A note from the director general

“The Department of Water and the Department of Sport and Recreation are working together to assist local government in meeting this challenge.”

In our first edition of The Hydro Zone the message from the Minister for Water Resources, Sport and Recreation was clear: For Perth city and surrounds to continue enjoying high-quality sports grounds and cope with the challenge of climate change, the efficient use of groundwater is paramount.

The Department of Water and the Department of Sport and Recreation are working together to assist local government in meeting this challenge.

Water conservation plans will provide a convenient way for local government authorities to assess their level of water-use efficiency and to set out how they plan to improve within the time frame agreed with the Department of Water.

The transition from an agreed approach and set of principles for a water conservation plan in 2007 to an electronic automated template customised for each of the 31 Perth region local government authorities is almost complete.

The emphasis in this new initiative is for the Department of Water to work collaboratively with local government to improve water conservation/efficiency, using the water conservation plan as a basis for this collaboration.

It is intended that the concept of water conservation plans be applied to other water-use sectors including agriculture, industry and mining in the same collaborative way.

The development of this process with the local government water-use sector will be invaluable for wider application of water conservation plans, ultimately giving each major water-use sector every assistance possible to cope with a drier and warmer climate in southern Western Australia.

JOHN LONEY
Acting director general
After three years of collaborative effort the water conservation plan (WCP) template is about to be released on CD.

The WCP software guides you step-by-step through the process of developing objectives, strategies, targets and actions that will assist in better managing your groundwater resource.

At the click of a button you will have a report which can be circulated within your council and submitted to the Department of Water for assessment and discussion.

Components
The WCP template incorporates two main components: data and a WCP. The data includes the park-by-park irrigation and water-licence information for each local government authority. This will be pre-loaded into the software for each council and can be used to compare with your own data.

The template software is capable of absorbing existing information concerning a local government authority’s irrigation management. It provides headings and guidance to prompt the user to fill out the required information. The software draws on this information to give a snapshot of the local government authority’s current position regarding five key water efficiency factors as well as providing a rating on the accuracy of the data depending on methods of measurement.

Eight possible conservation improvement strategies are provided for the local government authority to consider and there is the option to add further strategies. The template provides for an action plan to be described to improve the conservation/efficiency factors and the data accuracy ratings over a stated time period.

The unveiling
Two workshops have been planned for late April to introduce the Perth region local government authorities to the details of the water conservation plan: One for the councils north of the Swan River and one for the councils south of the river.

Participant local government authorities will be given a demonstration on how the template can work for them. They will leave with a CD containing the template and a users’ guide for the WCP. CDs will be individualised for local government authorities and pre-loaded with the Department of Water allocation and licensing details for that local government authority.

Councillors will be contacted regarding the venue, agenda and confirmed date.

Testing the WCP template
The department’s water recycling and efficiency branch met with local council and consultancy representatives on 30 January and tested the latest version of the template designed to make the WCP user friendly.

This workshop provided a final test-run of the template before its formal release to local governments on CD. It gave the consultants and councils attending a chance to be trained on the template application and the department was able to gather valuable feedback. The feedback was positive, with participants supporting the Department of Water’s approach taken on
the WCP and the format of the database. Specific feedback is being considered and where possible has been incorporated.

A water efficiency hotline has been set up to answer any immediate enquiries about the plan that local government authorities may have, which is 1800 508 885.

An initial list of consultants available to help local councils is also provided.

**Consultants available**

Andrew Ogden  
Western Irrigation  
08 93301144  
ogden@wirrig.com.au

Colin Campbell  
Hydroplan  
08 94702234  
cjc@hydroplan.com.au

Ken Johnston  
Sports Turf Technology  
08 93673568  
ken@sportsturf.net.au

Steve Peck  
Hydroscape Australia Pty Ltd  
08 93422635  
srpeck@bigpond.net.au

For discussion regarding additions to this list please contact the Department of Water on 6364 6873

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The Department of Water conducted a survey to see how useful readers found the first edition of *The Hydro Zone*.

<table>
<thead>
<tr>
<th>1. Which article did you find most useful?</th>
<th>Response Count</th>
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<tbody>
<tr>
<td>1. Water conservation - an issue for all Western Australians</td>
<td>2</td>
</tr>
<tr>
<td>2. Cooperative water management</td>
<td>1</td>
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<tr>
<td>3. Delivering water conservation plans</td>
<td>2</td>
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<tr>
<td>3. Taking the lead</td>
<td>0</td>
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<tr>
<td>4. Cockburn &amp; Cambridge case study</td>
<td>2</td>
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<tr>
<td>5. Metering project</td>
<td>1</td>
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</table>

The information received through our survey was useful in shaping this edition. The more feedback we receive, the more we can tailor the newsletter to your responses. Readers were asked questions such as:

- Which article did you find most useful?
- What topics would you like to see covered in future editions?
- How satisfied were you with the layout?

This is your newsletter so please let us know what you would like to read about. We welcome any feedback you may have.

If you wish to forward your comments or suggestions to the department please send your email to waterefficiency@water.wa.gov.au.
More about metering

As part of the National Water Initiative Implementation Plan, the federal government has enlisted the National Measurement Institute to develop and implement a pattern approval process to ensure that all meters used will comply with the Australian standards currently being developed by Standards Australia. These are for the installation, measurement and use of an irrigation water meter and for the measurement of water.

A national metering expert group has been established to guide this process. This includes:
• a national meter specification
• national meter standards specifying the installations of meters in conjunction with the meter specification
• national standards for ancillary data collection systems associated with meters.

As the Government of Western Australia is a signatory to the National Water Initiative it will be bound by any new Australian standards for irrigation meters and the method for accurate measurement of water use. Meter readings should be collected once a month and submitted to the Department of Water annually. However, this may vary depending on specific needs of the user and the department.

Under the Rights in Water and Irrigation (Approved Meters) Order 2003 meters must comply with Australian Standard 3565 or 3778 and/or be calibrated by a National Association of Testing Authorities accredited laboratory. The department has also developed guidelines to ensure that meters are accurate to within two per cent on the bench and within five per cent in the field and are installed in accordance with our specifications. Experience from a pilot metering project in Gnangara has identified that:
• fit-for-purpose meters need to be selected and consideration should be given to the type of irrigation system, water quality, quantity and robustness
• meters should have a pulse output capability for logging and telemetry devices.

Guidelines can be found at www.water.wa.gov.au/gnangara/metering/meterinstallationguide. Many local government authorities are undertaking meter installations themselves. For example the City of Swan, has received funding assistance for meters from the Australian Government’s Community Water Grants. More information on this can be found at www.communitywatergrants.gov.au

If councils are seeking advice on installing meters, they can contact the Department of Water’s metering team on 08 6364 6870 or metering@water.wa.gov.au.
Accuracy of irrigated-area estimation

Water budgeting has two essential components: the accurate estimation of the size of irrigated areas and the measuring of water consumed.

In the past when groundwater licenses were granted, the map area was often used as an alternative for the actual area irrigated.

Historically a licensed area based simply on the map area may have included non-irrigated areas such as buildings, car parks, hardscape, play equipment and patches of remnant bushland. Over time, irrigated areas changed as parks were redeveloped and in some cases, smaller pocket parks or road verges and medians were also added to the same bore license.

In the interests of ensuring accuracy in reporting and water budgeting, it is important to progressively move toward accurate estimates of the actual areas irrigated. This generally involves the use of high-resolution aerial photography, combined with CAD and/or GIS together with appropriate ground-truthing. This should be done by officers familiar with on-ground irrigation systems for each park or reserve.

The figures below, provided by the City of Bunbury, illustrate potential discrepancies. Figure 1 shows irrigated area information recorded in the licensed database historically based mainly on the map area. Figure 2 shows actual area irrigated determined from high-resolution aerial photography, GIS and ground-truthing. It doesn’t take much imagination to appreciate potential errors associated with irrigated areas based on the map area alone.

It is possible that a significant number of parks and reserves in Perth have licensed irrigated areas based mainly on the map area with similar errors to those described for Bunbury prior to its recent reassessment of its actual irrigated areas.

As part of a water conservation plan (WCP), irrigators will need to develop a better understanding of the reliability of their licensed irrigated-area estimates and move as quickly as possible to reliable estimates of actual areas irrigated. The electronic WCP template provides a framework to undertake this transition if required.