



BE A WATER HERO! SMART IRRIGATION – THE FUTURE IS HERE

OTS HIGHLIGHT ARTICLE • CHRIS LE CONTE • SMART WATERING SYSTEMS

It seems that you can't go a day now without hearing a news story, reading the newspaper or seeing a television program that hints at climate change, the environment and the need for all of us to "do our part." The green movement is forcing change in all aspects of our economy, businesses and lives. The irrigation industry is just starting to feel the effects of change, and at some point, these changes will impact Canadian sports turf managers.

The issue of water scarcity in the Southern United States (California, Arizona and Nevada) is the primary driver of change in the irrigation industry. Sure, as Canadians we don't really need to worry about the well running dry but there are other factors that should make us take note of what is happening in our communities.

The largest issue facing Ontarians is the need for expanded infrastructure in the form of water treatment facilities and pipelines to the Great Lakes. The government's "Places to Grow" plan makes it very clear

that Southern Ontario is earmarked for significant growth over the next 25 years. As population increases, so does the Peak Day Water Demand in our cities. The larger the peak day demand, the more infrastructure you need to support it. This is resulting in significant changes in how water managers in all municipalities try to reduce peak demand and manage the increasing burden placed on our existing infrastructure (that is in most cases over 50 years old and leaking). In order to repair our pipes and build new treatment plants, there has to be an increase in rev-

enue. One way to achieve this is to dramatically increase water rates.

Recent changes to the Safe Drinking Water Act force municipalities to establish long-term, financially sustainable pricing models for water costing. This is resulting in "Full Cost Water." Full cost water implies that our cost to use our treated water will now cost us what it should have been costing us for the past decade. Toronto has approved annual increases of 9% and Halton is increasing its rates 6.5%. These are just a few examples. The story is the same across Ontario.

With increasing water rates, parks departments are coming under increasing scrutiny for how they manage their fields (IPM) and how they irrigate them. Even if you aren't paying for your water now, there is a very good chance that you will be in the near future. With this in mind, the time to change how you irrigate is now.

When you think about it, spraying drinking water over our turf really doesn't make much sense. Municipalities across the US use recycled, reclaimed and non-potable water sources for their irrigation. Ontario infrastructure has not been designed to support this yet, but we must still find a way to improve our current practices.

SMART controllers. The most effective, simple, proven way to save water, save time, save money and improve the quality of your turf is to implement weather based scheduling into your irrigation management. SMART controllers use evapotranspiration values to adjust irrigation schedules.

The most cost effective, simple, proven way to save water, save time, save money and improve the quality of your turf is to implement weather based scheduling into your irrigation management. The easiest way to do this is with a SMART Controller. A SMART Controller uses evapotranspiration (ET) values to adjust your irrigation schedule. ET is the sum of moisture loss from your landscape as a result of evaporation from the soil and the transpiration of moisture from the plant material.

Weather based irrigation is not new. It has been proving its ability to save water and promote healthier landscapes for over 15 years. Just recently it has become an option for Canadian cities. Weather based irrigation consists of a SMART Controller that integrates with an existing irrigation system to conserve water and promote healthier plant material by eliminating over-watering.

As the weather changes, so does the moisture loss in your landscape. A SMART Controller uses local, high quality weather information and the water management principle of Managed Allowed Depletion (MAD) to adjust irrigation schedules. MAD results in deeper,

less frequent watering by allowing the soil reservoir to deplete (instead of a preset schedule always keeping it full), and by only using irrigation when the last drop of precipitation has evaporated. Now oxygen can reach the roots of the plant. The final result? Potentially, millions of gallons of water saved, thousands of dollars saved and a higher quality, attractive playing surface that uses water responsibly.

Currently there are over 13 SMART Controllers that have been submitted to the Centre for Irrigation Technology (CIT) for testing. The CIT tests all SMART controllers for their accuracy and reliability. Many of these SMART Controllers use

US based weather networks making most of them unusable in Canada. However, currently there are three very good options for Canadian sports turf managers: 1) Hunter ET System, 2) Rain Bird ET Manager and the 3) Toro Intelli-sense. All three of these controllers have been proven in the Canadian market to save significant amounts of water and money. It is important to be aware that there are differences in these controllers and that careful consideration should be used when deciding on the appropriate controller for your application.

1. The **Hunter ET System** uses a stand-alone weather station to gather site specific data and to generate new run-times based on the soil, slope and overall quality of your irrigation system. The ET System is compatible with almost all Hunter controllers and can provide you with seven days of historical information.

2. The **Rain Bird ET Manager** is compatible with virtually any existing irrigation controller and re-

ceives hourly weather information from local, high quality weather stations that are typically located on golf courses. The ET Manager can provide you with an annual summary of the amount of water used and the amount of times that irrigation occurred. A small weather subscription fee is required for annual weather information.

3. The **Toro Intelli-sense** uses the NOAA (National Oceanic and Atmospheric Association) network of over 1500 Canadian weather stations to measure evapotranspiration and to transmit this weather data to your site once a day. The scheduling engine then makes adjustments to your irrigation schedule.

Currently there are over 300 SMART controllers in use across Canada and over 15,000 in use in the US. With the value of water increasing everywhere, now is the time for action. Since irrigation systems are significant users of our treated water, it is a huge opportunity for sports turf managers to be the environmental leaders and stewards in our communities. Why wait for someone to turn the tap off or implement severe restrictions? Start the process now by advocating for change in your organization. Work with your contractors, distributors and manufacturers to examine the solutions available and to implement the best products for your application. Be a water HERO! ♦

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