

# e-Bulletin Business Sustainability Group

# **IPOS e-Bulletin 2012 Issues**

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- Issue 10 November





# Business Sustainability Group **e-** bulletin





# IPOS Issue 1 - February 2012

elcome to the very first edition of the new Business Sustainability monthly IPOS e-bulletin

We are sending this e-bulletin to anyone who has a current IPOS (Irrigated Public Open Space) permit with us or has expressed interest in the program in the past. We aim to provide you with some helpful tips with regards to the IPOS program and water efficiency practices as well as providing you with links to interesting articles/case studies and more.

### Introduction

### **Business Sustainability Group - Who are we?**

- The Business Sustainability Group is a department of SA Water recently merged with the Water Conservation Group IPOS and Permit teams
- Our group is responsible for achieving the key targets set out in the State Government's Water For Good Initiative
- Our primary goal is to work with schools, local government and large industrial and commercial customers towards improving water and wastewater efficiency

#### What we do

- Administer Water Wise Measures Permits
- Work with Local Government, schools and organisations to manage turf to best practice guidelines through our Irrigated Public Open Space (IPOS) Code of Practice
- Manage industrial and commercial water efficiency programs providing specialist, tailored advice to industry and business

# **Case Study**

Q) Do you have cracks in your oval's soil?

# A) View this case study on overcoming surface cracking at Hillcrest Primary School

Hillcrest Primary School, located in the North Eastern suburbs of Adelaide, suffered serious cracking issues related to the reactive clay soil. With improved irrigation management practices, investment in soil moisture monitoring equipment and effective horticultural maintenance, the oval is now overcoming these issues.

For full study please visit: Hillcrest Primary School Case Study

# Tip of the Month

### Summer Watering – Are you monitoring your irrigation schedule & soil moisture levels?

Most turf nowadays has been selected to withstand extreme temperatures. By preparing your soil moisture profile a day or two in advance of a heatwave, you can aid turf health and recovery without having to apply larger volumes of water.

Adjusting your irrigation schedule to achieve optimal soil moisture levels will help you achieve the result you're after. Digging up a small patch of turf is a practical way of checking up on soil moisture.

### Climate Data

### Irrigating to the actual climate....

As water budgets are based on your climate region's five year average irrigation requirements, we thought we would take a look at how the actual irrigation requirements for this season so far (October 2011 to January 2012) is currently tracking against the five year average (2006-2011 Financial Years) for the Adelaide Airport climate data region.

As shown by the below graph, this season's irrigation requirement is tracking at 5% less than the five year average for the Adelaide Airport region.

#### What does this mean?

It means for those permit holders whose water budget's climate region is Adelaide Airport, your irrigation requirements for the season so far should be approximately on par with your monthly water budget.



For more detailed irrigation requirement information contact the BSG on 08 7424 3753

# **Coming Soon**

### **IPOS Record Consumption Toolkit**

A big thank you to the participants who trialled the IPOS Record consumption Toolkit. The feedback we received was very informative and this has allowed us to develop a toolkit that will cater for all our customers and ensure they're on top of their water use.

### What is the toolkit?

The toolkit is Microsoft Excel based and was developed to help you manage your turf by tracking water consumption and associated costs effectively against industry best practice benchmark figures. The toolkit contains a simple calculator that determines turf irrigation requirements based on areas irrigated. It also provides an easier reporting template that requires just one simple step for you to record your total water consumption for each month.

#### When can I use it?

The toolkit has been finalised and will be released on the SA Water website in March and will be extended through the March e-bulletin.

Keep your eye out for this as it will benefit the water management in your school!

## Reminder

### Please send in your water consumption reports

Monthly monitoring and reporting on water usage is an important condition in the IPOS program - it not only helps you manage the amount of water you are using to irrigate turf it also assists you in identifying possible leaks.

Please check your IPOS permit (additional permit conditions) for the reporting requirements applicable to your school.

Thanks to those of you who have already sent them in!

# **Upcoming Events**

### IPOS Workshop and Optional Tour – March 6 2012

We are conducting a workshop at the Glenelg Wastewater Treatment Plant on best practice irrigation management in conjunction with Irrigation Australia. Come along and learn about best practice irrigation and also stay for a free tour of the Glenelg Wastewater Treatment Plant.

The workshop is aimed for Groundsman, Business Managers and Principals.

Please see the attached flyer for details and register quickly as spots are limited.

or more information please visit the <u>IPOS Home Page</u> or contact one of our friendly Business

Sustainability officers on the number below.

# Business Sustainability Group SA Water

T 08 7424 3753 www.sawater.com.au

GPO Box 1751, Adelaide SA 5001

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# IPOS Issue 2 - March 2012

i, check out this month's issue of the Business Sustainability monthly IPOS e-bulletin

# Tip of the Month

### Preparing your lawn for winter....

Autumn is the best time of the year to be working outdoors and it's also an ideal time to prepare for the coming winter.

The tips below are worth considering to help you with your turf management prior to winter;

- Fertilizing with a high potassium to nitrogen ratio will promote turf health and build energy reserves for turf during the winter months
- Adjust your irrigation frequencies to suit the climate as this period generally will be cooler and wetter
- If aeration was not done over the Christmas break, autumn is usually a good time to do so
- Autumn is also a good time to over sow as the soil moisture temperatures are high and milder weather conditions will promote turf growth
- Continue pest and weed monitoring

(Sourced from Turf Grass Association)

### **Recent Events**

### IPOS Best Practice Workshop, conducted on March 6 2012

From feedback received and questions asked on the day, we identified some of the key interests from schools and sporting clubs around the IPOS program. These included;

- Monitoring of water usage on your turf
- Horticulture maintenance
- Core sampling/soil types
- Soil moisture probes
- Understanding your irrigation systems distribution uniformity (DU)
- Checking water pressure
- Sprinkler head types
- What funding /grants are available to assist schools and clubs

We intend to address some of these key interest areas each month.

# **Key Interests**

### **Distribution Uniformity (DU)**

Distribution Uniformity is the evenness of water that your irrigation system puts out onto your turf area. The IPOS Code of Practice recommends that an 80% DU for over head sprinklers and a

90-95% DU for sub surface irrigation systems is the best practice efficiency rating.

This means that if your system efficiency rating is less than the recommendation some issues you will come across are, a high maintenance system resulting in poor turf results, water wastage and excess expenditure on water.

The example below shows the difference in water usage/needs for the same oval if your system has a best practice DU rating compared with a poor practice DU rating:

**Best Practice:** 10 000m2 oval, functional purpose – local sport, soil type - clay loam, DU – 80% optimal irrigation event - 169kL, Adelaide Airport climate data = 4770kL

**Poor Practice:** 10 000m2 oval, functional purpose – local sport, soil type - clay loam, DU - 60% irrigation event - 225kL, Adelaide Airport climate data = 6360kL

A DU of 60% or less is more common than you would think – in fact more common than a well performing system.

By having your irrigation system performing to the best practice standards, the dollar savings in water over one year alone would go a long way to funding upgrades to the irrigation system. The example above would save approximately \$4 400 at current water prices!

Irrigation audits on your systems are highly recommended, if you have an audit conducted on your system by a qualified auditor it is important to understand the findings and to implement any upgrades recommended in the audit report. A fact sheet/case study is underway on the overall benefits of having a good irrigation system in place.

If you have any 'key interests' you are wanting to learn more about then please email us at <a href="mailto:iposadmin@sawater.com.au">iposadmin@sawater.com.au</a> and let us know.

# Benefits of a Green Open Space

### We're looking into it....

The Business Sustainability Group is undertaking interesting research in conjunction with government organisations and the University of Melbourne in analysing the 'true value' of green open spaces. The study collates the wealth of information available identifying and also attempting to quantify the key benefits of green open space. Green open space provides a form of localised climate control and also claims to help mitigate problems with mental health and obesity. Hopefully more will come to light and some interesting facts will be shared in our next e-bulletin!

## **Climate Data**

### **HOT OFF THE PRESS – State of Climate 2012**

On March 14 2012, the CSIRO and the Bureau of Meteorology released their updated summary of Australia's long term climate trends.

The statement outlines the general decline in recent autumn and winter rainfall across Southern Australia and an increase in spring and summer monsoonal rainfall across Australia's north. In the 2010 and 2011 summer and spring months, rainfall in South Australia was, generally speaking, higher than usual due to the 'La Niña' events that occurred in these years.

For more information please visit: <u>Bureau of Meteorology-Media Release-State of Climate 2012</u>

# **Expressions of Interest**

### Is there something you want to learn?

We are now seeking expressions of interest regarding further training. What would you like training on? Certificate in horticulture, understanding irrigation systems, irrigation auditors training, monitoring your IPOS permit agreement, developing your own water efficiency management plan or something else?

#### Interested?

Then let us know at <a href="mailto:iposadmin@sawater.com.au">iposadmin@sawater.com.au</a>!

# The True Meaning of IPOS

### It's not just about the water applied, it's about best practice

Horticultural maintenance is a very important ingredient to maintaining your turf to a fit for purpose standard. Remember the three M's: MEASURE – MONITOR – MAINTAIN

For further information on best practice guidelines please visit: IPOS Code of Practice

or more information please visit the <u>IPOS Home Page</u> or contact one of our friendly Business

Sustainability officers on the number below.

### Business Sustainability Group SA Water T 08 7424 3753 www.sawater.com.au

GPO Box 1751, Adelaide SA 5001

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# Business Sustainability Group **e-** bulletin





# IPOS Issue 3 - April 2012

ello, check out this month's issue of the Business Sustainability monthly IPOS e-bulletin

# **Key Interests**

### **Rolling Over of Water Budgets**

One question we get asked a lot is; 'Can I roll over my water budget from previous months?' The answer; 'Of course you can!'

We understand that some months may be wetter than others and you may not need to run an irrigation event for that month. Therefore the 'budget' you save on this month can be carried over to the next month and so on, until one month you may need to schedule an extra irrigation event as that month is hotter and drier. This is called irrigating to the actual climate and is a bit like managing your finances. Savings should be seen by managing your budget to be in line with actual irrigation requirements; no longer should we all just set and forget our irrigation systems.

Water Budgets are a recommendation/guide only and are calculated on site specifics and long term Bureau of Metrology climate data/averages. For further information on climate data/averages please visit the Bureau of Metrology site at: <a href="http://www.bom.gov.au/sa/?hdr">http://www.bom.gov.au/sa/?hdr</a>

If you have any 'key interests' you are wanting to learn more about then please email us at <a href="mailto:iposadmin@sawater.com.au">iposadmin@sawater.com.au</a> and let us know.

# Benefits of a Green Open Space

### Update...

Further to our piece last month on the benefits of a Green Open Space, an easy to read factual report has now been written by Geoff Connellan, who is an external consultant with expertise in sustainable open space management.

The findings from this report may be helpful for your school or organisation as it could justify the expenses for the maintenance of green open space and be helpful in extending the benefits of green open space to students, staff, parents and members.

### So, what are the benefits of a green open space?

In the report (Connellan, 2012), Geoff Connellan identifies the benefits of green open space as;

- 1. Microclimate modification cooling by 2 to 8°C, with building energy consumption reduced by 7% to 47%.
- 2. Improvements in urban hydrology

- 3. Vegetation removes pollutants, such as phosphorus, nitrogen, lead and fine sediment
- 4. Provides 'hotspots' of biodiversity in cities
- 5. Positive in terms of community health (physical and mental)
- 6. Strong benefits through sports and recreational activities
- 7. Improvement of social cohesion and resilience

If you wish to view a copy of the report please email us at <a href="mailto:iposadmin@sawater.com.au">iposadmin@sawater.com.au</a>.

# Tip of the Month

### More on Preparing your Lawn for Winter...

You may like to consider the height of your turf when mowing it during the lead up to winter. By allowing it to grow slightly higher, particularly on turf cricket wickets, 'thickening' up your turf in preparation for possible winter boggy conditions and high traffic can protect the turf and ensure it comes back healthy and grow strongly next summer.

# **Grants/Funding**

#### **NRM Education**

NRM Education's core business is supporting schools in becoming more sustainable through the Australian Sustainable Schools Initiative – South Australia. They are a program of the Adelaide and Mount Lofty Ranges NRM Board and are based at various sites across the Adelaide & Mt Lofty Ranges Natural Resources (AMLR) region.

To find out more information on NRM Education or how they may be able to assist, refer to their website - <a href="http://nrmeducation.net.au/index.php?page=reoccurring-grants">http://nrmeducation.net.au/index.php?page=reoccurring-grants</a>

### Office for Recreation and Sport

The Office for Recreation and Sport (ORS) is the lead agency for the Government's policy on sport and active recreation. ORS supports sport and recreation organisations through the developing of policy, programs and resources, the provision of funding, recreation and sport planning, infrastructure development, elite sport pathways and the promotion of physical activity.

To find out more about the number of programs or grants available for schools, associations, clubs, state organisations, local government and active recreations and sports industry refer to their website - <a href="http://www.recsport.sa.gov.au/funding-scholarships/index.html">http://www.recsport.sa.gov.au/funding-scholarships/index.html</a>

# **Expressions of Interest**

### Is there something you want to learn?

As per last month's e-bulletin, we are still seeking expressions of interest regarding further training. What would you like training on? Certificate in horticulture, understanding irrigation systems, irrigation auditors training, monitoring your IPOS permit agreement, developing your own water efficiency management plan or something else?

### Interested?

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# IPOS Issue 4 – May 2012

i, check out this month's issue of the Business Sustainability monthly IPOS e-bulletin

# Does something look different?

SA Water has rebranded itself and we've had a makeover.

All the same content, just a new style.....

# Tip of the Month

### Watering in Winter...

Although the Bureau of Meteorology is predicting that winter 2012 is likely to be warmer and drier than average, the average rainfall in Adelaide since 1977 is 60mm for May, 78mm in June and 75mm in July. Meanwhile, the average maximum temperature drops to 19°C in May, 16.1°C in June and 15.3°C in July. Levels of evaporation drop dramatically in winter.

Provided you are going into winter with reasonable soil moisture levels, irrigation of open space can usually be ceased altogether. Special care must be taken to ensure that irrigated open spaces do not become too wet, as excessively wet soils elevate the risk of compaction and surface damage from traffic. As always, irrigation in response to weather conditions allows the most efficient use of water.

## Water & Sewerage Prices for 2012-2013

### New Price Increase Takes Effect as of July 1st 2012

For more information please visit the SA Water website: 2012-13 Pricing

Developing a water efficiency plan for your organisation makes good business sense.

If you need assistance in identifying if there is potential to reduce your bill by becoming more water efficient, please contact the Business Sustainability Group to find out about our range of water efficiency services.

Don't forget that the best practice principles of the IPOS Code of Practice set out a formula for your organisation to become as efficient as possible with irrigation, and in turn increase your water efficiency.

We can also help you with your water efficiency program with a free online Water Efficiency Toolkit accessed via the SA Water Website <a href="here">here</a>. Simply enter your data and run through a water efficiency checklist and the toolkit automatically generates your water efficiency profile and action plan for improvements.

### What else is on offer?

There is also a range of information sheets aimed at helping you identify areas for improving water efficiency available on the SA Water website via this link <u>Business Sustainability Group</u>.

### Soon to be Released

### **The IPOS Reporting Toolkit**

The IPOS reporting toolkit which is currently being trialled by some organisations was to be released in March 2012, due to some further enhancements it will now be released next season – so watch this space.

## **Key Interests**

### **Flow and Pressure Sensors**

Flow and pressure sensors are used widely with pumping systems to control pump operation in the event of abnormally low or high flows or pressures. They can also be used on mains water supply systems to detect bursts or sprinkler malfunctions and interrupt irrigation by closing a master valve in the event of failure.

(Sourced from Code of Practice, Irrigated Public Open Space, pg 29)

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# IPOS Issue 5 - June 2012

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# Season 2012/13

#### Renewals

The time for renewing your IPOS permit for the 2012/13 irrigation season is nearly upon us. We will be sending out renewal forms over the coming months via email/mail. If you haven't received your renewal form by the end of August, please contact us on the number below or visit our website to download a renewal form. (Renewal forms are currently not available on the website)

## **Tip of the Month**

### **Irrigation Testing in Winter**

Many managers of irrigated open space take the opportunity in winter to make changes, repairs or tests to their irrigation systems to be ready for the next irrigation season.

If using drinking water, Irrigation Australia recommends running your irrigation system once a month to stop sediments forming and to stop particles drying out and gumming up in the moving parts of solenoids and sprinklers. The frequency might be higher if you run bore water through your system due to the higher level of impurities.

IPOS permit holders have always been permitted to operate their irrigation system for testing. If you wish to undertake a test, ring the SA Water Water Wise Hotline on 1800 130 952 with your name, irrigation address, permit number and time frame for testing.

# **Key Interests**

### **Soil Moisture Probes**

A soil moisture probe allows an assessment of soil moisture levels in the root zones of plants. This allows you to check whether you need to water your grass more or less, depending on how dry or wet the root zone is. Soil moisture sensors can be retrofitted to an existing controller. If the sensor detects high soil moisture and there is an irrigation event scheduled the sensor can send a signal to the

controller to hold off on the irrigation event until the moisture levels require replenishing.

These devices can be fairly expensive therefore, if your budget doesn't allow for a soil moisture probe, an easier less expensive way to check your soil moisture levels would be to use a spade to dig a small hole and feel the soil.

If you have any 'key interests' you would like to learn more about then please email us at <a href="mailto:iposadmin@sawater.com.au">iposadmin@sawater.com.au</a> and let us know.

### **Climate Data**

### **High Rainfall**

This month in many parts of the state we have experienced significantly high rainfall compared to the long term averages for June. This was largely due to the heavy rain falling on the 21<sup>st</sup> and 22<sup>nd</sup> of this month. The table below (climate statistics table) shows June's current monthly rainfall, June's long term average rainfall and also the highest monthly rainfall recorded. Interestingly, consistent with other extreme weather trends, eleven of the twelve 'highest daily rainfall for month' events have occurred within the last twenty years at the Kent Town weather station.

#### **Climate Statistics Table**

Weather Station	Rain (June 1-25)	Long Term Avg.	Highest on record
Kent Town	112mm	78mm	175mm
Adelaide Apt.	95mm	55mm	138mm
Parafield Apt	70mm	54mm	117mm
Port Lincoln	53mm	58mm	153mm
Mt Gambier Aero	90mm	83mm	160mm

In some cases managers of open space were using pumps to remove excess water from sports grounds to ensure scheduled sports could be played!

The rain should be a good outcome for our reservoirs. You can view our current reservoir capacities via the SA Water link: Reservoir Home

(Sourced from the Bureau of Meteorology)

or more information please visit the <u>IPOS Home Page</u> or contact one of our friendly Business

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# IPOS Issue 6 - July 2012

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### Reminder

### Water Wise Measure for Managers of Open Space

Councils, schools and other organisations whose total turf areas are greater than 5 000m<sup>2</sup> and who are using SA Water drinking water are required to apply for an IPOS (Irrigated Public Open Space) permit under the IPOS Program. The IPOS Program encourages adoption of best practice for the management of turf.

# Season 12/13 Renewal Process

### **Schools and Other Organisations**

The Business Sustainability Group has begun sending out IPOS renewal forms to schools and other organisations. To ensure you receive your permit before the start of the 2012/2013 season it is highly recommended that you send back your completed renewal form to the group soon after you have received it. If you have not received a renewal form by the end of August 2012, please contact the group by phone: 08 7424 3753, email: iposadmin@sawater.com.au or visit the SA Water website at www.sawater.com.au to download a copy of the form.

### **Councils**

Renewal forms are not required for councils. The Business Sustainability Group will be issuing permit letters to councils along with the IPOS Principls for season 12/13 over the coming months.

### What's New this IPOS Season?

### A) An Excel Based Toolkit for Schools and Other Organisations.

The Business Sustainability Group has developed an excel based toolkit to assist staff and grounds personnel to self calculate irrigation requirement and manage water use efficiently for their particular site/s using site specific information and climate data. Thank you to those schools and organisations involved in the pilot of the toolkit. Information regarding the release of the toolkit will be announced over the coming months.

What other services does the Business sustainability Group have to offer? To find out visit the SA Water website: www.sawater.com.au/SAWater/YourBusiness/SaveWaterInYourBusiness.

# Tip of the Month

### Reducing the impact of foot traffic on sports grounds during winter:

The winter rain combined with high foot traffic in many cases causes sports grounds to become boggy in areas, particularly in the centre of grounds where turf cricket pitches are located. Cross rolling cricket pitches can be beneficial at this time of the year in prepration for spring renovations. This can only be carried out when the centre pitches dry out enough to allow the roller to operate without collecting too much mud. Managing the foot traffic across your ground can help reduce the impacts of play and create less damage to your sports gound. Roping off high use areas when there isn't a scheduled event is a common practice as is moving the location of your centre circle if possible. A little bit of time invested in these ideas now will place your ground in a better position for recovery leading into the summer.

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# e-Bulletin **Business Sustainability Group**

# IPOS Issue 7 - August 2012

G'day, check out this month's issue of the Business Sustainability monthly IPOS e-bulletin

### What's New this IPOS Season?

### **New Irrigation Management Toolkit- now available**

To make reporting easier this season and to help you get the most out of your irrigation we have developed an Irrigation Management Tookit- now available via the link to our website below. The Toolkit will assist staff and grounds personnel to self calculate irrigation requirements and manage water use efficiently for individual site/s. The simple calculator determines site-specific turf irrigation requirements based on the information entered. It also includes a recording and reporting function for the user to track total water consumption.

Reporting is now even simpler! - simply send the Irrigation Managmenet Toolkit back to SA Water via email and it's done!

To download a copy of the Microsoft Excel 2007 version of the Irrigation Management Toolkit go to: http://www.sawater.com.au/NR/rdonlyres/8690A53C-8304-44DC-8C18-2AAD264543E0/0/IrrigationMngToolkit2007.xlsx

Please note this toolkit currently only incorporates weather data from the Bureau of Meterology (BoM) for 5 metropolitan weather stations. Some regional weather stations will be added in the near future however should you need other data from another station the user can input this weather data themselves by sourcing it from the BoM website and entering it into the current data fields in the Irrigation Calculator section.

# **Expression of Interest**

### **Training on SA Water Irrigation Management Toolkit for Schools and Sporting Clubs**

To help you familiarise yourself with the new Irrigation Management Toolkit we are organising training sessions aimed at both Grounds staff and Business Managers. The training will run through the Toolkit and answer any questions you might have regarding the Toolkit or IPOS in general.

To register your interests for the first training/workshop session planned to be held at Urrbrae Agricultural High School on Tuesday 25<sup>th</sup> September from 9:30am to 1:30pm or if you require further

# **Key Interest**

### Irrigation System Performance-The Importance of an Irrigation Audit

Even though irrigation systems may have been well designed and built, without ongoing maintenance the performance of all irrigation system will degrade over time unless continually audited and maintained. Sprinkler nozzle openings gradually wear away and flow increases significantly, supply pressure can change, new sprinklers heads and nozzle replacements often don't match the specifield flow and pressure and plumbing repairs may alter flow rates within the system. These are just a few factors contributing to the efficiency of your system.

If your system hasn't been audited in the past 5 years, it is now time to book this in! You could be missing out on considerable cost savings and a better turf standard.

# **Benefits of Irrigation Audits**

### Why does SA Water recommend Irrigation Audits?

Irrigation audit recommendations, when followed through, improve the overall efficiency of an irrigation system. Improving efficiency helps sustain water for our environment and can help save your money.

A typical audit will provide the distribution uniformity of the system, measurements of flow and precipitation rates and provide recommendations to improve the efficiency of the system. The Irrigation Association (IAL) can provide assistance to source irrigation auditors that can undertake irrigation audits in your area. The IAL can be contacted on (02) 8335 4000

### **Other Considerations**

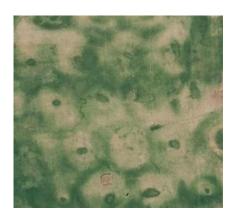
Efficient systems must be combined with effective scheduling to achieve best practise standards. Scheduling of irrigation systems should occur only when required in optimal climate conditions. The best time to irrigate is at night when evaporation is zero, when winds aren't strong and preferably after turf or trees are mowed/pruned to relieve the stress the plants has undergone. Implementing sound horticultural practices such as fertilising should also be implemented.

# **Irrigation Efficiency**

### **Distribution Uniformity (DU)**

DU is the unit of measure used to determine the performance of irrigation systems. The DU is a measurement of the 'evenness' of water applied and is expressed as percentage. It is defined as 'the average water applied in the 25% of the area receiving the least amount of water, regardless of location within the pattern, divided by the average water applied over the total area'. A DU of 75% or greater is considered best practise in the industry.

Poor DU Good DU





# Tip of the Month

### August – a good time for some planning

During winter turf grasses such as Kikuyu and the Couch varieties can go into dormancy and weeds can start to grow. Moving into our warmer months these turf grasses will become more active and compete with weeds that are a common problem. It is now a good time to do some planning around fertiliser types you will be using in your spring renovations and ensuring you have these stocked along with any necessary herbicides to control those weeds.

To give your turf a 'kick' into action an NPK fertiliser blend with a high nitrogen ration is common practice for your first spring application. If you think it is necessary to spray for weeds it is important to have strategies in place to ensure this is safe and effective. Please remember when you 're applying chemicals it can be hazardous so no stone should go unturned to ensure this is carried out safely. Speaking to your local distributor and checking your policies is essential. Some turf grasses such as Buffalo grass can be susceptible to some weed sprays so it's important to be aware of this too – seeking advice is always a good management.

As we draw toward the end of winter it is a good idea to start mulching your garden areas to lock in all that beautiful rain before it is lost to the atmosphere. Retaining soil moisture levels will give you a good heard start coming into the warmer months.

or more information please visit the <u>IPOS Home Page</u> or contact one of our friendly Business

Sustainability officers on the number below.

Business Sustainability Group SA Water

T 08 7424 3753 www.sawater.com.au

GPO Box 1751, Adelaide SA 5001

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# **IPOS Issue 8 - September 2012**

i, check out this month's issue of the Business Sustainability monthly IPOS e-bulletin

# **August Irrigation Requirement Overview**

Bureau of Meteorology (BoM) - Adelaide Airport Climate Station 023034

# 2012 - Adelaide Airport Climate Data - Station 023034

Current		Long Term	
Monthly Eto (mm)	71.7	Ave 5yr ETO (mm)	79.42
Monthly Rainfall (mm)	52.4	Ave Long Term Rainfall (mm)	50.20
Actual Irrigation Requirement (kL per ha - monitoring current climate		Base Irrigation Requirement (kL per ha - recommendation based on long term average data	
TQVS1 (Elite)	296	TQVS1 (Elite)	381
TQVS 2 (Premier)	46	TQVS 2 (Premier)	103
TQVS 3 (Local)	Nil	TQVS 3 (Local)	34
TQVS4 (Passive)	Nil	TQVS4 (Passive)	Nil

(TQVS = Turf Quality Visual Standard)

### Management of irrigation schedule:

The IPOS Code of Practice emphasises the importance of applying water efficiently by ensuring the amount of water applied meets the water use requirement of the turf.

Due to daily and seasonal variations in our climate, the plant water requirement changes continually. It is critical to monitor irrigation targets and to revise these according to prevailing climate conditions. Irrigation scheduling accounting for climatic variance is critical to maintaining sites to an appropriate standard.

Evapotranspiration and rainfall can vary significantly from region to region. However the factors which remain constant are an appropriately designed and managed irrigation system for which scheduling is constantly amended to account for actual climatic conditions.

(Sourced from the Code of Practice – Irrigated Public Open Space document)

# **Grants/Funding**

### ACTIVE FOR LIFE - Active Club Program Round 34, Now Open

Do you need assistance with ground maintenance equipment? If yes, your school, club or organisation maybe eligible for funding through the Office for Recreation and Sport Active Club Program.

The Active Club Program may be worth considering to help your school, club or organisation improve water efficiency and ground quality.

Closing date for applications is Monday 15 October 2012. For further information on what the program offers and who is eligible visit the Office for Recreation and Sport (ORS) website.

## **Good Work**

### **Hallett Cove R-12 School**

SA Water Business Sustainability's, IPOS Coordinator and representatives from DECDS Asset Services Team visited Hallett Cove R-12 School's Business Manager and Grounds Manager on Friday August 24. The visit was organised by SA Water as recognition for their efforts in the IPOS program since coming on board in 2008 and their participation in the piloting of the IPOS toolkit.

During our visit we chatted about how it is not just about the amount of water being applied to achieve a "Fit for Purpose" turf, it's about managing the three main ingredients, which are:

- Water (volume determined by turf type and climatic conditions)
- Method to apply water efficiently (irrigation system/schedule)
- **Horticultural maintenance** (verti-draining, coring, fertilising etc)

**Water** – The school does not have a separate water meter for their ovals therefore, by monitoring and recording their water usage it has assisted them to understand how much water is actually being used for the irrigation of their open space and how much is being used internally within buildings. SA Water commends them on their continual monitoring and recording of their water usage and reporting back to SA Water each month under the IPOS Program.

**Method** – The school had an Irrigation Audit undertaken in 2006 by an external company, the audit found many sprinkler nozzles needed replacing as this was causing poor uniformity – the recommendations from the audit were implemented by the school which has improved the Distribution Uniformity at the site and highlighted the importance of continual checks.

**Horticultural Maintenance** – The school has developed their own management plan so they are able to address the specific needs of their site in real time. Being a larger school they have also been able to employ an external turf management company to assist them with the maintenance.

Due to the good management of the turf throughout the whole season, they managed to irrigate/establish new turf within their Base Irrigation Requirement. Apart from the above methods used in managing their turf for the season, they also:

- Monitored the weather their irrigation system does have a rain sensor but they prefer to work off BoM (Bureau Of Meteorology) and adjust/turn off the system when rain is forecasted
- Prior to the start of the irrigation season, they run a test in all areas to ensure that the sprinklers are functioning correctly to reduce water wastage
- Identified existing turf areas that were difficult to establish and/or maintain and converted

them into water wise garden beds

The school recognises the importance of social, environmental and economic benefits of open space and are very interested in the collaboration/sharing knowledge between schools/DECDS/other organisations and SA Water. They also welcome any further education, training and tools that can assist them to better understand/up skill themselves in regards to best practice methods for Turf and Irrigation Management under the IPOS Program.

SA Water and DECDs thank both Monte and Harrie for their time and valuable feedback. It was great to meet them both in person.

### For further information on:

- The importance of an irrigation audit, please view our <u>fact sheet</u>
- Irrigation and landscapes, please visit the <u>SA Water WaterRight Gardens</u> web tool

# Tip of the Month

### **Spring Renovations**

If you haven't done so already, now is a good time to renovate your turf to ensure it recovers from the winter months. Scarifying, top dressing and fertilising is an ideal combination for turf managers at this time of year. Coring is also another method that's worth thinking about and is being undertaken at some sportsgrounds across the state. Coring is a process that encourages new and deeper root growth, helps decompact your soil, improves nutrient and water infiltration, helps break up thatch and allows oxygen supply to roots all having a positive effect on your turf health. Scarifying removes the built up dormant thatch layers and therefore helps to promote new growth in the plant and also helps prevent disease forming in your turf. Top dressing with sands or a high sand to loam ratios is a common practice and can create a safer and flatter surface and also makes it easier for turf to spread laterally. Fertilising will give your turf the kick start it needs at this time of year. Good luck with your spring renovations!

# Workshop – SA Water Irrigation Management Toolkit

### No spaces left!

The SA Water Irrigation Management Toolkit Workshop for Tuesday 25 September at Urrbrae has reached capacity. However, if you are still interested in attending a workshop, please send your details through to <a href="mailto:iposadmin@sawater.com.au">iposadmin@sawater.com.au</a> or phone 08 7424 3753 and we will contact you should a second Workshop go ahead.

# **SA Water Irrigation Reporting Tool for Councils**

### SA Water's Irrigation Reporting Tool for Councils has had a makeover!

For those of you who have used it in the past and who require to use it again this season, you will see some changes.

What are the changes?

The full financial year has now been included in both the Base Irrigation and Actual Irrigation Requirement Tables.

### Why?

Some sites may need to start irrigating sooner than the start of the average irrigation season (which is usually between Sept/Oct – April).

This may be due to the following reasons:

- Regional area irrigation season may start sooner than September and finishes later than April
- Climate dictates hotter and drier conditions
- High priority site (TQVS 1)

With these changes it remains the responsibility of the council to manage when irrigation on all their sites actually starts.

### What else has changed?

SA Water previously provided long term Eto and rainfall in the council reporting tool tables, this year all councils and managers of multiple sites using this tool are required to enter in their own long term Eto and rainfall data sourced from BoM applicable to their region. The reason for the change is so the user understands how to self calculate their own Base Irrigation Requirements using the data sourced from BoM.

Calculating and entering actual irrigation weather data sourced from BoM can now be updated in the one sheet being, the Irrigation Requirement Tables. You enter in the data and the TQVS Category fields will auto populate for you. This improvement has simplified the process from previous year's and keeps a good record of the years climate data, which will help planning for subsequent years..

#### Other new fields

Crop coefficient (Kc) and Distribution Uniformity (DU) fields have also been added for the user.

### Protection on the toolkit

SA Water has protected the toolkit to help preserve the sensitive formulas behind the scenes. The only fields that the user needs to be entering data into are the white fields, all other fields will auto populate for you.

For those councils who require a copy please contact us at iposadmin@sawater.com.au.

# **IPOS Season 12/13 Re-issues**

### Reminder

Thank you to those who have already sent in their renewal forms for the 12/13 irrigation season. For those who have yet to send theirs in, please find a copy of the form <a href="here">here</a>.

or more information please visit the <u>IPOS Home Page</u> or contact one of our friendly Business

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# **IPOS Issue 9 - October 2012**

i, check out this month's issue of the Business Sustainability monthly IPOS e-bulletin

# **October Irrigation Requirement Overview**

Bureau of Meteorology (BoM) – Kent Town Climate Station 023090

This week we are looking at the October Irrigation Requirement for the climate region Kent Town. Are you in this climate region? How did you fare last month?

2012 – Kent Town Climate Data - Station 023090						
Current		Historical				
Monthly ETO (mm)	152	Ave 5yr ETO (mm)	147.04			
Monthly Rainfall (mm)	19.8	Ave Long Term Rainfall (mm)	43.80			
Actual Irrigation Requirement (kL per ha - monitoring current climate		Base Irrigation Requirement (kL per ha - recommendation based on average historical data				
TQVS1 (Elite)	1206	TQVS1 (Elite)	1013			
TQVS 2 (Premier)	674	TQVS 2 (Premier)	498			
TQVS 3 (Local)	541	TQVS 3 (Local)	370			
TQVS4 (Passive)	408	TQVS 4 (Passive)	241			

(TQVS = Turf Quality Visual Standard)

This October the lower rainfall in Kent Town has created higher than average irrigation requirements compared with the historical data (as shown in the above table). Monitoring the ETO and rainfall is a great reference point when adjusting and reviewing your irrigation scheduling. The SA Water Basic Irrigation Management Toolkit allows for current climate monitoring and has built in historical data for metropolitan areas.

# **SA Water Irrigation Management Toolkit**

### **Training Sessions**

On September 24 we held our first SA Water Irrigation Management Toolkit Training Session. It was great to see such a high level of interest in the session, we had a full attendance with a mixture of people from different sectors. Most of the participants learned something new and found the sessions to be valuable and relevant to their roles. The constructive feedback we received was very much

appreciated and has identified opportunities for improvements to SA Water processes. All training outcomes for the session were achieved.

If you missed out on the first training session and are interested in attending another one, we now have two new sessions available. For details please see below:

# SA Water 'Basic Irrigation Management Toolkit' Training Sessions Tuesday 13 & Tuesday 20 November – 9am to 1pm

#### Who are these sessions aimed at?

Ground personnel, Business Managers and Bursars.

### How will this training help me?

Our aim is to provide you with a hands on training experience on how to use the SA Water 'Basic Irrigation Management Toolkit' in a classroom environment. You will learn to easily calculate the Baseline Irrigation Requirements and Actual Irrigation Requirements for your turf, based on functional purpose, size and weather conditions relevant to your site.

You will also discover how you can use the toolkit to track water use against best practice standards and how it will automatically calculate the approximate cost of water used during your irrigation season.

### Where and When?

TAFE SA Urrbrae Campus, Fullarton Road, Netherby – Tuesday 13 November **OR** Tuesday 20 November 2012.

Arrival from 9am for a 9.20am start, training will finish up about 12 noon and afterwards, for those interested, a small tour will be conducted by Peter LeRiche – Horticulture Lecturer – Specialist in Sports Turf and Irrigation Technology – TAFE SA.

Training will be held in one of the TAFE computer training suites. No previous computer or Microsoft Excel experience needed as SA Water staff will be available to help you.

### What else will the training session include?

- An information pack
- Referencing pages in the code of practice
- What resources you can use to measure your turf areas (m2)
- Watching a short video on how to determine your soil type
- Rating your turfs functional purpose
- Reading a water meter
- Tour of TAFE Urrbrae grounds (optional) The tour will include a look at some of the water saving initiatives undertaken within the grounds, turf and irrigation training rooms, on site weather stations and more!

### Can we have more than one person attend from our organisation?

We only have 18 computer spaces available for each session but we are happy to register a maximum of two per organisation as you can share a computer. We recommend you secure a spot early – first in first served.

#### How do I register?

To secure a spot you can email <a href="mailto:iposadmin@sawater.com.au">iposadmin@sawater.com.au</a> or phone us on 08 7424 3753 by no later than **Friday November 9** with the date of the session that you or a representative would like to attend. Further details on the session will be provided closer to the date of the session you have registered for.

\*\*This is a free of charge training session\*\*

# **Tip of the Month**

### A tip for November

From this time on you may need to adjust your irrigation schedule based on climatic conditions, soil type, soil infiltration rate and also the precipitation rate of your irrigation system. It is important to know and check the precipitation rate (also known as application rate) of your system because this can change over time if pressure and flow conditions change at the water meter. As the weather warms up, program the mowing for the early hours of the day so turf grasses are not under heat stress when mown. If possible, schedule irrigation events within the immediate 24 hours before the programmed mowing as this puts the turf grasses in a healthier condition prior to mowing, enabling it to recover more rapidly.

(Source - Sports Turf Association of South Australia formerly Turf Grass Association of South Australia)

### **Further Education**

### Are you interested?

If you are interested in further education to grow your career in Horticulture or want to find out what funding opportunities are available – contact TAFE SA Urrbrae Campus on 8372 6800.

# **Need Help?**

### **Code of Practice – Irrigated Public Open Space**

Are you using the new Irrigation Management Toolkit? Do you need help with identifying the TQVS (Turf Quality Visual Standard) of your open space? Pages 14-15 of the Code of Practice document can help you with this. If you don't have a copy you can view the document by clicking here.

### Reminder

### **Water Wise Measures for Managers of Open Space**

Councils, schools and other organisations whose total turf areas are greater than 5000m<sup>2</sup> and who are using SA Water drinking water are required to apply for an IPOS (Irrigated Public Open Space) permit under the IPOS Program. For an application form please visit our website or click here.

Also, thank you to those who have already sent in their renewals, for those who have yet to do so, please find a copy of the renewal form on our website or by clicking <a href="here">here</a>.

or more information please visit the <u>IPOS Home Page</u> or contact one of our friendly Business

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# e-Bulletin Business Sustainability Group

# **IPOS Issue 10 - November 2012**

i all, check out this month's issue of the Business Sustainability monthly IPOS e-bulletin

# Referencing the IPOS Code of Practice Document

### **Irrigation Scheduling**

5.0 Turf and Irrigation Management Principles - Page 10

### 5.8 Irrigation Scheduling - Page 23

Irrigation scheduling is a very important step to efficient irrigation management. Irrigation controllers are often programmed at the start of the season based on either the BIr (Base Irrigation Requirement) or operator experience and is often not adjusted to respond to the changing weather conditions and plant water requirements.

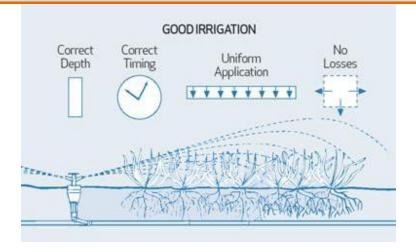
In order to manage your site effectively and efficiently you need to ensure that only as much water is applied to the turf area as is required without wastage. The irrigation schedule must be matched to the actual irrigation requirement of the site.

If you apply too little, which is often the case, you are wasting water due to an increased percentage of water being lost through evaporation and therefore not making it deep into the root profile. When this happens there will be little water left for the turf to drink and the turf will also become less drought tolerant.

If you apply too much water at once, you are wasting water either through water being applied too quickly and being lost through surface runoff or through water going too deep into the soil past the root profile and being lost through deep drainage.

#### Ask yourself:

How much water does the plant need?
How much water is stored in the soil?
How much water is available to the plant?
How much water needs to be applied?
When should irrigation be applied?
How long should the irrigation system be operated for?



Applying the right volume of water is one thing – applying it efficiently is another. You need to look at things like; Sprinkler spacing, sprinkler type, uniformity, scheduling, water pressures/flow rates, application rates, sprinkler heights, sprinkler replacement etc.

For further information on irrigation scheduling refer to page 23 of the Code of Practice – Irrigated Public Open Space document. If you don't have a copy, please find a link to it here.

# **Tip of the Month**

### **The Christmas Break**

Leading into the school holidays or scheduled Christmas breaks in sporting fixtures at many venues is a good time to aerate playing fields and apply wetting agents to optimise the effects of irrigating your turf.

Some soils and turf surfaces can become compacted and hydrophobic. Sometimes irrigation can hit the surface of your playing field and not penetrate through to the soil and roots because the surface is repelling the water applied.

'Soil wetters', as wetting agents are commonly referred to break down organic coatings that form on many soil surfaces. Aerating your soil will improve the structure of your soil providing oxygen to turf roots and microorganisms that promote the healthy turf growth.

Be sure to check with your supplier and manager about performing any turf renovations safely.

# **November Irrigation Requirement Overview**

Bureau of Meteorology (BoM) – Noarlunga Climate Station 023885

2012 – Noarlunga Climate Data - Station 023885						
Current		Historical				
Monthly ETO (mm)	203	Ave 5yr ETO (mm)	182.72			
Monthly Rainfall (mm)	17	Ave Long Term Rainfall (mm)	25.2			
Actual Irrigation Requirement (kt. per ha - monitoring current climate		Base Irrigation Requirement (kt. per ha - recommendation based on average historical data				
TQVS1 (Elite)	1670	TQVS1 (Elite)	1441			
TQVS 2 (Premier)	960	TQVS 2 (Premier)	802			
TQVS 3 (Local)	782	TQVS 3 (Local)	642			
TQVS4 (Passive)	604	TQVS 4 (Passive)	482			

(TQVS = Turf Quality Visual Standard)

Following a similar theme to last months actual irrigation requirement for October in Kent Town, Noarlunga has experienced a lower than expected rainfall when compared to the historical data for the region. Therefore, if you are situated in this climate region, you may have had to use some extra water this month whilst irrigating your open space.

# **Irrigation Management Toolkit Training Feedback**

### **Training Sessions**

The two training sessions held in November at TAFE Urrbrae were well attended and the feedback received was again positive, constructive and important to the success of the program.

Participants are really enjoying the hands on experience of using the toolkit in a training environment and see the benefits of the toolkit for irrigation planning and financial planning.

Opportunities for improvements were identified from the three training sessions; the improvements have either been implemented or are being reviewed.

Some of the participants feedback on the toolkit was:

"Will help us with managing high water use sites"

"Will give a presentation to management on how we can utilise the toolkit for planning and managing our irrigation effectively and efficiently"

"Will help us in the planning stages as we are installing a new turf area – and by entering in our sites information we can look at what it will approximately cost us to irrigate a certain area of turf"

Some of the participants feedback on the training course was:

"Excellent course, worthwhile and very friendly staff from SA Water"

"Would be good to have some training sessions in the northern region"

"Would be good to have a full day course and include training for both the Basic and Advanced Toolkits"

Future training sessions will be planned for early next year so watch this space for when and where!

## **Minimising and Monitoring for Water Leaks**

# Christmas Shutdown Periods are the Perfect Time to Take Preventative Action and Assess Your Site for Leaks

As we prepare for the festive period many sites will be shutting down or minimising activity on site. This provides the perfect opportunity when there should be minimal water use to both prepare the site for minimised water usage as well as to collect water use data to assess if leaks are present on site.

More information on General Maintenance, Leaks and Monitoring can be found here.

#### Preparing your site to prevent water wastage

If your site is preparing to shut down over this period, ensure that particular attention is payed to any

water using equipment and that the potential of water use through that equipment is minimised.

Pay attention to areas such as the following:

- Make up tanks via ball valves or taps that are left running and may result in continual flow to the drain, evaporative coolers or header tanks
- Ball valves/taps that remain on unnecessarily leaving pipework under pressure leading to potential pipe blowouts and leaks with continual high flow
- Unnecessary scheduling of irrigation systems that should be turned off/on via timers, computer control etc

### Monitoring your site during shut down periods for leaks

While water use is at a minimum during site shutdowns, it is the perfect opportunity to assess your site for leakage. This can be done a couple of different ways, both using assessment of water use through the water meter/s on site.

The simplest way for less complex sites is achieved by reading and recording the water meter at the start of the shutdown period and then reading and recording it prior to the start up at the end of the shut down period. Then compare how much water has been used during this period and assess against what would be reasonably expected to be used. Remember some water may be used if there is activity through toilets or equipment that must be kept running such as irrigation systems.

For more complex sites it would be beneficial to install data loggers to the water meters. This will enable all water use to the tracked down to every five minutes. This may help identify actual water using periods and determine the culprit.

If you require more information on monitoring your site for leaks or would be interested in undertaking our Leak Analysis and Water Profiling Service please contact us on the details below or view the information sheet here: <u>Leak Analysis and Water Profiling Service</u>

### What Else Would You Like to Know About?

### **Topics of interest so far**

**Above Ground or Sub Surface Irrigation** 

Refer to page 10 of the Code of Practice document and for further advice consult a qualified irrigation designer or manager

Recycling swimming pool backwash

Refer to the Environmental Protection Authority guidelines located on the EPA website:

www.epa.sa.gov.au/xstd\_files/Waste/Guideline/guide\_swp.pdf

Water quality requirements for water used for irrigation purposes

Visit the EPA website: www.epa.sa.gov.au and

the SA Health website:

www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/protecting+public+health

**Bore Water** 

Visit the DEWNR (Department, Water and Natural Resources) WATERCONNECT website: www.waterconnect.sa.gov.au/Pages/default.aspx

**Recycled water overview** 

Visit the SA Water website:

www.sawater.com.au/SAWater/Environment/SaveWater/EnvironmentImprovementProgram

This will be the last e-Bulletin for 2012.

# We would like to take the time to wish you all a happy and safe festive season.

Till next year!

or more information please visit the <u>IPOS Home Page</u> or contact one of our friendly Business

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