Water Quality Protection

SAFE AND HEALTHY LIVES
IN SAFE AND HEALTHY
COMMUNITIES

Rhode Island Department of HEALTH

UNIVERSITY OF Rhode Island

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Water Conservation In and Around The Home

RHODE ISLAND IS A STATE RICH IN WATER RESOURCES. From our freshwater lakes and ponds, rivers and streams, and abundant groundwater resources to our coastal ponds, estuaries, Narragansett Bay, and the Atlantic Ocean, our water resources sustain our livelihood. Our land use activities affect the quality of these water resources. There are many things that each of us can do to protect water resources. In this factsheet, we focus on Water Conservation In and Around The Home.

When we turn on the faucet, most of us take for granted an unlimited flow of inexpensive, drinkable water. Increasingly, however, we have been placing strains on our water supplies. Increased development, population growth, water contamination, and drought conditions affect the quality and quantity of our drinking water. Each Rhode Islander uses approximately 50-75 gallons of water a day. The problem is not what we use water for, but how we use water. Frequently, we use more water for household tasks than we need; the largest amount is used in the bathroom.

Clean water is a limited resource we must conserve. Only a small fraction of the earth's fresh water is available for our use; the rest is frozen in glaciers or ice caps or is too polluted for us to use. Conserving water does not necessarily mean going without. Conservation is simply the wise and efficient use of a limited, natural resource. Conserving water saves money and energy, and helps reduce water pollution. Water conservation can have positive impacts on the financial and environmental resources of a community and provide an alternative approach to developing new water supply sources.

Why Conserve Water?

Water Conservation Saves Money

If you receive drinking water from a public water supply system, the cost of treating, pumping, and delivering this water continually increases; as does the cost of treating the wastewater that leaves your home. In most urban areas of the state, sewer bills are directly tied to water use. Reducing the amount of household water you use can mean substantial savings on water, sewage, and energy bills.

If you have a private well and septic system, conserving water will also save you money. The reduction in the use of your water pump may reduce costly repairs. In addition, reducing the amount of wastewater generated can help prolong the life of your septic system.

Water Conservation Saves Energy

Significant quantities of energy are used to pump, heat, and treat water used in your home. Reducing water use can save energy and reduce your monthly bills. For example, running the tap until the water gets warm wastes both water and energy; insulating your hot

water pipes is one solution. Another solution is collecting the cooler water from the shower in a bucket while you wait for the water to warm. Use the collected water for plants.

Water Conservation Reduces Pollution
Conservation reduces wastewater entering sewage treatment plants. Often this means better treatment and ultimately, cleaner water being discharged to our rivers and bays. Water conservation also prevents wastewater overloads to on-site septic systems, ensuring proper functioning and treatment of domestic wastewater. Outdoor water conservation and proper irrigation of lawns and gardens reduces pollution from recently applied fertilizers, pesticides, and unmanaged pet waste.

Water Conservation Helps to Reduce Effects of Drought
Droughts are a period of abnormally dry weather that persist long enough to produce a water imbalance that effects crop production, water supplies, and water needs in the natural environment. During a drought period that lasts long enough, drinking water wells may go dry and public water supplies may issue water use restrictions. Adopting water conservation practices limits water withdrawals and use, reducing the overall water deficit that occurs during a drought.

Water Conservation Reduces Risk of Saltwater Intrusion
In places where salt and fresh water meet, saltwater commonly extends inland some distance beneath the coastal land surface. Fresh water, which is less dense, floats on top of the saltwater. When a well is located near the coast and near the boundary between the fresh water lens and saltwater, saltwater intrusion can occur. This happens when the fresh water level is reduced by excessive well pumping and lack of groundwater recharge (usually during hot, dry periods) allowing the saltwater to infiltrate further beneath the coastal land surface. A pumping well may then begin to withdraw this saltwater. This could be a problem for drinking water wells located near the immediate coastline and coastal salt ponds.

What can you do?

There are many things that each of us can do to conserve water. Some of these things require changing habits, while others may require an investment in relatively inexpensive equipment. Water consumption can be reduced by 20 to 40 percent without purchasing expensive equipment or being inconvenienced.

- Check for leaks in faucets, toilets, hoses, and pipes. A steady drip can waste up to 20 gallons a day, amounting to over 7,000 gallons per year!
- If you are on public water you can check for leaks by turning off everything in the house that uses water. Record the reading on your water meter. After an hour, recheck the meter. If the meter reading has changed, you have a leak. Repairing a leaky faucet can be as simple as changing a washer.
- A leaking toilet can waste hundreds of gallons of water a day without making a sound. To check the toilet, put enough food coloring into the tank to color the water. If, without flushing, the color appears in the bowl, you have a leak. Adjusting or replacing the float arm of the plunger ball often repairs leaky toilets.
- Install water conservation fixtures and appliances. Conventional fixtures and appliances require more water than necessary under normal pressure. Simply retrofitting existing devices or replacing conventional showerheads, toilets, and washing machines with modern, conservation models can save many gallons. A flow reducer placed in the water pipe, a low-flow fixture, or an attachment to the existing fixture all can reduce water use.
- Install an aerator on each household faucet. These inexpensive devices are available at hardware stores and result in substantial water savings.
- Install low-flow showerheads to reduce flow by 50 to 75%. These can be purchased for about $10 and quickly pay for themselves in water savings.
- Install a low-flow toilet when making renovations. Some use as little as 1.6 gallons per flush, while conventional toilets use 5-7 gallons per flush. Pressurized toilets are excellent water conservation devices. In fact, a state law requires the installation of 1.6-gallon toilets and other water-saving fixtures in all new construction and renovations in state-owned buildings.
- Many public water suppliers have water conservation kits available.
- Change your water use habits. The following ideas can save water in the bathroom, kitchen, laundry, and outdoors.

Bathroom
We use more than half of our daily water use in the bathroom. Unrestricted showerheads run at 5 to 10 gallons a minute, meaning a five-minute shower can use 25 to 50 gallons of water. A bath can use as much as 60 gallons of water. Here are some simple practices that can greatly reduce water use in the bathroom.

Showering

- Avoid running water in the shower while you are shampooing or soaping. Most people step away from the water to do this anyway. Many water-saving showerheads come with a button to shut off the flow without changing the mix of hot and cold water.
- Take shorter showers instead of baths. With a low-flow showerhead, a four-minute shower can use as little as 8 gallons of water, while a bath uses 50-60 gallons.

Toilets

- Do not use toilets as ashtrays or trash receptacles. Each unnecessary flush wastes 1.6 -7 gallons depending on the kind of toilet.
- Do not dump household hazardous wastes down your toilets or drains. Learn to recognize which household products are hazardous.

Washing

- Turn water off while brushing teeth, shaving, and washing.

Kitchen and Laundry

We use a lot of water to cook and prepare food, wash dishes and clothing, and clean. A normal faucet without a flow aerator runs at the rate of 3 to 5 gallons a minute. Normal dishwasher loads require at least 15 gallons of water. Each load of laundry normally requires about 50 gallons or more of water. Some simple practices can greatly reduce the amount of water used each day. Additionally, if you're buying new appliances, consider purchasing water conservation models. These may cost more in the beginning, but will save you money in the long run.

Food preparation

- Wash fruits and vegetables in a bowl of water rather than running the faucet. When done, use the water for plants.

Dishwashing

- When washing dishes by hand, instead of running water continuously, use one basin for washing and another for rinsing.
- When washing dishes by hand, use the least amount of detergent possible to avoid having to rinse continuously.
- Run the dishwasher only when full. If you're buying a new dishwasher, consider one that uses less water.

Waste disposal

- Compost your food scraps rather than use the garbage disposal. Disposals use a great deal of water and add unnecessary solids to the sewer or septic system.

Water storage

- Keep a bottle of drinking water in the refrigerator, instead of running the faucet until the water is cold.

Clothes washing

- Use your washing machine only when full.
- If you are purchasing a new washing machine, consider a suds-saver model that reuses water for a second load or another model that uses less water. You could reduce your water use from as much as 60 gallons to 20 gallons.

Outside

Hundreds of gallons of water may be used outside on any particular day as people water their lawns and gardens. It takes 625 gallons to water 1000 square feet of lawn with 1 inch of water. For this amount of water, you could do 12 loads of laundry, or take 25 showers, or provide 10,000 glasses of water.

- Slow, deep waterings are more beneficial for plants. Plants can only absorb so much water at a given time; likewise, the soil within the plant root zone can only store so much water at a given time. Over-watering wastes water, increases the risk of pollution, and can weaken plants and encourage disease.
- Always abide by any outdoor water use restrictions that your local water utility may have. For more information on water conservation in the home landscape, see our website, www.healthylandscapes.org or contact us at (401) 874-5398.

Lawns

- Keep your grass 2-3 inches high. Taller grass retains more moisture.
- Lawns require one inch of water per week to remain actively growing. Measure weekly rainfall and apply only the amount of water needed to make up the difference. Another option is to allow your lawn to go dormant during the hot, dry summer months. Your lawn may turn brown in the middle of the summer but this doesn't mean that the grass is dead. Dormant grass will re-grow when rain and cooler weather return.
- Apply water during the cool parts of the day, preferably in the morning, to prevent excess evaporation.

Gardens

- Use a drip irrigation system in your garden. This system supplies water directly to the individual plant root zones. In addition to saving water, it reduces weeds because it doesn't water the areas between the rows and plots.
- When landscaping your yard, select sustainable plants that have low requirements for water, fertilizers, and pesticides. Consider planting native plant materials. The URI GreenShare Program's Sustainable Trees and Shrubs Manual lists suggestions.
- Form ditches or basins around plants to allow water to pond and seep in slowly and to prevent runoff.
- Mulch landscaped and garden areas to reduce evaporation.
- Don't use sprinklers and hoses for play.
- Use low-pressure, perforated hoses for watering shrubs and gardens rather than sprinklers.
- Install a rain barrel under roof downspouts to catch water flowing off the roof and re-use in the garden.

Car washing

- Don't leave the water running while washing your car. Allow the washwater to drain onto the lawn or garden instead of down the driveway or stormdrain.

Clean up

- Use a broom instead of a hose to clean sidewalks, driveways, and patios.
- You can reduce your water use without sacrificing cleanliness or interfering with your lifestyle. Encourage others to do the same.
- Get involved in water conservation projects in your community and place of work.

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For More Information:

University of Rhode Island Cooperative Extension Home*A*Syst Program
Offers assistance, information, and workshops on residential pollution prevention including private well water protection, septic system operation and maintenance, landscaping for water quality protection, and actions residents can take to reduce pollution.
401-874-5398 www.uri.edu/ce/wq

Refer to our website www.healthylandscapes.org for more information on sustainable landscaping and stormwater runoff control.

RI Department of Health, Office of Drinking Water Quality
Refer to our website www.healthylandscapes.org for more information on sustainable landscaping and stormwater runoff control.

Offers assistance and information on private well water testing and state certified water testing laboratories.
401- 222-6867 http://www.health.ri.gov/environment/dwq/Home.htm

For a listing of HEALTH's certified private laboratories in Rhode Island http://www.health.ri.gov/labs/instate.htm

URI CE GreenShare Program
(401) 874-2900
www.uri.edu/ce/ceec
The GreenShare Program provides scientifically accurate and environmentally sound information on management of suburban and urban landscapes. Integrated pest management, pollution prevention and sustainable landscaping are the guiding principles of all GreenShare programs. The Sustainable Trees and Shrubs publication is available on-line at: http://www.uri.edu/ce/factsheets/sheets/sustplant.html

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