



*Securing our  
water future*



# A State Water Strategy for Western Australia



**SUMMARY  
DOCUMENT**



February 2003

## Introduction

*Western Australia has reached a critical point in the way we use and reuse our precious water resources.*

*The water shortage we have had to live with in recent times has shown us that the efficient use of water is no longer a response to the current drought but in fact an essential step in learning to live with less water without compromising our way of life.*



There are no simple solutions to our water shortage. What is needed is a multi-faceted approach that combines new sources, new efficiency measures and innovative ways of re-using our wastewater.

We all need to contribute to securing our water future. Without the involvement of the community, industry and local government we cannot solve Western Australia's water shortage.

The State Water Strategy is

based on a wide range of input from community members, including those who in 2002 took part in a series of Water Forums across our State and delegates to the Water Symposium at Parliament House from October 7-9, 2002.

The Strategy calls for strong community, government and industry partnerships to ensure a sustainable water future for all of us who live in Western Australia and emphasises the vital role we will all play in

securing this future.

A prominent feature of this Strategy is that it recognises the regional diversity of Western Australia and calls for tailor-made measures and targets for different parts of our vast State.

A clear message from the forums and the Water Symposium was that my Government should lead in encouraging the adoption of water efficient appliances and practices.

## Key initiatives at a glance –

- ◆ \$7 million financial incentive package to encourage the uptake of water efficiency measures, including rebates for the installation of garden bores, rainwater tanks, water efficient shower heads and washing machines rated AAAA or better.
- ◆ Substantial increases to the price paid by Water Corporation domestic customers who consume more than 550kL to penalise water wastage while ensuring that pensioners, large families and low income earners are generally protected from price increases.
- ◆ Establish the \$3 million Premier's Water Foundation to promote and enhance water-related research and development activities in Western Australia.
- ◆ Establish a target of 20 per cent reuse of treated wastewater by 2012.
- ◆ Achieve a consumption level of 155kL/person/year for consumers served by the Integrated Supply Scheme by 2012.
- ◆ Continue the daytime sprinkler restrictions that apply between 9am and 6pm to all garden bores and extend the restrictions to local government.
- ◆ Develop two new dams on Samson Brook and Wokalup Creek in the South West providing up to 23 gegalitres a year.
- ◆ Undertake a \$6 million investigation to enable a decision to be made on water allocations from the South West Yarragadee Project which could provide a new source of 45 gegalitres a year.



## Objective

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.
- ❖ Fostering innovation and research.
- ❖ Planning and developing new sources of water in a timely manner.
- ❖ Protecting the value of our water resources.

## Water Conservation and Efficiency

Western Australians are among the highest water users in the country, and in the past this has been attributed to our hotter, drier climate.

However, it is for precisely this reason that we must become more efficient in our water use.

In July 2002 a Draft State Water Conservation Strategy was released for public comment. Submissions received provided an excellent insight into the water conservation expectations of the community, and that feedback along with key elements from the Draft State Water Conservation Strategy have been recognised within the State Water Strategy.

Importantly, the development of the State Water Strategy ensures a coordinated approach to management of water related issues and links water supply initiatives and water conservation activities in a single strategy document.

The Water Symposium recognised that per capita water use targets needed to be set for all water supply schemes throughout the State to drive changes in behaviour. In response the Government has

established a target for the Integrated Water Supply System that provides water to Perth, Mandurah and the Goldfields and Agricultural areas.



- The Government will establish a \$7 million financial incentive package to encourage uptake of water efficiency measures (see details below).
- Achieve a consumption level of 155kL/person/year for consumers served by the Integrated Water Supply System by 2012.
- Continue the daytime sprinkler restrictions that apply to all garden bores and extend the restrictions to local government.



- ❖ **Water efficient shower heads** – Household who purchase and install an **AAA** rated shower head will receive a \$10 rebate.
- ❖ **Washing machines** – Purchases of **AAAA** rated (or better) washing machines will attract a rebate of \$150.
- ❖ **Rainwater Tanks** – Household who purchase a new rainwater tank will receive a rebate of up to \$150 based on the size of the tank. An additional rebate will be offered to households that connect tanks greater than 2000 litres for toilet and/or washing machine use.
- ❖ **Garden Bores** – \$300 will be offered to all households that connect to a new garden bore installation. Cumulative rebates will be available for shared bores.

## The price of scheme water supplies

The price of water and the nature of the pricing structure also influences water use. In Western Australia there are two basic components to water charges – a fixed service charge and a variable consumption charge. The nature of our consumption charges ensures that the more water you use the more you pay for each additional kilolitre of water consumed.

Consumption (kL)	Metro	Class 1	Class 2	Class 3	Class 4	Class 5
0-150	40.3	40.3	40.3	40.3	40.3	40.3
150-350	65.2	65.2	65.2	65.2	65.2	65.2
350 - 450	88.1	80.6	83.0	83.0	83.0	83.0
450 - 550	88.1	80.6	107.2	117.7	128.6	132.1
550 - 750	100.7	91.7	121.2	139.6	154.4	169.0
750 - 1150	107.1	147.7	200.2	223.2	254.0	284.8
1150 - 1550	119.3	212.3	292.5	338.5	461.9	569.4
1550 - 1950	119.3	244.6	361.8	446.5	554.2	662.0
over 1950 kL	147.2	284.3	461.9	538.8	646.4	738.8

*Water Corporation volumetric charges for 2002/03.  
Classifications reflect the higher costs of supply in some locations.*



- The Government will substantially increase the price paid by Water Corporation domestic customers who consume more than 550kL in excess of general price

movements to encourage the adoption of waterwise practices. For metropolitan consumers the price for water consumed between 550-950kL will increase by up to 20 per cent to \$1.20 per kilolitre. For water

consumed above 950kL the price will increase to \$1.50 per kilolitre.

- In recognition of the impact on pensioners, large families and low income earners, the Government will limit increases in the price of water for Water Corporation domestic customers consuming less than 550kL to movements in the Consumer Price Index.



## Water Reuse (reclaimed water)

Many parts of the more heavily populated areas of our state have access to good quality groundwater, and this has underpinned the security of our public water supplies and provided individuals and industry with relatively low cost alternative water supplies. This use of groundwater has, however, meant that we have been less aggressive in our pursuit of reuse options than comparable communities in other parts of Australia and the world. This must change.

In Western Australia numerous country communities that do not have access to groundwater have led the way in demonstrating what can be done with the reuse of wastewater. In these areas municipal wastewater is used to:

- ❖ Maintain public open space and recreational areas.
- ❖ Supplement water supplies for industrial processing.
- ❖ Irrigate vineyards and woodlots.



*Treated wastewater irrigating the greens and fairways has in recent years transformed Broome's spectacular golf course.*

To achieve this target a broad range of reuse opportunities will be considered including industrial use, watering of parks and gardens, horticultural use and indirect reuse using wastewater to recharge groundwater aquifers.

While such reuse schemes are operating successfully internationally many examples can also be seen in operation within Australia and indeed Western Australia. Combining existing knowledge with the findings from a range of specific research investigations will ensure that wastewater reuse is undertaken in the manner most suited to the conditions we experience in Western Australia.



- **The Government commits to achieving 20 per cent reuse of treated wastewater by 2012. In view of environmental, economic and public health considerations the priority of Government for the reuse of wastewater will be large-scale, scheme-based reuse options rather than reuse at the household level.**
- **Establish the Kwinana Water Recycling Plant by 2004 to provide reclaimed water to industrial users in the Kwinana area, reducing the demands on scheme water supplies by around five gegalitres.**

## New Supplies

The water shortage of 2001/02 prompted further significant investment in new water sources in conjunction with the use of a two-days-per-week sprinkler regime to help conserve water. Outstanding community support for restrictions helped to deliver significant water savings during 2001/2002, while new source developments since the start of 2001 will provide an additional 44 gegalitres of water each year.

These new developments include:

- ❖ Development of **three new bores** into the deep **Yarragadee aquifer** which have provided an **additional 15 gegalitres** of water annually for the Integrated Water Supply System. Work began in April 2002 and all three bores under the Perth northern suburbs of Gwelup, Carine and Scarborough were operational early in 2003.
- ❖ Also in 2002 an **additional nine bores** were developed in the Perth suburb of Mirrabooka providing an **additional six gegalitres** of water.
- ❖ A dam on **Samson Brook**, outside Waroona that will provide **up to 13 gegalitres** a year for the Integrated System.
- ❖ A dam on **Wokalup Creek**, near Harvey that will provide **up to 10 gegalitres** a year.

In addition to new developments being undertaken a range of potential future sources have also been identified. These include:

- ❖ **Eglinton groundwater**  
up to 17 gigalitres.
- ❖ **Gingin groundwater**  
up to 40 gigalitres.
- ❖ **Wellington Dam**  
15 gigalitres.
- ❖ **South West Yarragadee**  
45 gigalitres.
- ❖ **Seawater desalination**  
30 gigalitres in the short term.
- ❖ **Additional runoff to existing dams from enhanced surface water catchment management activities**  
up to 40 gigalitres over 10 years.
- ❖ **Brunswick River**  
up to 30 gigalitres.
- ❖ **Yanchep groundwater**  
up to 11 gigalitres.
- ❖ **Karnup/Dandalup g'water**  
up to 22 gigalitres.
- ❖ **Water trading**  
most likely with irrigators in the South West.
- ❖ **Groundwater from the Gnangara Mound in conjunction with land use changes and opportunities from using reclaimed water for indirect supply.**

After completion of a comprehensive feasibility study for a seawater desalination plant at Kwinana the Government has now decided that the development of a seawater desalination facility to supply water to Perth will not take place at this time.

If required such a plant could now be constructed within a

two year time frame. It is, however, recognised that desalination can be an important part of future water source development throughout Western Australia when and where it is appropriate. An example of this is the decision to develop a water supply scheme, incorporating desalination, to meet the water requirements of new gas processing industries on the Burrup Peninsula in the Pilbara region.

Since early 2001 the Government has examined the provision of sustainable water supplies for the Goldfields – Esperance region. This process investigated a number of possible alternative supplies including piping desalinated seawater from Esperance to Kalgoorlie. While the Expressions of Interest process concluded that there was no immediate imperative to begin development of an alternative water supply for this region the Government is committed to investigating the feasibility of options raised.

In addition to planning and development work to double the water storage capacity in Kalgoorlie Boulder, the Water Corporation and the Office of Water Regulation will enter into discussions with United Utilities Limited to ascertain if a cost effective alternative water supply solution is possible.

- **Develop two new dams on Samson Brook and Wokalup Creek in the South West providing up to 23 gigalitres per year.**
- **Undertake \$6 million investigation activity to support the water allocation process that will permit decisions in relation to the south west Yarragadee project to be made in October 2003. It is planned to undertake development of this resource for the benefit of communities in the South West and those served by the Integrated Water Supply Scheme. The resource could provide at least 45 gigalitres.**
- **The immediate start of planning work on the development of a project to double the water storage capacity in Kalgoorlie-Boulder from 11 days to more than three weeks supply. Construction work will begin on the building of a 400,000 kilolitre capacity storage reservoir in 2004 with completion in late 2005.**



## Innovation, Research and Education

The drought conditions experienced over the past two years have clearly highlighted the need for Western Australia to establish and maintain a strong research focus for water issues. By improving understanding of our natural resources and the way we interact with them it is possible to better develop solutions to ensure a viable long term water future for all Western Australians.

In recognition of this need for greater research effort the Government has established the Premier's Water Foundation to promote and enhance water related research activities within Western Australia.

On an education front the Government will continue to pursue and expand the successful Waterwise Schools program that now has more than 100 schools accredited as Waterwise.

Education initiatives will be developed more broadly including a trial of a personalised approach to provide information and advice to householders on how they can improve their water use efficiency.

For rural communities a specific education package drawing on the experiences of the NSW Waterwise on the Farms program will be established to provide education about, and testing of, more water efficient agricultural practices.



- **Establish the Premier's Water Foundation to promote and enhance water related research and development activities within Western Australia. This initiative will begin with a \$3 million commitment from the State Government and complementary funding will be sought from the Commonwealth Government and private industry partners.**

## Resource protection and management

If we are to adapt to a changing climate then we must fully understand the changes that are occurring. The Indian Ocean Climate Initiative (IOCI) panel released its report on a five year study of climate variability in south western Australia in September 2002.

This work has already been an invaluable tool for decision making in a wide variety of fields from agriculture to industry and of course for water supply planning. Importantly the research provides an insight into how climate changes will impact on Western Australia's water resources.

This research is helping to ensure that the world's best climate change modelling is able to be adapted to provide information on the regional impact of these changes.

The Government is committed to achieving excellent environmental outcomes and will ensure that all water allocation decisions continue to balance environmental and community water supply needs. Environmental water provisions will remain an important element of all water allocation decisions. These decisions will also consider the impacts of climate change and will aim to accommodate that change.

The Government is committed to catchment management and will ensure that the quality of existing and future water sources is protected through a carefully considered approach to catchment management. This will include the maintenance of clearing controls in some catchments and the establishment of water source protection plans for all catchments throughout the State.



- **The Government commits to supporting the second phase of the Indian Ocean Climate Initiative.**
- **Information from climate modelling will be used to guide water resource and supply decisions. This will help to ensure a sustainable water future for all Western Australians.**





*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.*