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## The Federal Budget 2009-10

This year's Federal Budget has reaffirmed the Australian Government's commitment to securing Australia's future water supply as we adapt to reduced water availability resulting from drought and climate change.

Building on *Water for the Future*, the Government's 10-year, \$12.9 billion plan for water, the Budget measures announced include:

### Assistance for local municipalities

Local municipalities in the Murray-Darling Basin will be eligible to apply for grants under the \$200 million *Strengthening Basin Communities* program.

This program will assist municipalities in the Basin prepare and plan for a future with less water and undertake associated local water savings initiatives.

### Stormwater Harvesting

A new component under the *National Urban Water and Desalination Plan* will be created to provide greater incentives for the development of stormwater harvesting projects that use urban stormwater to reduce demand on potable water supplies.

A guaranteed minimum \$200 million will be made available for projects, providing up to \$20 million in Australian Government funding per project to meet up to 50 per cent of project costs. The existing requirement under the plan for projects to be a minimum size of \$30 million has been reduced to \$4 million in order to make this element of the plan more accessible.

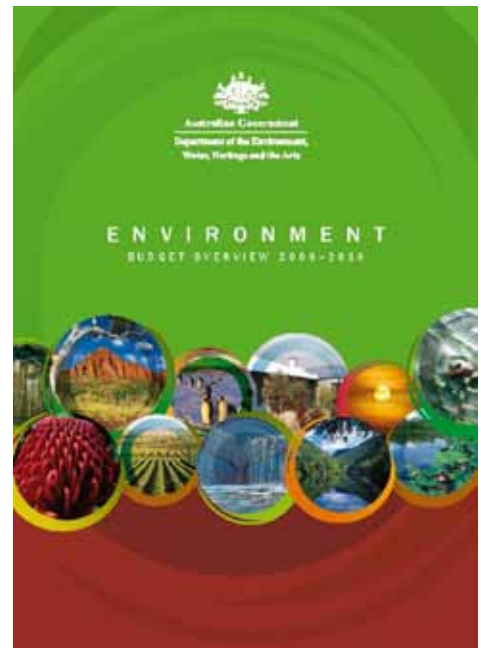
### Securing Adelaide's water supply

An additional \$228 million will be committed to the Adelaide Desalination Plant if capacity is expanded from 50 gigalitres to 100 gigalitres, taking the Government's total commitment up to \$328 million.

### Exit Grants for Small Block Irrigators

The Small Block Irrigators Exit Package has been expanded with the maximum size of farms that may be eligible for its \$150,000 grant increasing from 15 to 40 hectares. Grants for the removal of irrigation plantings and infrastructure have also been increased to \$20,000.

The package helps small-scale irrigators affected by drought and climate change exit the industry, but continue to live on their farm and participate in the community.



### Bioremediation work for Lower Lakes

\$10 million has been allocated for new bioremediation and revegetation projects around the Lower Lakes in South Australia.

### Restoring the Balance in the Murray-Darling Basin

Funding to buy back water entitlements from willing sellers in the Basin will increase by an additional \$100 million in 2009-10, \$50 million in 2010-11 and \$100 million in 2011-12.

Entitlements bought by the Australian Government are held by the Commonwealth Environmental Water Holder and used to restore the health of wetlands and rivers and to address over-allocation of water licences and overuse.

### On-farm Irrigation Efficiency

The Government has committed \$300 million for a new on-farm irrigation efficiency grants program in the southern Basin. This funding will support and drive regional investment, securing the long-term prosperity of local communities. The On-Farm Irrigation Efficiency Program will invest in more efficient irrigation systems which demonstrate a long-term economic and environmental benefit that can be sustained over a 20 year horizon.

For further information about these Budget measures visit: [www.environment.gov.au/water](http://www.environment.gov.au/water)

## Water for the Future: One year on

One year into the Australian Government's comprehensive *Water for the Future* initiative designed to meet the challenges of water scarcity and climate change, work is well advanced to secure water supplies for all Australians and improve the environment.

In this edition of *Water Matters* we report on progress of *Water for the Future*, a 10-year, \$12.9 billion investment in strategic programs including infrastructure investment, buying back water entitlements, improved water management arrangements and a renewed commitment to water reform nationally. This investment is focused on four key priorities: taking action on climate change, using water wisely, securing water supplies, and supporting healthy rivers.

With the drought continuing in many areas, and the reality of climate change unfolding, the need for concerted action to help irrigators and their communities adjust to lower water availability is very real.

**The Minister for Climate Change and Water, Senator Penny Wong, provided the keynote address to CEDA's *Water for the Future* forum in Adelaide on 18 May 2009 and spoke about the challenges and choices we face in dealing with Australia's water issues.**

**The Minister's speech is available at:**

<http://www.environment.gov.au/minister/wong/2009/speeches.html>

### National approach to managing the Murray-Darling Basin

The Australian Government, in cooperation with Basin states, has reformed how the Murray-Darling Basin (MDB), the nation's most important source of food and fibre, is managed. For the first time an independent, expert Commonwealth agency, the Murray-Darling Basin Authority (MDBA), is responsible for overseeing water resource planning in the Basin. The MDBA commenced operating on 8 September 2008 and by 2011 will prepare a Basin Plan, to include enforceable, scientifically-informed limits on the amount of water that can be taken from rivers and groundwater systems across the Basin. This will ensure the Basin's long-term health and prosperity.

### Restoring the Balance in the Murray-Darling Basin

The Australian Government is buying back water entitlements from willing sellers to help restore the Basin's environment. Water entitlements purchased in 2007-08 totalled 24 GL (billion litres) at a cost of \$34.4 million. Under the 2008-09 tenders, substantial volumes of water entitlements are being acquired.

The Australian Government also assisted NSW to purchase Toorale Station in north-western NSW, at the junction of the Darling and Warrego rivers near Bourke. Settlement of the sale occurred on 23 December 2008. Toorale contains important ecosystems that are under-represented in the National Reserve System, and has entitlements to extract 14,000 ML (megalitres) of water from the rivers and rights to harvest water from the floodplain. Through the purchase, an average of 20,000 ML of water will be returned to the Darling River each year, peaking at 80,000 ML in flood years.



Vineyard with computer controlled irrigation system  
(J Baker)

### Returning water to the environment

Just over 8 billion litres of water will have been returned to critical environmental sites in South Australia, Victoria and New South Wales under *Water for the Future* by June 2009. Watering the sites is designed to sustain iconic River Red Gums and provide drought refuges for birds and fish. This will give the sites the best chance of recovery when natural inflows increase.

The first release of Commonwealth water for the environment commenced on 24 March 2009 at four sites in South Australia: Chowilla Foodplain, Paiwalla Wetland, Katarapko Floodplain, and Rocky Gully, near Murray Bridge. A total of 1,041 GL of Commonwealth water was delivered.

A second round of environmental watering at five sites in Victoria, New South Wales and South Australia commenced mid-May and will continue through to June 2009. The sites to receive water in the second round are: Hattah Lakes and Lindsay Island in Victoria, Backwater Lagoon in NSW, and Markaranka Floodplain and Gum Flat in South Australia.

Water for the sites, excluding Lindsay Island, is sourced from allocations against entitlements held by Toorale Station.

### Sustainable Rural Water Use and Infrastructure

The Australian Government has committed \$5.8 billion to help irrigators make better use of the water that is available by upgrading infrastructure. In return for this funding, the Government will share in the water savings, adding to the water available for the environment. More than \$3.7 billion has been committed so far to projects to improve water infrastructure and water efficiency in the Murray-Darling Basin. Projects being funded include:

### Irrigation Infrastructure Hotspots Assessments

- Assessments have commenced in several irrigation districts to identify the nature, location and amount of the worst water losses (known as hotspots) in existing channel and piped irrigation delivery systems across New South Wales and South Australia. Findings will help in developing plans to modernise irrigation infrastructure.

### On-farm Irrigation Efficiency (Pilot Projects)

- Three projects have been awarded a total of \$5.6 million to improve the efficiency of on-farm irrigation infrastructure which is anticipated to return up to 2 GL of water savings for the environment. Lessons learned from these pilot projects will be used to assess on-farm irrigation efficiency initiatives under the State Priority Projects and *Private Irrigation Infrastructure Operators Program*.

### Irrigation Modernising Planning Assistance

- Over \$4 million has been provided to 13 irrigation water providers around Australia under Round 1 and a further \$600,000 to another five projects in Round 2 to assist irrigation water providers to develop long-term plans to upgrade and rationalise irrigation infrastructure and assess options to adapt to a future with less water.

### South Australian Priority Projects

- A potable water pipeline servicing the eastern side of the lower lakes of South Australia has been opened. An irrigation pipeline on the western side of the lower lakes has undergone due diligence and is projected to open in September/October 2009.

### Managing the Coorong and Lower Lakes

- Up to \$200 million will be provided to support an enduring response to the environmental problems facing the Lower Lakes and Coorong given the site's national and international significance. The Australian Government is advancing \$10 million to South Australia to undertake the feasibility work necessary to expedite this important project.



Birdlife at Little Swamp wetland, Eyre Peninsula (D Markovic)

### Sustainable yields projects

- CSIRO is undertaking three studies in South West WA, Tasmania and Northern Australia to help form the basis of future water resource decisions taking into account current and future climate change scenarios.

A wide range of irrigation efficiency and water management projects, being developed by Basin states, for funding by the Commonwealth under the July 2008 Intergovernmental Agreement.

### Securing Urban Water Supplies

The Government is providing more than \$1.5 billion to help cities and towns to improve their water security by becoming more efficient with the water that is available and finding new sources of water that are less dependent on rainfall, such as recycling, stormwater harvesting and desalination. Programs include:

#### **\$1 billion National Urban Water and Desalination Plan**

- Proposals for desalination, water recycling and stormwater harvesting in major cities are due to be received by June 2009. Guidelines for a special call for proposals with increased incentives for stormwater harvesting and reuse projects were issued in March. The Adelaide to parklands water recycling project that is currently being constructed is funded from this plan. Proposals have been received and are being assessed to host a Centre of Excellence in Desalination in Perth and a Centre of Excellence in Water Recycling in Brisbane.

#### **National Water Security Plan for Cities and Towns**

- The \$254.8 million program will help communities of 50,000 or fewer people to secure their water supplies.

#### **Green Precincts Fund**

- This \$15 million fund is investing in high profile demonstration projects to raise community awareness and encourage take-up of water and energy saving measures. Proposals received through a competitive call for proposals are being assessed for funding while two specific election commitment projects have commenced: Essendon Football Club's Windy Hill grounds in Melbourne; and support for a detailed scoping study into a NSW South Coast solar farm.

#### **\$250 million National Rainwater and Greywater Initiative**

- Funding has commenced for rebates to households and grants for surf life saving clubs to buy and install rainwater tanks and greywater systems.

#### **Grants to local municipalities**

- Grants totalling \$200 million will be provided to local municipalities in the Murray-Darling Basin to help them plan for a future with less water and associated local water savings initiatives.

For more information about *Water for the Future* including a fact sheet on the achievements of the first year of the plan, call 1800 218 478 or visit: [www.environment.gov.au/water](http://www.environment.gov.au/water)



## The Hon Dr Mike Kelly AM MP – Parliamentary Secretary for Water

Dr Mike Kelly has been appointed Parliamentary Secretary for Water and will be assisting the Minister for Climate Change and Water, Senator Penny Wong in dealing with one of Australia's most prominent issues. In addition to his new appointment, Dr Kelly is the Parliamentary Secretary for Defence Support and is the Member for Eden-Monaro.

After studying law and graduating from Macquarie University in 1983, Dr Kelly went to work in Sydney and specialised in fighting for the rights of injured workers, including campaigning for sufferers of asbestos-related illnesses.

He joined the army in 1987 and was deployed in Somalia (where he was awarded the Chief of the General Staff Commendation and made a Member of the Order of Australia) with the International Red Cross in Bosnia Herzegovina and Croatia, as well as in Kenya, East Timor and Iraq.

Dr Kelly finished his military career as Director of Operations and International Law and Director of Army Legal Services in 2007. He was elected to the House of Representatives in 2007, and also became the Parliamentary Secretary for Defence Support in December that year.

With his new appointment as Parliamentary Secretary for Water, Dr Kelly's responsibilities include but are not limited to;

- administration of the National Rainwater and Greywater Initiative;
- administration of new on-farm irrigation programs that are being developed by the government (excluding those that are part of a State Priority Project);
- management of the Water Smart Australia program;
- management of the Great Artesian Basin Sustainability Initiative; and,
- management of Lake Eyre Basin matters and attendance at Commonwealth-State ministerial meetings that fall within these agreed responsibilities, including chairing the Lake Eyre Basin Ministerial Forum.

## Restoring the Balance in the Murray-Darling Basin

The first Commonwealth water allocations released to the environment in the Murray-Darling Basin, took place in March 2009 with the second round having commenced mid-May 2009. In total, over 8 billion litres of water will be allocated in these two rounds.

The allocations were granted against entitlements the Commonwealth purchased through its \$3.1 billion water entitlement buyback program, part of Water for the Future, the Government's 10-year, \$12.9 billion plan to secure the water supply for all Australians.

South Australia managed the first watering and contributed additional environmental water to one of the sites. This is in keeping with the partnership approach of the Commonwealth's environmental watering program.

The four sites that received water over several weeks from March 22 were:

- Chowilla Floodplain, an icon site of The Living Murray program and part of the Riverland Ramsar site, containing large areas of River Red Gum, Black Box woodland and diverse wetland habitats, received 286 ML (megalitres or million litres) to complement 350 ML provided by the South Australian Government;
- Paiwalla Wetland, between Mannum and Murray Bridge, listed in the Directory of Important Wetlands of Australia, containing rare and nationally listed species and frequented by significant populations of migratory water birds, received 475 ML;



Paiwalla wetlands pre-watering (M Mohell)

- Carpark Lagoons on the Katarapko floodplain in the River Murray National Park, near Berri. Katarapko, a diverse floodplain and wetland habitat for a range of aquatic and terrestrial animals, received 200 ML targeted at protecting River Red Gums; and,
- Rocky Gully, also near Murray Bridge, a refuge site for a range of rare and nationally listed species and one of the last remaining refuge sites across the Basin for the Murray Hardyhead, had 80 ML delivered.

Watering commenced at five additional sites mid-May and will continue for several weeks in Victoria, New South Wales and South Australia.

Water for four of the five sites, has been sourced from allocations against entitlements held by Toorale Station on the junction of the Darling and Warrego rivers. The property was purchased by the NSW Government in late 2008 with funding assistance from the Australian Government. Environmental benefit has already been provided by increased flows in the Darling River resulting from the purchase of Toorale. The sites to be watered in May and June are:

- Hattah Lakes in north-west Victoria, listed under the Ramsar Convention and an icon site of The Living Murray, containing River Red Gums and the vulnerable Regent Parrot, will receive 2,125 ML of water from the purchase of Toorale and a further 1700 ML from the Victorian Government and 1,000 ML through the The Living Murray program;
- Backwater Lagoon in the Wangumma State Forest, west of Wentworth, New South Wales, containing River Red Gum stands and habitats for vulnerable species including the

Regent Parrot and the Southern Bell Frog, will receive 1000 ML;

- Markaranka Floodplain, near Waikerie, one of four priority floodplain areas along the length of the River Murray in South Australia, containing River Red Gum Communities and habitat for the vulnerable Southern Bell Frog and rare duck species, will receive 1,500 ML;
- Gum Flat on Chowilla Floodplain will receive 1,500 ML. This site did not receive environmental water in the first round in March; and,
- Lindsay Island, on the Victorian and South Australian border, part of an icon site of The Living Murray program, containing River Red Gum, Black Box woodland and diverse wetland habitats, will receive 1,000 ML for a number of small creeks and billabongs, and a complementary 1,000 ML from the Victorian Government. Water for this site was not obtained from Toorale.

Watering sites were selected by the Commonwealth Environmental Water Holder, who is charged with managing the entitlements the Commonwealth buys, based on proposals put forward by State Governments and after receiving advice from the Environmental Water Scientific Advisory Committee.

More information about the sites receiving water and the Commonwealth Environmental Water Holder is available at: [www.environment.gov.au/water/environmental/cewh](http://www.environment.gov.au/water/environmental/cewh)

### Delivering water to sites is a significant challenge

Due to the dry conditions, it was necessary to pump water to the Chowilla Floodplain, Paiwalla Wetland, Carpark Lagoon and Rocky Gully. South Australia organised pumping at these sites. Departmental officers were on site on 22 March to inspect the Chowilla wetlands and view the first water being pumped into the wetlands. The vegetation fringing the wetlands was in a critical condition. Many mature River Red Gums, some estimated to be hundreds of years old, were showing marked signs of stress, as evidenced by reduced leaf cover, reduced crown extent and the extensive loss of foliage from outer branches.

At the site of the first pumping (pictured), water flowed quickly along the bed of the wetland through Lignum vegetation, which is a favoured habitat for frog breeding and provides shelter for birds, small mammals and reptiles. The front of the flows branched out into cracks in the dry bed and flows could also be heard under the surface as water filled up sub-surface cracks. Subsurface wetting provides a valuable freshwater lens under the wetland which acts as a buffer against saline groundwater. Saline groundwater can cause severe damage to wetland ecosystems, particularly deep-rooted trees. South Australia will monitor the response to the watering and report its findings to the Commonwealth.



Chowilla Floodplain as environmental watering commences (P Doyle)

## On-farm pilot projects

Taking a measured approach to investment into on-farm irrigation is crucial in planning for a future with less water.

Recently the Australian Government announced \$5.6 million in funding for three water management projects under the On-Farm Irrigation Efficiency (Pilot Projects) Program.

All funded projects must deliver substantial and lasting returns of water to secure real improvements in river health, help to secure a long-term sustainable future for irrigation communities faced with reduced water availability into the future, and deliver value for money.

All water savings generated from these projects will be shared between irrigators involved and the Australian Government, who will return close to 2000 ML to the environment.

### Lachlan Catchment Management Authority

Funding of \$1.5 million going to the Lachlan Catchment Management Authority (CMA) will be shared between two projects.

The first project will convert all furrow irrigation to centre pivot sprinkler irrigation with the goal of becoming more efficient in the face of reduced water availability. Centre pivots have been chosen due to the success that other farms with similar soil conditions have had with this technology.

The project will involve laying pipes from two bores and one river pump site to irrigate 460 hectares through six centre pivot irrigators. System losses through evaporation and seepage in system channels will be greatly reduced, with an estimated 30 per cent of water saved due to the new infrastructure and approximately 938 megalitres (ML) returned to the Australian Government for environmental purposes.

The second project seeks to increase water efficiency and water savings by designing and implementing an on-farm modernisation plan, including the construction of a water reservoir (200 ML) with an inlet wetland, stormwater harvesting and improved irrigation tailwater recirculation. In addition the project will include a recirculation water pipeline which includes pipe and riser delivery technology to reduce conveyance losses.

Approximately 76 ML of the water saved through these processes will be transferred to the Australian Government for environmental watering purposes.

### Border Rivers-Gwydir Catchment Management Authority

The Border Rivers-Gwydir CMA will receive almost \$2.8 million for two projects to change current irrigation practices over for sub-surface drip irrigation.

The first project involves surface irrigation conversion, which will convert all the areas with lighter textured soil types on the farm from flood to sub-surface drip irrigation. Total water savings under this project are expected to be 750 ML. This project has many benefits including reduced water use, improved accuracy of water management and increased productivity, and other overall benefits, such as less reliance on Copeton Dam's high security water and the opportunity to



Irrigation regulating valve for further refining volume of water (J Baker)

benchmark best practice horticultural technology.

The second project will also install sub-surface drip irrigation to eliminate evaporative losses.

Overall, 400 ML of water savings will be received by the Australian Government from the Border Rivers-Gwydir CMA.

### Murray Irrigation Limited

The Murray Irrigation Limited On-Farm Water Efficiency project in the Murray Irrigation Area of NSW will receive up to \$1.3 million for approved projects that look to upgrade existing flood, spray and drip irrigation systems that will generate estimated water savings for the government of up to 566 ML. At this stage the Murray Irrigation Limited proposal has been given 'in principle' approval as specific sub-projects are yet to be developed.

The experience and information gained from these projects will help the Australian Government in implementing additional programs, including \$3.6 billion for State Priority Projects and the \$650 million Private Irrigation Infrastructure Operators Program to implement major water projects in the Murray-Darling Basin

The On-Farm Irrigation Efficiency (Pilot Projects) Program is part of the \$5.8 billion Sustainable Rural Water Use and Infrastructure component of Water for the Future.

In May 2009 the Australian Government announced the On-Farm Irrigation Efficiency Program. Under the program, \$300 million will be made available to irrigators in the southern Basin to modernise their on-farm irrigation infrastructure while returning water savings to the environment. It is expected that the program will commence later in 2009 following a period of consultation with key stakeholders on program Guidelines. Further information on the program is available at [www.environment.gov.au](http://www.environment.gov.au)



Mt Roland, Tasmania (S de Salis, DPIW Tasmania)

## Using science to underpin water planning

Planning for a future with reduced water availability due to climate change presents challenges for communities, businesses, policymakers and water managers across the nation. To help meet this challenge, the Council of Australian Governments (COAG) decided to commission the CSIRO to undertake assessments of current and future water yield in several regions of the country. The results of this work will ensure that decisions about planning and managing water resources are based on the best available science.

Three assessments are underway: in Northern Australia; south-west Western Australia; and Tasmania. These projects are building on the groundbreaking work of the Murray-Darling Basin Sustainable Yields (MDBSY) project, led by CSIRO for the Australian Government and whose final report was released in November 2008.

The projects are being funded by the Australian Government under the Raising National Water Standards program and the \$12.9 billion Water for the Future initiative. All three projects are using the same four scenarios from a range of climate scenarios developed and applied by the United Nations' Intergovernmental Panel on Climate Change.

When these assessments are complete, Australia will have a comprehensive scientific assessment of water yields in most of its major water systems, providing a consistent analytical framework for national water policy decisions.

### Tasmania

Like much of south-eastern Australia, parts of Tasmania have been in drought for the past few years. The Tasmanian Sustainable Yields project is looking at current and future water yields having regard to climate change, the Tasmanian Government's plans for development of irrigation, and other water interception activities such as forestry and changes in groundwater.

The project will assess water resources on a catchment-by-catchment basis, covering five reporting regions. The project is due to be completed by the end of December 2009.

### Northern Australia

The persistent drought and recognition of impacts of climate change on water availability in southern Australia have led to renewed interest in the development of Northern Australia, the region stretching from Broome in WA to Cairns in Queensland. The Northern Australia Sustainable Yields (NASY) project will provide critical information on current and likely future water availability in Northern Australia which is renowned for its high rainfall, pristine tropical environments and relatively low level of development.

The NASY project, due to be completed by the end of June 2009, forms part of a larger project being funded by the Australian Government – the Northern Australia Water Futures Assessment. This larger project is designed to provide the science needed to inform development of Northern Australia's water resources, so that development is ecologically, culturally and economically sustainable.

### South-west Western Australia

South-west WA has experienced significant falls in rainfall and inflows over the past two decades and climate projections indicate this trend is likely to continue. The south-west WA Sustainable Yields project has a particular focus on irrigated areas because of the importance of water to those areas and the potential significance of climate change.

The project will assess water resources on an individual catchment and aquifer basis from Geraldton in the north to Albany on the south coast, and is due to be completed by the end of December 2009.

More information about the sustainable yields projects is available at: <http://www.environment.gov.au/water/action/sustainable-yields.html>

More information about the Northern Australia Water Futures Assessment is available at: <http://www.environment.gov.au/water/action/northern-australia/index.html>

## Engaging stakeholders in *Water for the Future*

The Australian Government recognises the immense challenge in tackling Australia's water scarcity, including the impact of climate change on our water resources, and is actively seeking the views of stakeholders through community engagement.

This is important to the success of *Water for the Future*, the Government's comprehensive initiative to meet future water challenges in both rural and urban areas.

The Government is keen to facilitate dialogue and the exchange of information with key stakeholders and has established a number of reference panels to advise on water recovery and environmental use, improving irrigation and operation and urban water reform.

A scientific advisory committee has also been created to assist the Commonwealth Environmental Water Holder.

### Urban Water Stakeholder Reference Panel

This panel is made up of five members drawn from industry, consumer advocacy and academic backgrounds. It will provide advice on the implementation of the Water for the Future urban water programs. \$1.5 billion is available for urban water projects to assist states and territories diversify urban water supplies and respond to reduced and more variable rainfall. The panel first met in December 2008.

### Environmental Water Scientific Advisory Committee

This Committee has met three times to date. It is made up of

prominent scientists and technical experts in fields such as hydrology, limnology, river and floodplain ecology and the management of aquatic ecosystems.

It has been consulted on proposals from the States for the use of Commonwealth environmental water in 2008–09. It has also begun considering a longer term framework for prioritising environmental watering and is proving to be a valuable source of guidance for the government. The next meeting is scheduled for this month.

### The National Irrigation Efficiency Stakeholder Reference Panel

This panel will bring together a range of stakeholders to provide expert advice on matters relating to the design and implementation of irrigation infrastructure projects under the Sustainable Rural Water Use and Infrastructure Program.

### Regional contact officers

A network of senior Departmental officers has also been established to strengthen communication with Murray-Darling Basin stakeholders. Acting as a central contact point, these officers will help increase the exchange of information and dialogue with regional communities. Officers will be available to take queries about water reform, programs and policies, helping stakeholders gain access to information and people on a timely basis.

Departmental contacts for Murray-Darling Basin regions are listed below.

Region	Regional Contact	Ph. No.	Email
Murray, centred around Renmark and Mildura	Paul Maisey	02 6274 1680	Paul.Maisey@environment.gov.au
Murray, centred around Deniliquin	Paul Doyle	02 6274 2188	Paul.Doyle@environment.gov.au
Barwon-Darling and Murray centred around Broken Hill	Angela Robinson	02 6274 2689	Angela.Robinson@environment.gov.au
Murrumbidgee	Rod Carr	02 6274 2682	Rod.Carr@environment.gov.au
Condamine-Balonne	Craig Bradley	02 6273 2378	Craig.Bradley@environment.gov.au
Gwydir	Helen Foard	02 6274 2619	Helen.Foard@environment.gov.au
Namoi	Ian Hayes	02 6275 9784	Ian.Hayes@environment.gov.au
Macquarie-Castlereagh	Deranie Jackson	0407 077 020	Deranie.Jackson@environment.gov.au
Lachlan	Martin Bergs	02 6274 2908	Martin.Bergs@environment.gov.au
Goulburn-Broken and Ovens	Paul Treloar	02 6274 1946	Paul.Treloar@environment.gov.au
Campaspe and Loddon-Avoca	Robert McLeish	02 62742980	Robert.McLeish@environment.gov.au
Border Rivers	Tony Bigwood	02 6274 2730	Tony.Bigwood@environment.gov.au
Eastern Mount Lofty Ranges and Murray centred around Goolwa	Deb Callister	02 6274 1955	Deb.Callister@environment.gov.au



Islands in Lake Eyre North in the morning light (M Rodrigo, NT Government)



Western shoreline south of Halligan Bay (M Rodrigo, NT Government)

## Lake Eyre Basin as a national resource

The year 2009 is a notable one for the Lake Eyre Basin (LEB). In early March, flood waters from heavy rains in north western Queensland finally reached Lake Eyre in north east South Australia a journey of hundreds of kilometres along an arid, sinuous and sprawling route. Across the vast floodplains of the channel country to the shores of Lake Eyre the floodwaters have triggered an explosion of life, including mass fish breeding and the migration of huge flocks of waterbirds congregating to feed and breed amongst the waters.

This process of transformation of a normally dry, dusty landscape potted with ecologically and culturally important waterholes, into a vast watery haven akin to an inland sea, makes the Lake Eyre Basin unique on a world scale. Highly variable and unpredictable flooding events create a 'boom and bust' ecology, critical not only to ecosystem health, but also to the Basin's pastoral and tourism industries. The Basin has a rich indigenous and non-indigenous cultural heritage also largely influenced by these cycles of episodic flooding.

This year's floods remind us again that water is the key to this unique system. Ignoring State and Territory borders, the rivers and floodplains of the Lake Eyre Basin stretch across nearly one-sixth of Australia. To look after this special region, collaboration between governments, industry (petroleum, mining, pastoralism and tourism), Basin communities, indigenous people and conservation groups is essential.

The Lake Eyre Basin Intergovernmental Agreement which commenced in October 2000 commits the Australian, Queensland, South Australian and Northern Territory Governments to work jointly on issues about the management of Lake Eyre water and related natural resources. The Agreement recognises the ecological and cultural importance of the LEB and provides a framework for governments to tackle the challenging task of balancing these values with the equally important water needs of the Basin's people, communities and economies.

In 2008, the first State of the Basin Report confirmed that the natural resources of the Basin are in remarkably good condition. However, the Report also highlighted that potential threats such as a) inappropriate water resource development, b) invasive pests such as camels and cane toads, and c) land use intensification particularly around waterholes, could severely impact the health of aquatic ecosystems.

This year as Lake Eyre continues to fill, communities, industry and governments can work together to address these threats, through the LEB Community Advisory Committee.

For more information about the Lake Eyre Basin or about how you can contribute to its long-term sustainability visit the website [www.lebmf.gov.au](http://www.lebmf.gov.au) or contact the Facilitator of the LEB Community Advisory Committee, Mr Vol Norris at [vol.norris@environment.gov.au](mailto:vol.norris@environment.gov.au) or (07) 4650 1235.

## The Great Artesian Basin as a National Resource

The Great Artesian Basin (GAB) is one of the most important water resources in Australia. It underlies an area of 1.7 million square kilometres, approximately 22 per cent of the continent. It is the only source of reliable water for human activity and water-dependent ecosystems in much of the arid and semi-arid landscape overlaying the Basin in Queensland, New South Wales, South Australia and the Northern Territory.

Formed between 100 and 250 million years ago, the Basin comprises alternating layers of water-bearing (permeable) sandstone aquifers and non-water-bearing (impermeable) siltstones and mudstones. The impermeable rocks confine the aquifers, causing the groundwater to become pressurised. In most areas the water is under sufficient pressure to provide a flowing source once it rises to the surface through artesian bores and natural springs (see picture of Bubbler spring).

It is estimated that more than 65 million gigalitres (GL) of water are stored in the GAB, at pressures of up to 1,300 kilopascals. The aquifers are recharged by infiltration of rainfall and leakage from streams into outcropping sandstone, mainly on the eastern margins of the Basin along the Great Dividing Range, and also along the western and south-western margins.

Groundwater flows under the influence of gravity and pressure from these recharge areas toward natural discharge springs in the west and southwest. This movement is slow, at about 0.1 to 5 metres per year, and in some parts the discharging water is up to 2 million years old. The predominantly fresh water emerges at temperatures which average 30 to 50°C and may be as high as 100°C.

There is plenty of evidence of Aboriginal use of springs on the margins of the Basin for thousands of years prior to European settlement. Today, the water resource provided by the GAB continues to be the lifeblood for many rural communities and associated pastoral / agricultural, mining, cultural and tourism activities. The total value of all production supported by GAB water was estimated in 2007 at \$3.5 billion per year.

The concept of sustainability in the Basin is not the same as for surface water. Much of the discussion regarding sustainability is about maintaining the artesian nature of the Basin, rather than about maintaining supply of volumes of water.

A Basin-wide Strategic Management Plan was completed in 2000. The Great Artesian Basin Sustainability Initiative (GABSI) (1999- 2014) is a 15 year program jointly funded by the Australian, New South Wales, South Australian and



Top left: Free flowing bore drain (before)  
Top right: Capped bore drain water (after)  
Bottom: The Bubbler spring (GABCC)

Queensland Governments and landholders, aimed at addressing previous pressure decline in the Basin.

Under GABSI, uncontrolled bores are capped and open bore drains are replaced with a pipeline reticulation system. The pipeline system lessens water wastage by eliminating evaporation and seepage. Water distribution systems also provide opportunities to utilise bore head pressure to better move water around properties, allowing landholders more flexibility in determining the distribution and management of watering points.

Under GABSI and earlier programs to the end of June 2008, over 1080 bores have been controlled, and around 17,700 kilometres of bore drains replaced with more than 30,000 km of piped reticulation system. This has resulted in an estimated saving of 284 GL of GAB water per annum. Estimated government expenditure on infrastructure replacement under the GABSI program to date is about \$125 million.

For more information about the GAB visit [www.environment.gov.au/water/environmental/rivers/gab.html](http://www.environment.gov.au/water/environmental/rivers/gab.html)

## Announcements

Below are some links to media releases, speeches or other pages of the DEWHA website.

Details of the Federal Budget 2009-10.

<http://www.environment.gov.au/about/publications/budget/2009/index.html>

Five sites in the Murray-Darling Basin will share in seven billion litres of water purchased by the Rudd Government as part of a plan to help restore the Murray-Darling Basin to health.

<http://www.environment.gov.au/minister/wong/2009/mr20090506a.html>

More irrigators in the Murray-Darling Basin can apply for the Small Block Irrigators Exit Grant Package under revised guidelines. Senator Wong says the revised guidelines reflected the changes approved by Parliament during negotiations over the Government's economic stimulus package in February.

<http://www.environment.gov.au/minister/wong/2009/mr20090424.html>

A new interactive website will be updated weekly to show water availability in public water storages across the Murray-Darling Basin. The live website provides easily-accessible information on water held in public storages right across the Murray-Darling Basin.

<http://www.environment.gov.au/minister/wong/2009/mr20090423.html>

The Rudd Government will provide \$8.4 million for six new projects to improve groundwater management across Australia. Minister for Climate Change and Water, Senator Penny Wong, says funding for the six projects comes from the National Water Commission's \$82 million National Groundwater Action Plan.

<http://www.environment.gov.au/minister/wong/2009/mr20090421.html>

Murray-Darling Basin states and the Commonwealth have established a high-level panel of leading experts and senior officials to advise on the ongoing response to the blue-green algae outbreak currently affecting the River Murray.

<http://www.environment.gov.au/minister/wong/2009/mr20090409.html>

The first release of Commonwealth water for the environment started in March at wetlands in South Australia, to be followed by further releases at other sites around the Basin over coming months.

<http://www.environment.gov.au/minister/wong/2009/mr20090324.html>

The Rudd Government is calling for proposals for stormwater harvesting and re-use projects under a special new \$200 million initiative.

<http://www.environment.gov.au/minister/wong/2009/mr20090323.html>

Minister for Climate Change and Water, Senator Penny Wong, announced \$1 million funding to help establish the Peter Cullen Water and Environment Trust.

<http://www.environment.gov.au/minister/wong/2009/mr20090313.html>

Minister for Climate Change and Water, Senator Penny Wong, announced progress in helping South Australia secure an enduring ecological outcome for the Coorong, Lower Lakes and Murray Mouth. The Australian Government has signed over up to \$10 million for the feasibility study now underway. The study is a crucial step in developing a long-term solution for the Coorong and Lower Lakes.

<http://www.environment.gov.au/minister/wong/2009/mr20090309.html>

The Australian and ACT Governments are investing more than \$17 million in the Canberra Integrated Urban Waterways program, which will establish the ACT as a leader in innovative projects to reduce the use of drinking water for irrigation.

<http://www.environment.gov.au/minister/kelly/2009/mr20090508.html>

New performance reports on Australia's water utilities.

<http://www.environment.gov.au/minister/kelly/2009/mr20090403.html>



Dr Kelly and ACT Minister  
Simon Corbell at recent  
ACT announcement