

# Federal Perspectives on Water Use and Golf

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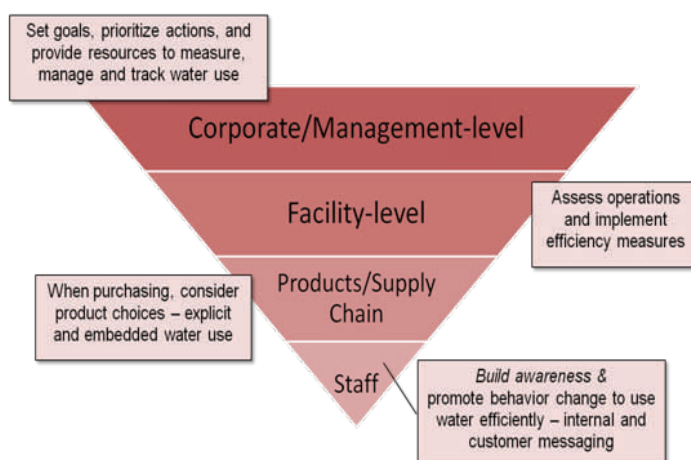
*This article summarizes how the EPA, other federal agencies and businesses are looking at potential risks associated with water shortages and lack of access to clean and safe supplies of water. The WaterSense program will be described, as well as, the efforts to promote more efficient use of water and how the golf industry might address this challenge above and beyond its current efforts.*

Water sustains life. It also sustains our economy and our well-being. How is this relevant to the golf industry? Course vegetation dies without access to water. Golf is an economic driver in many communities and the associated industry employs thousands throughout its supply chain. And although no golfer wants to get a bogey, playing golf contributes to the well-being of players around the country.

But our ability to have a safe and reliable supply of water – where we need it, when we need it – is at risk. While our water quality has improved since the Clean Water Act was passed 40 years ago, significant challenges remain in improving and ensuring water quality. Our drinking water and wastewater infrastructure is aging and needs billions in funding to rehabilitate and replace. Water supplies are challenged by competition for the resources required to meet the needs of a growing and shifting population. Layered on these are the challenges posed by climate change. This will lead to too much water in some regions which will only exacerbate stormwater management problems and flooding. In other regions, the problem will be not enough water, as we've experienced through the drought that affected much of the country during the last two years. Because water is a cross-cutting issue, water shortages can impact multiple sectors and thus we can expect competition for water between municipalities, agriculture, and energy to be significant in some areas.

Over the past several years, business has directed more attention to sustainability, with a strong focus on energy efficiency. Businesses are now recognizing the value of water and are focusing on identifying and addressing water-related risks that could affect their direct business operations and supply chains. The

**Figure 1. Using water more efficiently requires action in every part of an organization.**



World Business Council for Sustainable Development recently released version 3 of *Water for Business* (1), a guide that provides useful information on many tools and initiatives that can guide business water management activities. The document highlights the importance of having an adaptive management plan which includes assessing the local situation, accounting for water use, identifying risks and opportunities, monitoring and communicating performance, and regularly revisiting and reassessing progress to allow for improvement.

Golf as a business must likewise focus on how it could be affected by access to reliable supplies of water. Course managers should assess their vulnerability to water resource scarcity and undertake measures to minimize their risk, whether it be related to water quantity, quality, or reputation. These measures

can help enhance the resiliency of the business to water shortages caused by drought or other interruptions in service.

In 2011, the Council of Environmental Quality released a National Action Plan which described priority response actions for freshwater management in a changing climate. One of the recommendations was to expand water use efficiency by, for example, identifying and sharing best practices. The federal government has a number of activities underway that are aimed at improving water use efficiency. While not explicitly focused on the golf industry, many of the activities will support water efficiency in the sector. The U.S. Department of Agriculture has a variety of efforts from supporting agricultural irrigation improvements to research to identifying turfgrass that requires less water. The Department of Energy is looking at research to reduce the water use associated with different energy sources and on regional planning frameworks to help assess future siting of power generation in light of potential climate change impacts on water resources and competing demands for water.

The Army has a number of initiatives that are working to reduce water use and minimize their water “footprint”, including an initiative focused on promoting net zero energy/waste/water at a number of installations. In carrying out water balances on installations, they are finding that golf course irrigation with potable water can be significant and are thus looking to reduce water use through efficient irrigation and appropriate use of alternative supplies such as reclaimed water.

Through the Department of Interior’s WaterSmart program ([www.usbr.gov/watersmart](http://www.usbr.gov/watersmart)), the Bureau of Reclamation is providing grants for water efficiency projects and municipal reuse and reclamation projects, some of which may support irrigation with reclaimed water. The U.S. Geological Survey is carrying out a [Water Census](#) to assess water use and availability. As part of that effort they are supporting work to evaluate use of remote sensing to assess evapotranspiration from landscapes.

Finally, the U.S. Environmental Protection Agency’s [WaterSense program](#) develops specifications for water –efficient products and provides guidance and information to promote more efficient use of water. In 2011, WaterSense released a specification to label weather–based irrigation controllers which can be used for golf course applications. The program also recently released a set of best management practices to help the commercial and institutional sector improve their water efficiency.

There is no question that water is necessary to maintain the field of play on golf courses. And many golf course superintendents are already focused on measuring and reducing their water use by improving

**Figure 2. Hand–watering a putting green on a golf course to apply water only where it is needed.**



the efficiency of water application through technology, using more water–efficient plantings, and changing maintenance practices. Their strong efforts can and should be promoted throughout the industry. But there are many other uses of water at golf facilities where managers can and should work to maximize efficiency – from the bathrooms in the clubhouse, to the kitchen equipment in food service areas, to pool maintenance for country clubs, to the landscaping that is adjacent to the course or in related housing developments. By demonstrating and communicating efficient water practices in all other parts of the facility, management can show that it acknowledges concerns about water and is working to be as efficient as possible while also providing services to customers.

Golf courses can be beautiful, provide habitat for wildlife and enjoyment for citizens. But one challenge is that when golfers go home, they want their own yards to approximate what they left on the course – which is not very sustainable in many parts of the country from a quantity or quality perspective. In the early 1900’s, a USGA summit highlighted demonstration turf gardens which admittedly were focused on helping managers identify the cultivars and maintenance practices that would work best in their location. It strikes me that courses, public and private, can show leadership today by providing demonstration gardens that show guests and community members how they can design and maintain landscapes that use native vegetation and less water, pesticides and fertilizers. Golf industry professionals have the knowledge and skills to work with their local water utilities and gardening groups to promote more sustainable landscapes and, in doing so, would demonstrate their commitment to the health, economy and well–being of their local community.

## References

1. 2012. World Business Council for Sustainable Development. Water for Business: Initiatives guiding sustainable water management in the private sector. Accessed at <http://www.wbcsd.org/waterforbusiness3.aspx>.
2. 2011. Council of Environmental Quality. National Action Plan: Priorities for Managing Freshwater Resources in a Changing Climate. Accessed at <http://www.whitehouse.gov/administration/eop/ceq/Initiatives/adaptation>

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