

# Conserving water:

what turf managers are doing now

IT'S A FACT THAT WATER IS ESSENTIAL FOR HUMAN SURVIVAL, not to mention its importance in some of the finer things in life such as ice cubes, a hot shower, or lush athletic turf.

But water, or "blue gold" as it is now being referred to by those in the know, is a precious commodity that not everyone has access to equally. Dr. Ali Harivandi from the University of California Cooperative Extension gave a compelling presentation during January's STMA Conference that began with a sobering fact: Every 20 years the demand for "good" water doubles across the globe.

He added that the average person in the United States uses 80-87 gallons of water a day if you factor in everything from showers to food preparation, a "water footprint" if you may.

Dr. Harivandi predicted that drought is coming to a weather pattern near you, especially in the south and southwest regions of the U.S., and that some areas, such as the Tucson/Phoenix region, groundwater is already mostly used up.

Increased use of reclaimed water, especially for use as irrigation for sports turf, will be necessary, Dr. Harivandi said. He named the San Francisco 49ers practice facility as an example, citing that it won an STMA Field of the Year Award last year using recycled water.

Using tertiary/reclaimed water is fodder for another article, since it means increased attention to salinity, nutrient (N, P, K) content, installing drainage, etc.

Here we share responses we received from an informal poll across the country concerning water use. We emailed two questions to dozens of STMA members and selected these responses. The questions were: 1) what are you currently doing to monitor and conserve water in your turf maintenance practices? And 2) Have you been asked specifically this year to reduce your water use?

We basically try and wait for the grass to start wilting in certain areas, the ones that always show up first. Then we know

it's time to water that night or the next morning. It of course all depends on the natural rain schedule. We all know you can depend on that like clockwork! Sometimes we water every other day, sometimes the irrigation is off for a week at a time. We have not been told to conserve water at this time. A few years back when conserving water first came on the horizon, we were told to stop watering totally. Three weeks later when the fields went dormant, they said it did not apply to golf courses and high profile athletic fields. We just started monitoring the usage closer.

Mike McDonald, CSFM  
Turf Manager  
University of Minnesota

Aids such as turf stress detection glasses, soil samplers, moisture meters, and rain gauges are used daily to help us determine moisture levels. We also use various resources (internet) that monitor evapotranspiration rates. All clock timers are adjusted to run manually and set schedules are no longer used. We do our best to use the minimum amount of water to achieve positive results in grass health.

We have not been specifically asked this year (though we have been asked by the utility company in the past) by any specific entity but we have our own goal of trying to minimize use and cost since all irrigation is supplied by the municipal system. The goal is to maximize water conservation and minimize rising utility costs.

Larry Berry, CSFM  
Director of Physical Plant  
Lee University

We have installed flow meters at all of our pump stations. We have gone to the Toro Sentinel system for programming and monitoring. This interfaces with a weather station that initiates a rain shutdown when we have sufficient rainfall. During the sum-

mer months in south Florida we initiate a 2-day rain hold at 0.2 inches of rain. Any localized dry spots are on a wetting agent program. We strive to keep the irrigation as lean as possible, monitoring through core sampling. We are evaluating some of the new soil sensor technology that is coming out but are in a holding pattern there.

Our area has been under water restrictions (except for reclaimed) for the past 3 years. This year the restrictions have loosened up on sports and golf turf but we have to report water usage to the water management district that monitors surface water withdrawals.

Cindy Unger  
Grounds Division Superintendent  
City of Palm Beach Gardens, FL



Tough questions to answer after 7 inches of rain in June! I have not been asked to reduce my water use. Things are starting to dry out now [mid-July] but I've been hesitant to run much irrigation and that is more to force the roots to grow deeper than to conserve water since we haven't been asked to conserve. If we run into an extended dry spell then I will water like a typically do—deep, infrequent waterings and only throw water on the infield dirt when I know it will do the most good (before BP and games, not all day).

Dan Douglas  
Head Groundskeeper  
Reading Phillies

I have never been asked about my water use. I monitor all our irrigation systems, which consists of six fields (five baseball, one soccer). I keep things repaired the best I can, especially leaks. I make the decisions on when to water and how much; I do not rely on computers to tell me when to water. I am on the fields every day and I know what they need just by looking at them. I do not over irrigate the fields, just enough to keep things looking good, because I know I will have a week or two where it will rain every day. We are close to the coast so it seems that I have more of a problem with too much water.

I am considering some innovative ways of getting water; one of our fields is close to our gym and the AC system just runs into a

ditch. I am looking at collecting this water and seeing how it could help reduce our dependency on the grid.

Patrick Jonas CSFM  
SCSTMA President  
Director of Maintenance  
Charleston, SC

We are very fortunate in that our water comes from two wells that were dug during construction. These wells supply water to our two retention ponds that we use to pump water for irrigation. Also all of our drainage runs back to the two ponds, so we reclaim all the water from rain and any water we use to clean the stadium. We still monitor our water usage because with the summer heat in Texas it is hard for the wells to keep the ponds full with as many fields and as much as we are having to water.

Allen Reed  
Assistant Stadium Grounds  
FC Dallas

So you heard we had some drought issues here in College Station? How about 45 days with no rain. Before that, between May 1 and May 23 we got rain three times totaling 1.25 inches. Average high temperature the last 3 weeks [late June, early July] has been near 100 degrees. I am lucky that my irrigation system has no water meter as Texas A & M's Physical Plant supplies the water free. They set emergency services as first priority, buildings (drinking, cooking, cleaning, and sewer) as second and grounds as third. As long as there is ample

supply for all they do not cut us back.

A & M has its own water system, wells, treatment, and sewer, just like a city so we are independent of outside control. While we are unrestricted and watering heavily right now, we do try not to waste water. By that I mean we water to the highest level possible depending on events and work schedules without allowing runoff. With PET hovering around .3 inches daily from area weather stations, combined with the need to aggressively grow grass to prepare for next fall's intramural season, we are watering about 36 minutes a night between events. Since our high clay soils have low percolation rates we divide it into 3 cycles of 12 minutes spread over 8 hours. This allows about 1.5 hours of absorption between cycles for each station so we don't saturate the surface, causing water to be wasted by runoff. We manually run extra stations during the day to spot treat our driest areas and use water hoses with lawn sprinklers to inject hotspots caused by inefficiencies in the system.

My one fear is a repeat of the situation that occurred in 1999. Problems with wells and pipes supplying the University caused major cutbacks to be mandated across the system. In accordance with University priorities listed above, use of water for grounds was greatly restricted and a rationing system was imposed with priorities set by value to the University. First priority went to Athletic Department fields due to the need for safety for the 200–300 valuable college athletes that played on them, the high cost of replacement and their



strong association with the image of the University. They received about 80% of PET daily, enough to stay green but not to grow much at all.

Second priority was my boss's golf course greens and tees because of the high cost of replacement and the loss of revenue that would occur due to dead greens, and the gardens around the George Bush Presidential Library because it was such a high visibility facility and again, the cost of replacement. They were allowed about 60% of PET per day. Along with daily hand watering they could be adequately maintained.

Third were all other ornamental gardens, limited to hand watering during the day to prevent the cost of replacement. Last was the 5,000 acres of irrigated lawns and other non-essential fields (A & M is the largest campus in the world in land area). They were not allowed any water at all. My 30 acres (at that time) of intramural sports fields was originally classed as non-essential like lawns! Only after vehement argument that the safety of 90,000 annual student participants at Penberthy should be of somewhat equal importance to a few hundred scholarship athletes, and showing administrators that we had spent nearly \$250,000 over the previous 5 years establishing the quality of fields we had, were they persuaded to place Penberthy at the second level with the golf course greens.

As you can see, the intramural field business at a major universi-

ty puts us in a funny category somewhere between privileged and neglected.

Bob Marcotte  
Turf Foreman  
Penberthy Intramural Sports Center  
Texas A&M University

We have not been asked to monitor our water usage but we do try to water in the evenings or early mornings to be more efficient with our water use. In our landscape areas we use tree gators to help water our trees and we also incorporate drip irrigations in some areas.

Gary Vanden Berg, CSFM  
Director/Grounds  
Milwaukee Brewers

I don't think I am a good candidate for this subject for two reasons: first, I pump out of a pond that is fed with a well pump so no city water is being used, and second living in Maine we have just had the second wettest June on record and July hasn't started any better. In my 11 years as a turf manager I have never been asked to conserve water. I guess I am one of the lucky ones. Rick Perruzzi, CSFM

Sports Turf Manager  
City of South Portland, ME ■

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