Brian Vinchesi, the 2009 EPA WaterSense Irrigation Partner of the Year, is president of Irrigation Consulting Inc., a golf course irrigation design and consulting firm headquartered in Peppereil, Mass., that designs irrigation systems throughout the world. He can be reached at bvinchesi@irrigationconsulting.com or 928/433-8972.

GETTING IT DONE

I recently attended the American Society of Irrigation Consultants (ASIC) – yes, there's an irrigation consultants association – annual meeting in Scottsdale, Ariz. And since ASIC was in Scottsdale, they invited Sean Emerson and Jeff Plotts to talk about how they irrigate their courses from both a water-quality and a water-quantity standpoint.

Sean, director of agronomy at Desert Mountain Club, oversees six 18-hole courses using some 2-million gallons per acre annually on a combination of warm- and cool-season turf. Jeff has the same position at TPC Scottsdale, overseeing 400 acres at a 36-hole resort/public facility utilizing warm-season turf. The 400 acres consists of 185 acres of turf, 200 acres of desert landscape and 15 acres of surface water. He also hosts a PGA Tour event every January.

Sean is an opinionated individual who is also a great speaker. His presentation centered on the efforts his staff has taken to decrease not only their water use, but their energy use, too, while providing excellent playing conditions on green turf. At Desert Mountain they are concerned with the usual irrigation parameters: precipitation rate, cycle time, uniformity and part circle arcs. However, they have gone one step further observing gallons per kilowatt (gal/kw). The gallons-per-kilowatt measurement allows Desert Mountain to determine not just how efficient they are with water or energy, but how one influences and impacts the other.

To be more energy and water efficient, Desert Mountain has created or purchased solutions for data capturing. These include utilizing wireless ground sensors, weather stations, weather pattern monitoring and the IBM Smarter Cities system to allow existing equipment software's (irrigation central control, pump station monitoring) to interact with each other for an integrated view and feedback of their water/power usage. They monitor lake levels, water use and to salt accumulations and turf health. Using the data, Jeff created Water Quality Management Zones (WQMZ) to manage irrigation applications and Na+ accumulation. The WQMZ's are also designed to manage salt loads during different times of the year based on turf stands. In the future, each sprinkler is assigned to a WQMZ zone and will be programmed according and will utilize soil-moisture sensors to substantiate and fine tune their process. With this data, TPC Scottsdale will make correlations between salinity and moisture. Jeff also uses micro-irrigation (above ground micro sprays) to decrease salt and transitional stresses.

The results of Jeff's initiatives have resulted in an average of 138.75 less acre feet (45.21 million gallons) of water used annually over the last five years. Not only has that saved considerable dollars, but also reduced salt inputs by 189.45 tons annually.

Both Desert Mountain and TPC Scottsdale are examples of how poor water quality can be managed and at the same time save water and energy. They provide a superior golf product in spite of these challenges and are happy to share their approaches, experiences and results with others.