

# The Watering Can



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## Basic Steps in Conducting a Landscape Water Audit

Landscape water-use efficiency is a practical and economic concern to gardeners who use sustainable landscape practices. Master Gardeners should practice and promote sustainable gardening practices that include efficient water practices. For example, we now know the practice of “odd/even” day watering is not an efficient practice but instead leads to over-watering and waste.

A landscape water audit is a good way for the homeowner to understand how much water is needed to support the “garden.” Water use efficiency audits are based on water-wise concepts, use site-specific conservation measures, and install or use efficiency water devices that result in at least a 10-15% reduction in landscape water demand. The largest water savings can be realized if you discover your equipment is incorrectly programmed or broken. While the homeowner can conduct a landscape water audit, there are well-trained landscape professionals who can assist the home owner in conducting the audit.

Typically, a landscape professional who is trained in “landscape water auditing will follow six basic steps:

- **Explain or understand the purpose of the audit** (i.e., to save water and reduce harm to the natural environment).
- **Review outdoor water use:** Review water billing data, actual meter readings, and actual landscape and other outdoor water use practices. By subtracting the February water bill from the July or August water bill a general estimate of how much water is used for outdoor irrigation can be determined. (There are other methods to estimate outdoor water use but if you receive a “water bill” this is the simplest method).
- **Evaluate lawn, landscape, and irrigation features** including the total square footage of each irrigated zone/area and the type of plant material to be irrigated, especially turf grass. Note the condition of the turf in terms of excess thatch, soil compaction, or brown spots. Turf is typically the largest water user in the outdoor landscape.
- **Measure use of irrigation equipment:** Measure the amount of water used for a typical irrigation cycle (run the manual or automatic irrigation system for a full cycle). Measure water use in “gallons per minute” as well as total watering time. For automatic irrigation systems, locate the irrigation controller and record the following data: amount of time required for each irrigation cycle, number of days per week watering occurs, number of zones irrigated, duration of watering for each zone, and presence of a rain sensor, moisture sensor, or a “cycle and soak” feature. Run the irrigation controller for each zone, returning to the meter after each run to measure the amount of water used per minute and in total. Check sprinkler heads, micro-irrigation emitters, and bubblers for leaks, and check for breaks, malfunctions such as tilted heads, missing heads, and overspray. Perform a similar measurement of water use for manually operated sprinklers and hoses. Conduct a “catch-can” test to measure how evenly (distribution uniformity – “DU”) and how much water is applied by collecting water in small cans (tuna fish can) placed at evenly spaced intervals throughout the irrigated area.
- **Provide landscape water-efficiency recommendations:**
  - ✓ Suggest water-wise, natural landscaping principles and plants.
  - ✓ Recommend the amount of water to apply per week, i.e., one inch of water.
  - ✓ Specify hardware conservation measures (e.g. automatic shut-off valve for hoses or an automatic rain-sensing device, or switch that shuts off an automatic irrigation system during or after rainfall) and repairs or adjustments to sprinklers, hoses, or irrigation systems.
- **Provide written information and install conservation devices:** In addition to checking the efficiency of the irrigation system, provide a rain gauge, install rain sensors on irrigation sensors on automatic irrigation systems and shut-off valves on manual hoses, provide suggestions on turf and landscape design as well as low-water-use plants and grasses, and advise the customer on how to reduce environmental burdens and help control water costs. Provide published information about additional conservation methods, and a list of local native and low-water-use plants.

*Water efficient landscape practices have many benefits and additional information is available. If you are interested in receiving a sample of a “Landscape and Irrigation Water Audit Worksheet, please contact Beverly O’Keefe, [ladyship@verizon.net](mailto:ladyship@verizon.net)*

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