



Conserving Water

SHORELAND BEST MANAGEMENT PRACTICES

NUMBER 18 IN THE SERIES

What Are Shoreland BMPs?

Best Management Practices (BMPs) are actions you can take to reduce your impact on the environment. BMPs have been developed for agriculture, forest management, and home construction. This fact sheet describes BMPs you can adopt on shoreland property to help protect water quality. In many cases, the best management for shorelands may be retaining the natural characteristics of your property.

Why Is Conserving Water Important?

Reducing our use of water will decrease water pollution, increase energy savings, and create more efficient use of our water resources. Too much water in an on-site sewage treatment system can flush untreated material through before organisms have a chance to break it down. If untreated material gets to the drainfield, the material can plug up the soil within the drainfield and shorten the life of the septic system. Sending too much water down the drain can also cause systems to "blow out," allowing untreated material to flow out onto the ground. If this occurs, the system needs to be dug up and repaired. Failing septic systems can:

- contaminate drinking wells
- cause health risks such as hepatitis or dysentery
- cause chemical pollution from household cleaning products
- contribute excess nutrients to ground water, lakes, or streams

Conserving water in rural areas will increase the life of existing septic systems. Conserving water within a municipal water system will reduce household expenses, increase treatment plant efficiency, and reduce the amount of electricity and chemicals needed to treat wastewater. In both situations, conserving water protects water quality through improved wastewater treatment.

How Much Water Do We Use?

A typical household of four uses 260 gallons of water each day. Much of this water is used in the bathroom. Toilets use 40% of the total, showers/baths and faucets use 35%. By contrast, 15% is used in the kitchen, and 10% for washing clothes.

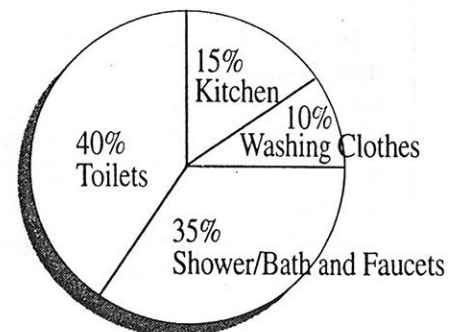


Table 1: Typical water use (in gallons). Calculate how much your family typically uses in one week.

ACTION	TYPICAL USE	CONSERVATIVE USE	ULTRA-CONS. USE	? YOUR USE ?
Toilet-flushing	6 (old standard)	1.5-3 (low-flow)	Composting toilet	
Tub bath	30 (1/2 filled)	15 (1/4 filled)	Sponge bath	
Shower	10 min: 50 (5 gal/min) 3 min: 15 (5 gal/min)	25 (2.5 gal/min) 7.5 (2.5 gal/min)	Camper style (3 gal)	
Laundry - full load	Top loading: 50-60 (older models) Front loading: 33 (older models) (Suds-saver reuses most of the "wash fill" for the 2nd load)	40 (newer models) 17-28 (newer models)	Laundromat	
Dishwashing	Machine: 12-15 (old-reg cycle) (Pre-rinsing before loading adds 3-5 gal) Hand: 16 (faucet rinse)	6-9 (new-reg cycle) 6 (basin rinse)		
Teeth-brushing	2 (faucet running)	1/8 (wet brush, brief rinse)		
Hand-washing	2 (faucet running)	1 (basin; brief rinse)		
Shaving	3-5 (faucet running)	1 (basin; brief rinse)		

Bathroom *the toilet*

To significantly reduce water use, replace your old 5 gallon per flush toilet with a new 1.5 or 1.6 gallon per flush toilet. This is the most effective way to decrease the amount of water used in the bathroom.

As an alternative to installing a new toilet, retrofit your old one with a water-saving device. Displacing volume in the tank means that less water is used for each flush. A clean, sealed plastic container filled with sand will work.

- Don't use a brick—pieces of decaying brick can get under the rubber flapper and cause leaks.
- Leaky toilets can waste a lot of water. Replace the rubber flapper in the tank every two to three years. If black coloring comes off on your hand when you touch the flapper, it's time to replace it!
- Be careful that your displacement device still allows a complete flush. With old tanks, less volume may mean less than a total flush.
- Flushing twice doesn't save water!

Bathroom *the tub/shower*

To save water while showering, install a low-flow showerhead. New designs range from 1.5 to 2.5 gallons per minute and still provide a powerful stream of water. Some models allow you to temporarily turn off the water without changing the water temperature.

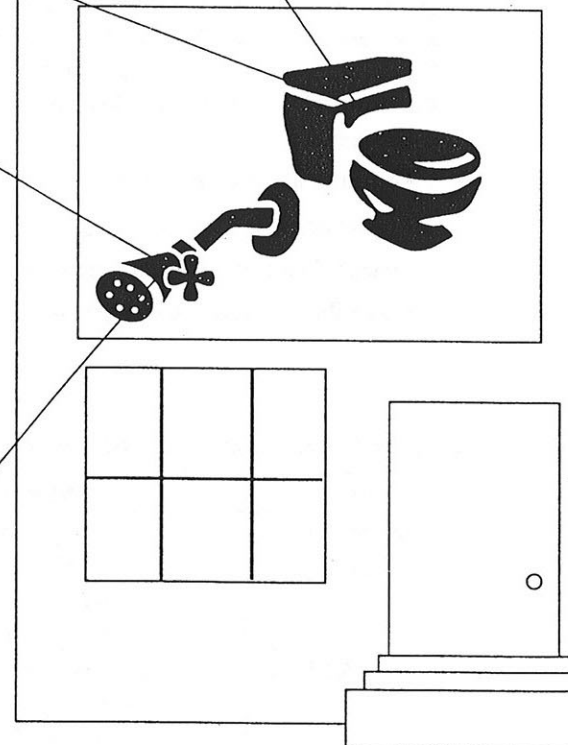
To install a new showerhead, simply unscrew the old one and screw on the new one using Teflon tape to seal the threads. Be careful not to unscrew plumbing fixtures inside the wall!

Other lifestyle choices will help save water while bathing:

- Take short showers instead of baths.
- Take shorter showers or shower less often.
- Don't run the water full force when showering.
- Turn the shower off while soaping or shaving.
- Keep the water shallow when using the tub.

Baths can sometimes actually save water compared with long showers. A showerhead that delivers 5 gallons per minute means that a shower longer than 8 minutes uses more water than a typical full bathtub (40 gallons).

Use less water by using common sense choices, and installing water-saving devices.



*mon sense, making lifestyle
iew low-flow products!*

Kitchen

Saving water in the kitchen is easy with a low-flow faucet aerator and a few new habits. When selecting a low-flow faucet, keep in mind that flows less than 2.5 gallons per minute are inconvenient at a kitchen sink when you are trying to fill pots or wash dishes. A dual flow faucet is the best choice for kitchens.

Other BMPs can save water in the kitchen:

- Repair leaky faucets.
- Wash only FULL loads in the dishwasher and select a low-water-use model.
- Hand-wash dishes in a basin instead of under running water.
- Store a container of water in the refrigerator to avoid running water each time you want a cold drink.

Utility Room—*laundry*

Front-loading washing machines use 40% less water than top loaders. However, front loaders are not common; they may be more expensive than top loaders and may be difficult to find.

Another option is to purchase a top loader with a suds-saver. Suds-savers reuse most of the sudsy wash water for a second load. By beginning with the cleanest clothes and reusing wash water for at least one load, suds-savers can cut water use by 30-50%.

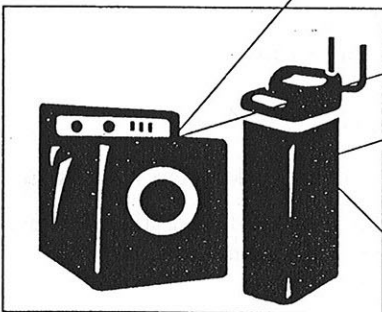
Even when using a standard top-loading machine, there are habits that will save water:

- Wash only FULL loads.
- When smaller loads are necessary, use partial load settings.

water treatment devices

If your water softener backflush line is connected to the septic system, recharge your softener as infrequently as possible to reduce water use and avoid overloading the septic system. If you want automatic recharge on your conditioner, select a model that recharges after a certain amount of water passes through rather than one that recharges at regular time intervals. That way if you're away or your water usage drops, the frequency of recharge will also drop.

If you have a point-of-use water treatment device, be sure it has a shut-off valve so the system doesn't run continuously when the reservoir is already full. Reverse osmosis systems sometimes reject 8 gallons for every 1 gallon filtered. This rejected water can put too much water into your septic system and chemically destroy the bacterial action.



Saving Water Saves Energy and Money

By conserving water, you will save money. Using a low-flow showerhead will annually save you an estimated \$10 per person in water-heating savings alone. Savings can be realized from water and wastewater service fees, electric city bills, and longevity of your pumps and switches. The largest savings in the rural setting is your septic system performance and longevity.

Regulations That Apply

The 1992 Federal Energy Policy Act established standards for water-efficient plumbing fixtures including toilets, urinals, showerheads, and faucets manufactured after January 1994. This includes installing 1.5 or 1.6 gallon flush toilets, low-flow showerheads, and other water-saving devices in new constructions and remodeling projects.

Minnesota law requires municipalities with public water supplies serving more than 1,000 people to develop conservation plans. By January 1, 1996, municipalities must have developed a water emergency and conservation plan. Before requesting approvals to construct new wells or increase their annual appropriation, communities must implement demand reduction measures designed to decrease water use.

For More Information...

- The Minnesota Water Line is available to answer your questions on water issues.
1-800-455-4526
- Small Flows Clearing House, West Virginia
1-800-624-8301
- Water Wiser for water efficiency, Colorado
Internet Web Site: <http://www.waterwiser.org>
or e-mail: bewiser@waterwiser.org
1-800-559-9855

read

Septic System Owner's Guide. PC-6583
— at your University of Minnesota
Extension Service Office

PART OF A SERIES...

This fact sheet is one of a series designed to assist shoreland property owners in protecting and preserving water quality. The series includes:

- 1 Understanding Shoreland BMPs
- 2 Maintaining Your Shoreland Septic System
- 3 Installing a Shoreland Septic System
- 4 Ensuring a Safe Water Supply
- 5 Limiting Impact of Recreation on Water Quality
- 6 Developing Shoreland Landscapes and Construction Activities
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This series of fact sheets is a cooperative effort of the following agencies:

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Minnesota Department of Health
Minnesota Department of Natural Resources, Division of Fish and Wildlife, Division of Waters, Division of Forestry
Minnesota Pollution Control Agency
Minnesota Sea Grant Extension Program
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