Ridley College Welcomes the Sports Turf Association

At the heart of the historic Niagara Peninsula nestled on 90 acres of manicured grounds lies Ridley College, venue for the Sports Turf Association's 19th Annual Field Day, September 21, 2006. Located in St. Catharines, Ontario, the Garden City is only 110 km from Toronto, 50 km from Hamilton, and 19 km from Niagara Falls and the U.S. border. The city is bisected by the Queen Elizabeth Way (QEW) and also links to the 400-series highways for easy access from points north, east and



west. This year's program features Dr. Andrew McNitt, Assistant Professor of Soil Science at Penn State University, with sessions on drainage, utilizing compost on athletic fields, and prioritizing limited resources with regard to multi-use field maintenance. Dr. McNitt has been with Penn State for 21 years, teaching and conducting research relating to athletic field surface characterization and golf green construction and maintenance. He has consulted on numerous athletic field construction and renovation projects at all levels of play from high school through professional sports complexes.

Joining Dr. McNitt on the program is Evan Elford, M.Sc. Candidate from the University of Guelph, who will provide research results from both the 2005 and current season on the effects of

overseeding athletic field turfgrass to reduce weed pressure. We welcomed record attendance in 2005 and delegates will again be provided the opportunity to meet with industry suppliers to view displays and request equipment demonstrations. The Sports Turf Association is a professional association committed to the promotion of safe, natural sports turf. Visit www.sportsturfassociation.com for complete details as they become available or contact the STA office at 519.763.9431, email info@sportsturfassociation.com.

19TH ANNUAL FIELD DAY • SEPTEMBER 21, 2006 • VISIT WWW.SPORTSTURFASSOCIATION.COM

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328 Victoria Rd. S., RR 2, Guelph, ON N1H 6H8
Tel: (519) 763-9431, Fax: (519) 766-1704
E-mail: info@sportsturfassociation.com
Web: www.sportsturfassociation.com

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EDITORIAL COMMITTEE

Jane Arnett-Rivers, Andrew Gaydon, Lee Huether and Paul Turner

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New Paradigm Communications R.R. #8, Owen Sound, ON N4K 5W4 Tel. (519) 371-6818, Fax: (519) 371-5789 E-mail: joy@npc-solutions.com

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STA OFFICE HOURS

Lee Huether is in the office from 9:00 a.m. to 2:00 p.m. Tuesday through Friday. The office phone number is (519) 763-9431. At other times, a message may be left on the voice mail system. Please include the vital information of name, telephone number with area code, and time of calling. The office may be reached at any time by faxing (519) 766-1704 or via e-mail.

The President's Desk



Association News ...

ell. Spring has come and gone. In southern Ontario, we started off with a drier than normal spring and quite a bit of sunshine to tease us of what is to come (we're in the midst of our first summer heat wave as we go to press!). Because the last two weeks of May were very wet, anyone trying to get jobs done involving earthworks or fine grading certainly had a tough time getting ahead. Sports turf managers were also battling these elements as in many cases, fields were wet, and either play continued and fields were damaged, or usage had to be cancelled.

On April 6 we held our Water Workshop hosted by the City if Kitchener. This issue of *Sports Turf Manager* is a special edition dedicated to coverage of the event. The workshop was very well attended. We had a great group of speakers and the sessions were highly informative. During the lunch break, we also had a putting contest with proceeds going towards turfgrass research. Thanks to Tim Ernst and Greg Snaith who provided the impetus for the workshop and all committee members for a job well done.

Mark your calendars!! September 21 is our 19th Annual Field Day which promises to be yet another great one. A solid program of speakers is being developed which includes Dr. Andrew McNitt from Penn State. The Field Day will be held at Ridley College in St Catharines.

GORDON DOL

The Atlantic Turfgrass Research Foundation held their annual conference March 21-23 in Saint John, NB. Dave Smith and I had the honour of speaking at the conference on soils, sports turf management and construction. There were approximately 60 sports turf managers and parks personnel in attendance. The session was very well received. We were subsequently invited to tour the city's parks system. I always value opportunities to network and learn from fellow sports turf professionals and this conference was a welcome opportunity.

In my last message, I spoke of the changes made to the size of the Board of Directors due to increasing association workloads. The first meeting of the new board was held on March 28. For all the years that I have been on the STA board, we have always used the boardroom at the Guelph Turfgrass Institute. Well, we have now outgrown it and have to use the main meeting room! At the March meeting, our various committees were set up with a few minor changes. Primarily, there are now only one or two board members per committee. The balance of the committee will be made up of other STA members. Board members will chair the committees and will be seeking your help. Whether you volunteer or get "volunteered," your assistance will be greatly appreciated!

Finally, one of the goals of the Sports Turf Association is to promote communication and professional development of sports turf managers. If you have any other topics for workshops or have other educational ideas, please forward them to Lee Huether at the STA office or to any board member.

As a parting note, membership invoices have been mailed out. Your prompt attention to these is greatly appreciated. ◆





WHAT'S NEW...

BOARD CHANGES & RECENT SPRING WORKSHOP COMMITTEE & SPEAKERS

Welcome New Board Members

The Sports Turf Association elected its 2006/2007 officers and directors at the annual meeting held at the close of the Ontario Turfgrass Symposium, February 21, 2006. Joining the STA Board of Directors are from left to right Gregory Snaith/Envirolrrigation Engineering Inc., Bob Kennedy/Sport Turf Management Solutions, Dave Chapman/City of Toronto, and Grant Mckeich/Town of East Gwillimbury.

Proactive Water Use for Sports Turf Management: Implications of Municipal Water Restrictions Committee Members and Speakers

From left to right: Gregory Snaith/ Envirolrrigation Engineering Inc., George Sousa/Grand River Conservation Authority, Tim Ernst/City of Kitchener, Rob Witherspoon/Guelph Turfgrass Institute, Terry Gillespie/University of Guelph, Steve Gombos/Region of Waterloo, Bob Sheard/Sports Turf Association, Jane Arnett-Rivers/Town of Oakville, Gord Dol/Dol Turf Restoration Ltd., Andrew Gaydon/Vanden Bussche Irrigation.

Absent from photo: Bob Cheyne and Larry Lynch/City of Kitchener, Lee Huether/Sports Turf Association.

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Coming Events

July 18-21

Turfgrass Producers International Summer Convention & Field Day Memphis, TN Info: 847-649-5555 www.TurfGrassSod.org

Aug. 11-19, 2006, Aug. 10-18, 2007 International Softball Congress Schneiders World Fastball Tournament Peter Hallman Ball Yard Kitchener, ON Info: www.kwfastball.com

August 24 Guelph Turfgrass Institute Research Field Day

Guelph, ON Info: (519) 767-5009

August 28

Ontario Turfgrass Research Foundation Annual Fundraising Golf Tournament King Valley Golf Club King City, ON Info: (519) 824-4120 x 56149



Sports Turf Association 19th Annual Field Day **SEPTEMBER 21, 2006**

Ridley College, St. Catharines, ON Info: (519) 763-9431 www.sportsturfassociation.com see page 2 for further details...

October 3 & 4

Ontario Parks Association 54th Annual General Meeting and Fall Seminar Location to be announced Info: (905) 864-6182 www.opassoc.on.ca

NOVEMBER 1, 2006

STA Scholarship Application Deadline

Info: (519) 763-9431 www.sportsturfassociation.com

November 14-16

Empire State Green Industry Show (Formerly NYSTA Turf and Grounds Exposition) Rochester, NY Info: (518) 783-1229 www.nysta.org

December 7

Ontario Recreation Facilities Association Annual General Meeting & Regional Information Session Oshawa, ON Info: (416) 426-7062 www.orfa.com

January 9-11, 2007

Landscape Ontario Congress 2007, featuring Fencecraft Toronto, ON Info: www.locongress.com

January 29-February 23, 2007

Turf Managers' Short Course, University of Guelph

Canada's most successful and valued Turf Managers' Short Course, held at the Guelph Turfgrass Institute, will be offered from January 29 to February 23, 2007. Benefit from the expertise and experience of industry professionals and University of Guelph faculty while enhancing your knowledge of all aspects of turf management and culture. For more information, visit www.open.uoguelph.ca/turfmanager or contact the Office of Open Learning, University of Guelph at (519) 767-5000.

GET ON THE LIST!

Contact the STA if you have an event you'd like to advertise in the STM.



New Members WELCOME TO THE STA!

Frank Reddick Logic Alliance Inc., Barrie, ON

Peter Verschuuren Town of Ajax, ON

James Woloszanski Town of Oakville, ON

Lee Ripenburg Town of Lincoln, ON

Phil Nie Haldimand County, Dunnville, ON

Bob Walter & Rob Hincks Town of Markham, ON

Alan Driedger AWS Irrigation Management Inc. Guelph, ON

Odds and Ends

STA Membership Plaques

Display membership plaques are available in executive engraved walnut for \$50 plus S&H. To order, contact Lee at the STA office.

Autumn 2006 Submissions

If you have something you'd like to submit for the next issue, please forward it to the STA office by August 11, 2006.

Editorial Content

Opinions expressed in articles published in Sports Turf Manager are those of the author and not necessarily those of the STA, unless otherwise indicated.

THINKING OUTSIDE THE BOX

SPORTS TURF MANAGER GUEST EDITORIAL BY R.W. SHEARD, PH.D., P.AG.

t a recent workshop sponsored by the Sports Turf Association on the impact of water use bylaws on sports field management, a factor which received little discussion was TIME. As a result of such a bylaw, the turf manager is faced with three restrictions due to time.

First, he must accommodate the permitting of games in the evening which rules out irrigation during that time. Second, he may often only run a few stations at a time because the water service provided to the field does not provide the volume of water required to irrigate the entire field at one time. Third, union contracts may require extra costs due to supervision of the system outside normal working hours.

An additional factor for consideration is the SOIL in the rooting zone which has a time component. Some soils, particularly the sand based systems, require more frequent irrigation; possibly every second day under high evapotranspiration. This is due to the relatively low amount of plant available water held in the root zone. In contrast, a silt loam root zone may require only a weekly irrigation.

Because of TIME, the water restrictions based on calendar date and clock time, as illustrated in the box, can severely limit the ability of the sports turf manager to maintain a quality turf surface.

An alternative is the allocation of the required total volume of water to the turf manager on a seasonal basis for the use of water on all irrigated fields under his jurisdiction. This alternative places the control of the day by day management of water, an essential element in the management of turf, with the sports turf manager.

Two steps are required in this procedure. The first is to meter the water service to each field as is done for the water service to each household.

The second is an estimate of the irrigation requirement for each field for an entire season. This step would require an estimate of the long term water deficit [long term rainfall less evapotranspiration] for the months of May through September for the geographic area. The long term water deficit for various regions in Ontario is available, including an estimate of the risk of a drought of various magnitudes, in the following publication (Brown, D.M., A. Bootsma and R. De Jong. Analysis of Growing Season Water Deficits in Ontario. Univ. of Guelph LRS Technical Memo. 98-1).

When combined with the total square area in metres of irrigated sports field turf in the jurisdiction, an estimate of the total volume of supplemental water for the growing season can be obtained. This volume of water is then assigned to the sports turf manager for use at his discretion at any time during the season. The water meters allow the jurisdiction in turn to monitor the assigned use and issue any penalties it may feel warranted to apply for misuse.

The turf manager would be entitled to irrigate after 9 p.m. or before 7 a.m., and at any time of the day if he is in an overseeding program. He would not be restricted to the date on the calendar so that an entire field could be irrigated on the same day. High demand sand root zone fields would not be placed in jeopardy due to water stress.

The turf manager may decide he must use his allotment of water to prevent the loss of the turf on a field with a sand base and allow a field on natural soil to go dormant even though it can expose that field to damage if play is permitted to continue.

While this system provides the sports turf manager with a more realistic approach to the use of water as a management tool, it requires significant knowledge on his part. He must be familiar with the water needs of turf, water relations in soil on each of his fields, weather forecasting and the most up-to-date irrigation controllers and delivery systems.

The days of setting the controller in May and complaining about water restrictions are over. •

By-law Number (2003)-17106. A By-law to prescribe outside water use restrictions within the City of Guelph.

DEFINITIONS

Program Level One. Program Level One shall be in accordance with the guidelines set out in the OLWRP Level One , or when the Water Storage Capacity is less than or equal to 75% but greater than 65%.

Program Level Two. Program Level two shall be in accordance with the guidelines set out in the OLWRP Level Two, or when the Water Storage Capacity is less than or equal to 65% but greater than 55%.

Program Level Three. Program Level Three shall be in accordance with the guidelines set out in the OLWRP Level Three, or when the Water Storage Capacity is less than or equal to 55%.

Sports Field. Means a grassed playing area designed, equipped and used exclusively for the conducting of organized, multi-player sporting events and practices.

RESTRICTIONS

Program Level Two

17.(1) During Program Level two, no person shall water any Sports Field ... except in accordance with the following:

(a) Sports Fields or plants on the premises of even-numbered municipal addresses may be watered between the hours of 7:00 a.m. and 9:00 a.m. and between the hours of 7:00 p.m. and 9:00 p.m. only on even numbered calendar days: and (b) Sports Fields or plants on the premises of odd-numbered municipal addressee may be watered between the hours of 7:00 a.m. and 9:00 a.m. and between the hours of 7:00 p.m. and 9:00 p.m. only on odd numbered calendar days.

Program Level Three

19.(1) During Program Level Three, no person shall (a) water any lawn or boulevard or sports field at any time, using any means whatsoever....



PROACTIVE WATER USE FOR SPORTS TURF MANAGEMENT

IMPLICATIONS OF MUNICIPAL WATER RESTRICTIONS • EXTENSIVE STA SPRING WORKSHOP COVERAGE PAGES 7-23

WORKSHOP SESSIONS IN ORDER OF APRIL 6 SCHEDULE

- The Ontario Low Water Response (OLWR), George Sousa, Grand River Conservation Authority
- Watering Restrictions and the Need to Conserve, Steve Gombos, Water Efficiency Manager, Region of Waterloo
- Managing Functional Athletic Turf, Tim Ernst, Former Supervisor of Sports Turf, City of Kitchener
- · Water in the Bank, Terry Gillepsie, University of Guelph
- Get Smart: You Cannot Manage What You Cannot Measure, Gregory Snaith, Envirolrrigation Engineering Inc.
- Workshop Summary, Rob Witherspoon, Director, Guelph Turfgrass Institute

During the past several years, an increasing number of municipalities have implemented water use restrictions for turf for all purposes. These restrictions have become a serious concern for those responsible for premium field conditions for many sports such as soccer, football and baseball. On April 6, 2006, the Sports Turf Association hosted a workshop, the intent of which was to bring together those involved in managing the water supply of a municipality in the best interest of its citizens and those responsible for the management of quality sports turf surfaces for use by its citizens. In order to further distribute the wealth of information presented, we are pleased to publish summary articles provided by our speakers. We extend our thanks to them for further participating in this project.









ONTARIO LOW WATER RESPONSE (OLWR)

A MEASURE INTRODUCED IN RESPONSE TO LOW PRECIPITATION IN THE PROVINCE DURING THE LATE 1990s

any communities in southern Ontario are faced with water shortages because of a growing population and a limited supply of good quality drinking water. This has led to placing a high value on water and conservative water use. In addition to limited sources of water, there can be further reduction in supply due to natural conditions such as low rainfall and hot temperatures. Ontario Low Water Response (OLWR) was introduced in response to low precipitation in the late 1990s which caused drought conditions throughout many parts of Ontario. It is a voluntary program designed to take early action during low water conditions to minimize socioeconomic and ecological impacts caused by low water availability.

It is important to understand that water restrictions can be put in place for many different reasons. A water supply system

may have a short term loss of volume caused by equipment failure, contamination or accident. In these instances, water restrictions may be initiated to preserve the supply capacity for essential water use. These restrictions are often temporary and may last a few days to a few years depending on the supply problem.

Water restrictions may also be placed on a community seasonally to help control spikes in water use and keep the cost of additional water supply infrastructure to a minimum. Finally, water restrictions can be put in place in times of drought when water availability is low because of low flow in streams and rivers or low ground water tables. It is in this last case when OLWR is initiated.

Low Water Conditions and Drought

To understand OLWR it is important to understand the terms low water conditions and drought. During the course of a typical year there will be times when the amount of precipitation may not be enough to offset the need for water. This is part of the natural yearly cycle and should be taken into consideration when designing water supply systems.

Low water conditions happen when precipitation is lower than normal leading to low flow in rivers and streams and possibly affecting the groundwater table. Low water conditions can occur as the result of a few weeks with no precipitation during a dry period or one year of extremely low precipitation or a few consecutive years of lower than average annual precipitation. Long term low precipitation can stress the natural system to the point that it may take several years of higher than average precipitation to recover. Drought is an extreme case of low water availability.

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An example of annual precipitation over 65 years at Lake Belwood's Shand Dam on the Grand River is shown in Figure 1. Average annual precipitation is set at zero, with positive values representing higher than average precipitation years and negative values representing lower than average precipitation years. Examples of extreme low precipitation years such as 1963 and 1998 and consecutive years of low precipitation such as the early 1960s and late 1980s can be seen.

Ontario Low Water Response (OLWR)

OLWR was designed to deal with low water and drought conditions caused by natural factors. The program relies on stakeholders to voluntary reduce water use through conservation efforts when faced with low water conditions. Only in extreme drought conditions will regulated water restrictions be imposed by the province, although municipalities may impose water restrictions for their serviced areas as part of a voluntary water use reduction plan.

Since OLWR is based on voluntary reduction in water use, one of the most important aspects of the program is its cooperative approach to decision making. Decisions regarding the request to reduce water use are made by the local Water Response Team (WRT). The WRT is made up of representatives from local industry, municipalities, commercial and special interest groups. In this way, each stakeholder group can voice their concerns regarding water use and help to share the burden of conservation efforts. The degree of low water in the watershed is expressed by the OLWR using a system of Levels shown in Table 1.

The decision to declare a Level I or II low water condition lies with the local WRT. Level III can only be declared by a provincial committee with recommendation from the local WRT. The WRT meets to discuss low water levels when one or both of the indicators for that level are reached (see Table 2). They will declare a low water level if they feel the situation will not improve unless water use is decreased (e.g. no forecasted precipitation). Once a level is declared, it is the responsibility of the WRT with help from provincial representatives to communicate the request to reduce water use in their area.

Figure 1. Annual precipitation at Lake Belwood's Shand Dam on the Grand River from 1940 to 2005. Annual precipitation is measured as the difference from the long term average over the given time period.

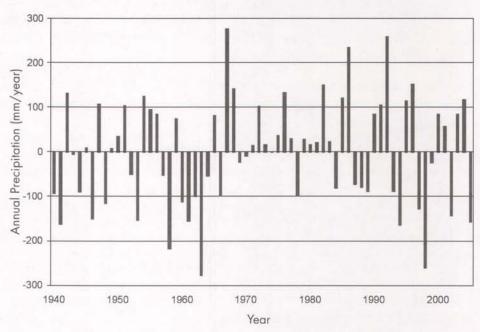


Table 1. Description of each level under OLWR and what action should be taken if the level is declared.

Level	Description	Action
Level I	Potential water supply problem	Voluntary reduction of water use by 10%
Level II	Potentially serious water supply problem	Voluntary reduction of water use by 20%
Level III	Failure of the water supply to meet demand	Possible regulation of water restrictions by provincial agencies

Table 2. Indicators for low water conditions under OLWR (adapted from OLWR MNR July 2003).

Condition	Indicator	
	Precipitation	Streamflows
Level I	<80% of 3 or 18-month average	<70% of normal summer low flow
Level II	<60% of 1, 3 or 18-month average	<50% of normal summer low flow
Level III	<40% of 1, 3 or 18-month average	<30% of normal summer low flow

The Grand River and OLWR

The Grand River watershed has had an active WRT since 2001. The team meets regularly to review low water conditions, share between members, and discuss water conservation efforts. Membership in the Grand WRT includes representation from each of the member municipalities,

agriculture, golf course superintendents, aggregate producers, fish and wildlife special interest groups, First Nations and the Conservation Authority. Many provincial and federal representatives sit on the committee as advisory members without voting rights. The Grand River Conservation Authority (GRCA) provides technical sup-

port to the committee. During low water conditions, the WRT meets as needed to declare or remove levels.

The Grand WRT has used various methods to reach voluntary reductions during Level I and Level II conditions. They include issuing press releases to the local media encouraging water conservation, contacting large water users in the watershed directly, and meeting with sector groups to formulate plans for water conservation. Voluntary water reduction strategies that water users in the watershed have used include municipal outdoor water use restrictions, water recycling and recirculation, installing water storage systems, and staggering water takings. Voluntary water use reductions within the Grand River watershed have helped during low water conditions to prevent socioeconomic and ecological losses as the result of low water flows.

To provide information regarding low water conditions to the general public, the GRCA maintains a section on their website for low water response. In this section, current conditions are posted for various areas of concern within the watershed. Information includes daily flow rates, 7 day average flow rates, and indicators for each level. Current precipitation values can also be found on the GRCA website.

Observations

Although the Grand WRT has had success with using OLWR to help mitigate low water conditions, OLWR is not the solution to water shortages. The program was designed to deal with infrequent water shortages caused by low precipitation and to act quickly when faced with low water conditions to attempt to avoid socioeconomic and ecological losses. The solution to water shortages lies in proactive planning and resiliency in both the water supply system and with the end user. For the sports turf industry, building resiliency into turf surfaces is essential. This may include new varieties of turf, more innovative and adaptable irrigation systems, and better understanding of soil-

water-plant interactions. Drought conditions, although infrequent, are unavoidable. Building resiliency into water supply and water use systems and planning for low water availability can lessen the impact of drought conditions allowing for faster recovery from drought and reducing economic losses.

For More Information

- www.grandriver.ca Low water conditions and declared levels for the Grand River Conservation Authority
- · www.mnr.gov.on.ca Low water conditions for the province, OLWR regulations and information
- · Or contact your local conservation authority or MNR district office .
- ~ Presented by George Sousa, P.Eng., Manager of Resource Science, Information and Policy, Grand River Conservation Authority. Written by Stephanie Shifflett, EIT, Water Resources Engineer, Grand River Conservation Authority

