

IPOS Issue 23 – March 2014

Tip of the Month

Making the most out of the recent rainfall

The recent record breaking rainfall in mid February has given open spaces across the State a welcome soaking. The BSG received questions from a number of customers seeking information about scheduling irrigation before and after rainfall- we've decided to share this information with all our e-bulletin subscribers.

How long should I wait until I irrigate again after heavy rains on 15/02/2014?

The answer to this question really depends on the outcomes you're trying to achieve and the local environmental conditions. As an example we have looked to answer this question for a passive reserve based in central Adelaide.

Assumptions:

- Passive Recreational Area Standard Turf (TQVS = 4) - warm season grass
- Kent Town Area
- Optimal Irrigation = 14mm per irrigation event
- Soil profile is 100% saturated (at field capacity) on 15/02/2014

Daily Irrigation Requirements (Ir)

Date	Eto (mm)	Rain (mm)	Ir (mm/day)	Cumulative Ir (mm)
16/02/2014	5.8		2.0	2.0
17/02/2014	5.3		1.9	3.9
18/02/2014	5		1.8	5.7
19/02/2014	4.9	3.4	0	5.7
20/02/2014	4.2	1.6	0.7	6.4
21/02/2014	4.2	0.2	1.4	7.8
22/02/2014	4.9		1.7	9.5
23/02/2014	5.3		1.9	11.4
24/02/2014	5.5		1.9	13.3
25/02/2014	4.8		1.7	15.0

The first point worth making is that it was worth turning off your irrigation leading up to February 14. If you followed the Bureau of Meteorology forecast, this rain was predicted well before it occurred. To put this in perspective, if you are irrigating an average sized sportsground you're looking at a saving of approximately 165kL if you remembered to turn your sprinklers off. That is a saving of approximately \$530 for just one event! This starts to add up if you manage many hectares of open space such as Local Councils.

Secondly, irrigation should be turned back on once the cumulative irrigation requirement reaches the maximum allowable depletion (MAD). When the soil moisture reduces to the MAD, irrigation must be applied to bring the soil moisture back to field capacity. For a loam soil for example, field capacity of the soil profile will be achieved by applying 14mm of irrigation. As the cumulative irrigation requirement exceeded the 14mm on the 25/02/2014, irrigation should have occurred on this night and the following morning. An application of 14mm of irrigation should have occurred.

For more information you can download a copy of the Irrigated Public Open Space Code of Practice from our [website](#), or call one of our friendly Technical Support staff.

January Irrigation Requirement Overview

Bureau of Meteorology (BoM) – Parafield Airport Climate Station

2014 – Parafield Airport Climate Data - Station 023013			
Current		Historical	
Monthly ETO (mm)	262.1	Ave 5yr ETO (mm)	248.12
Monthly Rainfall (mm)	7.4	Ave Long Term Rainfall (mm)	20.9
Actual Irrigation Requirement (kL per ha - monitoring current climate)		Base Irrigation Requirement (kL per ha - recommendation based on average historical data)	
TQVS 1 (Elite)	2247	TQVS 1 (Elite)	2040
TQVS 2 (Premier)	1330	TQVS 2 (Premier)	1172
TQVS 3 (Local)	1100	TQVS 3 (Local)	955
TQVS 4 (Passive)	871	TQVS 4 (Passive)	738

(TQVS = Turf Quality Visual Standard)

As you can see in the table above, irrigation requirements were above average in January this year. Less than average rainfall and higher than average evapotranspiration were observed resulting in a ~20% increase in irrigation requirements for the month for local sportsgrounds. The excessive warm periods of weather in excess of 40 degrees Celsius was reflected in the higher irrigation requirements.

February Irrigation Requirement Overview

Bureau of Meteorology (BoM) – Parafield Airport Climate Station

2014 – Parafield Airport Climate Data - Station 023013			
Current		Historical	
Monthly ETO (mm)	194.6	Ave 5yr ETO (mm)	200.86
Monthly Rainfall (mm)	98.4	Ave Long Term Rainfall (mm)	18.1
Actual Irrigation Requirement (kL per ha - monitoring current climate)		Base Irrigation Requirement (kL per ha - recommendation based on average historical data)	
TQVS 1 (Elite)	1088	TQVS 1 (Elite)	1644
TQVS 2 (Premier)	407	TQVS 2 (Premier)	941
TQVS 3 (Local)	236	TQVS 3 (Local)	766
TQVS 4 (Passive)	0	TQVS 4 (Passive)	590

(TQVS = Turf Quality Visual Standard)

As you can see in the table above, irrigation requirements were below average due to the significant rainfall that fell in February this year. The reduction in irrigation requirements over February was welcome given that the cumulative irrigation requirement for this summer has been above average.

You might have noticed that there was not an actual irrigation requirement for TQVS 4 rated sites and the requirements for all TQVS were low. The actual irrigation requirements are theoretical and there are a few points worth mentioning. The formula to calculate irrigation requirements makes the assumption that 50% of the monthly rainfall is 'effective' in that water is stored in the soil profile and used by the turf. In February there was approximately 63mm of rain that fell in one day. Of this 63mm, in reality and depending on the soil type, there was only a certain amount of water the soil can hold and hence was 'effective'. For a loam soil for example, this is 14mm. Therefore of the 63mm of rain that fell, there was approximately 14mm that was used to fill the soil profile and the other 49mm of rainfall either runs off or drains through the soil profile past the root zone. The formula does not take this into account and assumes that 31.5mm (50%) of the rainfall was effective. Therefore the actual irrigation requirement displayed in the above table is slightly lower than what was required in reality.

Workshop Wrap Up

Water monitoring workshop and desalination tour proves popular

On 4th February the BSG hosted two workshops at the Desalination Plant's Interpretive centre. The morning session was targeted for Commercial and Industrial customers while the afternoon session was targeted for our IPOS customers.



Both workshops were followed by a tour of the Desalination Plant, where participants were able to walk through the plant, following the sea water's journey from pre-treatment to Reverse Osmosis and then post treatment.

Both workshops were well attended and were fully booked and consequently two further workshops were run on February 19. Thanks for those who attended. If you would like further information around monitoring your water use please contact us on the details in the footer below.

Grants Program Now Open

To all not-for-profit active recreation or sport club or community organisation

To provide assistance to active recreation and sports clubs with:

- Programs and equipment (up to \$5,000)
- Facility requests up to (\$20,000 on a \$1 for \$1 basis)

This grant program is open to organisations whose purpose is the delivery of active recreation or sport programs and services in South Australia. The Active Club Program (ACP) provides funding support to assist active recreation and sport clubs to further develop the programs and services they provide within the community.

Be sure to get in now as submissions close **April 14 2014**. For more information or to see the schedule for information sessions, click on the link below.

[Active Club Program](#)

Disclaimer:

SA Water's Business Sustainability Group provides recommendations and suggestions only. It is advised that further investigations are detailed studies are completed before any projects are implemented. All applicable standards & guidelines (Australian, EU, AQUIS, HACCP, Australian Drinking Water Quality Guidelines etc) should be adhered to, and care should be taken to ensure water and wastewater minimisation programs do not negatively impact health or processing operations.