



# Turf Watering Management

USDA, Natural Resources Conservation Service

**Watering lawns correctly at Lake Tahoe can be simple.**

**Just measure how long it takes your sprinkler system to apply ½ inch of water**

Then water your lawn for that amount of time:

- 2 times a week in April, May, September and October.
- 3 times a week in June, July and August.

## Water Management

Practicing good water management on your lawn helps to conserve our precious water supplies and reduces runoff of fertilizer into our streams and Lake Tahoe. As a bonus your lawn's appearance and vigor will also benefit.

Turf watering management does not need to be complicated. The procedure outlined here will enable you to develop an efficient watering schedule.

These are the basic principles you need to know in order to optimize your lawn watering.

- How much water your **sprinkler system** applies.
- How much water your **soil** can hold.
- Where **grass roots** absorb most of their water.
- How much **water** your grass **uses** at different times of the year.

## Sprinkler System

All sprinkler systems are not created equal. Even the same types of sprinkler will apply different amounts of water depending on how they are adjusted and the water pressure behind them. Sprinkler systems for turf are generally designed so that they have 100% overlap. In other words, the spray from one sprinkler head should be adjusted so that its spray just reaches the adjacent sprinkler head. You should adjust your spray pattern to avoid watering paved areas or other spots not intended for watering.

Most systems allow interchangeable nozzles. The size of the nozzle should be consistent with the size of the area that it wets. For example, a sprinkler head that wets a full circle should have the largest output nozzle, a half circle would have a smaller output nozzle, and a quarter circle an even smaller nozzle. This prevents excessive watering of small areas. Of course there is no such thing as a 100% efficient irrigation system. Allowances must be made for wind, evaporation and water that is not absorbed into the soil.

## Soils

Different soil types hold different amounts of water, especially if the soils were well amended prior to seeding or placing sod. Soils in the Lake Tahoe Basin are mostly loamy sands and coarse sandy loams. This means they can only hold from ½ to ¾ inches of water in the top foot of soil. Of this amount only 50% is available for use by the plant. The other 50% is bound in the soil and unavailable for absorption by plant roots. The Tahoe Basin Soil Survey, which is available online at

<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx> or your local Natural Resources Conservation Service Field Office, can help you determine the exact nature of your soils.

## Grass

The roots of your typical turf grass rarely extend more than 12 inches below the soil surface. Approximately 70% of your lawn roots are in the top 8 inches of soil. Watering beyond the root zone of your lawn will result in: 1) wasted water, 2) carrying fertilizers beyond the reach of roots, 3) less vigorous plants due to nutrient deficiency, 4) increased cost for lawn maintenance, and 5) potentially creating nutrient laden runoff that pollutes Lake Tahoe.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA Director, Office of Civil Rights, Room 326W, Whitten Building, 14<sup>th</sup> and Independence Avenue, SW, Washington DC, 20250-9410 or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

### Water Use

Water is consumed and eventually evaporated through a plants leaf by a process called evapotranspiration. The average daily water use of turf grass at Lake Tahoe is 1/5 inch per day. This will vary with fluctuations of the weather and time of year.

**Table 1. Inches of Water Use by Grass in the Lake Tahoe Basin.**

	April	May	June	July	Aug	Sep	Oct
Daily	.14	.17	.21	.23	.21	.16	.14
Weekly	.98	1.18	1.45	1.60	1.50	1.12	.96

### Scheduling Example

In order to develop an efficient watering schedule you will need to determine the **application rate** of your sprinkler system. Regardless of the type of system used it will only be necessary to determine the amount of time it takes to apply ½ inch of water. To take this measurement, collect discarded cylindrical cans such as a coffee can and mark them ½ inch from the bottom. Place them on your lawn beneath the spray patterns of your sprinklers. For greater accuracy be sure you have at least one can under each type of sprinkler pattern (i.e. full circle, half circle and quarter circle). Now turn the sprinklers on and time how long it takes for the last can to fill to the ½ inch mark. This will be the **application rate** of your system. Now for some simple math. If it takes 15 minutes for the last can to reach the ½ inch mark, and its July (Refer to Table 1.), you will need to water for 15 minutes 3 times a week ( $3 \times \frac{1}{2} = 1.5$ ). If you require assistance in determining your application rates and scheduling, please contact your local Natural Resources Conservation Service office.

### Checking your Watering

It's a good idea to occasionally check the effectiveness of your schedule. After watering, your soil should be moist to a depth of 6 to 8 inches. If water is not penetrating to this depth you may need to aerate your soil to improve its intake of water.

Deep watering can help build deep root systems which provide the plant with greater drought tolerance. You can encourage deep root growth on sloping sites by "pulse irrigation". This is done by simply applying half your scheduled water application, waiting two hours and applying the remaining half.

### Good Watering and Lawn Care Tips

- Water early in the morning, preferably before 7AM.
- Keep your irrigation schedule flexible for periods of rain or excessive heat.
- Water only twice a week in the spring and fall when daytime temperatures are cooler.
- Never over fertilize your lawn.
- Fertilize only with slow release fertilizers.
- Fertilize once in the spring and once in the fall.
- Use automatic controllers to improve water conservation.

### Conclusion

The information provided in this Tip Sheet is intended to provide general guidance in determining your irrigation needs. Your results may vary due to differences in soil properties including amendments, climatic differences and other influences. For information on your particular results you may contact one of the following agencies.

### For further information contact:

#### In Nevada

**Nevada Tahoe Conservation District**  
**1-775-586-1610 Ext 28**

#### In California

**Tahoe Resource Conservation District**  
**(530) 543 – 1501 Ext 6**

Or

**Natural Resources Conservation  
Service**  
**(530) 543 – 1501 Ext 3**

