Using Less Water

Detect and Repair Sprinkler System Leaks

To accurately measure and reduce water use, locate and fix any sprinkler system leaks. Symptoms of leaks include:

- Higher than normal water utility bill
- Pooled water or soggy area in your lawn or landscape
- Poor sprinkler performance

Leaks may be caused by broken sprinkler heads, malfunctioning valves, cracked lines or sprinkler head drainage after the system is shut off.

Locating leaks can be challenging; try using these steps:

- If allowed by your utility, check the main water meter with all faucets, appliances and the sprinkler system shut off and no water running
- Check sprinkler system zones separately for low pressure or poor spray pattern

Measure the Amount of Water Applied

Prevent overwatering by measuring how much water you apply to the landscape. Overwatering is the most common source of lawn problems.

Water less in spring, late summer and early fall when plant and lawn water demands are lower. Seasonally adjusting the sprinkler controller can save a significant amount of water.

To measure your current water use:

- Place six identical catch cans in a single sprinkler system zone (a catch can is any straight-sided, open-top container)
- Evenly distribute the catch cans and ensure each can is least 3 feet away from sprinkler heads
- Run the sprinkler zone for 10 minutes
- Pour the water from five of the containers into the sixth container
- Measure and record (in inches) the water depth in the container
- Empty the container and repeat above steps for each sprinkler zone

The combined water depth in the sixth container equals the amount of water each sprinkler zone produces in one hour (precipitation rate in inches per hour).

Understand Lawn Water Application Rates and Frequency

The amount of water you apply to your lawn and the application frequency will vary with soil conditions, grass type, seasons, weather conditions and water provider restrictions or guidelines.

In midsummer, under ideal conditions you should apply 1 to 1½ inches of water to your lawn no more than once per week for clay or loamy soils. Your irrigation zone logistics or municipal restrictions may require you to water two to three times a week. Water providers often suggest irrigation guidelines that help balance water treatment facility demands.

Irrigate a lawn with sandy soil lightly over several days so water does not migrate below the root zone. On sandy soils it may not be possible to apply more than ½ to ¾ inches of water at one time without waste. However, watering several times a week, particularly on clay soils, can produce an underdeveloped root system and a higher risk of disease.

If you apply 1 to 1 ½ inches of water to your lawn at one time and you notice standing water or excessive runoff, you may...
have a clay soil that won’t accept this much moisture at once. For low infiltration rate soils use the "cycle and soak" method - water for shorter intervals with several start times per irrigation cycle. Sprinkler heads with slow water delivery rates can also help prevent water waste on heavy clay soils. Learn how to maintain and improve your lawn’s soil water infiltration rate.

During spring and fall water the lawn less frequently, but still apply 1 to 1 ½ inches of water to heavy clay soils and ½ to ¾ of an inch to sandy soils during each irrigation. Many new sprinkler system controllers include these types of adjustments. Smart controllers can adjust for daily and seasonal lawn water demand changes.

Some home sprinkler systems operate several times per week or even every day. Less frequent applications of ¾ to 1 ½ inches enables water to soak in and reach more of the root system. This method requires a homeowner to monitor and adjust water applications as a lawn shows it needs water. Your water provider’s rules may restrict ideal watering guidelines. Contact your water provider for details.

Save water using a few simple steps. Adjust the sprinkler system controller each month so less water is applied in the spring, late summer and fall. Better yet, adjust the system weekly for cooler, wetter, or hotter, drier conditions and seasonal changes. Many controllers have seasonal adjustment programs.

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Average Weekly Grass Water Requirements - Rainfall & Irrigation

Know How and When to Water

Use these tips to understand your lawn’s water needs:

- Know your soil - how easy is it to insert a screwdriver right before or just after irrigating?
- If a screwdriver can be easily inserted 3 to 4 inches into the ground you don’t need to water
- Water when footprints or mower tracks become clearly visible and remain for 20 minutes or more, or when the lawn takes on a bluish-gray color
- Water from 10 p.m. to 6 a.m. - or when allowed by your water provider’s rules - not during the heat of day or when the wind is blowing
- Set sprinklers to only water the landscape, not sidewalks, driveways or other areas
- Get maximum benefit from rainfall. Use a rain shut-off feature or skip a watering cycle after receiving at least ½ inch of rain

Update Sprinkler System Components

Does your sprinkler system leave some areas dry while overwatering other portions of the landscape? Do your sprinklers come on during or after rainstorms because you forget to turn it off or are not at home to deactivate it? Does windy weather rob your landscape of water from your sprinkler system? Update your sprinkler system and save more water with new technology:

- Add rain or high-wind shutoff features to your sprinkler system
- Replace sprinkler heads with multi-stream rotors that deliver water slowly in multiple streams and reduce runoff
- Install a smart controller that uses soil moisture or weather data to activate your sprinkler system only when needed
- Use drip irrigation systems that deliver just the right amount of water to individual plants, allow water to soak in slowly with little evaporation, and can be attached to your existing outdoor faucet or to your sprinkler system

See this irrigation technology demonstrated in Northern Water's Conservation Gardens. Or using the illustration on this page, roll your cursor over the Irrigation Technology Demonstration and Comparative Irrigation Technology links to learn more.

Find More Information

Use these links to increase your irrigation efficiency.
Irrigation Technology
Northern Water Landscaping & Watering How-to Series: How to Use Smart Controllers
This PDF version of a slide presentation outlines irrigation scheduling, plant and soil requirements.

Landscape Industry Resources & Training: Smart Irrigation Technology
This Northern Water Web page has information on “smart” irrigation technology and soil moisture-based controllers.

Repairing and Replacing Sprinkler Systems
These websites have information on troubleshooting, repairing, and replacing irrigation sprinkler systems:

- Irrigation Repair
- Hunter Irrigation System Support
- Rain Bird Irrigation System Support
- Rain Bird Sprinkler System Design Service
- Hunter Irrigation System Design Handbook
- Certified Landscape Irrigation Designers

Sprinkler System Design
These websites have information on sprinkler system design, installation, irrigation technology and drip irrigation:

- Toro Irrigation Design Service
- DIG Irrigation Products and Solutions
- Netafim USA Drip/Micro Irrigation Solutions