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Foreword

Welcome to the Inaugural Water Campaign™ Actions Report 2008, which sets the scene on water conservation and water quality management for 2007/08. We hope it inspires local governments across Australia to become more involved in saving water and safeguarding its quality.

The savings and actions highlighted in this Report are widely transferable and provide excellent examples of what is possible for all local governments endeavouring to sustainably manage their water resources.

The diverse examples demonstrate some of the tangible contributions local governments are making to water resource management: from innovative irrigation approaches and drinking-quality water substitution, to using Water Sensitive Urban Design devices for water quality protection and working with their communities.

The Actions Report has been compiled from information provided by 24 Water Campaign™ participant councils from New South Wales, South Australia, Victoria and Western Australia. Together, they represent municipalities ranging from high-density inner city districts to whole shires of less than 1000 residents.

All councils that have reached at least Milestone 3 in ICLEI Oceania’s Water Campaign™ were invited to contribute to this Report. Participants sent us information on quantitative and qualitative actions they had undertaken in 2007/08, which we then evaluated. This Report analyses the nationwide results and highlights specific projects.

We applaud the efforts of our council participants across the country and are pleased to showcase creative and inspiring initiatives which demonstrate that local governments – regardless of their size or location – can make a real difference to Australia’s water management.

Wayne Wescott
Chief Executive Officer, ICLEI Oceania

For further information we invite you to visit the ICLEI Oceania Water Campaign™ website: www.iclei.org/oceania/water

Background

The Water Campaign™ was launched at the ICLEI World Congress in June 2000 and introduced in Australia in 2001. It was piloted with five councils and as of June 2008 involved 119 local governments across the nation.

This voluntary program aims to build the capacity of local government to reduce water consumption and improve local water quality. It is the largest program of its kind in the world.

The Water Campaign™ helps local governments to identify and evaluate the challenges they face in:

- **Council-wide** water management activities
- **Community-wide** water management in residential and non-residential parts of the municipality
- **Catchment-wide** water management and the potential offered by collaboration between local governments in the Water Campaign™.

The Water Campaign™ Milestone Framework

The Water Campaign™ supports local government efforts to understand and improve their water management through performance-based milestones.

Throughout the Water Campaign™ milestone framework, councils receive support and technical information so they can incorporate water quality protection and water conservation into their daily operations and throughout their communities over the long term.

The program gives councils a tested model, covering a broad spectrum of water management issues. It encourages a holistic and sustainable approach.

Participating councils progress through five milestones:

**Milestone 1:** collating and analysing water consumption data, and assessing practices that influence water quality.

**Milestone 2:** setting water conservation and water-quality improvement goals, which are then endorsed by council.

**Milestone 3:** creating a local action plan of strategies and detailed actions, which is then endorsed by council.

**Milestone 4:** implementing the local action plan, assessing it quantitatively and qualitatively, and reporting implemented actions.

**Milestone 5:** re-assessing council progress to ensure continuous improvement in practices.
Nationwide, ICLEI Oceania is delighted to announce that, through 381 reported actions, almost 1.7 gigalitres (GL) of water have been saved in 2007/08 by councils participating in the Water Campaign™. This is equal to the volume of about 670 Olympic-sized swimming pools.

In compiling this snapshot of water-saving efforts by local governments across Australia for 2007/08, ICLEI Oceania recognises that, while actual savings may be appearing in this year’s statistics, much of the groundwork on many projects may have been done over several preceding years.

**Corporate Actions**

This section looks at works undertaken by councils to improve their own operations. In many areas, local councils can be among the largest water users in their management of public buildings, parks, playing fields and swimming pools.

These areas are clearly where councils in the Water Campaign™ have focused their actions, and are making the largest savings of drinking-quality water (also referred to as ‘mains’, ‘scheme’ or ‘potable’ water).

The 287 reported corporate actions resulted in almost 1.4 GL of mains water savings.

<table>
<thead>
<tr>
<th>Facility type</th>
<th>2007/08 Water savings in kL</th>
<th>Actions with quantitative water savings in 2007/08</th>
<th>Total number of actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Council buildings</td>
<td>55,154</td>
<td>63</td>
<td>104</td>
</tr>
<tr>
<td>Administration buildings</td>
<td>6,653</td>
<td>19</td>
<td>30</td>
</tr>
<tr>
<td>Child care centres</td>
<td>313</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Cultural buildings</td>
<td>459</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Depots</td>
<td>3,773</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>Facilities and toilets</td>
<td>36,528</td>
<td>21</td>
<td>33</td>
</tr>
<tr>
<td>Community centres</td>
<td>7,428</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>Gardens</td>
<td>5,100</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Gardens / planter boxes</td>
<td>1,500</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Nurseries</td>
<td>3,600</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Leased facilities</td>
<td>2,753</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Market buildings</td>
<td>2,753</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Residences</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shops / shopping centres</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>51,278</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Open space</td>
<td>914,641</td>
<td>15</td>
<td>71</td>
</tr>
<tr>
<td>Playing fields</td>
<td>300,280</td>
<td>14</td>
<td>36</td>
</tr>
<tr>
<td>Recreation facilities</td>
<td>31,257</td>
<td>26</td>
<td>40</td>
</tr>
<tr>
<td>Recreation centres</td>
<td>16,315</td>
<td>15</td>
<td>19</td>
</tr>
<tr>
<td>Swimming pools</td>
<td>14,942</td>
<td>11</td>
<td>21</td>
</tr>
<tr>
<td>Organisational actions*</td>
<td></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>Grand total</td>
<td>1,360,463</td>
<td>124</td>
<td>287</td>
</tr>
</tbody>
</table>

*Cross-organisational actions such as training and policies

**Measurements**

- Kilolitre (kL) = 1,000 litres
- Megalitres (ML) = 1,000 kL
- Gigalitre (GL) = 1,000 ML

**Table 1: Water Savings & Quality Impacts by Council Facility Type**

**Table 2: State Involvement and Council Savings**
**Corporate totals by state**
Between them, Victoria and Western Australia comprised 19 of the 24 councils involved, saving over 1.3 GL, or 97% of 2007/08 totals.

Western Australia had the highest number of councils providing information for this Report (see Table 2). In 2007/08, these councils made substantial savings, mainly due to large-scale irrigation projects.

**Corporate totals by action type**
The biggest savings related to open space management and playing fields (see Figure 1) and came from irrigation upgrades, water substitution and switching to vegetation that requires less water (see Table 3).

The most common actions were toilet upgrades, installation of rainwater tanks and conversion to water-efficient showerheads and taps.

More difficult to quantify are the impacts of planting drought-resistant vegetation, and improved monitoring and data management.

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**Selected examples of Water Conservation Actions – Corporate**

**Mornington Peninsula Shire Council, coastal Victoria**
Twenty-three sports pavilions across the shire were fitted with rainwater tanks and flow regulators for use in water-efficient showerheads, toilets and urinals. Tanks were also installed at six kindergartens, five community halls and five public toilet blocks.

**Frankston City, Victoria**
Four of Council's reserves are now watered with recycled water, resulting in over 60 ML of mains water savings. Council is currently planning to water a further five parks and gardens with recycled water.

**Shire of Murray, Western Australia**
The Shire of Murray lies 86 kilometres south of Perth with a population 11,000. Council installed Desert Cube waterless urinal blocks at the recreation centre, Home and Community Care and administration building urinals. Water is now no longer required for flushing and only small volumes are needed for cleaning.

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**TABLE 3: WATER SAVINGS BY TYPE OF ACTION TAKEN**

<table>
<thead>
<tr>
<th>Type of action</th>
<th>Examples</th>
<th>2007/08 Water savings in kL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irrigation</td>
<td>More efficient systems, irrigation timing adjustments</td>
<td>509,579</td>
</tr>
<tr>
<td>Low-water vegetation</td>
<td>Warm-season grasses, native vegetation, browning off</td>
<td>175,981</td>
</tr>
<tr>
<td>Mulch and soil conditioning</td>
<td>Mulch, wetting agents, soil conditioning</td>
<td>20,700</td>
</tr>
<tr>
<td>Pool</td>
<td>Backwash re-use, pool covers, pool leak repair</td>
<td>2,926</td>
</tr>
<tr>
<td>Rainwater tank</td>
<td>Rainwater tanks for irrigation, toilet flushing</td>
<td>117,389</td>
</tr>
<tr>
<td>Recycled water</td>
<td>Sewage mining, use recycled water from sewage plants</td>
<td>334,321</td>
</tr>
<tr>
<td>Showerheads and taps</td>
<td>Water-efficient showerheads, flow-restrictors, spring-loaded taps, aerators</td>
<td>57,909</td>
</tr>
<tr>
<td>Stormwater</td>
<td>Aquifer storage and recovery (ASR/MAR) wetlands/aquifer, stormwater detention</td>
<td>129,297</td>
</tr>
<tr>
<td>Toilets</td>
<td>Waterless urinals, dual-flush toilets</td>
<td>11,002</td>
</tr>
<tr>
<td>Washdown</td>
<td>In depots</td>
<td>1,359</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>1,360,463</strong></td>
<td></td>
</tr>
</tbody>
</table>
Community actions

In this category of water conservation actions, councils encourage local community members to take water-saving measures.

The results of these efforts can be difficult to quantify accurately: for example, of 94 actions reported by councils in 2007/08, quantified water savings could only be attributed to 15 actions. This is mainly due to a lack of detailed information on water savings measures adopted by the community.

However, councils were able to report that their communities undertook 94 actions and saved more than 300 ML of water in 2007/08.

Community totals by state

Victoria recorded the highest savings in community water conservation, mainly because councils can take part in the showerhead exchange programs run by the three water retail business in Melbourne. This is also one of the few community actions that can be quantified (see Table 4).

Community totals by action type

Councils aimed 74% of their actions at municipal residents, 13% at local businesses and the remaining 13% at both groups.

Most community actions focused on education and implementation. Table 5 shows examples of initiatives developed to encourage the wider community to participate in water conservation.

Selected examples of Water Conservation Actions – Community

City of Subiaco, Western Australia

Council converted 429m² of turf into a native plant demonstration garden at the Cliff Sadlier Reserve in June 2008. Irrigation was converted from the gear-drive arc sprinklers typical of turf watering, to a water-saving pop-up stream rotor system.

Shellharbour City Council, coastal New South Wales

NSW’s newest council lies 100 kilometres south of Sydney and has 65,000 residents. Council updated changing rooms at Oak Flats, Warilla and Albion Park swimming pools, retrofitting dual-flush toilets and low-flow shower roses, and installing basin-flow restrictors. Council also installed water tanks at its plant nursery and truck depot.

City of Mitcham, South Australia

Federal funding was used to divert overflow from two separate 20,000-litre and 10,000-litre above-ground rainwater tanks at Mortlock Park, into an aquifer. This water is later used to irrigate the oval, instead of using bore water. In various parks and playing fields, Council is trialling the use of soil additives to increase water retention and is exploring ways to improve water efficiency through soil testing.

Shire of Cuballing, wheat belt, Western Australia

Cuballing, with a population 900, lies 200 kilometres south-east of Perth. A new stormwater-harvesting system at Council’s recently extended recreation hall uses guttering, downpipes, sumps and an underground pipe system to transport rainwater 300 metres to the Cuballing Oval reticulation dam.
Improving water quality is another important component of the Water Campaign™. Councils refer to a list of 10 water-quality management areas to assess current practices in corporate operations and in their communities:

- Gross litter and pollution management
- Ground water management
- Herbicide, pesticide and fertiliser management
- Nutrient management
- Potential acid sulphate soil management
- Salinity management
- Sediment and erosion control
- Swimming pools
- Wastewater treatment
- Water Sensitive Urban Design

**Corporate Actions**

In 2007/08, 23 councils reported 211 actions to improve water quality. The five most common action areas were:

1. Gross litter and pollution management, with 51 actions from 17 councils
2. Water Sensitive Urban Design, with 34 actions from 12 councils
3. Sediment and erosion control, with 28 actions from six councils
4. Groundwater management, with 25 actions from eight councils
5. Nutrient management, with 23 actions from 10 councils

Many councils were involved in staff training, monitoring and data management, maintenance, and policy development to improve water quality.

**Community Actions**

In 2007/08, 17 councils reported a total of 157 actions to encourage their wider communities to help improve water quality. The five most common action areas were:

1. Gross litter and pollution management, with 38 actions from 11 councils
2. Sediment and erosion control, with 34 actions from 10 councils
3. Nutrient management, with 27 actions from 10 councils
4. Herbicide and pesticide management, with 16 actions from six councils
5. Water Sensitive Urban Design, with 15 actions from seven councils

Many councils were involved with community education and policy development that encouraged residents and businesses to improve water quality.

### Selected examples of Water Quality Actions – Corporate

**Shire of Augusta-Margaret River, coastal Western Australia**

The shire is located 270 kilometres south-west of Perth and has a population of 11,000. Council is encouraging developers and water corporations to use wastewater for irrigating public open spaces, reducing dependence on mains water within the shire.

**Shellharbour City Council, coastal New South Wales**

Council conducted sediment and erosion control training for its environmental officers, engineers, and compliance, works and maintenance staff.

**Shire of Wandering, Western Australia**

The shire is located 120 kilometres south-east of Perth with a population of 335. Council participates in the Used Oil Infrastructure program to give residents and businesses access to used oil collection. Reducing irresponsible disposal of used oil can protect stormwater and groundwater quality. The program includes community education to encourage shire-wide participation.

**City of Mitcham, South Australia**

Council conducted environmental awareness training for all depot staff to promote best environmental practice in their civil and horticultural operations. As well as improving the health of local waterways, this sets a positive community example.

### Selected examples of Water Quality Actions – Community

**City of Belmont, Western Australia**

Council audited more than 320 small-to-medium enterprises from mixed use and industrial areas on compliance with the Environmental Protection Authority's Unauthorised Discharges Regulations. Businesses now understand and comply, and have devised spill-response measures.

**City of Mandurah, coastal Western Australia**

Mandurah lies 75 kilometres south of Perth and has a population of 65,000. Council created and conducted the Blue Crab Stormwater Education program in local schools and developed an education package for use by teachers.

**City of Port Phillip, Victoria**

Inkerman Oasis, a medium-density housing development, collects stormwater from roofs and directs it into a wetland. Grey water is treated and used for toilet flushing and irrigation. Teachers and professionals now visit the development as a model of best practice.
Water Campaign™ Participants – 2008

New South Wales
Blue Mountains City Council
Canada Bay Council
Coffs Harbour City Council
Port Macquarie-Hastings Council
Hornsby Shire Council
Hunter’s Hill Council
Lismore City Council
Muswellbrook Shire Council
North Sydney Council*
Penrith City Council*
Shellharbour City Council*
Sutherland Shire Council
Waverley Council
Willoughby City Council
Wollongong City Council

Queensland
Logan City Council

South Australia
Adelaide City Council
Alexandrina Council
Barossa Council
Berri Barmera Council
City of Burnside
Campbelltown City Council*
City of Charles Sturt
Coorong District Council
District Council of the Copper Coast
Town of Gawler
City of Holdfast Bay
District Council of Karoonda East Murray
Light Regional Council
District Council of Loxton Waikerie
District Council of Mallala
City of Marion
Mid Murray Council
City of Mitcham*
District Council of Mount Barker
Mount Remarkable District Council
Northern Areas Council
City of Norwood Payneham & St Peters
District Council of Orroroo Carrieton
City of Prospect
Southern Mallee District Council
City of Victor Harbor
The Corporation of the Town of Walkerville
City of West Torrens
District Council of Yorke Peninsula

Tasmania
Hobart City Council

Victoria
Ballarat City Council
Banyule City Council
Baw Baw Shire Council
Bayside City Council
City of Boroondara
City of Brimbank
Cardinia Shire Council
City of Darebin
Frankston City*
City of Greater Bendigo
City of Greater Dandenong
City of Greater Geelong
Greater Shepparton City Council
Hobsons Bay City Council
Hume City Council
Latrobe City Council
Loddon Shire Council
City of Manningham
City of Maribyrnong
Maroondah City Council*
City of Melbourne
Metronet Shire Council
Monash City Council
Moonee Valley City Council
Moorebank Shire Council
Moreland City Council*
Mornington Peninsula Shire Council*
Nilimbiu Shire Council*
City of Port Phillip*
City of Stonnington*
City of Whitehorse*
Whittlesea City Council
Wyndham City Council
Yarra City Council
Yarra Ranges Shire Council

Western Australia
Shire of Augusta-Margaret River*
Town of Bassendean
City of Bayswater
City of Belmont*
Shire of Boddington*
City of Bunbury
Shire of Busselton
Town of Cambridge
Shire of Capel*
Town of Claremont
City of Cockburn
Shire of Collie
Town of Cottesloe*
Shire of Cuballing*
City of Gosnells
Shire of Harvey
City of Joondalup
Shire of Kalamunda
Town of Kwinana
City of Mandurah*
City of Melville
Town of Mosman Park
Shire of Mundaring
Shire of Murray*
City of Nedlands
Shire of Peppermint Grove
City of Perth
City of Rockingham
Shire of Serpentine Jarrahdale
City of South Perth
City of Stirling
City of Subiaco*
City of Swan
Town of Victoria Park
Town of Vincent
Shire of Wandering*
City of Wanneroo
Shire of Waroona*

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