

Water for Life: Groundwater Sustainability

What you can do to ensure the sustainability of groundwater

As an individual, you can buy water-efficient appliances, use low-flow showerheads and toilets, and look for opportunities to shut off the tap when you are not using water.

General tips

- The American Water Works Association estimates that retrofitting an older home with more-efficient toilets, showerhead, washing machines and dishwashers can save about 34 gallons per person per day—cutting indoor water use in half.
- Toilets installed prior to 1994 may use five to seven gallons of water per flush; newer toilets are limited to 1.6 gallons per flush. Older-model washing machines and dishwashers use up to 15 gallons and 14 gallons, respectively, per load. Newer machines are up to twice as efficient.
- Regularly check your toilet for leaks; quickly fix any dripping faucet. Five drips per second from a faucet—the kind of thin, but steady, stream of water we have all seen from time to time—wastes 15,000 gallons of water in a year, according to the American Water Works Association.
- If you spend 20 minutes washing your car and you leave the hose running, you can use up to 100 gallons of water. Use a bucket and a sponge; turn on the hose only for rinsing. If you can, wash your car on grass, rather than concrete or asphalt, to prevent water and detergent from running down storm sewers and into streams.
- Use a broom, not a hose, to clean off patios, driveways and sidewalks.
- Take shorter showers, turn off the faucet while you shave and brush your teeth, don't let the water run while you wash dishes in the sink, keep a pitcher of water in the refrigerator so you won't have to let the tap run to get cold water. Don't run your dishwasher or washing machine until they are full.
- If you already have relatively new plumbing fixtures and appliances, the biggest thing you can do to save water and ensure sustainability is to limit your summertime lawn sprinkling. The Environmental Protection Agency estimates that half of all the water put on lawns is wasted through over-watering and evaporation— a staggering 1.5 billion gallons a day.

Lawn care

- If you are building a new home or laying new sod, be sure there is at least 6 inches of topsoil beneath the sod.
- Test your soil and consider adding compost as organic material. It will dramatically increase the absorption of water.
- Follow the Environmental Protection Agency's WaterSense guidelines for landscaping: Limit the amount of turf you plant, don't plant grass on steep slopes, don't install ornamental water features.
- Don't over-water. Most lawns need only one inch of water each week, either from rain or from irrigation. Step on your grass—if it springs back, it doesn't need watering.
- Water early in the morning to cut losses to evaporation. The middle of the day is the worst time.
- Cut grass no shorter than two inches. It will promote deeper roots that require less water.

Conserve groundwater

As a community, there are lots of ways you can conserve ground water and work for sustainability. Here are some tips that reflect actions already taken or considered by cities around Minnesota.

- Adopt a pricing structure that encourages conservation and discourages waste. Eliminate any discounts for big users. Raise water fees as consumption increases. Increase summertime rates so homeowners will have an incentive to sprinkle sensibly. Use pricing as a tool to make water conservation attractive to individuals and businesses. Monthly, instead of quarterly, billing makes customers more aware of the cost of their water and more open to conserving it.
- Work aggressively to fix leaks. The American Water Works Association says leakage should be limited to no more than 10 percent of a public water system's pumping.
- Consider changes to building codes to allow, and encourage, builders to install "gray water" systems that collect water from sinks and showers for lawn irrigation.
- Pursue the re-use of treated wastewater for watering golf courses, parks and athletic fields.
- Build a consideration of ground water availability and sustainability into every decision on new development or re-development.
- Serve tap water, not bottled water, at meetings and other public events. A lot of water is consumed in the production of bottled water.

Farmers

Be aware that agriculture accounts for 80 percent of water consumed in the United States.

- Practice conservation tillage and plant cover crops. Added plant matter on the soil will reduce evaporation.
- Don't use unlined ditches to transport irrigation water.
- Plant drought-tolerant forage crops.

Businesses

As a business or institution, you can save vast amounts of water. You may also save a significant amount of money, especially on water that is discharged to municipal sewage treatment plants.

- Make water conservation, and conservation of resources, a part of your strategic vision for what your business or institution does.
- Evaluate manufacturing processes to conserve water, just as you do to control labor costs and save energy.
- Shut off water that is not being used. It sounds obvious, but many businesses have processes that waste huge amounts of water merely because valves that could be closed are left open. Fix leaks.
- Understand your water flow. Monitor water use, establish a baseline and look for fluctuations or spikes that indicate wasteful use.
- Appoint a "conservation champion," a high-ranking staff member whose job it is to promote the conservation of both water and energy in your organization.
- Learn about and consider the "water footprint"—the total water consumed in conducting your activities—in the same way that you are beginning to weigh the carbon you release into the atmosphere by what you do every day.
- Consider reusing water. Noncontact cooling water can readily be put to other uses.
- Make tap water and drinking fountains widely available as an alternative to bottled water.
- Sweep or blow off debris on paved surfaces, rather than hosing them off.
- Design landscaping to minimize watering demand.