

watersolutions

autumn 2007

H₂O

good decisions based on
good science and information

what goes up must come down – somewhere

Using water wisely is a major concern in the community as people start to comprehend the impacts of climate change.

Southern Western Australia has never been drier, while northern WA has been experiencing record rainfall in recent years.

The Department of Water has been working with other scientific experts such as the Indian Ocean Climate Initiative and the CSIRO to address issues associated with climate change and find ways of better using the water available.

Our Department is based on the sustainability principle of finding the balance between social, environmental and economic values as we manage the State's most precious resource. And it is exactly that – without water, WA would not have a booming mining industry, irrigation and farming to put food on your table, and good quality drinking water.

Environmental values are also important, and we make sure that water is put aside for the environment before we allocate water resources for other uses.

Several major documents have been released in the last six months that will guide us as we ensure WA's water resources remain sustainable, including our *National Water Initiative Draft Implementation Plan*, the *State Water Plan* and the *Government's Response to the Blueprint for Water Reform in Western Australia*.

These documents will set our strategic directions and will guide us as we encourage everyone to prioritise the use of water according to its value. We call this the 'highest and best use of water', and it's our vision.

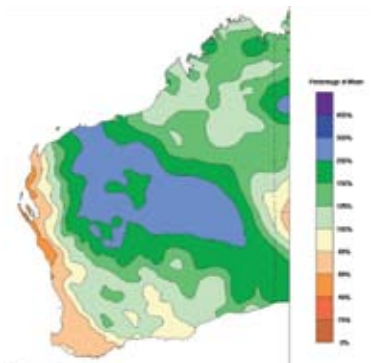
Re-using water is a major focus for the Department and we are working on ways to increase the amount of water recycled in homes, industry, and on broader scales.

The Department recently received almost \$15million from the Australian Government to match State funds to prepare Gnamptuwa Mound and Pilbara statutory water plans, the South West Groundwater Area Management Plan and the Collie Catchment Integrated Water Resource Management Plan.

Water Corporation also received \$15.75million to trial a groundwater recharge project north of Perth. This trial will pump used water into the ground and redraw the water further along the aquifer after natural filtration has purified the water.

All of these issues combine to form an expansive and exciting future for the Department of Water. Working with stakeholders and the community will underpin our endeavours and I look forward to developing these partnerships.

Paul Frewer
A/Director General



Rainfall in WA for 2006.



Some parts of WA experienced the driest year ever on record in 2006. Maps courtesy of the Bureau of Meteorology/ National Climate Centre.

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\$15million boost for WA

A range of Department of Water initiatives have benefited from grants of more than \$15million recently announced by the Federal Minister for Environment and Water Malcolm Turnbull.

The Minister said that with Perth and many parts of Western Australia still grappling with the effects of record low rainfall, the funding would help “ensure a more secure and sustainable water supply for Western Australia.”

The Federal Government has committed almost \$15million to the Pilbara and Gngangara Mound statutory plans, South West Groundwater Area Management Plan and Collie Catchment Integrated Water Resource Management Plan, with the State Government contributing \$16.89million.

Department of Water A/Director General Paul Frewer said the funding was a major boost to the Department’s efforts to ensure the sustainability of water.

“Not only that, but technology in the regions will also be greatly improved, thanks to a commitment of \$165,000 from the Federal Government and \$170,000 from the State Government to improve telemetry,” Mr Frewer said.

“This will mean we can transfer data from field sensors to a web data server, so that we can monitor river flows and flood events more frequently, particularly from isolated locations.”

The plan for the Pilbara – a region undergoing a natural resources boom – will find better ways to manage water resources in the region, as well as help ascertain the level of sustainable and reliable water resources available for extraction.

Water planning for the Gngangara Mound – which currently supplies about 60 per cent of Perth’s water supply and supports the local agriculture industry – will ensure the mound maintains a sustainable level of use.

The South West Groundwater Area Management Plan will build on extensive work already undertaken by the State Government to investigate water allocation options for the region, in light of increasing pressure from industry and communities.

Another \$31million has been committed to Water Corporation’s Beenyup Reverse Osmosis Groundwater Replenishment Project at Wanneroo.

The project will look at treating water from the Beenyup Wastewater Treatment Plant before injecting it into the Leederville aquifer, where it will be further cleansed and safely converted to provide 1.5 billion litres of additional drinking water for Perth.



Home Building Society
Marketing General Manager
Paul Simpson presenting
Principal Water Resources
Officer Greg May with the
Division B Corporate Cup.

water scoops corporate challenge trophy

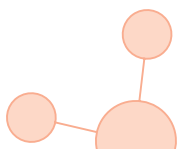
There must have been something in the water at the Department of Water last year, because after 25 years of us and our predecessors trying, we finally won a coveted Corporate Challenge Cup.

Social Club Corporate Challenge Coordinator Greg May said the Department’s quarter-of-a-century attempt to win the trophy said much about the sporting skills of “watery people” in the fun-filled friendly competition.

“Needless to say, it was rather a shock when the Department scooped not only two team awards, but also a top trophy,” Mr May said.

Several teams entered across a range of sports accumulated enough points to win the cup for the top company in the second division.

The Department’s mixed tenpin bowling team, the Corporate Chuckers, picked up the two team awards.



water reform blueprint

The summer of 2006-07 marked the end of one of the driest years on record in WA, prompting the State Government to endorse a blueprint for improving water management that will ensure Western Australia continues to lead the nation in water reform.

Most of the 72 recommendations made by the Water Reform Implementation Committee that form the basis of *A blueprint for water reform in Western Australia* were accepted by the Government in its response to the blueprint.

Community views from extensive consultation including 17 workshops around the State were incorporated in the final blueprint.

The blueprint and Government's response come at a crucial time for WA in future-proofing our precious water resources.

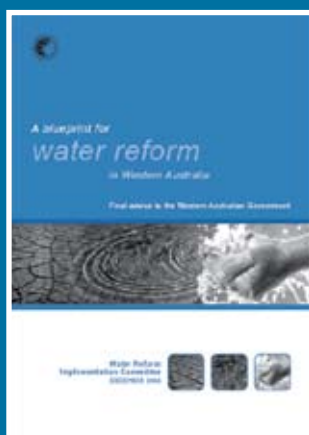
Water Reform Implementation Committee Chairman Ross Kelly said the best way to manage and allocate the State's water supplies was to be aware of how much and why water was being used.

"This way, we can deliver better management and information for water users and also reap the long-term environmental benefits," Mr Kelly said.

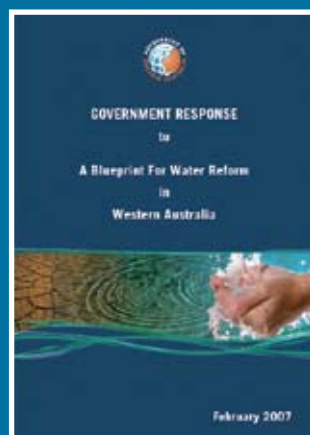
The blueprint proposes reforms including longer-term water entitlements, introducing a water licence administration fee, adopting widespread metering for licensed water users and comprehensive water planning for water sources.

It also suggests greater involvement by local users in water planning and assistance with water resource management functions, such as meter reading.

More information and copies of the Committee's report and the Government's response is available on the Department of Water website www.water.wa.gov.au or by calling the water reform hotline 1800 734 659.



The new era of water reform.

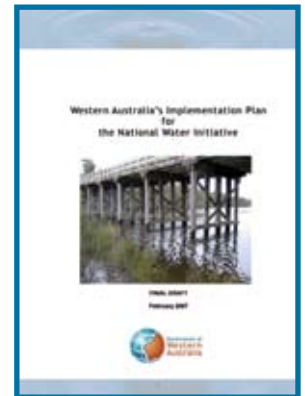


taking the initiative

The State Government has taken another major step forward in securing Western Australia's water future with the release of the National Water Initiative Draft Implementation Plan.

The plan sets out how WA will change and improve the management of our most precious resource.

The State Government joined the other states and territories when it signed the National Water Initiative on 6 April 2006.



The National Water Initiative draft implementation plan for WA.

The NWI aims to improve the way Australia plans, manages and allocates its water resources.

Department of Water A/Director General Paul Frewer said despite being the last to sign the NWI, Western Australia was leading the country in implementing changes to the way we protect and use our water.

"We are talking about a whole-of-water cycle view and this draft implementation plan sets out exactly how we are going to go about securing it," he said.

Under the NWI agreement, each State must create an implementation plan that sets out key reform tasks with a timeline for completion.

WA's draft implementation plan builds on existing reform initiatives such as the work of the Water Reform Implementation Committee and the Water Legislation Reform Taskforce.

The draft implementation plan is available on the Department's website www.water.wa.gov.au and has been sent to the National Water Commission for consideration and accreditation.



Rural Water Advisory Committee Chairman Barbara Dinnie officially opening the Yuna pipeline.

new yuna pipeline timely

Completion of a 255 kilometre water pipeline to Yuna, north east of Geraldton, has been a timely development following decades of recurrent farm water supply shortages, compounded with 2006 being the driest year on record.

"The \$5million Yuna Farmlands Pipeline Water Supply could not have come at a better time," Rural Water Advisory Committee Chairman Barbara Dinnie said.

"This is a major step forward in the State Government's rural water plan.

"It became clear that, with the help of the Department of Water, we would need to implement a comprehensive farm water plan to secure the State's water future and protect our agricultural industry."

Department of Water Rural Water Planning Manager David Hillier said work on the pipeline began in 2002 and it was now an important piece of infrastructure for the region.

"The Yuna Farmlands Pipeline Water Supply is part of the State Government's commitment to providing reliable and good quality farmland water supplies to dryland parts of rural WA," Mr Hillier said.



Rural Water Advisory Committee members at the Yuna pipeline opening. Back: Department of Water Industry Support Manager Don Crawford, Fred Bremner, Barry James, Chris Dolley from Water Corporation. Front: Kelly O'Neill, Chairman Barbara Dinnie and Executive Officer David Hillier.

making a splash at the local field days

A constant flow of farmers benefited from the Department of Water's display at the Dowerin, Newdegate and Mingenew Field Days and Wagin Woolorama.

The Department went bush in Spring and Autumn to talk to farmers about salinity and how to manage water and develop engineering options on their properties.

The salinity engineering team was pleased with the farming communities' responses to the various posters and brochures displayed at the field days.

Senior Environmental Officer Jane Filmer said farmers expressed considerable concern about the costs of installing drains and what could be done with the water. They also asked questions about groundwater pumping.

"Several farmers also showed interest in keeping the water on their property and re-using it, while landholders were keen to restore their land back to productivity and to revegetate part of it," Ms Filmer said.

"However, they were made aware of how groundwater must be lowered before this can happen, which involves large costs, downstream impacts or evaporation basins to keep the water on the farm."

The salinity engineering team is planning to hold On Farm Field Days throughout 2007 at each of its Engineering Evaluation Initiative sites. For more information, contact the Department on 6364 7600.

Salinity engineering was a focus of the Department of Water's display at Wagin Woolorama.





more WELS = more water savings

By 2012, more than 87 gigalitres of scheme water and \$600million can be saved each year in Australia once the Water Efficiency Labelling and Standards scheme is fully established.

All states and territories are involved in the WELS scheme, which is part of the National Water Initiative.

WELS started on 1 July 2005 with voluntary registration of goods, and a year later registration became mandatory for products such as dishwashers, washing machines and showerheads.

Products are registered on the official website www.waterrating.gov.au for testing, efficiency rating and classification.

Water Efficiency and Metering Program Manager Leon English said the saving goals could be achieved if consumers simply chose more efficient products.

"The WELS scheme will save households water and money, by encouraging consumers to choose products which are given a blue and white star water efficiency rating label before they can be sold in Australia," he said.

"It has been estimated that the scheme should reduce domestic water use in Australia by five per cent, or 87GL per year, once it is fully established.

"We project that in WA the scheme will represent about 10 per cent of estimated national savings – equivalent to about 9GL per year.

"In the future we will look at introducing minimum water use efficiency standards for some already registered products and adding other water-using products to the scheme."



water study will guide kwinana's growth

A groundbreaking water study for the Kwinana Industrial Area, spanning a 15-year planning horizon, is now being implemented.

The Kwinana Industrial Area Planning Study identifies sustainable options for water supply, wastewater reuse and wastewater disposal options from 2006 to 2021.

It also assesses future water demands and provides greater certainty for the sustainable growth of industry in the Kwinana area.

The study was the vision of the Kwinana Industries Council and involved collaboration between the Department of Water, the Department of Industry and Resources and Water Corporation.

The council engaged independent consultants in October 2005 to start the important study.

In the analysis, a 'black box' water balance model was created to break down each aspect of water source, demand and disposal.

Recommendations from the study will be implemented jointly by industry, the Government and the community.

Kwinana Industry Council Director Tonia Swetman said the plan would provide environmental advantages for all West Australians.

"This is an exciting initiative that will lead to tangible outcomes for industry and the State," Ms Swetman said.

The water planning study incorporates the targets of the National and State water reform agendas and will guide government departments about sustainable water supply options.



Minister for Water Resources John Kobelke and Kwinana Industry Council Director Tonia Swetman.

eyes in the sky and holes in the ground

New technologies involving aircraft and airborne geophysics have been used to improve the study of groundwater resources in the Casuarina area.

The comprehensive survey started in January and covers about 2,000 square kilometres between the Greenough and Irwin Rivers, approximately 50 kilometres east of Geraldton.

The survey work is part of the State Groundwater Investigation Program.

Groundwater Investigations Section Manager Seth Johnson said airborne geophysics was used because of the size of the area.

"Nothing on this scale has been done in the area before," Mr Johnson said.

"The survey was particularly important, given the increasing demands on groundwater resources from the mining industry and horticultural expansion.

"The initial data from the survey was collated in March. It will help us understand how to meet these demands and how best to manage water and land-use practices.

"It will also guide us in mapping and installing monitoring bores later this year, creating an extensive groundwater monitoring network.

"This will ensure any future groundwater abstraction is managed in a sustainable and environmentally sensitive manner."



Taking to the skies to enhance our understanding of what's below ground.

growing the hard yards for men's health

November was a hairy month for 12 men at the Department of Water and Department of Environment and Conservation Bunbury offices.

The keen band of brothers, calling themselves the 'Bunno Mo Bros', raced each other over the month to produce the best moustaches for the charity phenomenon that is Movember.

Movember is a worldwide event held every November to address male health issues, including prostate cancer.

The Bunno Mo Bros grew and groomed their moustaches to raise much-needed funds for the Prostate Cancer Foundation of Australia and Beyondblue: the National Depression Initiative.

The 12 men were Andrew Cresswell, Allan Pastega, Andrew Bland, Peter Shedden, Ben Tilley, Owen Bennett, Mick Owens, Aaron Fenech, Travis Adams and Simon Pinnington from the Department of Water; and Joel McShane and Jamie Piotrowski from the Department of Environment and Conservation.

Chief Mo Bro and moustache cultivator Andrew Cresswell said taking part in the worldwide event was an important way to instil the message in Australian men that health issues cannot be hidden under the rug – even the one on your upper lip!

"We started to look like B-Grade movie actors with our mos, so we donned appropriate names and penalised colleagues for not addressing us by them," Andrew said.

"The event was a lot of fun as it created a new-found appreciation for each other, built team spirit and we managed to raise over \$1,000 for the cause.

"Hopefully more Aussie men will begin to get the message that we have to take better care of our health and that the mo is still cool!"



Department of Water and Department of Environment and Conservation officers spreading the word about men's health issues during 'Movember'. Photo courtesy of South Western Times.

relief for esperance

With just one day's notice, the Albany measurement team from the Department of Water rushed to Esperance on 4 January in anticipation of an ensuing flood.

The flood was a result of the remnants of Cyclone Isabel. It ravaged the coastal town and destroyed infrastructure and water measuring equipment as river levels reached the highest ever recorded.

In winds of more than 110km/h and torrential rainfall of 187mm in a 24-hour period, the team of Duncan Palmer, Megan Goodwin and Shane Lawrence managed to use special flood-monitoring equipment to provide vital information about the aftermath of the flood on river levels.

The Hydrologic Technology Centre played an important role in fast-tracking the special equipment to Albany so the team could be fully equipped.

Department of Water Senior Natural Resource Management Officer Duncan Palmer said rare flood events provided important opportunities to gather hydrographic information.

"The information we gather, showing the relationships of river levels to water volume, is used by many people including town planners for stormwater management, engineers in designing bridges, and for our own water allocation planning," Mr Palmer said.

"In this way, we can measure how much water is flowing in a river at various levels."

The Albany measurement team is helping with the massive clean-up in the aftermath of the flood.

"The flood waters subsided, but the task of fixing drowned equipment and processing data has just begun," Mr Palmer said.

"We will be sticking around to help restore Esperance and to research options for the future."



Flooding on the outskirts of Esperance.



South Coast Natural Resource Management Officer Megan Goodwin checks out a Department of Water gauging station on the left of a flooded road near Esperance.



South Coast Water Resources Officer Shane Lawrence at a gauging station in Esperance.

ord irrigation can now expand

A new era in the history of the Ord River Irrigation Area has been marked with the release of the Ord River Water Management Plan.

The plan outlines how the waters of the Ord are to be shared to meet the competing needs of the environment, current and future irrigation and hydro-electricity over the next three years.

The key aim of the plan is to support the expansion of irrigation. Under the plan, an additional 400 billion litres a year will be available for diversion from Lake Kununurra to supply new irrigation areas, particularly on the Weaber and Knox Creek Plains.

The plan also provides for the diversion of up to 115 billion litres a year from the lower Ord River, downstream of House Roof Hill.

Department of Water Allocation Manager Susan Worley said the plan covered some 127,000 hectares and was an important milestone for future agricultural expansion in the Kimberley.

"The additional allocations will be licensed progressively as new irrigation areas are established," Ms Worley said.

"Importantly, the plan will ensure sufficient flows are maintained in the lower Ord River to protect its riverine ecology."

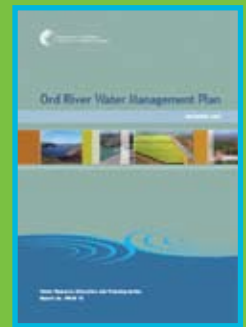
Concurrent to the plan, after extensive negotiations over Native Title and Indigenous heritage issues, the Ord final agreement between the Government and the Miriwung Gajerrong peoples was signed in 2005 and paved the way for expansion.

Department of Water Business and Regional Operations Director Paul Rosair said that under the agreement, the Miriwung-Gajerrong people had access to the area to maintain and enhance their culture.

"The initiative recognised the vital role that the traditional owners have in protecting and managing the State's wetlands and waters," Mr Rosair said.

"We hope that it will pave the way for similar arrangements for many other Reserves throughout WA."

The Ord River Water Management Plan is available on the department's website www.water.wa.gov.au



A new era for managing the Ord River.



2007: year of hydrography

The Department of Water has hailed 2007 as the Year of Hydrography as it celebrates the role this field plays in helping manage Western Australia's most precious resource.

Hydrography paints the big picture of how much of WA's water is available, where and when it can be found, how it is changing, and how it can be managed better.



Environmental Officer Emma Van Looij and Natural Resource Management Officer Wayne Davies monitoring the depth of a river.

Quite simply, it is measuring the processes which make up the water cycle.

Without hydrography, the State Government could not implement its water reforms to secure WA's water future.

However, the process of hydrography is highly complex, and the components of the water cycle have been described as being as "unpredictable as the weather".

At present, there is a severe nationwide shortage of hydrographers as all governments expand their water management programs.

Department of Water Principal Water Officer and Hydrographer Greg May says this is history repeating itself.

"When hydrography in WA first appeared in the 1960s, the then-Public Works Department had to enlist the first generation of hydrographers," Mr May said.

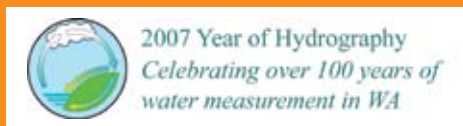
"They dramatically called on the new breed to 'go out into the field and assess the State's water resources for the benefit of all. Hallelujah!'

"Now hydrographers get out there in their boots and boats in the wet weather, collecting water samples and maintaining the flood warning networks, while trying to stay dry.

"Then in the dry months, they are out building and maintaining their gauging stations and trying to stay cool."

Mr May said that while water management had come a long way since its early days, there was still a fair way to go in filling in the gaps.

"This will require the concerted efforts of hydrographers for many years to come," Mr May said.



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