowledge about environmental issues and to provide the public with the skills needed to make informed decisions and take responsible actions.

Environmental education enhances critical-thinking, problem-solving, and effective decision-making skills. It also teaches individuals to weigh various sides of an environmental issue to make informed and responsible decisions.

Environmental education does not advocate a particular viewpoint or course of action.

What's in It for Me?

Informal education is most successful when the educator can tie the information being taught to the student's need for that information.

For example, educators can explain how a failed septic system reduces property value. Homeowner testimonials can describe foul odors that permeate homes with failed septic systems. Statistical information can illustrate how a few hundred dollars spent maintaining a system can save a few thousand dollars needed to repair or replace it.

Educators can explain how failed septic systems can be a source of dysentery, hepatitis, jaundice, chemical or nutrient poisoning, diarrhea, cramps, nausea, headaches, and even fatigue and that these diseases can affect an entire community.

Educators can even explain how failed systems can devastate wildlife and their habitats and the adverse effects this can have on a community.

Homeowner Education

Homeowner education for onsite wastewater systems can be found through a variety of sources, such as local health departments, university extension offices, and professional wastewater organizations.

Education is administered in a variety of formats including hands-on training, distance learning, videos, brochures, and manuals.

Health Departments and Other Governmental Agencies

Nearly all local health departments offer publications that detail how to care for septic systems. Some health departments also offer homeowner education courses.

Dave Gustafson, onsite sewage treatment extension specialist at the University of Minnesota in St. Paul, Minnesota, describes three areas of homeowner education that he teaches to local government officials and university extension agents. These individuals then teach homeowners.

"The biggest need we fulfill is teaching people how to take care of systems. First, we look at it from the homeowner's point of view, explaining the purpose of an onsite system, how it works, and how to care for it. Next, we look at the decision-making process, explaining alternative treatments. Finally, we look at regulatory decisions and how public policy is formed and its relationship to selecting a system."

Education is particularly helpful when it comes to convincing homeowners to change their behavior. "It is critical that homeowner education begin early and well in advance of planned onsite program changes, advances and expansions," said Jean Roth Caudill, former director of water and waste in Clermont County, Ohio, (currently program specialist in the quality assurance division of the Ohio Department of Health).

"The Clermont County Health District found that effective education, followed by regulatory enforcement, can lead to homeowner acceptance of their role as a wastewater treatment system operator," Caudill said. "As resources become available, education may promote homeowner acceptance of the purchase of an individual service contract or payment of a centralized management fee."

Telephone listings for local health departments are usually found in the government section or blue pages of local phone directories.

State departments of health sometimes offer 

satellite programs about various wastewater issues. These programs are broadcast live through satellite to various downlink sites. Check with your state department of health for information about scheduled programs.

Other governmental offices, such as the Texas Natural Resource Conservation Commission (TNRCC), have also become valuable resources for homeowner education. "After we discovered that increased communication was needed, we organized and began hosting a series of workshops and inviting a wide variety of different groups, including representatives from agencies, industries, volunteer groups, and the general pub-



Distance training programs are broadcast live through satellite to various downlink sites. Photo courtesy of Susan Maczko.

lic to participate. These programs have been a resounding success," said Leroy Biggers, regional manager of the TNRCC in Tyler.

TNRCC offers workshops approximately every 60 days. A special area of emphasis in the workshops focuses on making organizations and individuals aware of resources that may be available to finance onsite wastewater systems.

Universities and Colleges

Many universities offer onsite wastewater training courses for homeowners through their campus U.S. Department of Agriculture (USDA) Extension Service office.

For the phone number of the extension office in your area, check the government pages of your local phone directory, call the National Small Flows Clearinghouse (NSFC) at (800) 624-8301, or call the USDA directly at (202) 720-3377.

Universities may also offer training through classes or workshops at their training centers. For example, the Environmental Training Center at

Del Tech in Georgetown, Delaware, established in 1994, offers a nine-hour basic onsite course each semester. The course costs \$85 and is taught by State Department of Natural Resources environmental scientists. Course content includes design, placement, operation, maintenance, and troubleshooting.

For only \$15, homeowners can attend a three-hour workshop at the University of Rhode Island in Kingston, Rhode Island. The Onsite Wastewater Training Center offers a variety of homeowner education courses throughout the year but also accommodates on-demand course requests from local groups, such as a watershed or homeowner association.

Information covered in these workshops includes basic operation, maintenance, and onsite system management, understanding septic system inspections, and tours of sites with alternative systems, as well as a hands-on workshop. Research and environmental soil scientists teach these courses.

The Alabama Onsite Wastewater Training Center in Livingston, Alabama, offers a course that looks at the installation, operation, and maintenance of alternative onsite sewage treatment systems. The course is offered three to four times a year and is designed primarily for installers, but the general public can benefit from attending. Homeowners can attend free of charge.

University staff, such as civil engineers and microbiologists and industry professionals who have an environmental engineering and/or health department background, teach this course.

Homeowners who also serve as public officials can attend courses at the Tidewater Onsite Wastewater Research and Education Center in Plymouth, North Carolina, free of charge.

The University of Minnesota has three objectives for its homeowner education courses: explaining basic system operation, system maintenance, and ways the homeowner can save money. Some courses are offered on-demand through requests from various community groups, such as homeowner associations.

Many of the courses are free; others pass only the nominal cost of materials on to the participants. Public officials and university staff teach the courses.

The National Environmental Training Center for Small Communities (NETCSC) offers a directory (Item #TRBLGN18) that lists onsite wastewater training programs and centers across the country. The cost of this directory is \$4.35.

Professional Organizations

Numerous national and statewide professional organizations offer either homeowner education courses or know where these courses can be found.

One of the goals of the National Onsite Wastewater Recycling Association (NOWRA) is to educate the public about the value of recycling wastewater and the need for properly designed and maintained onsite treatment systems. NOWRA includes information on their Web site about the do's and don'ts of caring for septic systems. There is also an expansive list of academic links, many of which provide homeowner education courses.

The New York Onsite Wastewater Association, established in 1998, offers classes both in its Morrisville, New York, training center and at the client's work site.

Texas Onsite Wastewater Treatment Training Center in College Station, Texas, offers overview courses on various treatment and land application technologies and operation and maintenance information. Course costs range between \$135 to \$265 per course.

Web Sites

The Internet contains a wealth of homeowner education information. For example, click onto www.bae.ncsu.edu/programs/extension/publicat/wqwm/septic.html, and you can find the following publications: Septic Systems and Their Maintenance, Management of Single Family and Small Community Wastewater Treatment and Disposal Systems, Investigate Before You Invest, and About Septic Systems: What You Need to Know

Virginia Polytechnic Institute and State University also offers basic septic system information for the homeowner. Their Web site is fbx.vt.edu:10021/cals/cses/reneau/projects/sys.html.

The University of Arizona Cooperative Extension offers the following short publications on its Web site: Inspecting Your Household Septic System, Maintaining Your Septic Tank, Managing Your Household Septic System, Operation and Maintenance Tips for Your Septic System, and Understanding Your Household Septic System. These publications can be found at ag.arizona.edu/pubs/quarternly.html.

National Small Flows Clearinghouse (NSFC)

The NSFC is an excellent source of homeowner education. Funded by the EPA, NSFC houses information about wastewater collection, treatment, and disposal.

NSFC offers an information packet (Item #WWPKPE28) for only \$2 that includes homeowner septic tank information brochures, newsletters, and fact sheets. This information is packaged in a handy, onsite system record-keeping folder

that the homeowner can use to track system maintenance, sketch the layout and position of the system, and record permit and local health department information.

Homeowners can also purchase a \$10 video titled *Your Septic System: A Guide for Homeowners* (Item #WWVTPE16). This 11-minute videotape discusses septic system operation and maintenance and covers 10 basic rules homeowners should follow in caring for their system.

Another videotape for homeowners, *The Care and Feeding of Your Septic Tank* (Item #WWVTPE40), explains the basic components of a conventional septic system and its operation and maintenance. Steps to prolong the life and effectiveness of a septic system are also included. This video costs \$10.

Septic Systems Revealed: Guide to Operation, Care, and Maintenance (Item# WWVTPE43) identifies the major reasons for system failure and demonstrates the proper methods for pumping septic tanks. This video costs \$15.

Additional videotapes and publications about homeowner education, some available in both English and Spanish, are listed in the free NSFC catalog (Item #WWCAT).

For more information about resources NSFC offers, call (800) 624-8301 or (304) 293-4191. ■

Contacts

For more information about homeowner education, contact the following:

- TNRCC Tyler Office contact: Leroy Biggers at (903) 535-5100.
- Environmental Training Center at Del Tech contact: Jerry Williams, program manager, at (302) 856-5776.
- University of Rhode Island Onsite Wastewater Training Center contacts: George Loomis, training center director, at (401) 874-4558 or David Dow, program manager, at (401) 874-5950. The Web site address is www.uri.edu/ce/wq/owtr.
- Alabama Onsite Training Center contact: Allen Tartt, director, at (205) 652-3803.
- University of Minnesota contact: Ken Olson, extension educator, onsite sewage treatment, at (507) 280-2869.
- NETCSC contact: Mary Alice Dunn at (800) 624-8301 or (304) 293-4191.
- NOWRA's Web site is www.nowra.org or call (800) 966-2942.