

Adirondack Aquatic Institute

SEPTIC SYSTEM SELF-EVALUATION FORM

Name: _____

Camp location: _____

Each of the following sections deals with different topics regarding your septic system. For any given question, if your answer is in the Low Risk column, you should have few problems with your system. If your answer is in the Medium Risk column, there may be potential problems with the condition of your system. If your answer is in the High Risk column, you need to consider making changes to your septic system and your usage of the system to protect water quality in your lake and drinking water supply.

Answer the questions honestly. After completing the form, the goal is to change your habits and modify/upgrade your system so that all of your answers fall in the Low Risk category.

1. What is the age and capacity of your septic system?

Rules regarding the placement and design of septic systems have been improved over time. The changes in these rules have improved the chances that newer septic systems will work better.

	LOW RISK	MEDIUM RISK	HIGH RISK	YOUR RISK
Age of System Year installed: _____	System is five years old or less	System is between six and twenty years old	System is more than twenty years old	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High

2. What is the depth between your drainfield and the groundwater table or a limiting zone (hard pan or ledge)?

Wastewater moves from the septic tank into the drainfield and then slowly through the soil. Drainfield trenches are normally installed about 2 feet below the surface. The wastewater is purified as it moves down through the soil. The wastewater requires about 2 feet of dry soil for effective removal of nutrients such as phosphorus and pathogens such as bacteria.

	LOW RISK	MEDIUM RISK	HIGH RISK	YOUR RISK
Depth to Groundwater or Limiting Zone (hard pan or ledge)	Groundwater remains at least 4 feet below surface and Limiting zone greater than four feet below surface.	Groundwater rises to between two and four feet of the surface and Limiting zone between 2 and 4 feet from surface	System is subject to annual flooding or groundwater comes within 2 feet of surface. Limiting zone less than 2 feet from surface.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High

3. Where is your septic system located?

Septic systems that are too close to lakes and streams are likely to contribute nutrients and pathogens to those water bodies.

	LOW RISK	MEDIUM RISK	HIGH RISK	YOUR RISK
Separation distance	Drainfield is at least 200 feet from surface water	Drainfield is at least 100 feet from surface water	Drainfield is less than 100 feet from surface water	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High

4. Are trees and shrubs planted near your septic system?

Trees or shrubs located too close to septic systems may cause problems.

	LOW RISK	MEDIUM RISK	HIGH RISK	YOUR RISK
Vegetation on drainfield	Grass or other shallow-rooted plants over drainfield		Trees and shrubs are growing on or near the drainfield	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High

5. Does runoff drain away from your septic system?

Keep the water that runs off your foundation drains, gutters, driveway and other hard surfaces away from the drainfield.

	LOW RISK	MEDIUM RISK	HIGH RISK	YOUR RISK
Diverting surface water	All surface runoff is diverted away from the drainfield	Some surface water flows into the drainfield area	All or nearly all runoff flows onto drainfield	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High

6. How much water do you use?

There are limits to the amount of water septic systems can treat. A new septic system is designed to handle up to 110 gallons per bedroom per day. Most people use about 50 - 75 gallons per day of water. When the amount of water entering the septic system nears the design capacity on a regular basis, your septic system may fail.

Problems caused by too much water can occur seasonally or from time to time. To reduce the risk of using too much water, use the following conservation practices: use low-flush toilets and low flow shower heads and faucet aerators; periodically check toilets and faucets for leaks; limit length of shower to ten minutes or less; do not wash more than 1 - 2 loads of laundry per day.

	LOW RISK	MEDIUM RISK	HIGH RISK	YOUR RISK
Water conservation	Only water-conserving fixtures and practices are used. Drips and leaks are fixed immediately.	Some water-conserving steps are taken (low-flow shower heads, fully loaded washing machines and dishwashers, etc.).	Standard high-volume fixtures are used (toilets, showers). No effort is made to conserve water.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High

8. Do you use a garbage disposal or dispose of solid waste materials?

Garbage disposals usually double the amount of solids added to your septic tank. Restrict or avoid the use of a garbage disposal unit. Do not put items down the drain or toilet that may clog the septic tank or other parts of the system. These items include cigarette butts, sanitary napkins, tampons, condoms, disposable diapers or diaper wipes, paper towels, egg shells and coffee grounds. Do not use the toilet to dispose of facial tissues. This adds extra solid and water to the septic system.

	LOW RISK	MEDIUM RISK	HIGH RISK	YOUR RISK
Solid wastes	There is no garbage grinder (dispose-all) in the kitchen. No grease or coffee grounds are put down the drain. Only toilet tissue is put in toilet.	There is moderate use of garbage grinder, and some solids are disposed of down the drain.	There is heavy use of a garbage grinder, and/or many solids are disposed of down the drain. Many paper products or plastics are flushed down the toilet.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High

9. Do you pour grease and oil down your sink or use cleaning products?

Do not pour grease or cooking oils down the sink drain. Grease can harden in the drainfield and clog the soil so that no water can flow through the soil. Use only moderate amounts of cleaning products and do not pour solvents, extra cleaning products or other poisons down the drain. Do not use toilet cleaners that are placed in the toilet tank. Such chemicals can kill the good bacteria in your septic tank and in the soil beneath your drainfield.

	LOW RISK	MEDIUM RISK	HIGH RISK	YOUR RISK
Grease & oil, cleaners, solvents, and other chemicals	There is careful use of household chemicals. No grease or oil, solvents, fuels, or other hazardous chemicals are poured down the drain.	There is occasional disposal of grease & oil or hazardous chemicals in wastewater system.	There is heavy use of strong cleaning products that end up in the wastewater. Hazardous chemicals or grease & oil are disposed of in the wastewater system.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High

10. Have you protected your septic system from physical damage?

Physical damage to your drainfield, compaction of the soil on your drainfield and building structures (including concrete or asphalt) on your drainfield can result in system failure. Prepare a map of your system location to prevent future disturbances.

	LOW RISK	MEDIUM RISK	HIGH RISK	YOUR RISK
Drainfield protection	Structures, vehicles and other heavy objects or activities are kept from the drainfield area	The drainfield is occasionally compacted by heavy objects or activities	Vehicles, livestock, heavy objects, structures or other disturbances are permitted in the drainfield area	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High

11. Has your septic tank been inspected and cleaned recently?

After a few years, the solids that collect in your septic tank should be pumped out. If not removed, the solids will eventually block the soil in your system. How often your tank needs to be pumped depends on the size of your tank, the amount of wastewater you use, and the solids content of your wastewater. In generally, properly-sized septic tanks need to be pumped out every 3 - 5 years. An annual inspection will determine if a tank needs to be pumped and also identify any critical broken parts such as tank baffles. Keeping good records will help insure that your system is maintained properly.

	LOW RISK	MEDIUM RISK	HIGH RISK	YOUR RISK
Maps & Records	I keep a map and good records of repair and maintenance.	The location of my tank and date of last pumping are known but not recorded	The location of my system is unknown. I do not keep of record of pumping and repairs	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
Tank pumping	The septic tank is pumped on a regular basis as determined by annual inspection or about every 3 - 5 years	The septic tank is pumped, but not regularly	The septic tank is not pumped	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
Condition of tank & baffles	The tank and baffles are inspected and repaired promptly		The condition of the tank and baffles is unknown	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High

12. Is your system exhibiting any signs of problems?

	LOW RISK	MEDIUM RISK	HIGH RISK	YOUR RISK
Signs of trouble	Household drains flow freely. There are no sewage odors inside or outside. Soil over drainfield is firm & dry.	Household drains run slowly. Soil over drainfield is sometimes wet.	Household drains back up. Sewage odors can be noticed in the house or yard. Soil is wet or spongy in the drainfield area.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High

*Prepared by the Adirondack Aquatic Institute at Paul Smith's College, PO Box 244, Paul Smiths, NY 12970. Adapted from *Improving Septic Systems* by North Carolina Cooperative Extension; and *Household Wastewater: Septic Systems and Other Treatment Methods* by Barbara Kneen Avery, Extension Associate, College of Human Ecology, Cornell Cooperative Extension In: *Home*A*Syst: An Environmental Risk-Assessment Guide for the Home* USDA Farm*A*Syst Program.

Adirondack Aquatic Institute at Paul Smith's College
 PO Box 244, Paul Smiths, NY 12970-0244
 (518) 327-6214; fax: 327-6331
<http://www.paulsmiths.edu/aai>; aai@paulsmiths.edu

So, you think you may need to upgrade your septic system?

If you were a high risk for questions numbered 1, 2, 3, 11 or 12, then it is time to think seriously about upgrading your septic system. This is the single most important thing you can do to protect the water quality of our lakes. Before you panic, the following information provides the **facts** that you should know about alternatives and costs

Before you proceed with an upgrade, consult a qualified design engineer and be sure to obtain all necessary permits. Hiring a design engineer may cost a little up front, but will result in a less costly and more efficient system. If someone is trying to sell you a \$20,000 system, go elsewhere. For example, a recent large system to serve a 7 bedroom home and separate cabin, including two pumps and a long distance to the drainfield, was installed in a limited access area on Upper Saranac Lake for under \$17,000 dollars.

A new system

Information here is currently outdated (5/08).

Ideally, the best upgrade is a completely new system designed to meet today's codes. You should insist on a setback of at least 200' from the lake or any surface water, however, even though the local regulations do not require that distance. All upgrades should include the installation of low-flow plumbing fixtures (not included in costs shown). Your alternatives are:

Conventional system (concrete tank & leachfield): \$3,000 for 3 bedroom camp with road access (\$5,000 - \$7,000 in cases with high groundwater for modified trench system)

Advantages: easiest to design, effective, low maintenance, does not need a pump (in most cases)

Disadvantages: requires heavy equipment through road access; for properties with limited access or lake access only, smaller equipment can be used but equipment and materials need to be transported to site, relatively large drain field.

Modified conventional system (plastic tank, absorption bed): \$5,000 for 3 bedroom camp with road access

Advantages: Materials are light and easy to transport, smaller drain field, gravel-less systems are available, required pump can be designed to move drainfield far from the lake.

Disadvantages: excavation equipment needed, more costly than conventional system, requires electric pump to dose absorption beds

New greywater (non-toilet) system and alternative solid waste systems: as above, \$3,000 - \$7,000 plus alternative fixtures (see below)

Advantages: Major nutrient source (toilet wastes) do not enter ground or lake

Disadvantages: greywater system is the same as Conventional or Modified conventional system in cost and design, added cost of alternative toilet fixtures

Greywater in existing drainfield, replacement of toilets with alternative fixtures: \$1,000 - \$2,600 (per toilet, see below)

Advantages: lower cost, no excavation equipment required

Disadvantages: old drainfield may be inadequate to treat greywater

Alternative Systems: Visit the VTDEC website to see what alternative systems are currently allowed to deal with less-than-ideal sites:

www.anr.state.vt.us/dec/ww/Innovative.htm