

# Make Every Drop Count!

By Joel Jackson

At the 2009 National Golf Day visit to Washington, DC in May, the Allied Golf Associations presented the most recent data on the economic and environmental impacts of the nation's golf industry. Members told legislators that golf accounted for \$76 billion in revenues and 2 million jobs. Perhaps even more important in today's regional "water wars," the group noted that golf course irrigation accounts for only one-half of one percent of the water pumped in the United States. Yet the perception is perpetuated that golf courses are "big water users."

GCSAA also released the findings of the 2008 member needs assessment survey: 84 percent said their "top environmental topic of concern" is water efficiency techniques. When asked about priorities for funding by The Environmental Institute for Golf, 52 percent of respondents responded: "a template to develop water conservation plans." So even though actual golf water use is low compared to agriculture, public supply (indoor and outdoor uses), power generation, industry and business, we are still searching for better ways to manage our water resources in terms of

quantity and quality.

The South Florida Water Management District has asked the Florida GCSA to help draft and conduct a survey to detail the ways golf courses in its district efficiently manage water use. If you're in that WMD, please make it priority to participate. We are always looking for ways to showcase our environmental stewardship and this will be a good way to get some positive publicity about golf course management.

The following comments from your peers include new design, renovation projects and daily operation.

## STEVE KELLER, JULIETTE FALLS CC

The design of Juliette Falls incorporated more than 30 stormwater retention areas, including three lined lakes, waterfall features, and several miles of underground storm piping to collect rainfall and stormwater runoff for use as irrigation and reduction on the dependence on groundwater.

The landscape palette is nearly all native species requiring no irrigation after establishment. The irrigation system was designed so each sprinkler can be controlled individually, making adjustments daily to prescribe irrigation for specific turf areas and plant

material. Each planted tree, bush and shrub was installed with low-flow bubblers to ensure plant survival until established.

During the recent drought, we limited the water on plant material to one time per week with individual plants receiving about 1 gallon of water as needed. These bubblers can be adjusted to match irrigation to each plant's needs.

We look at water use like balancing a checkbook; knowing what you have in the bank and making it work for you through the year. A little left over is always nice.

We did not overseed last winter and recorded 33 heavy frost and one period below 32 for 15 hours, which burned everything back. We estimated saving upwards of \$100,000 and nearly 25 million gallons of water.

## STEVE PEARSON, CGCS, THE FALLS CC

We had a hydraulic Toro Vari-time system for the first 11 years at our club. In 1998 we upgraded to the Toro SitePro computer software with Osmac satellites using hydraulic/electric solenoids. We have saved at least 15 percent in our water use and most years when we aren't in a drought, we are saving 30-35 percent.

Individual sprinkler run-times have

## Soil Moisture Sensors

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Cisco Navas (Cypress Woods Golf and CC), Greg Kriesch (Heritage Palms Golf and CC), Sean Anderson (Card Sound Golf Club) and others like Greg Pheneger at Johns Island Golf Club all have made conscious efforts to do what it takes to maximize the efficiency of their water use by utilizing this state of the art soil monitoring system. The system works by burying unique sensors in the ground that transmit real time measurements of soil moisture (volumetric water content), salinity (dS/m) and temperature (°F) with precision to above ground communication routers. A series of routers



make up a wireless mesh communication system so that any number of sensors and routers can be installed at a property to communicate with each other. All of the communication is directed to a gateway router that transmits the data to the secure UgMO™ server. The user can then see the data and interpretation of that data in real time from any internet browser source.

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