Home*A*Syst
Home Assessment System

This assessment covers three factors that affect your pollution risks:

1. *Design and Location*
   - *tank capacity*
   - *soil type*
   - *system location*
2. *Maintenance*
   - *pumping the septic tank*
   - *protecting the drain-field*
   - *watching for signs of trouble*
3. *Inputs to the System*
   - *reducing water, solid, and chemical inputs*

This assessment helps you evaluate your septic system and pinpoint risks before they become problems. It provides general guidelines for safe management of household wastewater.

Oklahoma Cooperative Extension Service
Division of Agricultural Sciences and Natural Resources
Oklahoma State University

Household Wastewater:

Septic Systems and Other Treatment Methods

Assessment Worksheet #3

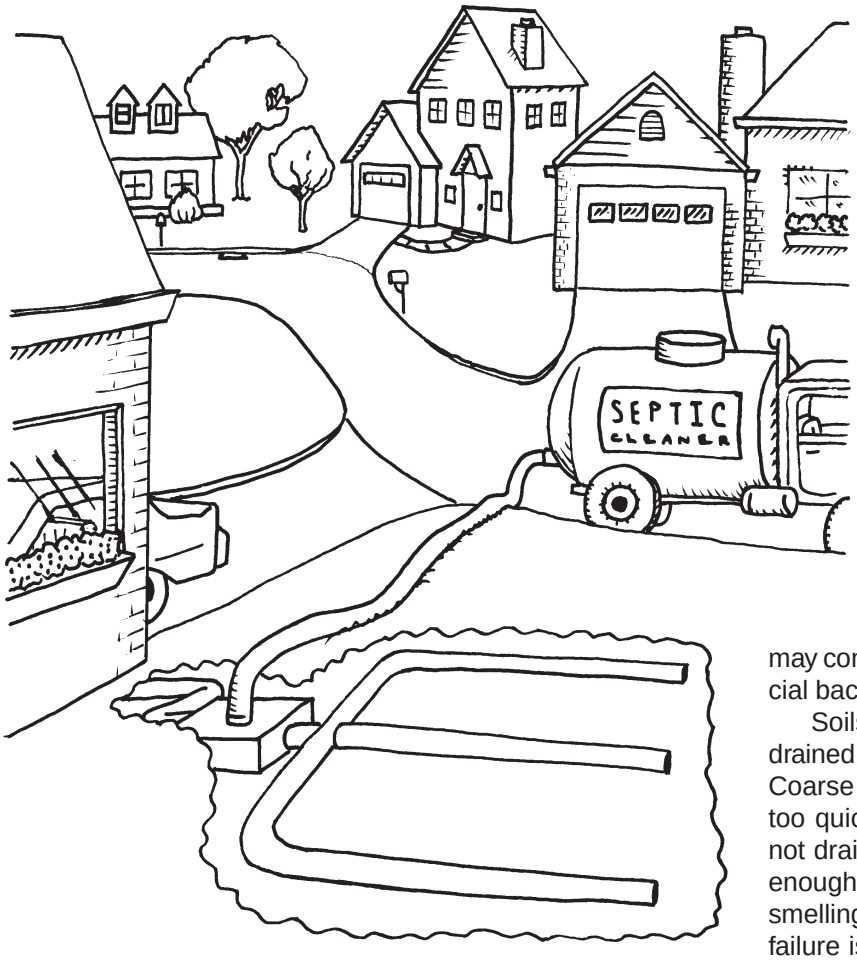
Why should you be concerned?

Wastewater treatment systems help protect your health and the environment. Household wastewater carrying bodily wastes, dirt, soap, food, and grease from sinks, toilets, washing machines, and showers flows down the drain and out of your house. Wastewater also carries disease-causing bacteria, viruses, and other pathogens. Nutrients such as nitrogen, phosphorous, and organic material promote weed growth, lower oxygen levels, and affect fishing and recreational use of rivers and lakes. Wastewater treatment systems are designed to remove or break down these contaminants before they enter the groundwater or nearby lakes, streams, or wetlands.

Wastewater treatment is often out-of-sight and out-of-mind until problems occur. Knowing the basics about your household system and taking simple precautions can prevent problems. It's a wise investment to keep your system working well. Replacing a failed system can cost thousands of dollars.

Do you have a septic system or other onsite system to treat wastewater?

This worksheet is for homeowners or tenants who have septic systems buried in their yards. A typical septic system consists of a septic tank and soil absorption field (also known as a drainfield, leach field, or lateral lines). Systems may have a septic tank and a lagoon instead of a soil absorption field.

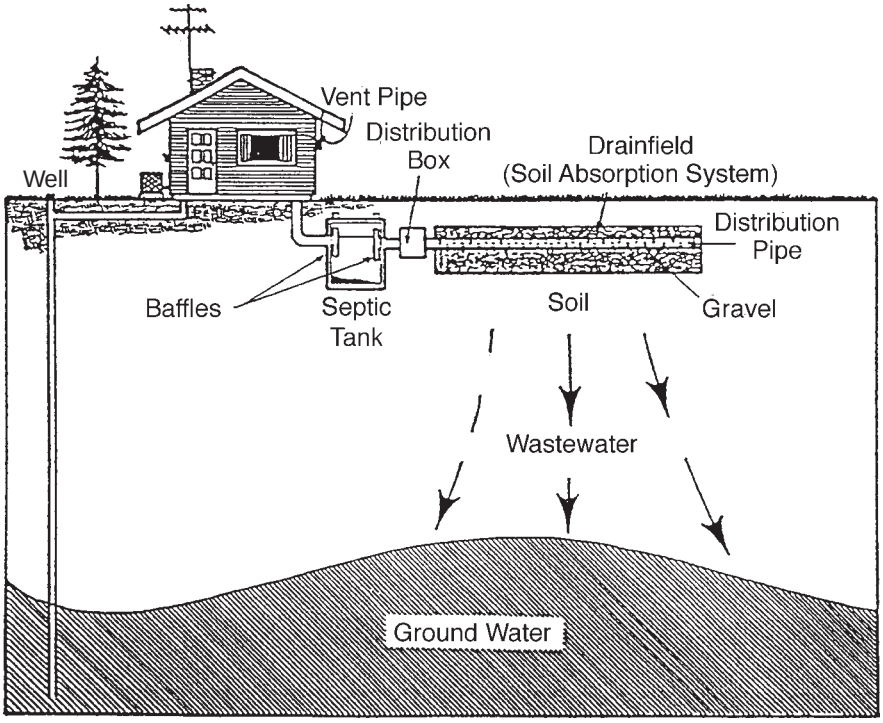


The liquid waste, called **effluent,** flows out of the tank and into the **soil absorption field** or **drainfield**. Wastewater is dispersed over a large area of soil by the **distribution system**, a series of perforated plastic pipes laid in gravel-filled trenches. Effluent can be fed into the pipes by gravity or by a pump. The effluent seeps out of the trenches and into the **soil**. The soil must be of a suitable type and deep enough to treat the wastewater before it reaches ground water. The soil filters out larger particles and pathogens which die in the inhospitable soil environment. Beneficial soil microbes and natural chemical processes break down or remove most of the contaminants in the effluent. Performance may be degraded by hazardous synthetic chemicals such as solvents and fuels that are not easily degraded in wastewater treatment systems. These chemicals may contaminate sludge in the septic tank, kill beneficial bacteria, and travel in ground water.

Soils vary in their ability to treat wastewater. Well-drained, medium textured soils such as loam are best. Coarse gravel or sandy soils allow wastewater to flow too quickly for treatment, and heavy clay soils may not drain or percolate. If the soil does not drain well enough, it becomes saturated and anaerobic. Bad smelling water may appear at the surface and system failure is obvious. More information about soil types can be found in Site Assessment, Worksheet #1.

How does a conventional septic system work?

Wastewater flows through a sewer pipe out of your house and into the **septic tank**, a box or cylinder commonly made of concrete. The tank must be water tight to keep sewage from leaking out and ground water from seeping in. Lighter solids like grease, hair, and soap float to the top of the tank, forming a **scum layer**. Heavier solids settle to the bottom, forming a layer of **sludge**. A baffle near the tank inlet slows the incoming rush of water, so the sludge is not stirred up. A baffle or sanitary tee pipe located at the tank's outlet keeps solids from leaving the tank. Bacteria in the tank continually break down most of the sludge into simple nutrients, gas, and water. The remaining solids are stored in the tank until it is pumped out.



A conventional septic system has three components:

- The septic tank separates and digests solid wastes (sludge and scum).
- The distribution system disperses the liquid effluent over a large area of soil.
- The soil in the absorption field or drainfield absorbs the wastewater and treats it by natural physical, chemical, and biological processes.

In a conventional gravity-fed distribution system, low points in the distribution system receive more effluent than others, putting stress on those areas. A **dosing** or **enhanced-flow** system has a pump or siphon to improve the distribution of effluent. Periodically pumping a certain volume of effluent to the entire drainfield area and then allowing the soil to drain between doses provides a period of aeration which helps microorganisms in the soil digest the wastes. In a **pressure distribution** system, the effluent is pumped directly through small diameter pipes, without a distribution box. Wastewater is evenly distributed throughout the entire drainfield, promoting better treatment of wastewater and system longevity. **Alternating trenches** is another means of providing a period of aeration. This is done by adjusting the outlet levels or using a valve in the distribution box so effluent flows into some of the trenches while other trenches are allowed to rest for about six months.

Seepage pits are perforated tanks through which septic tank effluent can seep into the ground. A **cesspool** is just a small pond that receives waste water without treatment. ***Seepage pits and cesspools are not acceptable household wastewater disposal systems in Oklahoma.***

What are some alternative systems?

If soil or site conditions are not suitable for a conventional drainfield, an alternative system might be used. An **evapotranspiration absorption system** can be used on building lots one acre or more in which wastewater is applied near the soil surface. It is designed to recycle nutrients and further reduce the contaminant content of wastewater in a safe manner.

Another alternate system is the wastewater **lagoon**. Plans for individual residential lagoons must be approved by the Department of Environmental Quality (DEQ) prior to construction. Total retention lagoons can be used on a lot of two acres or more and where the percolation rate is too low for a septic system drainfield. The minimum lot size does not apply to plats filed prior to January 1, 1974. However, any existing residence having a failing absorption field may be approved for a lagoon or alternative system when additional lateral lines cannot be installed or will not be effective. Locate lagoons as far from the home as practical and where the prevailing winds will carry odors away from houses. If the lagoon is downhill from the source, gravity can transport the waste. Consult your agricultural Extension agent, your county soil conservationist, or the DEQ for regulations governing the location of lagoons relative to wells.

Aerobic (oxygen-using) biological treatment systems operate much like a municipal sewage treatment plant. After pretreatment, wastewater is mixed with air, promoting the growth of bacteria which feed on the organic wastes and pathogens. Aerobic tanks are most often used in place of septic tanks on sites that do not have an adequate soil type, depth, or area for wastewater treatment. Aerobic units require significantly more maintenance than conventional septic systems. Aerobic systems yield a better quality effluent suitable for more disposal options. Aerobic tanks must have at least a 1,000-gallon liquid capacity. The effluent from an aerobic unit is discharged into a soil absorption system or may be treated with chlorine, ozone, or other disinfectant before surface discharge if state and local regulations permit.

Disposal of toilet wastes does not have to mean flushing away great volumes of water. **Composting toilets** use microbes to digest toilet wastes. They work well if the right temperature, moisture, oxygen, and nutrient mixture is maintained. Other types of waterless toilets include incinerating toilets, recirculating oil-flush toilets, and chemical disinfecting toilets. **Graywater** from sinks, tubs, and washing machines can be treated in a wastewater system sized to handle about half the volume of a standard wastewater system.

Holding tanks may be used in temporary situations such as awaiting a new system hookup or at summer residences. In contrast to a septic tank, a holding tank has no outlet and must be pumped frequently to take the wastewater to a treatment facility.

Part 1: Septic System Design & Location

How much wastewater can your system handle?

Both the septic tank and drainfield should have adequate capacity to treat all the wastewater generated in your house, at the times of peak use. For this reason, the system must be designed for maximum occupancy of your home, usually estimated as 100 to 150 gallons of wastewater per bedroom per day multiplied by the number of bedrooms of the home. The estimated flow rate is lower if low-flow toilets and water-saving faucets are installed. The septic tank should be large enough to hold two days worth of wastewater—long enough to allow solids to settle out by gravity. A two-compartment tank or a second tank in series can improve sludge and scum removal and help prevent drainfield clogging. Typically, a new three-bedroom home is equipped with a 1,000-gallon tank.

Calculate the maximum wastewater load from your home if each bedroom was occupied by 2 people:

____ bedrooms X 100 gal. per day = ____ gal. per day X 2 days = ____ gallons (recommended tank size)

Average water usage in the US is about 25 to 75 gal. (gallons) per person per day. Estimate the wastewater load from your household:

____ people X 50 gal. per day = ____ gal. of wastewater per day X 2 days = ____ gallons

What is your septic tank capacity ? ____ gallons

Is it adequate for your present household size? Yes / No

Would it be adequate if each bedroom were occupied by two people? Yes / No

The required length of drainfield trenches is based on how much wastewater will be put in the system and how much water a unit area of soil can treat. The better the soil type or longer the trenches, the higher the system's capacity for wastewater treatment. Contact your home contractor, septic system installer, or the DEQ for information they may have on file about your septic system's age, design, and location.

Water use in your household in excess of the system's design capacity can lead to inadequate wastewater treatment and system failure. Conserving water or more frequent pumping may be required. The addition of a bedroom or a water-using appliance such as a water softener or jet bath tub to your home may require expanding your septic system.

How close is too close?

To prevent contamination of water supplies, the drainfield must be set back at least 100 feet from any wetland, shoreline, stream bed, your drinking-water well, or your neighbor's well. The greater the distance, the lower the chance of contaminating them. Your system should be downhill from the well, if possible. (If you do not know where your septic system is located, see Part 2.) You should test your well water more often if you find that your system is closer to your well than recommended. For information on certified laboratories, contact your local Extension office or the DEQ and read Drinking Water Well Management, Worksheet #2.

When was your septic system installed?

Septic systems are expected to last 15 to 40 years, depending on how appropriately designed for the site and how well they are maintained. If your septic tank is made of steel, it will rust and need replacement. The older your system, the more likely it is that the system does not meet the latest standards. Even a relatively new system can fail, particularly, if it is located in poor soils, undersized, not properly installed, or poorly maintained.

Does your system need safety devices?

To prevent hazardous sewage overflows, tanks and chambers should have capacity above normal working level. In addition, an alarm could be installed on any holding tanks or pumping chambers to warn you if the tank is nearly full. If your system depends on a pump (versus gravity-fed), you may need to have a back-up power supply. In flood hazard areas, backflow valves may be needed on the main distribution line to prevent backup into the tank and your home.

Assessing Your Septic System Design and Location

Use the following assessment to begin rating your pollution risks. For each question, put the risk level number (1, 2, or 3) in the column labeled "Your Risk." Although some choices may not correspond exactly to your situation, choose the response that best fits.

	1. Low Risk / Safest Situation	2. Medium Risk / Potential Hazard	3. High Risk / Unsafe Situation	Your Risk
Capacity of system	Tank designed to handle more than enough wastewater, based on the size of the home and occupancy.	No excess capacity.	Undersized system. Bedrooms or water-using appliances added without expending the wastewater system.	
Separation distances	Drainfield at least 100 feet from any well or sensitive area.	Drainfield between 50 and 100 feet from a well or surface water.	Drainfield less than 50 feet from a well or surface water.	
Age of system or holding tank (year installed)	Less than 5 years old.	Between 6 and 20 years old.	System more than 20 years old.	

Responding to Risks—Your goal is to lower the risks. Use the Action Checklist on page 10 to record medium- and high-risk practices. Use recommendations in Part 1 to help you make plans to reduce your risks.

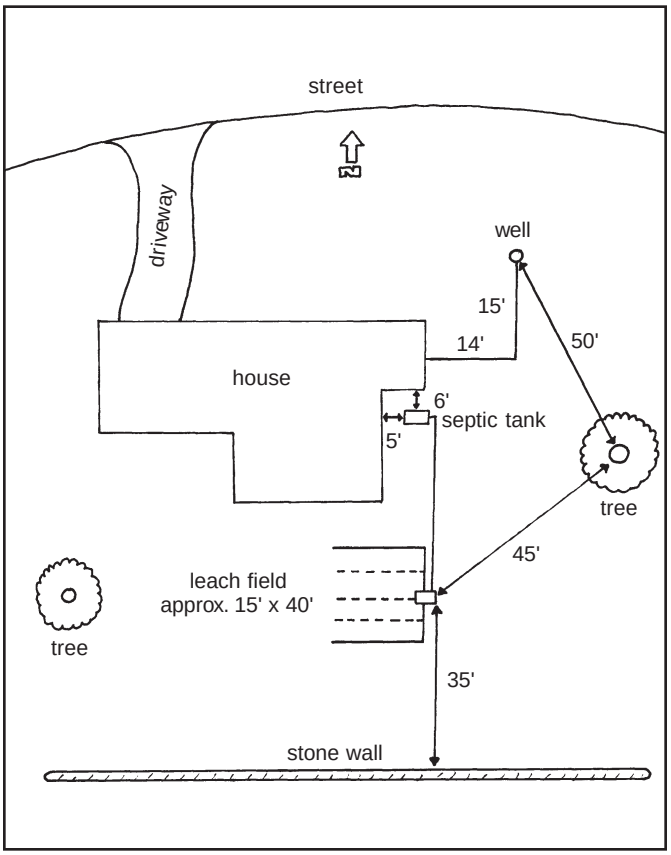
Part 2: On-Site System Maintenance

Do you know exactly where your system is located?

To take proper care of a septic system, you must know where it is located. The exact locations of septic system components are not obvious because they are below ground. If this information is not in your home records, a previous homeowner or county health department records may give the answer. Contact the person who installed or currently pumps your system. You may be able to locate your septic tank yourself by locating the outside wall of the main bathroom then, probing or digging into the ground 10-20 feet away from the house. The septic tank is usually within 1 foot of the ground surface. The distribution box and drainfield are usually located down slope from the septic tank unless there are pumps installed.

Once you've located the septic tank, sketch a map of your house and yard (see Home Site Assessment, Worksheet #1). Note the distances from the septic tank opening to at least two permanent points like the corner of the house foundation, a permanent survey stake on the property line or, a roadway. As long as the distances are correct, the map doesn't have to be drawn to scale. If known, show the location of the soil absorption field. Keep the map on file along with maintenance and test records and pass it on to subsequent owners of the house.

Draw a map of your septic system in the space provided on the next page. Make sure to include, your septic tank, distribution box, drainfield, leach field, and well.



Example

Draw a map of your septic system in the space provided below.

Do you know when your tank was last pumped or inspected?

Keeping good records each time your septic system is pumped, inspected, or repaired will help you make cost-effective maintenance decisions. This information will also be valuable if you sell or transfer your property.

Date	**Work Done** (cleaning, installation etc.)	**Performed By** (installer's name and phone #)

How often should your tank be pumped?

Regular pumping is the most important action you can take to maintain your system. As the tank fills with solids, particles are more likely to flow out of the tank and into the drainfield. The costs of pumping a septic tank ($50 to $180) are far less than the expense of replacing a drainfield clogged by escaping solids ($3,000 to $10,000, depending on site conditions and the size of the home).

The best method for determining when to pump your tank is to have it inspected. The tank should be pumped if:

- The sum of the solid layers (sludge plus scum) takes up more than half of the tank capacity, **or**
- The top of the sludge layer is less than a foot below the outlet baffle or tee, **or**
- The bottom of the scum layer is within three inches of the bottom of the outlet baffle (or top of the outlet tee).

Pumping as needed, based on the results of an inspection, minimizes your maintenance costs and maximizes the system's longevity.

You can check your septic system for sludge and scum accumulation. This process can be a little messy and many people prefer to have a professional come and inspect the tank for them. Never use matches or an open flame when inspecting your septic tank—sewer gases are explosive.

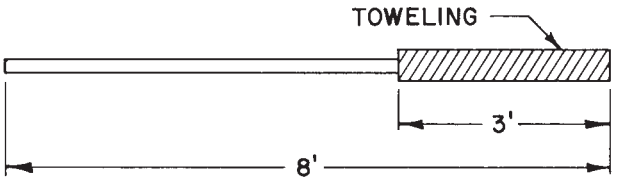
Sludge accumulation can be measured by wrapping a piece of toweling around the bottom three feet of a 1"x2"x8' piece of wood. Remove the tank cover and lower the towel covered end of the pole slowly into the tank until it reaches the bottom. Hold the pole steady for a few minutes and then remove it very gently. The dark colored sludge will discolor the towel. Measure the sludge depth. The tank should be cleaned if the depth of sludge is over 24 inches.

Scum accumulation can be measured using a stick that has a weighted flap hinged to the bottom. Construct the stick so that the weighted end will fall at a 90-degree angle to the stick. Force the weighted end through the scum mat. The weighted flap will fall horizontal or perpendicular from the stick once the scum layer is penetrated. Raise the stick until you can feel resistance of the flap contacting the bottom of the scum mat. Mark the height on the stick handle. Next, swing the flap under the outlet baffle of the bottom of the outlet tee and note the distance on the handle. If the distance between the two marks is three inches or less, the tank should be cleaned.

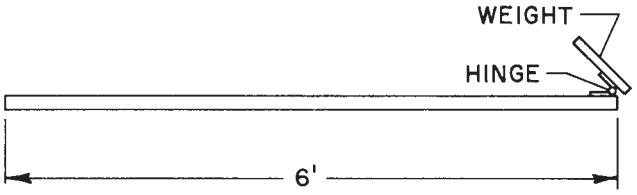
A general rule of thumb is to have a septic tank pumped by a licensed pumper every three to five years. A better estimate can be based on the size of your tank, the amount of wastewater generated in your household, the amount of solids carried in the wastewater, and the age of the system. (See Table 1).

After pumping, the tank should also be inspected by a professional for cracks and the condition of the baffles. Leaks should be repaired promptly. Never crawl inside or lean into a septic tank without proper ventilation and safety procedures—**the gases inside the tank can be deadly**. The distribution box should be periodically checked to be sure that the outlet pipes are properly leveled. Solids accumulating in the distribution box indicate damaged baffles, inadequate septic tank pumping, or that the tank is too small to handle the wastewater load. If the system includes a pump, it should be checked along with the float switch, alarm, and air vents to the dosing tank or pump chamber.

Holding tanks are used for temporary housing in areas where a drainfield or lagoon is not acceptable. They must be pumped frequently because they have no outlet. If you assume that every person in the house uses 25 to 75 gallons of water a day, four people can fill a 1,500-gallon tank in 5 to 15 days. Overflows are a sure sign that you need to schedule pumping more often.



MEASURING STICK FOR SLUDGE



MEASURING STICK FOR SCUM

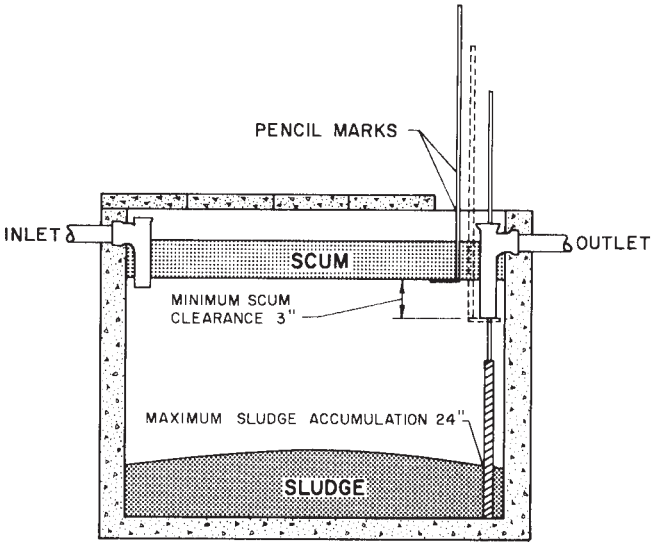


Table 1. Estimated number of years between pumpings.

	Number of People in Your Household					
Tank Size (gal.)	**1**	**2**	**3**	**4**	**5**	**6**
500	5.5	2.5	1.5	1	.5	.5
1,000	12	5.5	3.5	2.5	2	.5
1,500	18.5	9	5.5	4	3	2.5
2,000	25	12	8	5.5	4.5	3.5

How can you protect your drainfield?

A septic system depends on good soil conditions for treatment and disposal of effluent. Water must be able to percolate through the soil at a reasonable rate.

- To prevent soil compaction and damage to pipes, do not drive vehicles on drain field.
- Do not pave, build, pile logs, or set a swimming pool over the drain field. Soil microbes need oxygen to digest wastes.
- Divert roof runoff, footer drains, sump pumps, and other surface runoff away from the drain field. Saturated soil is less effective at treating wastewater.
- Avoid trees and shrubs whose deep roots can damage piping. Grass is the best cover.

What are the signs of trouble?

- Frequent or persistent foul odors in your home or yard tell you that your system is not working well.
- Slow or backed-up drains may be caused by a clog in the house pipes, roof vent, septic tank, or drainfield.
- Wet, spongy ground or lush plant growth may appear near a leaky septic tank or failing drainfield.
- Repeated intestinal illnesses in your family may occur if your water is contaminated by poorly treated wastewater. Have your drinking water tested regularly for coliform bacteria and nitrates.
- Algal blooms and excessive weed growth in nearby ponds or lakes can be caused by excess phosphorous or nitrogen from septic systems.

Respond quickly to any problems you observe. You may need to expand or modify your system to avoid further problems. There are many good publications and other resources to help you decide. See the reference list on page 11. Call local contractors or visit an Extension office to get recommendations. Try to base your decision on what is best for the environment and your health. Remember, what may seem to be the least expensive option may not be economical in the long run.

Assessing Your On-Site System Maintenance

Use the following assessment to begin rating your pollution risks. For each question, put the risk level number (1, 2, or 3) in the column labeled "Your Risk." Although some choices may not correspond exactly to your situation, choose the response that best fits.

	1. Low Risk / Safest Situation	2. Medium Risk / Potential Hazard	3. High Risk / Unsafe Situation	Your Risk
Maps and records	A map and good records of repairs and maintenance kept.		Location of the system unknown. No record of pumping and repairs kept.	
Tank pumping (includes holding tanks)	Septic tank pumped every 3-5 years as determined by annual inspection or as recommended by Table 1. Holding tanks pumped as needed.	Septic tank pumped only when problems occur.	Septic tank never pumped. Pumping has not been needed in over 20 years. Holding tank overflows or leaks between pumpings.	
Condition of tank and baffles	Inspection of tank and baffles for cracks made regularly; repairs made promptly.	Condition of tank baffles unknown.	Tank is cracked or baffles out of place.	
Drainfield protection	Vehicles and other heavy objects or activities kept from drainfield area.		Vehicles, heavy objects, or other disturbances permitted in area.	
Planting, or pavement over drainfield	Grass or other shallow rooted plantings over drainfield.		Trees and shrubs planted on or near drainfield. Pavement put over drainfield.	
Signs of trouble	Drains flow freely. No sewage odors inside or outside. Soil over drainfield firm and dry. Well water tests negative for coliform bacteria.		Sewage odors noticed in the house or yard. Drains back up. Soil wet or spongy in drainfield area. Well water tests positive for coliform.	

Responding to Risks—As always, your goal is to lower your risks. Use the Action Checklist on page 10 to record your medium- and high-risk practices. Use recommendations in Part 2 to help you make plans to reduce your risks.

Part 3: Reducing Septic or Sewage System Inputs

What solid wastes are acceptable?

Your septic system is not a substitute for the trash can or a compost pile. Dispose of tissues, diapers, baby wipes, sanitary napkins, tampons, cigarette butts, and other solid waste with regular garbage and *not* down the toilet. Since these materials do not break down in your system, your tank fills up faster. Avoid using a garbage grinder (disposeall) in the kitchen sink—it adds to the load in your system. If you do use a garbage grinder, your tank will need to be pumped more frequently. Excess grease, fats, and coffee grounds can clog your system. Consider composting food waste and even some paper wastes as an alternative.

What household chemicals can go down the drain?

Wastewater treatment systems are not designed to neutralize the wide variety of household chemicals used. Some solvents and pesticides can pass through your system and contaminate the ground water. See Hazardous Household Products, Worksheet #5 for information on proper disposal of hazardous chemicals.

Chemical products advertised to "sweeten" or improve your septic system operation cannot replace routine pumping and may even be harmful. Buying yeasts or enzymes is not necessary; there are already plenty of the right microbes digesting wastes in your system. Additives containing solvents to unclog your system can kill the microbes needed to digest wastes in your septic tank and drainfield. Furthermore, these solvents may contaminate your drinking water supply.

Why save water?

Reducing the flow of wastewater through the septic tank allows more time for solids to settle out and reduces the chance of solid particles being carried out to the drainfield. Less water in the drainfield means better aeration for the soil microbes at work in the system.

There are many steps you can take to reduce the amount of water you use. Here are a few:

- Install low-flow toilets to reduce water consumption by 50 percent. Water-saving showerheads and faucets also help.
- Take shorter showers.
- Repair leaky faucets and toilets immediately.
- Don't run water longer than necessary; for example, shut off water when brushing teeth or shaving.
- Wait until the dishwasher and washing machine are full before running a load.
- Adjust water softener settings to reduce the amount of water needed for back-washing and regeneration.
- Spread out laundry and other major water-using chores over the week or day.

Table 2. Water use by conventional fixtures and water-savings fixtures and devices.

Conventional fixture	Gallons used	Water-saving fixture/device*	Gallons used
Toilet	4-6/flush	Air-assisted toilet	0.5/flush
Showerhead	4-6/min.	Low-flow	2.0/min.
Faucets:		Faucet-flow-control aerators:	
Bathroom and kitchen	2-3/min.	Bathroom	0.5/min.
		Kitchen	1.5/min.
Top-loading clothes washer	40-55/load	Front-loading clothes washer	22-33/load

*Installation of all these water-saving devices could reduce water use by about 35 percent.

Source: Penn State Coop. Ext. Circ. 302.

Assessing Your Septic or Sewage System Inputs

Use the following assessment to begin rating your pollution risks. For each question, put the risk level number (1, 2, or 3) in the column labeled "Your Risk." Although some choices may not correspond exactly to your situation, choose the response that best fits.

	1. Low Risk / Safest Situation	2. Medium Risk / Potential Hazard	3. High Risk / Unsafe Situation	Your Risk
Solid wastes	No garbage grinder (dispose-all) in kitchen. No grease or coffee grounds down drain. Only toilet tissue in toilet.	Moderate use of garbage grinder and use of sink for occasional disposal of some solids.	Heavy use of garbage grinder and disposal of many solids. Many paper and plastic products flushed down the toilet.	
Cleaners, solvents, and other chemicals (including holding tanks)	Careful use of household chemicals (paint, cleaning, products). No solvents, fuels, or other hazardous chemicals poured down drain.	Moderate use of cleaning products and occasional disposal of hazardous household chemicals in wastewater system.	Heavy use of cleaning products that end up in wastewater. Disposal of hazardous chemicals in wastewater.	
Water conservation	Water-conserving fixtures and practices used. Drips and leaks fixed immediately.	Some water-conserving steps taken (low-flow showerhead, fully loaded washing machine or dishwasher.	High volume standard bathroom fixtures used (toilets, showers). No effort to conserve water. Leaks not repaired.	
Water usage	Laundry and other major water uses spread out over the week.		Several water-using appliances and fixtures in use in a short period of time.	

Responding to Risks—As always, your goal is to lower your risks. Use the Action Checklist on page 10 to record your medium- and high-risk practices. Use recommendations in Part 2 to help you make plans to reduce your risks.

Action Checklist

It is easy to understand how household wastewater systems can be ignored—out of sight, out of mind. But what you do or don't do to maintain your system may affect the health of your family, your neighborhood, or the environment. Go back over the assessment charts and look for the high and medium risks you identified. Record them below. For each medium and high risk found, write down the improvements you plan to make. Use recommendations from the Low Risk category and from other resources to decide upon an action you are likely to complete. A target date will keep you on schedule. You don't have to do everything at once, but try to eliminate the most serious risks as soon as you can. Often it helps to tackle the inexpensive actions first.

List high and medium risks	What can you do to reduce the risk?	Target date for action
Sample: Low area over drainfield is always wet.	Have drainfield inspected for blockages and clean as needed. Divert surface runoff.	One week from today: November 23, 1997

Who to contact for more information about home wastewater management

No matter where you live, there are people in agencies such as Cooperative Extension, health departments, and environmental resources who can help. Pumpers, contractors, and laboratories are valuable sources of information as well.

Household Wastewater Treatment and Local Regulations

Contact your city or county health department.

A Statewide Regulation of Private Sewage Systems

Contact the Oklahoma Department of Environmental Quality (DEQ) at 405-271-1400.

Requirements for Land Application

Consult the Oklahoma Department of Environmental Quality (DEQ) at 405-271-1400.

Small and Alternative Wastewater Treatment Technologies

National Small Flows Clearinghouse, West Virginia University, PO Box 6064, Morgantown, West Virginia, 26506-6064, or call 1-800-624-8301.

Small Scale Treatment Project

University of Wisconsin-Madison, 1450 Linden Drive, Madison, Wisconsin 53706, phone 608-262-6968 or 608-262-0853.

Drinking Water Quality Standards

Call the U. S. Environmental Protection Agency's (EPA) Safe Drinking Water Hotline toll free 1-800-426-4791 from 8:30 a.m. to 5:00 p.m.

Home*A*Syst Cares About Your Safety

This Home*A*Syst assessment does not cover all potential risks due to wastewater which could affect health or environmental quality. There are other worksheets available on a variety of topics to help homeowners examine and address their most important environmental concerns.

This worksheet was adapted from Elaine Andrews, the National Farm*A*Syst Program, Environmental Resources Center, Cooperative Extension, University of Wisconsin-Extension.

This publication, Home*A*Syst: An Environmental Risk Assessment Guide for the Home, NRAES-87, is available from National Regional Agricultural Engineering Services. Please contact NRAES for more information about the publication or about pricing and quantity discounts.

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Other Oklahom*A*Syst publications

The Oklahom*A*Syst Assessment system includes worksheets for owners of farms and ranches. The Farm & Ranch*A*Syst worksheet topics include:

1. Drinking Water Well Condition
2. Pesticide Storage and Handling
3. Fertilizer Storage and Handling
4. Petroleum Product Storage
5. Hazardous Waste Management
6. Household Wastewater Treatment
7. Swine, Dairy, and Beef Cattle Waste Management
8. Poultry Waste Management

For more information about Farm & Ranch*A*Syst, contact your local Cooperative Extension Office.

Oklahom*A*Syst Assessment Programs

Home*A*Syst and Farm & Ranch*A*Syst

Oklahom*A*Syst was created to help Oklahomans control the level of risk associated with their environment. The Farm & Ranch*A*Syst and Home*A*Syst assessments are designed to help you identify, understand, and reduce risks in and around your home, farm, and ranch. Both programs contain worksheets that evaluate activities common to homes, farms, or ranches that can pose a threat to water quality and provide suggestions for reducing those risks. Oklahom*A*Syst assessment programs are confidential assessments that you can use on your own or by consulting an expert. You decide what to do with the results of your assessment and keep your action plan in your private records.

*Farm & Ranch*A*Syst*

Farm & Ranch*A*Syst uses step-by step worksheets that rank each farm or ranch activity or structure that could cause ground water contamination. The rankings and companion fact sheets help you develop an overall action plan for protecting your drinking water. Oklahoma Farm & Ranch*A*Syst also provides information on technical, educational, and financial assistance for carrying out your plan.

The Farm and Ranch*A*Syst worksheet topics include:

1. Drinking Water Well Condition
2. Pesticide Storage and Handling
3. Fertilizer Storage and Handling
4. Petroleum Product Storage
5. Hazardous Waste Management
6. Household Wastewater Treatment
7. Swine, Dairy, and Beef Cattle Waste Management
8. Poultry Waste Management

*Home*A*Syst*

Many household activities can threaten your family's health and the environment. Home*A*Syst is designed to help homeowners understand and reduce the potential risks to water quality in and around their home. Like Farm & Ranch A*Syst, Home*A*Syst includes a site assessment, to help homeowners locate potential hazards by drawing a map of their homesite.

The Home*A*Syst worksheet topics include:

1. Site Assessment
2. Drinking Water Well Maintenance
3. Septic Systems
4. Liquid Fuels
5. Household Hazardous Waste

For more information about these programs, contact your local Extension office.

OKLAHOMA COOPERATIVE EXTENSION SERVICE

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