

Securing our
water future

A State
Water
Strategy
for Western
Australia

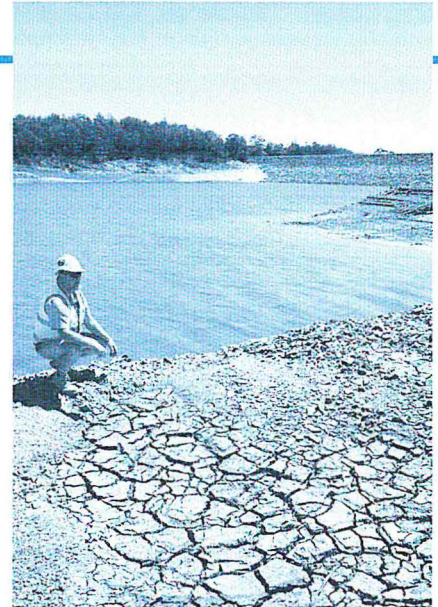
One year
Progress Report



April 2004

Background

Western Australia reached a critical period in its approach to water management during the worst drought on record in the years 2001/02. In response, the Water Taskforce was established to find solutions to ensure a sustainable water future for Western Australians.



Water Forums were held throughout 2002 in Perth (9 venues) and Western Australia regional centres (Albany, Esperance, Mandurah, Rockingham, Busselton, Collie, Kalgoorlie, Gingin, Merredin and Karratha). The purpose of these forums was to gather public input on how to approach water issues.

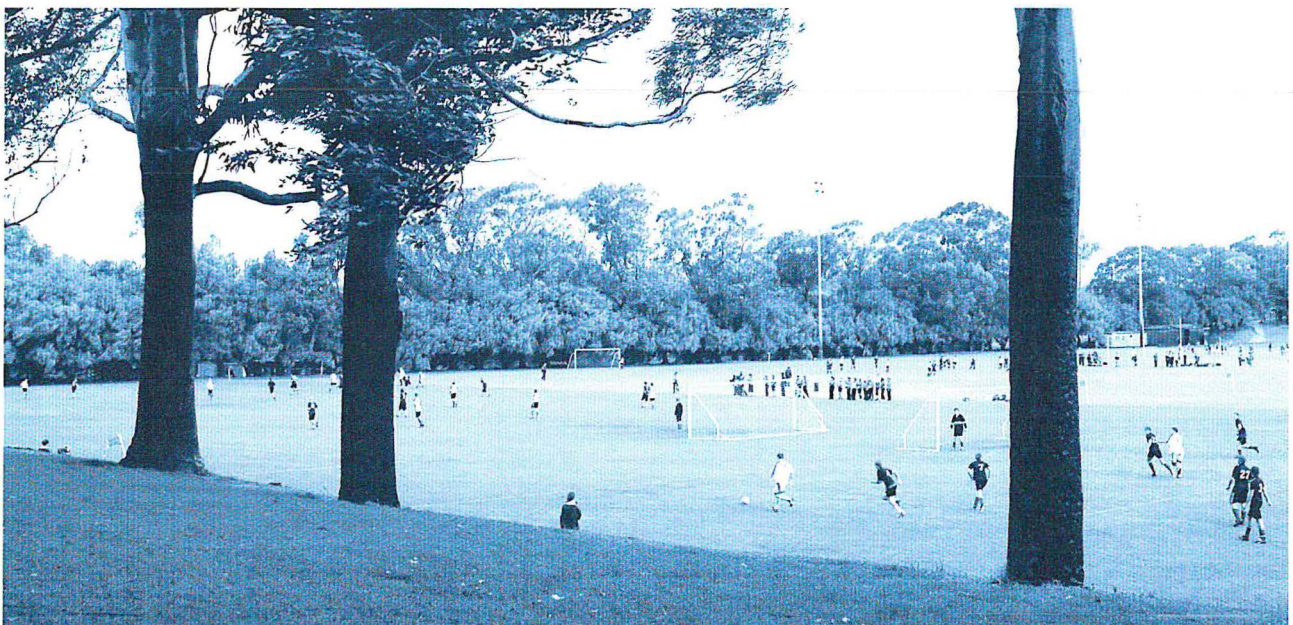
A Water Symposium, held from October 7-9 2002 at Parliament House, reviewed

the input from the regional and Perth Water Forums creating the framework for the State Water Strategy. The Premier launched the State Water Strategy in February 2003, appointing a Project Director to oversee and coordinate the implementation of the Strategy, supported by Government agencies and advisory groups.

The objective of the State Water Strategy is to ensure a

sustainable water future for all Western Australians by:

- ❖ Improving water use efficiency in all sectors.
- ❖ Achieving significant advances in water reuse.
- ❖ Planning and developing new sources of water in a timely manner.
- ❖ Fostering innovation and research.
- ❖ Protecting the value of our water resources.



The WA Government is committed to achieving 20 per cent reuse of treated wastewater by 2012. The initiative received a major boost in February 2004 when a trial project began irrigating McGillivray Oval in the City of Nedlands using treated wastewater from the Water Corporation's adjacent Subiaco Wastewater Treatment Plant.



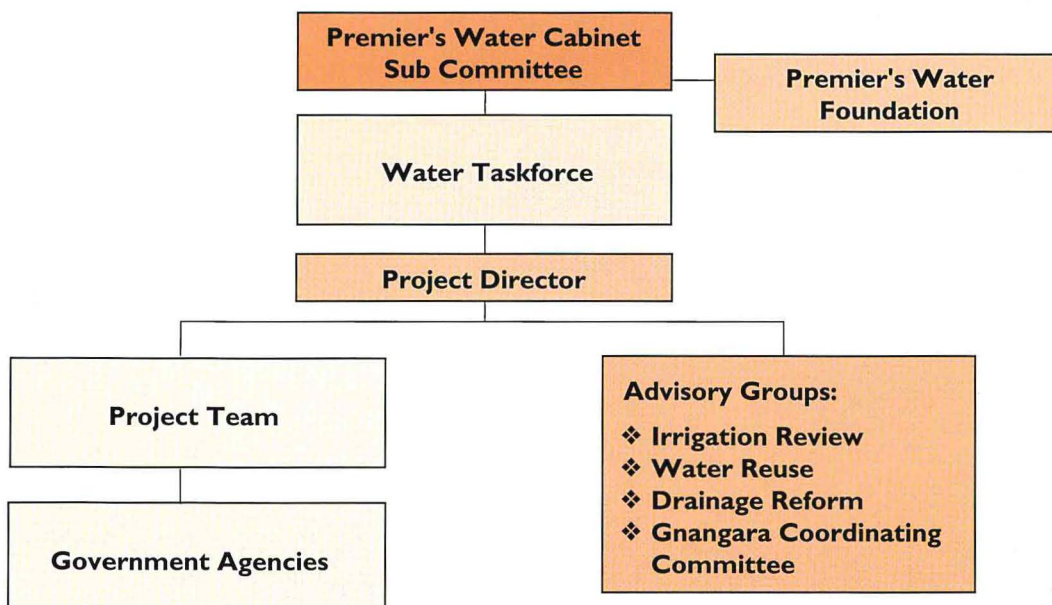
Approach to implementation of State Water Strategy

Securing our Water Future

We have set ourselves ambitious but vital long-term targets, as outlined in the State Water Strategy. We aim to:

- Achieve a 14 per cent reduction in consumption per person per year (i.e. 155kL) by 2012 for domestic consumers served by the Perth component of the Integrated Water Supply System.
- Establish a 20 per cent reuse of treated wastewater by 2012.
- Plan a major new water source for the Integrated Water Supply System (water supply to the Perth metropolitan area, Pinjarra, Mandurah and Goldfields by Water Corporation).
- Establish broad-based community education campaigns focusing on conservation for both scheme and self-supplies.
- Utilise the Integrated Resource Planning Process to ensure that all water source development includes consideration of, and appropriate investment in, conservation measures.
- Require water conservation management plans for large water users, before the renewal of a licence or a new licence is provided.

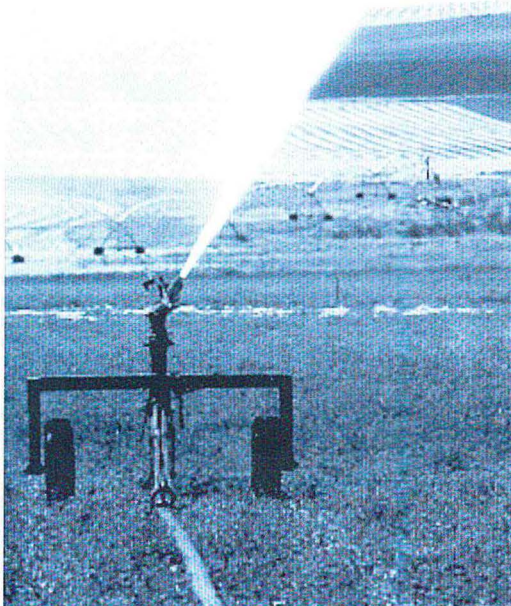
Structure of the State Water Strategy





Approach to implementation of State Water Strategy

- ❖ The Water Taskforce is chaired by the Premier's Chief Policy Adviser. It includes the Project Director State Water Strategy, representatives of Government agencies involved in the State Water Strategy (Department of the Premier and Cabinet, Department of Environment, Water Corporation, Department for Agriculture, Department for Health) and Ministers' Water Advisers. The Water Taskforce reports on a regular basis to the Premier's Water Cabinet Sub Committee (Premier, Ministers for the Environment, Government Enterprises, Finance and Energy, Agriculture, Planning and Infrastructure).
- ❖ The State Water Strategy Implementation Unit oversees and co-ordinates the tasks of the Strategy Management Report with Government Agencies and advisory groups.
- ❖ The Water Strategy Project Team (with representatives from Department of Environment, Water Corporation, Department of Agriculture, Department for Planning & Infrastructure), is chaired by the Project Director State Water Strategy. It coordinates and prioritises the allocated tasks within their agencies and reports to the Water Taskforce. Support is given, if required from other Government agencies and associations who have nominated a representative to the Project Team.
- ❖ The Premier's Water Foundation has been established to promote and enhance water-related research and development activities in Western Australia. It has an independent Board.
- ❖ The Irrigation Review Steering Committee has been established to review irrigation activities throughout Western Australia by identifying opportunities for water use efficiency. Three members of the Committee are major growers.
- ❖ The Water Reuse Steering Committee has been established with regard to the Government's commitment of a 20 per cent reuse of treated wastewater by 2012 for irrigation in industry, horticulture, public parks and gardens.
- ❖ Drainage reform groups are reviewing the regulation and institutional arrangements for drainage to achieve reform, which recognises the harvesting potential and includes management of water reuse and water quality.
- ❖ The Gnangara Coordinating Committee is implementing a framework that has been developed to integrate land and water planning, use allocation and management on the Gnangara groundwater mound.



An Irrigation Review Steering Committee has been established to review irrigation activities throughout Western Australia.



Approach to implementation of State Water Strategy

Allocation of Tasks

The Water Forums and the Symposium defined 84 key tasks to be undertaken. These are outlined in the Strategy Management Report (below).

Each task has a lead agency allocated, to provide resources and set priorities for the allocated tasks, supported by other agencies and working groups.

The 84 tasks of the Strategy Management Report have been allocated to:

| | |
|--|------------|
| Department of Environment | 29 actions |
| Department of the Premier and Cabinet | 19 actions |
| Water Corporation / Water Service Provider | 16 actions |
| Department of Agriculture | 7 actions |
| Department for Planning and Infrastructure | 5 actions |
| Office of Water Regulation | 3 actions |
| Department of Housing and Works | 2 actions |
| Department of Health | 1 action |
| CALM | 1 action |
| CSIRO | 1 action |

Subjects of the State Water Strategy and allocated tasks

The 84 tasks in the Strategy Management Report are grouped in five main categories:

84 tasks in Strategy Management Report



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|--|
| Water Conservation and Efficiency 30 tasks |
| Water Reuse 9 tasks |
| New Supplies and total water cycle management 16 tasks |
| Innovation, Research and Education 7 tasks |
| Resource Protection and Management 22 tasks |



Progress in implementing the State Water Strategy

The Taskforce members and the Project Team held a workshop to assess achievements and priorities of the tasks. The major achievements and outcomes, one year after the State Water Strategy was launched, are reported below. 24 out of the 84 tasks were completed by the end of February 2004, while significant progress has been achieved in almost all others.

Water Conservation and Efficiency

Target: The State Government is committed to achieving a consumption level of 155kL per person per year for domestic consumers served by the Perth component of the Integrated Water Supply Scheme (IWSS) by 2012. This is going to be achieved through:

Activities with the Community:

These activities include the existing drought response measures involving two days per week garden watering restrictions, a demand management program incorporating Waterwise initiatives, communications and marketing campaigns, Government Rebate Program, stepped pricing structure and support to major

non-residential customers for improved water efficiency. The combined effect of these initiatives has been to reduce water consumption from 185kL per person per year in 2000/01 to 150kL per person per year, meeting the defined target. To achieve this target without the imposition of water restrictions, however, presents a significant challenge requiring substantial additional demand management effort and expenditure in future years.

The Waterwise Rebate Program was introduced by the State Government in February 2003 as a means of encouraging the community to achieve water use efficiency in their homes and gardens. This program was launched on 11 February 2003 for one year to influence consumer buying behaviour towards water efficient household appliances. The program offered rebates for washing machines, garden bores, showerheads, rainwater tanks and, from October 2003, greywater reuse systems. By 10 February 2004 46,558 applications have been approved and \$6.48 million in rebate cheques delivered.

Due to this huge public response, Government decided to expand the program for another year with an amended product mix (Tap timers, Tap Flow Controllers and Soil Wetting Agents). Also, the rebate for Greywater reuse systems has been doubled). The estimated annual scheme water savings are 1.2 gigitalitres.

In addition, a number of further waterwise initiatives have been introduced to improve water use efficiency within the community.

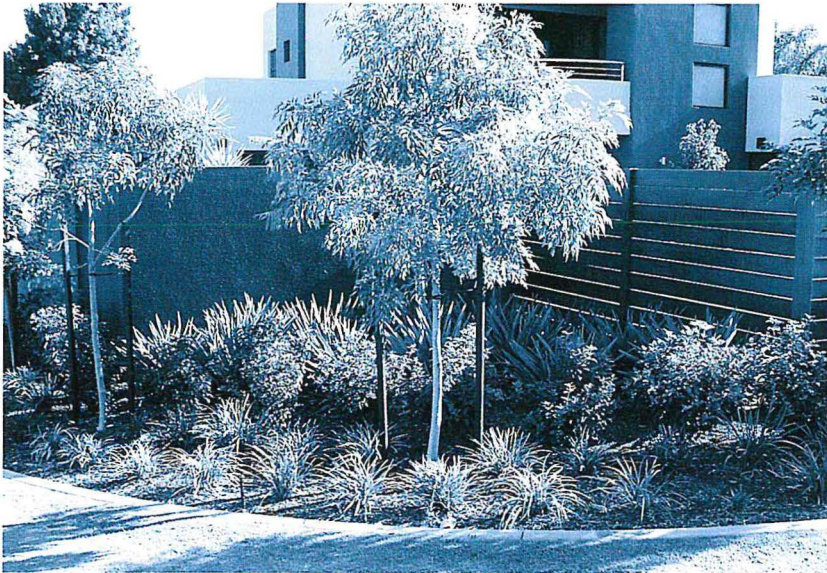
The Waterwise Schools Program was introduced in 1995 and the other programs were launched in late 2003.

These programs include:

- **Waterwise plumbers** – 106 plumbers participating and 642 appraisals conducted (as at February 2004).
- **Waterwise garden centres** – 17 centres participating (as at February 2004).
- **Waterwise garden irrigators** – 28 irrigators participating (as at February 2004).
- **Waterwise schools (education)** – 165 schools recognised (as at February 2004).



Progress in implementing the State Water Strategy



A Waterwise Display Village Program has been introduced to incorporate waterwise principles into new housing developments.

Activities with Local Governments:

- The State Government has briefed local governments and legislation has been amended so that the general water restrictions between 9am-6pm also applied to local governments as from 1 July 2003. Some local governments have been given extra time to comply due to the costs involved.
- The State Government funded the WA Water Campaign to implement sustainable water management plans with local government authorities (organised by the International Council for

Local Environmental Initiatives in co-operation with WALGA.) This three-year campaign, which began in November 2003, has recruited 10 councils to date. It is planned to recruit approximately 30 councils in total.

Activities with Industry:

A number of initiatives have also been introduced to promote efficient use of water by industry.

- The Water Corporation is collaborating with industry to facilitate the implementation of regulation of water efficient appliances in new buildings

and renovations. The Waterwise Display Village Program has been introduced to incorporate waterwise principles, such as water efficiency rated appliances, waterwise garden designs, irrigation systems and garden bores within new housing developments. Approximately 10 display villages have become accredited Waterwise display villages.

- National standards and codes relating to water efficiency, including rating and labelling are being developed to be implemented by July 2005.
- The Water Corporation has also developed a mechanism to assist and encourage major non-residential customers to be more water efficient in their operations. The Waterwise Business Program incorporates the Water Achiever diagnostic tool and best practice water use information sheets.



Progress in implementing the State Water Strategy



The new Harvey Dam supplies irrigation water to growers in a large area of the south west.

Activities with Agriculture:

- A state-wide Irrigation Review for sustainable and efficient water use has been initiated. A Steering Committee and terms of reference were established in November 2003, with the review to be completed by end of 2004. The review is focused on large irrigation districts considering the many issues currently facing the management of water supplies in those regions. The review will identify opportunities for efficiency gains, costs associated with improving efficiency, pricing mechanisms, possible trade-offs and the identification and establishment of sustainable forms and locations for irrigated

agriculture in the future. The review will also focus on the investigation into treated wastewater reuse schemes for irrigated agriculture to promote 'fit for purpose' use of water resources. A call for submissions has been sent to major stakeholder groups and is being advertised in metropolitan and regional newspapers. *For more information on the Irrigation Review:* www.ourwaterfuture.com.au/community/irrigationreview.asp

- A Farm Water Grants Scheme (rural water plan, drought assistance package) is being delivered by Department of Environment. The \$1.5 million additional funds were fully allocated in

the December 2002 Farm Water Grants Scheme round. These funds enabled 170 farm water grants to be awarded to farmers in areas most seriously affected by the 2001/02 drought. 'Surface Water Management for Dryland Agriculture', a kit for better water supply management, was recently launched at Wagin Woolarama. The Department of Agriculture also published Farmnotes on improving on-farm water storage, produced a dam volume calculator tool and a technical report on 'Assessing storage reliability of farm dams'.

- A Waterwise on the Farm Program (WWOTF education package) is also being delivered by Department of Agriculture: a pilot project, involving 3 groups of 20 farmers in the Harvey Irrigation Area and Scott River Plain was carried out in 2003. In 2004 these courses are continuing with growers in the Myalup, Busselton and Wanneroo areas. Farm irrigation management training received additional funding of \$185,000 through the National Landcare Program.



Progress in implementing the State Water Strategy

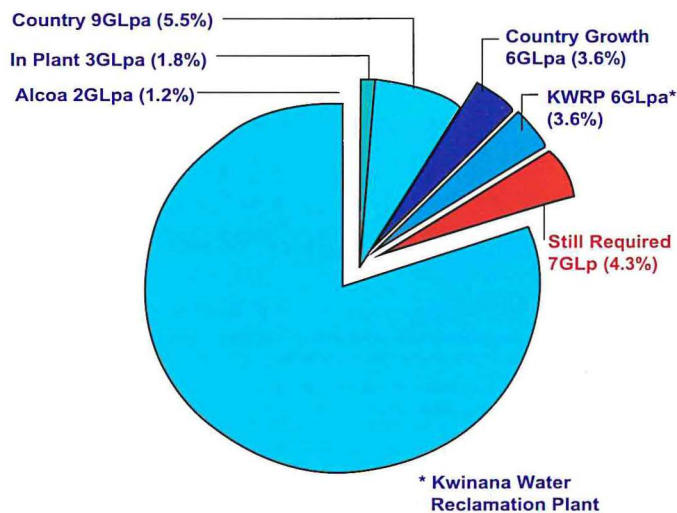
- The Department of Agriculture is providing increased technical expertise (best management practice) to growers and is currently developing irrigation BMPs for the Harvey irrigation area. A 'Benchmarking Water Use Efficiency' study brief has been prepared and the study initiated. Water use efficiency improvement targets have been agreed with Ord River Co-operation.
- The State Government has sponsored an Industry Development Officer at the Irrigation Association of Australia to develop, implement and manage a range of industry-based initiatives in support of the State Water Strategy.



Water Reuse

The State Government is committed to achieve 20% reuse of treated wastewater by 2012.

TOWARDS THE 20% TARGET



A Water Recycling Workshop was held in June 2003 at which the collective experience of international, national and local experts was presented. Key issues and potential opportunities for water recycling were identified and discussed. Since the workshop, a steering committee and terms of reference have been established and working groups are progressing this initiative. Opportunities to supply recycled water to industry and for irrigation of parks and agricultural areas

near Perth are being investigated. A survey is under way to ensure all opportunities are identified and assessed.

The use of aquifers for storage and transfer of recycled water to point of use is of particular interest for the Swan Coastal Plain. Recycling opportunities are being assessed using a triple bottom line approach, in line with the State Sustainability Strategy. Significant challenges include limitations on areas where recycled water can be used without compromising public drinking water source



Progress in implementing the State Water Strategy

protection areas, the development and application of health, environmental and water allocation guidelines for aquifer recharge and, in some cases, how to make schemes economically viable. An interim report was presented to Government in May 2004. Current activities include:

- The commissioning of a trial project at McGillivray Oval in the City of Nedlands to demonstrate effective use of reclaimed water for the irrigation of community parks and ovals. This was completed in February 2004.
- The construction of the Kwinana Water Reclamation Plant (KWRP), which is well advanced and will be commissioned in September 2004.
- The Department of Agriculture and Water Corporation are co-sponsoring a \$250,000 project to support a National Recycled Water Development Co-ordinator for Horticulture. The Co-ordinator will assist with the education of local growers.



The Kwinana Water Reclamation Plant is nearing completion. It will provide highly treated wastewater to industrial customers and free up five gigalitres of scheme water for domestic use.

New supplies and total water cycle management

New Supplies:

- Investigations of a 45 gigalitres (GL) water allocation from the South West Yarragadee Aquifer into the Integrated Water Supply System (IWSS) are continuing and a multi-criteria analysis matrix was launched in December 2003 for public comment. The numerous submissions are being evaluated.
- A 30-45GL desalination plant facility study was undertaken by Water Corporation. The timeframe for construction would be approximately 24 months.

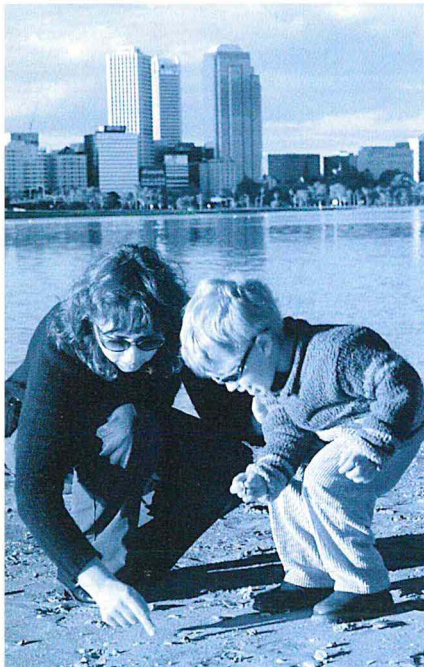
A Government decision on a new major source is expected in late 2004.

Total Water Cycle Management:

- The Drainage Reform Group and Drainage Management Forum Swan/Canning Catchment are working on drainage issues, together with the National Resource Management Council. A consolidated drainage options paper will be produced for presentation to Government in May 2004.



Progress in implementing the State Water Strategy



Innovation, Research and Education

Research & Development:

- The Premier's Water Foundation was launched in November 2003 to promote and enhance water-related research and development activities. Guidelines and the process for grant applications will be finalised by April 2004.

More information on eligibility and the application process will be published on our website

www.ourwaterfuture.com.au/community/foundation.asp

Community education/information campaigns:

- Waterwise activities (see Activities with Community, page 5) undertaken by Water Corporation.
- Community workshops and events (drainage issues,

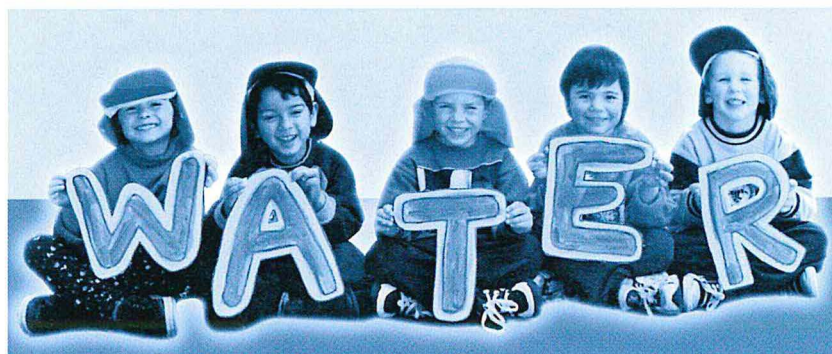
catchment to consumer symposium, water reuse workshop, South West Yarragadee public forums) have been held for stakeholder contributions and submissions on planned initiatives.

Resource protection and management

Ongoing activities:

- Support of CSIRO's 'Water for a Healthy Country' National Research Flagship project, which plans to deliver a ten-fold increase in the social, economic and environmental benefits from water use by 2025 with direct benefits to south west WA and Perth. The Western Australian Government, through its water resource management activities, will ensure Water for a Healthy Country science is applied for maximum community benefit.

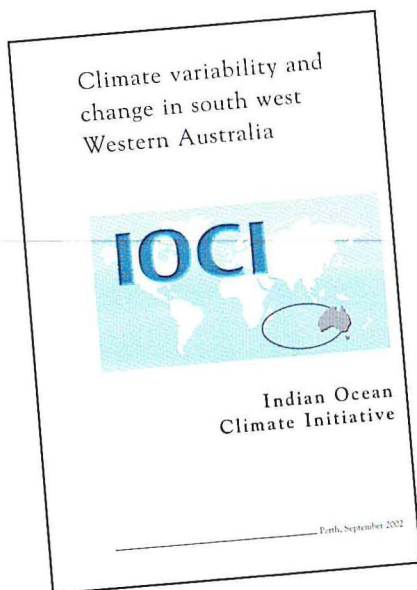
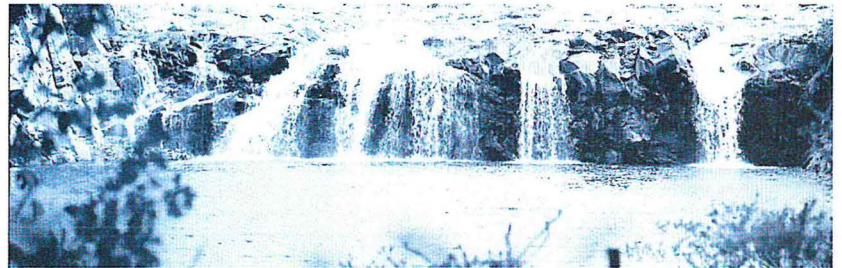
- The Gnamptara Coordinating Committee is working on the development of a management framework for the Gnamptara Mound groundwater, to resolve conflict amongst consumptive uses, including private and public abstraction, pine plantation evapo-transpiration and environmental needs. The tools being used to assist this include reduced public abstraction, improved water use efficiency, best practice management, increased monitoring and the possibility of aquifer recharge with reclaimed water.





Progress in implementing the State Water Strategy

- Support and co-fund IOCI (Indian Ocean Climate Initiative) Stage Two research. This stream of research investigates the nature and causes of the recent rainfall decrease in south west Western Australia. It builds on the research in IOCI Stage One, which concluded that: 'Most likely, both natural variability and the enhanced greenhouse effect have contributed to the rainfall decrease'.



www.wrc.wa.gov.au/ioci/Tech_Report_2002_SC.pdf

- The Department of Environment has begun a research project to investigate various water reuse conservation measures.
- The Advisory Committee for the Purity of Water is working on reports with regard to the primacy of drinking water in drinking water catchments. Another study, commissioned by Water Corporation on how to implement the Australian Drinking Water Guidelines 'Catchment to Consumer' framework, will be completed soon. These reports will be used in the development of a 'State Water Quality' series document for the Australian Drinking Water Guidelines.
- In order to protect the water dependent ecosystems, ecological water requirements and environmental water provisions are determined when allocation planning is undertaken.
- Department of Environment is working on Drinking Water Source Protection plans for all public drinking water supply catchments, which will be published on its website. The Licensing process is being enhanced, requiring all applications for new licences and renewals to include a Water Conservation Plan with objectives for increased efficiencies in water use and an implementation schedule.



Milestones for 2004

The Western Australian Government has set itself the goal of becoming one of the most water efficient communities in the nation. In 2004, the State Water Strategy will work on the following priorities:

- Support consumer water savings through a re-launch of the Waterwise Rebate Scheme with expanded product mix (from 11/2/04 – 10/2/05).
- Complete a state-wide Irrigation Review (progressive reports to Government and final report by the end 2004).
- Encourage Government agencies to undertake water efficiency audits of their buildings and properties (Sustainable Code of Practice for Government agencies has been established).
- Fund and support the International Council for Local Environmental Initiatives (ICLEI) to recruit further councils for the WA Water Campaign.
- Submit a communication strategy for water reuse to Cabinet and work on reuse projects.

- Coordinate activities with regard to Gnangara Mound land/water use management planning.
- Establish guidelines for grant applications and call for EOI to the Premier's Water Foundation grants scheme.
- Publish a white paper on drainage and work on consolidated options for drainage reviews.

- Evaluate possibilities for a new major water source.

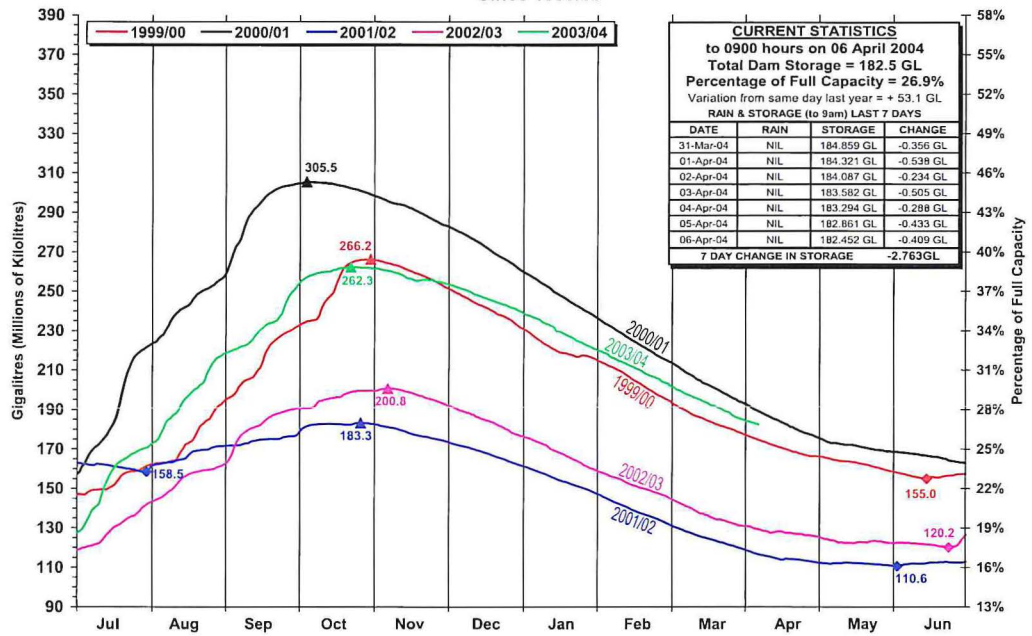
For further information please contact the Director State Water Strategy, Jos Mensink, at the Department of the Premier and Cabinet, phone 08 9222 9832, email: jmensink@dpc.wa.gov.au, or visit our website www.ourwaterfuture.com.au



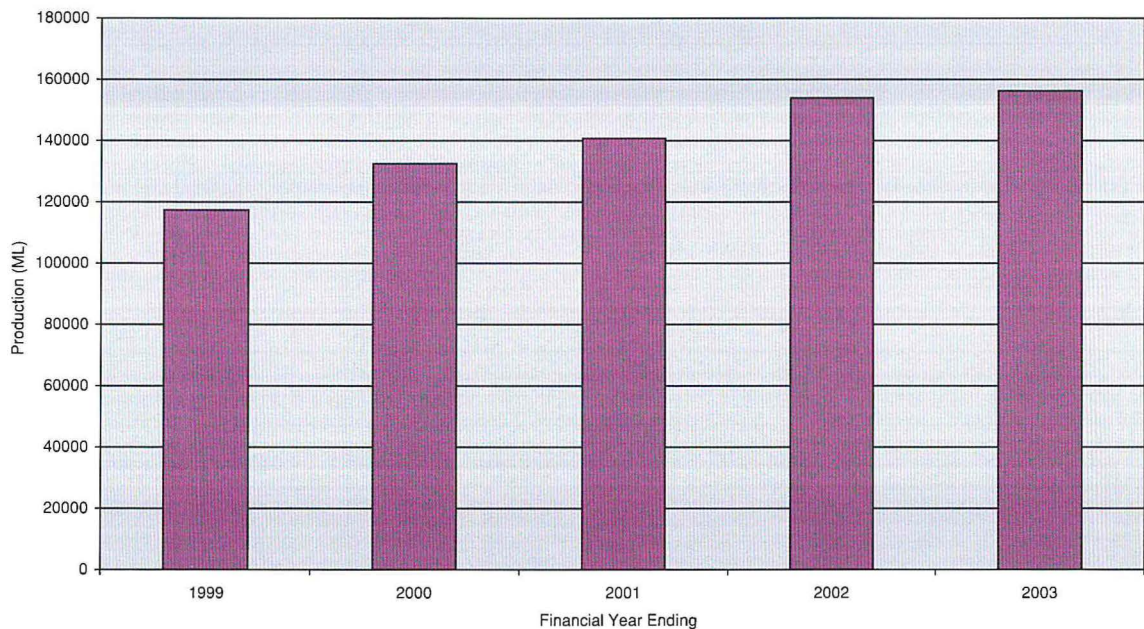


Statistical Graphs

Dam Storage Since 1999/00



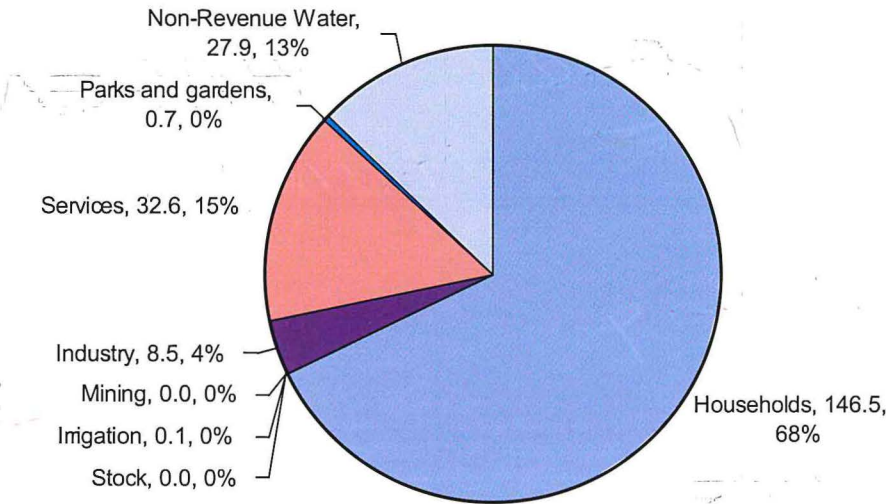
Total Groundwater Output



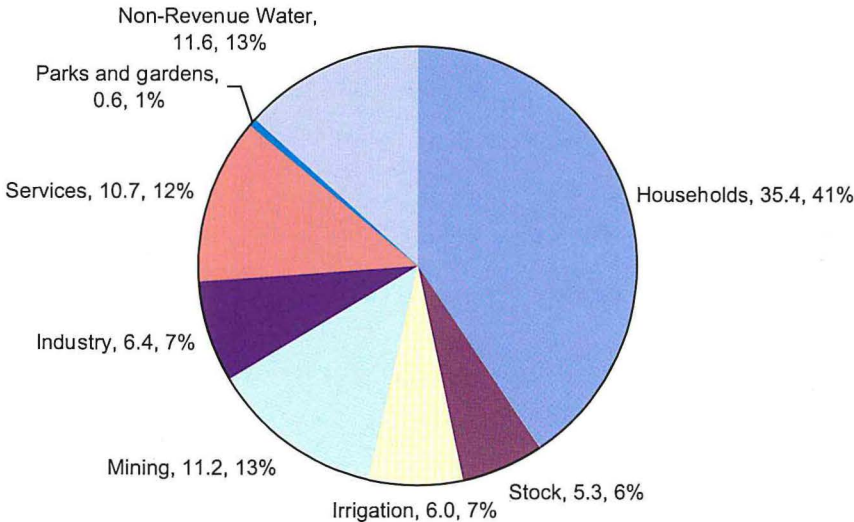
Statistical Charts



2002/03 Perth Metro Water Usage
(Total Consumption – 216 GL,
Number of accounts – 622,077, Population – 1,434,606)



2002/03 Water Usage for 11 Major Country Schemes
(Total Consumption - 87.3 GL,
Number of accounts – 128,201, Population – 228,285)





The Western Australian Government thanks community members from all walks of life for their input into the State Water Strategy. Particularly, we appreciate the efforts of those who took part in the 2002 Water Forums across the State and delegates to the Water Symposium at Parliament House in October 2002.