

Water: The Triple Bottom Line as an Opportunity

This is the second in a two-part series that will examine the issue of water use in the golf course management industry and the threats and opportunities that exist for superintendents.

Introduction

In the previous article on water and the golf industry (GreenMaster, July/August 2016), the potential threats to the industry were explored. The threats were the availability of water, the impact of water on the standard operations of a course, its cost to the course, and water use as impacting the “social license” that the community gives to the golf industry to operate. Arguments against golf courses were also developed.

This follow-up article will explore the opportunities that golf has to reframe the discussion by positioning the realities about the use of water in golf and outlining the positive impacts that a golf course can have on its surrounding community. These positive impacts can help justify the judicious use of water. The article concludes by looking at the role of the superintendent in this picture.

Looking Back

In the previous article, water was positioned as the most important resource on Earth.

People who simply exist or earn their living by subsistence farming or rearing livestock know full well that a shortage of water equates to severe economic hardship. The World Economic Council ranks “Water Crises” as the global risk that has the greatest potential to impact the global population - ahead of infectious diseases and weapons of mass destruction (Global Risks Report 2015).

In the golf industry, water is a very important component of turf health and playing conditions. In the context of the importance of water globally, the issue of water use on golf courses has the potential to become contentious for each golf operation and for the golf industry as a whole. Water can impact the financial viability of an operation, the health of the turf, and the status of the golf course in the community.

The Triple Bottom Line

Fortunately, golf has a positive message to convey around its relationship with water when viewed through the three lenses of business sustainability. These lenses, referred to as

the Triple Bottom Line, consist of economic, environmental, and community perspectives.

Through the lenses of the Triple Bottom Line, businesses are not only concerned with profitability, but have metrics in place to be accountable for their environmental and social or community impacts as well. How does the amount of water that golf uses look from these perspectives? Is there a positive story here?

The Economic Lens

The economic implications of water use on a golf course consist of capital, operating, and intangible costs. The first two are often reflected in a typical budget created by a superintendent.

Capital costs are the costs of the infrastructure required to obtain, store and deliver water to the golf course. Fighting for these investments is a challenge these days, even if it can be shown to members that investing in water infrastructure may reduce water expenses and, potentially, operating costs. Short-term pain for long-term gain.



A view of Cutten Fields golf course from the sky. Cutten Fields is on the cutting edge of water use in the golf industry.

Operating costs start with the cost of water to a course. On an ongoing basis, golf operations need to consider the amount of water available and the expense that the operation is able or is willing to bear if the business is required to pay for the use of its water. Being charged for water, and being charged enough for water, are trends that are not about to reverse.

Operating costs also include significant labour and material to maintain the system at peak operating efficiency. If water is viewed as the most significant resource at a club, then the precision and efficiency with which it is utilized is of utmost importance. However, a more sophisticated system (and thus the greater potential for reducing water use) means a higher cost to maintain the system once it is installed.

The ongoing cost of a golf operation's water use has some intangible dimensions. Golf is played on a natural turf surface that has natural cycles throughout the season. If off-colour turf from dormancy due to drought is unacceptable to club members, there needs to be supplemental irrigation. During periods of extended drought, a substantial amount of irrigation is needed to keep up the colour. There are also turf health considerations. Perpetually-irrigated turf is softer, more prone to mechanical injury, disease infection, and traffic stress. The amount of irrigation needed to keep turf a vibrant green is much larger than what is needed for it to survive. The trade-off between superb conditions and the economic implications becomes an area of critical decision making for superintendents. Green turf versus less water.

The Environmental Lens

Environmental considerations of water use in golf are not straightforward. On the poten-

tially negative side, when comparing the use of water in golf to its potential use in other areas of society, the results can be damning. However, turf is a living organism that requires water to cool itself and for the photosynthesis process to work. By limiting water use to an extreme, particularly under the stress of golf traffic, turf will not survive. This obviously has damaging impacts on the business of golf. Water is necessary for turf health and there needs to be allowance for short-term excessive water use.

However, season-long, lush, green turf can lead to the unnecessary consumption of water. Over-watering can impact the overall health and playing condition of the turf as over-watered turf is more prone to disease, infection and damage from abiotic stress, and generally does not perform as well for the golfer. This creates a balancing act for superintendents. More and more, this act has to factor in the environment and water shortages.

On the other hand, there is also a significant, positive environmental impact from having a healthy stand of turf on a golf course. Turf protects the quality of local surface water by reducing erosion during heavy storms and

acting as a filter of nutrients and impurities as water moves through the organic layer in turf. Turf acts as a floodplain in some cases, particularly in urban environments that have a large percentage of hard surfaces. The excess water is stored for a short time on the golf course in the form of localized flooding, which slows the rate of discharge into surface water and infrastructure. This reduces the likelihood of large scale flooding. Healthy turf benefits the environment and the entire community.

The Community Lens

As a golf facility considers its relationship with the community as a whole and asks for a "license to operate" within that community, golf must provide a positive impact on both the golfing and the non-golfing members. The concept of a "license to operate" requires that the entire community recognizes the necessities of the golf business, like responsible water use, restricted access for safety purposes and fertilizer and chemical protection, all which allow courses to meet the needs of their customers.

In return, golf has a terrific story to tell about its positive impact on the community. The

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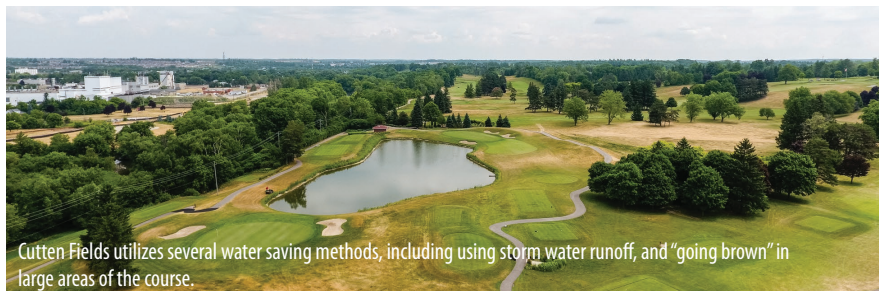


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Cutten Fields utilizes several water saving methods, including using storm water runoff, and "going brown" in large areas of the course.



NAGA Economic Impact of Golf in Canada Report (2014) shows that Canada's golf cluster economic impact accounts for about \$14.3 billion of Canada's GDP. Golf in Canada creates 300,100 jobs, \$8.3 billion in household incomes, \$1.4 billion in property and other indirect taxes, and \$2.2 billion in federal and provincial income taxes. There are 37,000 charity events held annually on golf courses from coast-to-coast that generate \$533 million for charitable causes across Canada.

There are also the benefits of privately-managed green space; improved air and water quality, habitat for wildlife, and non-golf recreation space for activities such as FootGolf. According to the 2014 NAGA report, over 175,000 hectares of green space, including 30,000 hectares of unmanaged wildlife habitat, were under golf course stewardship.

Besides, there is the benefit of having a facility in the community where one can learn and play golf. It is a wonderful game with a wonderful history that endures as a sport because one can play it for a lifetime while getting to enjoy nature.

The Triple Bottom Line Superintendent

The responsible use of water for the purposes of sustaining the overall health of turf, and therefore the business, while making

a positive environmental and community impact leads to action and the need to tell the story. So what does all this mean for the golf course superintendent?

First, actions speak louder than words. When it comes to water, convincing your club to look through the environmental and community lenses requires that you propose and take action consistent with these perspectives. There are many examples of how golf courses are managing water through the Triple Bottom Line. At Cutten Fields in Guelph, Ontario, water consumption has been reduced by efficiently capturing storm-water runoff, converting out-of-play areas into long-grass areas that require less mowing and reducing water use on the golf course by irrigating exclusively for turf health and playability rather than colour. Not only will water expenses be saved, but maintenance costs will be reduced, and the community will recognize the effort. It all adds up to a Triple Bottom Line homerun.

Other facilities are using reclaimed water to irrigate, especially fairways and roughs or for toilets on the golf course. Collecting storm-water is another strategy that will be critical in the future. From the community perspective, this could help over-loaded urban storm-water systems and prevent flooding. Superintendents must be able to show progress towards reducing water consumption

through new irrigation systems, redesigned courses, and perhaps some brown fairways and roughs.

Second, superintendents need to proactively prepare the Triple Bottom Line story. Could you go to your computer and find such a well-organized story? Could you send a story to the local media or to your members highlighting what you are doing for the club, the environment, and the community? If the answer is no, it's crucial that you get started sooner rather than later.

Third, the superintendent needs to be prepared for the potential pushback and objections highlighted in the first article in this series. What will you say if your community accuses you of using too much water at the cost of the well-being of the community and the world? Identify the objections that you could encounter so you are prepared to handle them. **GM**

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