

# Improving Water Management for Sporting Bodies in SA

An overview of the Leak Analysis and Water Profiling Project between SA Water and the Office for Recreation and Sport (ORS)

## Background

Measuring, recording and understanding your water consumption is the first step to becoming a water efficient organisation. In October 2015, ORS engaged SA Water to deliver a *Leak Analysis and Water Profiling* project to support selected councils and sporting clubs to improve their water management. Data logging technology was utilised at each of the ten sites. This expanding technology helps users to better understand how water is used on their site.

## Project Objectives

The project aimed to provide participating organisations a greater understanding of their water consumption and costs. The main objectives were to:

- Identify leaks and other opportunities for improved water efficiency.
- Provide historical water consumption information and account information to sporting organisations.
- Provide the ORS with a better understanding of how water is being used across a variety of different metropolitan and regional sporting organisations.



## Project Description

Data loggers were attached to agreed water meters to record water consumption at two-minute intervals for a four to six week period. Each site was visited and assessed.

Summary reports were provided to the participating councils and sporting bodies.

Reports included the data, data analysis, key findings and recommendations.



The participating sites were:

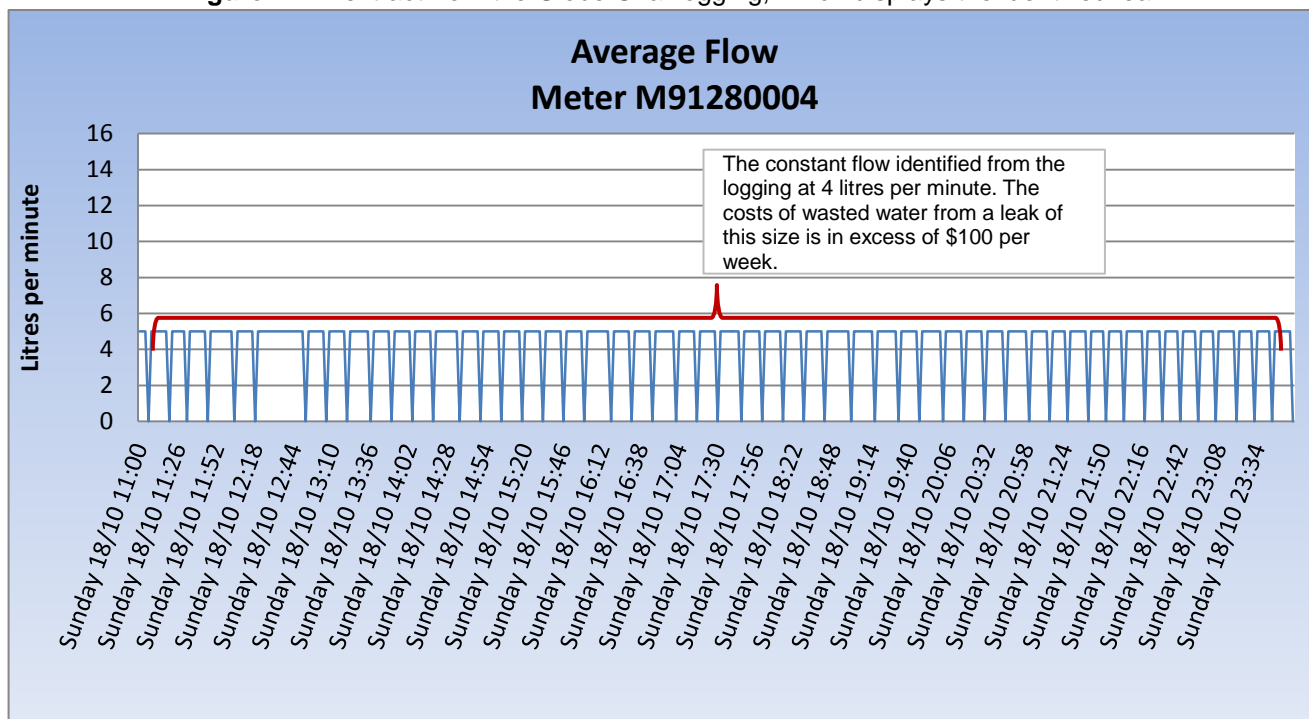
- Globe Oval, Port Pirie
- Port Pirie Softball Association, Port Pirie
- Goodwood Oval, Millswood
- Yankalilla Memorial Oval, Yankalilla
- Strathalbyn Swimming Pool, Strathalbyn
- Balaklava Swimming Pool, Balaklava
- State Shooting Park, Virginia
- Hallett Cove Sports Complex, Hallett Cove
- Encounter Bay Sports Complex, Encounter Bay and
- Moonta Bowling Club, Moonta.

## Project Findings and Outcomes

Analysis of the majority of sites revealed some form of continuous flow through the water meter for extended periods, indicating a leak may be present. It is important to note that sites can have multiple leaks. Monitoring water management at the site needs to be continual, not a singular event.

Figure 1 below details a significant continuous flow of approximately four litres per minute that was identified at Globe Oval in Port Pirie. The site owners were notified. After further investigation, a leaking irrigation pipe was identified and repaired, which reduced the continuous flow through the meter to approximately one litre per minute. If the leak had been left undetected, the costs of the wasted water would have been in excess of \$100 per week or \$5,200 per year. Fortunately, the Port Pirie Council staff were able to act quickly and the remaining constant flow of one litre per minute was also isolated and repaired later that summer.

**Figure 1:** An extract from the Globe Oval logging, which displays the identified leak



Other observations included:

- Constant flow through water meters for extended periods was common at most sites
- Opportunities for improved irrigation scheduling was evident
- Ageing irrigation systems requiring updating and/or auditing were observed at some sites
- Multiple water users through one metered supply making it difficult to monitor water use
- Significant investment in recycled water schemes and their uptake is expanding.

The City of Marion's Water Resources Coordinator, Glynn Ricketts, acknowledges the importance for sporting clubs, councils and schools to monitor their water consumption to help minimise unnecessary water wastage and associated costs. "Regularly reading our water meters is important to ensure we are managing our water use effectively. Implementing projects like this one from the Office for Recreation and Sport helps managers of open space gain a better understanding of their water use patterns and helps identify opportunities to be more efficient."

## Project Learnings

The project was successful in meeting the objective in identifying opportunities for improved water efficiency. The participating organisations, including ORS, now have a greater understanding of water use patterns and a better understanding of the available technology. The project has specifically reinforced the need for larger water consumers to:

- Read meters regularly or deploy smart meters to automate this process.
- Investigate opportunities that will lead to cost savings such as:
  - upgrade to more efficient irrigation systems
  - invest in smart metering technology to monitor water volumes at the site and assess if irrigation management is being run efficiently.
- Ensure irrigation is scheduled appropriately (do not set and forget).
- Maintain irrigation systems.

### How is Smart Metering different to Data Logging?

#### Data Logging

Temporary data loggers were used in this project. Equipment was installed at water meters and collected and stored data every two minutes. The data was downloaded when the equipment was disconnected and then analysed in Excel.

#### Smart Meters

SA Water's smart metering solution, the Customer Water Use Portal, presents water consumption information in a secure, easy-to-use online interface. Water consumption data is uploaded to the portal daily and there are a number of capabilities such as automated reporting and setting alarms.

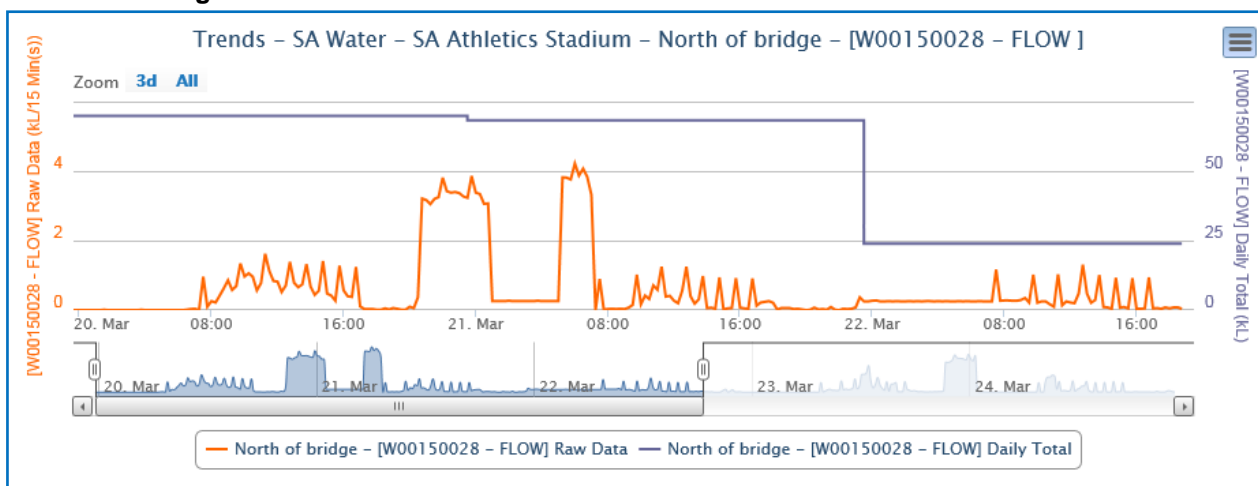


## Going the extra step - smart metering at the South Australian Athletics Stadium

The South Australian Athletics Stadium, located on the outskirts of the Adelaide CBD trialled smart metering technology offered as part of SA Water's Smart Metering product. As part of this project, a smart meter was installed at the Athletics Stadium and ORS staff were provided access to the online portal which displays water consumption information collected from the smart meters.

Figure 2 displays an example of the water consumption information that can be accessed from the portal. Water consumption data is graphed at 15 minute intervals. This is useful to look at specific times of the day to observe different patterns and identify any potential leaks and opportunities for water efficiency. Consumption information is also summarised automatically into trends such as hourly, daily, weekly and monthly data.

**Figure 2:** An extract from the SA Athletics Stadium Customer Water Use Portal



ORS has since connected another site to the portal. The portal provides ORS with centralised access. It has been a valuable tool for monitoring water consumption and identifying leaks.

Anthea Shem, Special Projects Officer at ORS, has seen the benefits of the portal, saying, "It has been invaluable for the daily monitoring/management of stadiums. The easy-to-interpret reports enable quicker responses."

To find out more information about the smart meter service provided by SA Water please visit: <http://www.sawater.com.au/business/products-and-services/customer-water-use-portal2> or contact SA Water's Business Relations Team on 08 7424 3753.

## Conclusions

As a result of the project, the Office for Recreation and Sport Active Club Program (Programs and Equipment) was reviewed to allow clubs to apply for smart meters.

If you meet the eligibility criteria, you can apply for a smart meter under the following grant programs through ORS:

- Active Club Program, facility upgrade requests (up to \$25,000 on a \$1 for \$1 basis)
- Active Club Program, programs and equipment requests up to \$5,000
- Community Recreation and Sport Facilities Program.

For more information about ORS grant programs, please visit [www.ors.sa.gov.au](http://www.ors.sa.gov.au) or phone 1300 714 990

