Going Brown in the Summer

The best time to learn how to conserve water in your lawn is when you do not have to. Water conservation in wet years is difficult for some to grasp; however, it is just as important as practicing water conservation in dry years.

It can be tough for a lawn living in irrigated bliss to suddenly have to go without. For instance, that’s the effect drought and municipal watering restrictions can have on lawns, but increasing emphasis on water conservation may also drive different ways of managing irrigated lawns.

There are many reasons to get your lawn to sip, not slurp. If you habitually overwater, your lawn will be much healthier if you teach it to sip. So will your municipal water works—and, ultimately, your wallet. Landscape water use consumes large amounts water, a good portion of which is wasted by overwatering or poorly maintained sprinkler systems.

Conserving water in the landscape can add years to the life of water treatment plants and reduce the need to acquire new water supplies. It is costly to expand or build new water treatment facilities, or develop new water supplies.

The biggest reason of all to conserve water is that Colorado’s water resources are finite, with more demand on supplies well into future decades. The Colorado Water Plan (https://www.colorado.gov/pacific/cowaterplan/colorados-water-plan-final-2015) calls for major water conservation in the coming decades, with much of the savings coming from outdoor water use. While better irrigation technologies and programs to convert turf to more xeric plantings may help conserve water, how you manage your irrigation is still the key element in water conservation.

There are many well-known ways to conserve water.
• Keep water in the landscape, not running down the street, sidewalk, or driveway.
• Maintain your irrigation system and update it to make it efficient. Ask your city water department for advice.
• Water only when your lawn shows that it needs water.
• Start irrigating your lawn later in the spring—wait until May, for instance.
• Adjusting for lawn water needs, which change with the seasons and with daily weather, helps reduce wasted water.

If your lawn is Kentucky bluegrass, there is another way to conserve water.

Let it go brown in the summer. Really.

How can this possibly work? Don’t we have to water lawns in Colorado? Yes, but….bluegrass is tough and has some particular characteristics that make it possible to conserve water. Read on:

In the Midwest and eastern US, it rains a lot more than here. Lawns are often un-watered because there is enough timely rainfall to maintain a lawn. However, long periods of dry, hot summer weather do occur, and then a Kentucky bluegrass lawn will go dormant. The leaf blades turn brown and die, but the crowns, roots, and rhizomes survive for several weeks with very limited water. Summer dormancy is fairly common in these regions of the U.S.

In Colorado, it is unthinkable to let a lawn go brown except during a serious drought, when dire circumstances exist. Because we can irrigate all season, we do. Sometimes, we must irrigate and stay green--think HOA here. Even if you do not have an HOA, your neighbors will likely disapprove.
With all the disapproval, why even mention brown lawns? Because water savings can be significant by not watering. Plenty of water can be saved by allowing a healthy bluegrass lawn to go dormant for four to six weeks in the summer.

In fact, it may be healthier and happier than a continuously watered lawn.

At Northern Water, 40 varieties of Kentucky bluegrass in plots have gone un-watered for 4 to 6 weeks during the summer for the past several years. The bluegrass gradually goes brown, but greens quickly once watering are resumed. Often rainfall occurs that helps relieve the water stress. Root samples in the plots left un-watered were observed to be deeper. To visitors’ eyes, the plots left un-watered looked better after recovery than the plots adjacent that had been kept fully watered each year.

Also, Northern Water’s Conservation Gardens does not irrigate turf until May. Frequently, there are lengthy periods of dry weather during early spring, usually mid-March through the end of April or into early May, when soil moisture is depleted by cool-season turf. Rather than damage the bluegrass, this may help pre-condition it for the irrigation shut-off in mid-summer.

When can reducing water hurt your lawn?
Notice that healthy bluegrass lawn is required. If your bluegrass has more than ½” of thatch, its roots may be growing in the thatch, rather in the soil where they belong. In that case, not irrigating may damage the lawn. Newly seeded or sodded grass should not go un-watered. Some varieties of bluegrass may stay green longer than others while un-watered, but that is expected.

Your Kentucky bluegrass lawn can’t be ignored while it’s un-watered. The underground plant parts need about half an inch of water from rainfall or irrigation every two weeks to stay alive. That allows rapid recovery once the un-watered period is over. It is important to know how much rainfall fell on your yard. If enough rain fell on your lawn at the right time, then you don’t need to irrigate to keep it alive.

There are drawbacks to allowing your bluegrass to go dormant--it is more vulnerable during dormancy and prone to damage by insects, or children or dogs playing on it. Take care to protect it as much as possible during dormancy.

Also note, if you have cool season turf grass that is not Kentucky bluegrass, then it is probably not suitable for this water conservation technique.

Water saving potential
How much water can be saved by letting a Kentucky bluegrass lawn go without water in the summer? Estimates of water saved during the non-irrigated periods ranged from 2.5 gal/ sq. ft. to 4.8 gal/ sq. ft. (4 to nearly 8 inches of irrigation), depending on the length of the time period when watering was stopped and the inputs into the soil-water balance irrigation scheduling program. See the technical note for more information on the irrigation scheduling parameters.

While some water conservationists advocate complete turf removal, or at least serious reduction in turf area, there is still plenty of room for better irrigation management in the landscape. This is one approach that has potential to save a considerable amount of water, if our ideas of “normal” lawns are flexible.

Where did the numbers come from?
Irrigations were scheduled with a soil-water-balance method from 2001 to 2015. Daily weather data, including precipitation and reference evapotranspiration, were obtained from Northern Water’s Loveland weather station. The irrigation season was from May 1 to Oct 31 each year.

The managed root zone was 6 inch inches deep. Irrigation system uniformity (Distribution Uniformity, DU) was assumed to be 0.5, which is poor. Acceptable DU values are at least 0.7.

The turf was watered with about half an inch of water at about mid-July, and also at the end of July (for no irrigation 7/1-8/15) if rainfall was not timely or enough to keep underground plant parts alive. This is a recommended practice under drought or extended dormancy conditions.

This analysis compares not irrigating during July, the peak demand month for utilities, and July 1 to Aug 15. Good irrigation management (80% of ETo) and over watering (100% of ETo) are represented at the typical managed root zone depth of 6 inches and two values of DU. The water saved in Table 1 represents only water saved compared to full irrigation during those time periods and does not represent total seasonal irrigation.

![Water Saved During Summer Dormancy](chart.png)