Securing our Water Future

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Introduction

The Australian Government's actions to address water shortages around the country are shaped by the best available information on water availability and the way we use water.

Growing population, climate change, over-allocation of water and land use changes mean that there is now less water available than in the past.

Water measures

Availability

The most recent Water Account by the Australian Bureau of Statistics was in 2004-05. In that year rainfall was 2,789,400 GL (billion litres) and run-off was 243,000 GL, which means that less than 10 per cent of rainfall was available for use. Just over 30 per cent of the available water in 2004-05 (79,784 GL) was extracted from the environment and used within the Australian economy, with about 75 per cent of this water returned to the environment following in-stream uses such as hydro-electric power generation.

Consumption

Water consumption was 18,767 GL in 2004–05, a decrease of 14 per cent from 2000–01.

The agriculture industry consumed the largest volume of water at around 12,000 GL, representing 65 per cent of water consumption in Australia in 2004–05. This was a four per cent decrease from 2000–01.

Households were the next highest consumer of water in 2004–05, accounting for 2,100 GL or 11 per cent of water consumption. The water supply, sewerage and drainage services industry was also a significant consumer of water, also accounting for 11 per cent of water consumption (mostly due to losses in distribution), followed by manufacturing with 589 GL (or 3 per cent).

Trading

Water markets allow water entitlements and allocations to be traded. The National Water Commission found that a total of 32,501 trades in water access entitlements and water allocations were recorded throughout Australia during the 2008–09 water year, involving 3,958 GL of water. Most of this trading took place in the Murray–Darling Basin.

River health

Changes to the natural water systems of rivers have meant a decline in health for many river ecosystems. In 2008 the Sustainable Rivers Audit undertaken by the Murray–Darling Basin Commission found that 20 of 23 river valley ecosystems in the Basin were rated to be in poor or very poor health.

The path to water reform in Australia

For most of Australia's history since European settlement, water resource policies were focused on development objectives - supporting economic and population growth. By the 1980s there was a growing awareness of the need to better manage water allocations and protect the environment. By the 1990s it was clear to Australian governments that water resources were becoming increasingly scarce and there was a need to share water between economic and environmental uses.

In 1994 the Council of Australian Governments (COAG) established a water reform framework to halt degradation of water resources and improve efficiency and sustainability in the water industry.

In June 2004 COAG again turned its attention to water reform and agreed to the National Water Initiative (NWI). The NWI is the national blueprint for water reform, in which all governments committed to a range of measures to increase the efficiency of Australia's water use.

This was followed by significant legislative changes, enshrined in the *Commonwealth's Water Act 2007*, to enable water resources in the Murray–Darling Basin to be managed in the national interest, optimising environmental, economic and social outcomes.

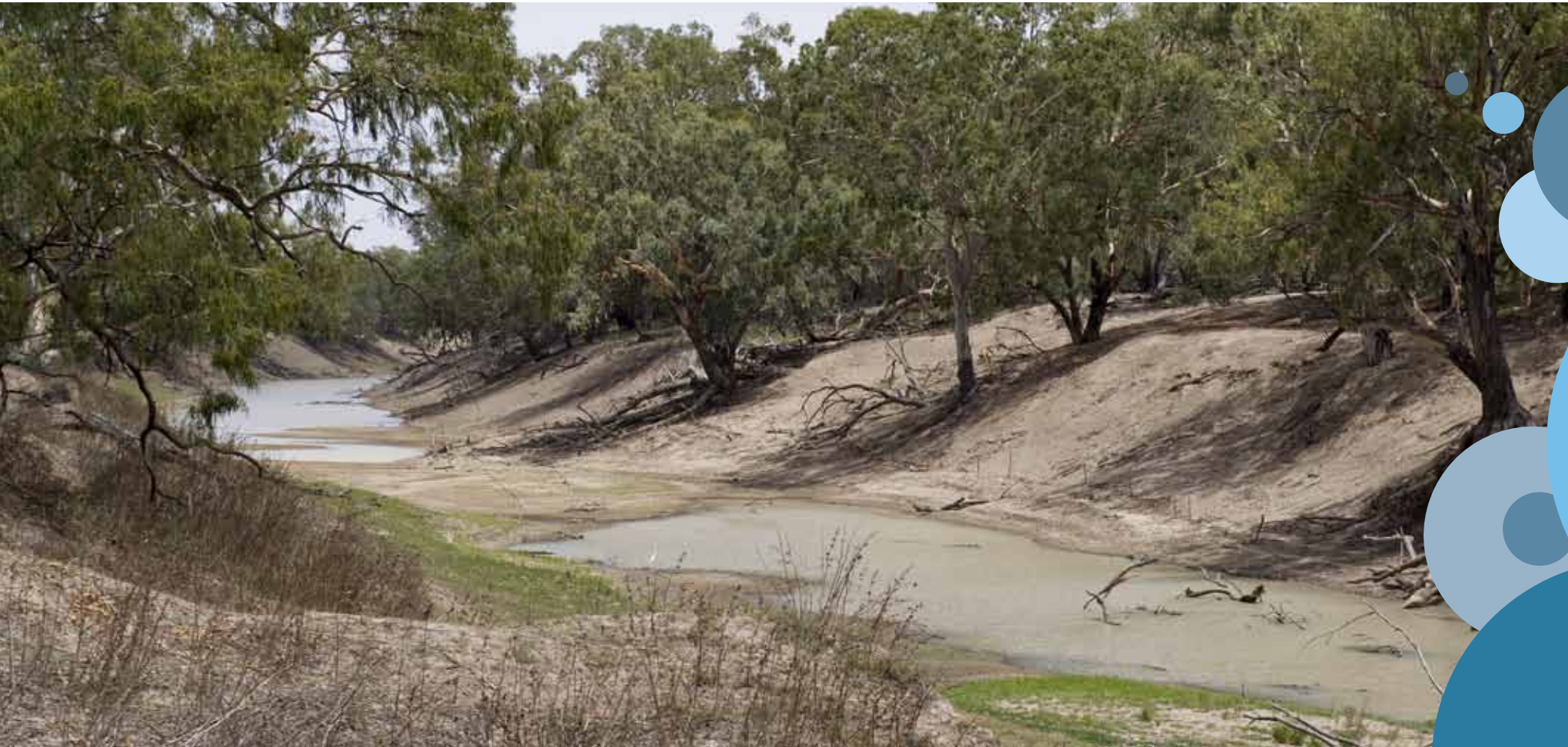
An amendment to the Water Act in 2008 gave effect to the July 2008 Intergovernmental Agreement on Murray-Darling Basin Reform. The Agreement outlined fundamental changes to planning and management arrangements for the Murray–Darling Basin's water and other resources.

Darling River near Louth, NSW
(DEWHA & Arthur Mostead)

The Australian Government's response to increasing water scarcity

Australia faces major challenges in ensuring sustainable water supply in the face of a drying climate and rising demand for water. In response, the Australian Government's framework, *Water for the Future*, provides national leadership in water reform for all Australians.

Water for the Future is a ten year, $12.9 billion investment in strategic programs, improving water management and delivering a range of water policy reforms in both urban and rural areas.



Australian Government agencies involved in water reform

The Australian Government has a number of agencies involved in water reform.

The **Department of the Environment, Water, Heritage and the Arts** implements *Water for the Future*.

The **National Water Commission** assists governments to implement the National Water Initiative and provides advice to COAG and the Australian Government on national water issues.

The **Murray–Darling Basin Authority** was established under the *Water Act 2007* as an independent authority responsible for planning the integrated management of the Basin's water resources.

The **Bureau of Meteorology** has responsibility for key water information functions to enhance understanding of Australia's water resources.

The Australian Competition and Consumer Commission (ACCC) provides advice to the Minister for Climate Change and Water, and the Murray–Darling Basin Authority, on rules relating to water trading in the Murray–Darling Basin. The ACCC also has a role in monitoring compliance with and enforcing water market and water charge rules.

Department of the Environment, Water, Heritage and the Arts

The Australian Government is tackling water scarcity in the face of climate change through a comprehensive national response to meet water availability challenges in both rural and urban areas.

The Government's key water program, *Water for the Future* is built on four key priorities:

- taking action on climate change
- using water wisely
- securing water supplies, and
- supporting healthy rivers.

These priorities are being delivered through a ten-year, $12.9 billion investment in strategic programs including infrastructure investment to help water users adapt to a future with less water, purchasing water for the environment, and a renewed commitment to water reform nationally.

Key actions

The Australian Government, through the Department of the Environment, Water, Heritage and the Arts, is implementing a suite of policy measures and funding programs through *Water for the Future*.

The policies that are reforming the way water is managed in Australia range from changing the governance arrangements for the Murray–Darling Basin to developing a new national water market system. Funding programs are addressing water scarcity at all scales and encompass multi-million dollar assistance for irrigation businesses to modernise their operations, puchasing water in the market and returning it to the environment, rebates for householders to install rainwater tanks and grey-water systems, and support for local governments to secure town water supplies into the future.

Sustainable Rural Water Use and Infrastructure

Water for the Future provides $5.8 billion for rural water use and infrastructure projects to improve the efficiency of water use on farms and in irrigation delivery systems.

The amount of irrigation water that leaks out of irrigation systems or is lost to evaporation is about the same as all our major capital cities consume. Making better use of the water that is available is critical to adapting to reduced water availability which is forecast as a result of climate change, that's why the Government is investing heavily in helping irrigators to upgrade their water infrastructure.

To meet the challenge of reduced water availability in the future, the Government has committed more than $4 billion so far to upgrade and modernise water and irrigation infrastructure in the Murray–Darling Basin.

Irrigators in the Lachlan and southern-connected system of the Murray–Darling Basin are also being assisted through the $300 million On-Farm Irrigation Efficiency Program to modernise their on-farm irrigation infrastructure and return water to the environment.

The Government is also helping small block irrigators to leave the industry if they wish, while staying on their farms. The Small Block Irrigators Exit Grant package is providing funding for eligible farmers willing to sell their water entitlements to the government and change to different kinds of farming or other activities.

Buying back water entitlements

Water for the Future has $3.1 billion for purchasing water entitlements to help restore the health of our vitally important rivers, wetlands and floodplains.

In the Murray–Darling Basin, the Australian Government is buying back permanent water entitlements directly from irrigators in order to restore the balance between water for human use and for the environment.

By the close of 2009, the Australian Government had secured the purchase of 766 gigalitres of water entitlements worth just over $1.2 billion.

Purchasing water entitlements has the added benefit of helping to smooth the transition to lower sustainable diversion limits expected under the Basin Plan.

As well as buying water directly from individual farmers, groups of farmers working with their irrigation water provider can lodge proposals for selling water entitlements collectively. There are benefits for groups of irrigators in the same region to work together. For example, if all irrigators along a channel sell their entitlements, the Government can assist with the cost of decommissioning infrastructure and developing alternative stock and domestic water supplies.

Returning water to the environment

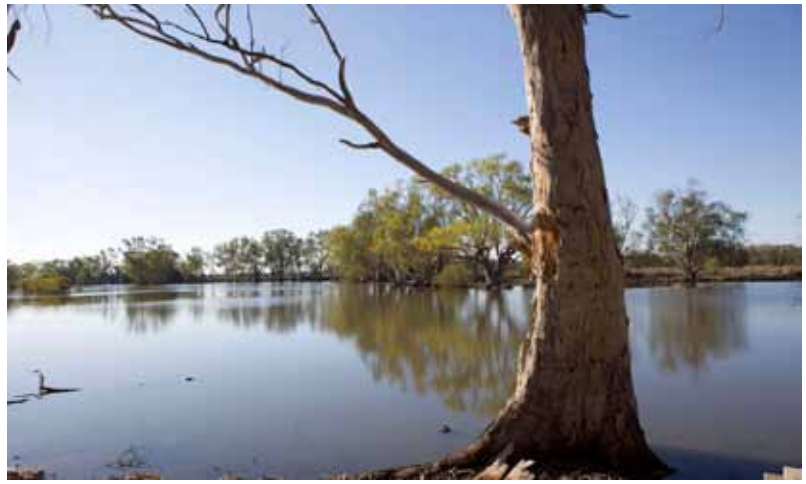
Water entitlements acquired by the Commonwealth under *Water for the Future* programs become part of the Commonwealth environmental water holdings. These holdings are managed by the Commonwealth Environmental Water Holder (CEWH) and are used to benefit the environment. Like any other water entitlement holder, the volume of water allocated against an entitlement the Commonwealth holds will vary from season to season.

In making decisions on the use of the Commonwealth's environmental water holdings, the CEWH takes into account input from Basin state governments and local site managers, as well as advice from the Environmental Water Scientific Advisory Committee, a panel of scientific experts. The Department also continues to consult closely with state jurisdictions and environmental asset managers to ensure that prioritisation is robust and responsive to changes in environmental conditions.

In 2009, 29.4 billion litres of Commonwealth water was allocated to 23 floodplain and wetland sites in South Australia, Victoria and New South Wales.

Carpark Lagoons on the Katarapko floodplain in the River Murray National Park, near Berri in South Australia, was allocated 200 million litres of environmental water in March 2009. Katarapko is a diverse floodplain and wetland habitat for a range of aquatic and terrestrial animals and is also the site of a river rehabilitation project, known as Katfish reach. The Carpark Lagoons are some of the last wetlands in the area with living mature river red gums, and this water was aimed at preventing the death of these trees.

Carpark Lagoons in the Katarapko Floodplains prior to the environmental watering in March 2009, SA (DEWHA & M Mohell)



Carpark Lagoons in the Katarapko Floodplains after the environmental watering in March 2009, SA (DEWHA & M Mohell)

Securing urban water supplies

Many of Australia's cities and towns are also facing some big challenges in securing their water supplies as a result of extended drought and projected growth in demand. The already-emerging impacts of climate change add further urgency to this task.

The Australian Government has committed $1.5 billion for a range of initiatives to secure urban water supplies and to reduce reliance on traditional rain-fed water sources.

To date significant funding has been directed to a number of wastewater recycling, stormwater harvesting and desalination projects around the country. Funding has also been made available to support individual Australians in taking action to conserve water resources by installing rainwater tanks and greywater systems.

National Water Market System

In cooperation with the states and territories, the Department is progressing a number of reforms intended to improve water management nationally. An example of this is the National Water Market System. Under the National Water Market System Australia's water market is being strengthened through a $56 million investment by the Australian Government to develop a faster, more efficient and nationally focused water market system.

This will address differences between water registers in each state and territory, and their varying capacity to inform the market and support interstate water trade.

All Premiers and Chief Ministers have endorsed the model for a National Water Market System. The new system will include a common registry system or system upgrades for all jurisdictions, and a new national portal and interstate processes to speed-up cross-border water trades and cut transaction costs.

More information

Visit our website www.environment.gov.au/water.

You can also subscribe to the bi-monthly newsletter Water Matters to keep you informed about *Water for the Future*.

Phone our Water Information Hotline on 1800 218 478.

Email waterinformation@environment.gov.au.

National Water Commission

Water challenges in Australia

Australia is the driest inhabited continent in the world. Rainfall is variable and droughts are common. Water is essential to maintaining our livelihoods, our health and our security. We drink it. We use it to produce our food. We need water for our cities, our industries and to generate electricity.

Drought, climate change and water scarcity make water reform and improved water management more necessary than ever.

Reduced rainfall and flows have placed many of our rivers and groundwater systems under stress, with adverse impacts on the environment. At the same time, the demand for water from urban, rural and industrial users is increasing every year.

We need to balance our use of this available resource with our responsibilities toward the environment.

It is in the interests of all Australians that we make the most of our precious water resources and plan for sustainable water use.

National imperatives for water management include more effective water planning to determine how we share valuable water resources between competing uses, protection of significant environmental assets, expansion of water markets, and improved security of water supplies and entitlements.

The National Water Commission

The National Water Commission, which was created to drive the national water reform agenda, is an independent statutory authority within the Environment, Water, Heritage and the Arts portfolio. Established under the *National Water Commission Act 2004*, the Commission provides advice to the Council of Australian Governments (COAG) and the Australian Government on national water issues.

The Commission has two main roles:

- assisting governments with the implementation of the National Water Initiative (NWI) and undertaking activities that promote the objectives of the NWI
- administering the Raising National Water Standards Program.

The National Water Initiative

In 2004, COAG agreed on a policy blueprint to improve the way Australia manages its water resources – the National Water Initiative. Through it, governments across Australia agreed on actions to achieve a more cohesive national approach to the way Australia manages, measures, plans for, prices and trades water.

The National Water Initiative is designed to increase the efficiency of Australia's water use, leading to greater certainty for investment and productivity, for rural and urban communities, and for the environment.

The prime objective is to achieve a nationally compatible market, regulatory and planning based system of managing surface and groundwater resources for rural and urban use that optimises economic, social and environmental outcomes.

Under this initiative, governments have made commitments to:

- Prepare water plans with provision for the environment
- Deal with over-allocated or stressed water systems
- Introduce registers of water rights and standards for water accounting
- Expand water trading
- Improve pricing for water storage and delivery
- Meet and manage urban water demands.

Water reform in Australia is delivering real improvements in the management, use and understanding of water. Much of this progress can be attributed to the shared commitment by the Australian Government and state and territory governments under the NWI.

Raising National Water Standards Program

This $250 million program offers support for projects that are improving Australia's national capacity to measure, monitor and manage our water resources. Funds from the Raising National Water Standards Program are directed at activities across three strategic investment areas:

- Implementing the National Water Initiative
- Improving integrated water management across Australia
- Improving knowledge and understanding of our water resources.

National Groundwater Action Plan

In 2007, a National Groundwater Action Plan was initiated by the Commission under the Raising National Water Standards Program to fund projects to progress the groundwater reforms agreed to under the National Water Initiative. The plan consists of three major components:

- National Groundwater Assessment Initiative
- National Centre for Groundwater Research and Training
- Knowledge and Capacity Building.

Assessing water reform progress

The National Water Commission regularly assesses progress on water reform in Australia and identifies opportunities to advance the National Water Initiative:

- To provide a baseline for evaluation, the Commission produced Australian Water Resources 2005, which provides a snapshot of water availability, water use, and river and wetland health as at the beginning of the NWI reform journey in 2004–05.
- Major biennial assessment reports assess progress in implementing the NWI.
- The Commission also reports regularly on specific aspects of water management such as the performance of urban water utilities and rural water service providers, the operation of Australian water markets, and the impacts of water trading.

In October 2009, the Commission released its second biennial assessment of progress in implementation of the National Water Initiative – Australian water reform 2009 - a comprehensive report that assesses how all Australian governments are tracking on the reform commitments they made under the National Water Initiative.

The assessment found that although some progress has been made on meeting the Initiative's ambitious policy prescriptions, climate change has exacerbated the problems and an urgent re-commitment to reform is required.

The Commission's assessment provides advice to the Council of Australian Governments on the actions required to better realise Australia's national water reform objectives.

Accelerating reform

In fulfilling its responsibilities, the Commission provides leadership by being a catalyst for change and reform:

- Through the Raising National Water Standards Program and the Groundwater Action Plan, the Commission invests in projects to advance water reform and improve water management.
- The Commission's Waterlines reports contribute to better understanding and awareness of water management issues.
- Position statements are released to improve the quality of debate about water challenges and recommend actions vital to progress reform.

Other important Australian Government and COAG policy initiatives and investments are building on the NWI foundation. There is a heightened commitment to take action on climate change, restore rivers and achieve more integrated and sustainable management of water resources in the Murray-Darling Basin.

A Murray–Darling Basin Plan is being prepared by the Murray–Darling Basin Authority. The National Water Commission will audit the effectiveness of the Basin Plan's implementation, together with accredited state water resource plans.

Contact us

The Commission's website www.nwc.gov.au offers easy access to relevant information.

Our publications, including the Waterlines series, are available for free download.

You can also subscribe to the Commission's monthly newsletter, Distilled, and be kept up to date with current water issues and information.

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Murray–Darling Basin Authority

For the first time in Australia's history there is now a single body responsible for overseeing water resource planning in the Murray–Darling Basin.

This has come about through a number of significant water reform decisions and was motivated by the growing realisation that the health of the Murray–Darling Basin is in serious decline.

In less than a century, water extracted from the Murray–Darling Basin has increased five-fold, and average inflows into the Murray have shrunk from 24,000 GL a year to 1,300 GL a year. In 2002 the Murray stopped flowing to the sea.

A 2004 report for The Living Murray program showed that the majority of river red gums along almost 1450 km of the River Murray were showing signs of severe stress. The first environmental report card on the ecological health of the Murray–Darling Basin (completed in 2008) found long-term degradation in most of the valleys and that 20 of the Basin's 23 river valleys were in poor or very poor health.

The continued drought, the impacts of climate change and population growth have added to the pressures on the river systems within the Murray–Darling Basin.

The *Water Act 2007* and *Water Amendment Act 2008* (Water Act) introduced key reforms for water management in Australia. It established the Murray–Darling Basin Authority (MDBA) with the functions and powers, including enforcement powers, needed to ensure that the Basin's surface water and groundwater systems are managed in a sustainable way, and in the national interest. The Murray–Darling Basin Authority reports to the Australian Government Minister for Climate Change and Water.

The Water Act requires the MDBA to prepare the Basin Plan, a strategic plan for the integrated and sustainable management of water resources in the Basin. Other responsibilities of the MDBA include:

- advising the Minister on accreditation of state water resource plans
- operating the River Murray system and delivering water to users in a fair and efficient way
- managing The Living Murray program, one of Australia's most significant river restoration programs
- managing the sea to Hume fishway program which aims to open up 2,100 km of the River Murray to free passage by native fish
- developing a water rights information service which facilitates water trading across the Murray–Darling Basin
- measuring and monitoring water resources in the Basin
- engaging the community in the management of the Basin's resources.

The Basin Plan

The Basin Plan will set legal limits (sustainable diversion limits) on the amount of water that can be taken from the Basin's rivers and groundwater systems. It will include an environmental watering plan to ensure that enough water is allocated to the environment for the maintenance of ecosystems. The Plan will also take into account the impact on individual communities, industries, regions and the wider economy.

All signs are indicating that the new sustainable diversion limits will be lower than the current limit.

A proposed Basin Plan is scheduled for release in mid 2010 to allow for extensive consultation with stakeholders. The first Basin Plan will be completed in 2011 and approved by the Minister for Climate Change and Water, after which it will be regularly reviewed and updated.

Basin states and the ACT will be consulted in the preparation of the Basin Plan including through the Murray–Darling Basin Ministerial Council and the Basin Officials Committee. To ensure a smooth transition for water users the Basin Plan will honour existing water plans for the life of those plans. The South Australian, New South Wales, Australian Capital Territory and Queensland plans generally expire in 2014 and Victoria's in 2019.

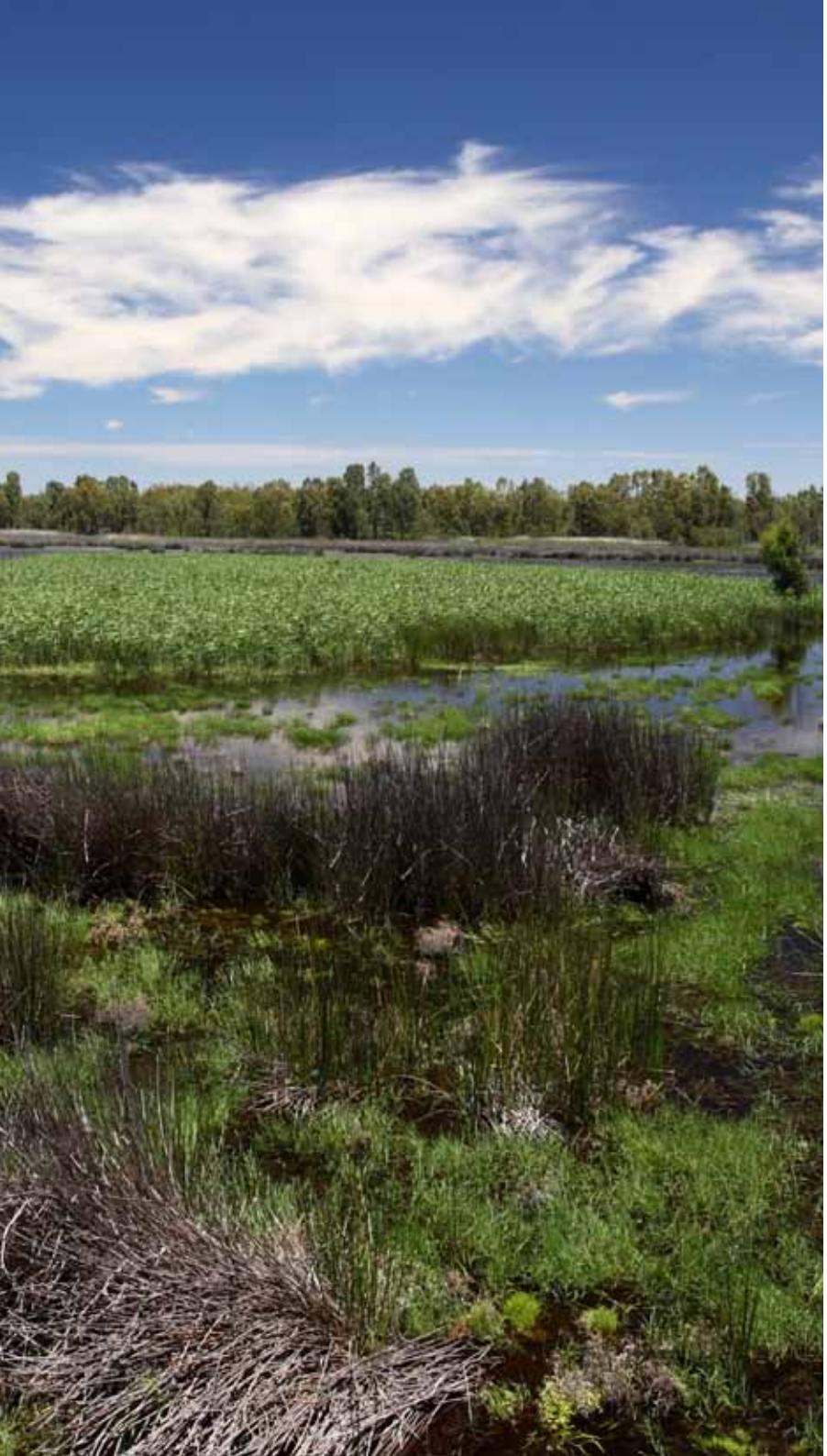
The states and the ACT will continue to determine how water is allocated and used in their own jurisdictions through the development of water resource plans, but these must be consistent with the Basin Plan.

The Basin at a glance

The Murray–Darling Basin incorporates Australia's three longest rivers and stretches from Queensland's channel country through NSW to the Australian alps, Victoria's north-east and the Riverina, and on into South Australia's Riverland and the Coorong at the mouth of the Murray. It contains 30,000 wetlands including many internationally significant sites.

The Basin covers an area of over 1 million square kilometers or 14% of Australia and is home to over 2 million people, with a further 1 million people outside the Basin relying on its water. There are over 30 Aboriginal nation groups in the Basin. It is Australia's most important agricultural area, supporting 39% of Australia's agricultural production worth $15 billion. Export earnings are over $9 billion a year.

In 2002 the Murray stopped flowing to the sea and the Murray mouth has been continually dredged, to keep it open, ever since. The Sustainable Rivers Audit (2008) found that 20 of the Basin's 23 river valleys were in poor or very poor health. Only one valley, the Paroo, was in good condition.



Engaging stakeholders

MDBA is providing stakeholders with information about the Basin Plan and its development. We have been doing this through forums, a northern Indigenous gathering, meeting with the Murray Lower Darling Rivers Indigenous Nations (MLDRIN), information stands, publications and regional community meetings of the Murray–Darling Basin Authority and the Basin Community Committee. MDBA staff have participated in the Department of Environment, Water, Heritage and the Arts community information sessions throughout the Basin.

There will be a formal 16-week public consultation period after the release of the proposed Basin Plan in mid 2010. Community workshops will be conducted during this phase to provide opportunities for discussions and questions to help people to develop formal submissions and become more involved in the planning process.

In the long term the Basin Plan and the new arrangements for managing the Murray–Darling Basin aim to address the historic over-allocation of the river systems and secure the future of the Basin, and of the many communities which rely on it for social, cultural and economic survival.

◄ Reed Beds Swamp within The Living Murray Barmah–Millewa icon site, shows a positive response after receiving environmental water (MDBA & David Kleinert).

Contact us

Our publications, including fact sheets, are available on our website www.mdba.gov.au. You can also subscribe to MDBA's monthly e-Letter and our engagement email update.

For further information or to comment on the proposed Basin Plan contact:

engagement@mdba.gov.au
phone our free number 1800 230 067
or write to us at:

Engagement, Murray–Darling Basin Authority
GPO Box 1801
Canberra ACT 2601

Bureau of Meteorology

Improving water information

Water security is a major challenge facing Australia. The need to accurately monitor, assess and forecast the availability, condition and use of water resources is vital.

Australia's national weather and climate agency now has responsibility for compiling and disseminating comprehensive water information across Australia. The Australian Government has given the Bureau of Meteorology this role under the *Water Act 2007*.

Working with water managers

The Bureau is working with water managers across Australia to deliver high quality, national water information to government, industry and the community.

Water information is currently collected and held by more than 200 organisations across Australia that each collect water data for their own business needs. The Bureau is using data supplied by those water managers to improve the coverage, accuracy and currency of water information, and to make this data freely available to all Australians.

Water Regulations 2008

The *Water Act 2007* refers to the Water Regulations 2008, which contain information about the types of water data collected by the Bureau, who supplies it and how often.

The Regulations came into effect on 30 June 2008. They name over 200 organisations required to give the Bureau specified water information that is in their possession, custody or control. The Regulations encompass ten categories of water information and over 65 water data variables. They require data owners to supply the Bureau with the full historical record of available data and to supply updates on a regular basis.

How will water information improve?

For the first time in Australia's history, water data for all states and territories will be presented in a common way. Importantly, it will be freely accessible online.

The Bureau will use this data for new reporting, analysis and forecasting products and services that will assist water managers and policy makers to better utilise our nation's most valuable resource.

What does water information tell us?

Water information will be used to answer questions such as:

- How much water is available in different parts of the country today and how does this compare with the past?
- Who is entitled to use water and how much are they using?
- How much water is being allocated and how is the security of particular water entitlements changing?
- How much water is being traded and to where?
- How much water is the environment getting?
- How much water will be available in the coming days, weeks, months and seasons?
- How much water is being intercepted by farm dams and land management changes?
- How is flood risk changing in response to climatic and land management changes?
- How is the quality of water in rivers and aquifers changing?

New water information products and programs

Water Storage information

During 2010, the Bureau will begin providing free online access to water storage level information for all major dams across Australia at a single website. Visitors to the Bureau's website at: www.bom.gov.au/water will be able to track water storage levels and volumes for over 300 sites across the nation, with daily updates available for most of Australia's urban and rural water supply systems.

The Australian Water Resources Information System (AWRIS)

The Bureau's newly developed Australian Water Resources Information System (AWRIS) will generate Water Storage information. AWRIS will also be used to help the Bureau produce to consolidated groundwater, water trading and water quality information over the coming years.

An essential part of AWRIS is the Australian Hydrological Geospatial Fabric (the Geofabric), a specialised Geographic Information System (GIS) mapping interrelationships between the nation's key hydrologic features, including rivers, dams, lakes, aquifers, diversions, drains, catchment boundaries and hydrologic monitoring points. The Bureau is working with Geoscience Australia, the Australian National University and CSIRO to develop the Geofabric in stages over the next 10 years.

National Water Account

A National Water Account (NWA) will provide water managers and policy makers with information about water rights, water availability and water use that has previously been difficult to access or unavailable to general users in a standardised form. The NWA will transparently report on volumes of water traded, extracted and managed for economic, public and environmental purposes across Australia.

The Bureau will publish the National Water Account (NWA) annually from December 2010. It will be freely available and will evolve, improve and become more comprehensive over the coming years.

National flood forecasting and warning service

The Bureau's flood forecasting and warning service uses rainfall and streamflow observations, numerical weather predictions and hydrologic models, to forecast likely flood events across Australia. This information provides the basis for flood response by emergency services and is vital for water resource managers responding to large inflows of water into their dams and rivers. The Bureau's national flood warning service will be enhanced in 2010 through AWRIS development.

Modernisation and Extension of Hydrologic Monitoring Systems Program

Improving the quality and reliability of Australia's water information, requires the upgrade of many monitoring and data transfer systems across the nation. The Bureau administers the Australian Government's $80 million Modernisation and Extension of Hydrologic Monitoring Systems Program.

The Program began in 2007 and will continue until 2012 to help water data collecting agencies to upgrade and expand their streamflow, groundwater monitoring and water storage measurement networks.

Australian Water Resources 2010

The Bureau will conduct annual national assessments of water resources from 2010 that will be released to the public free of charge via our website.

These reports will provide timely and ongoing delivery of information on trends in the availability, condition, management and use of water resources in Australia. They will build on work previously undertaken by organisations including the National Water Commission and the National Land & Water Resources Audit.

Upcoming products

Over coming years, water managers, policy makers and the general public will also have access to a range of products including:

- real-time water reporting services
- real-time water availability forecasts
- a seasonal streamflow forecasting service, due to go live at the end of 2010.

Research and development partnerships

In developing Australia's first national water information system, the Bureau is undertaking tasks that push the boundaries of existing water science and information technology.

Water Information Research and Development Alliance (WIRADA)

The Bureau is working closely with 40 leading researchers from CSIRO on new science and technologies that will improve water information across Australia. The Bureau's research and development partnership with CSIRO is funded through the five-year, $50 million Water Information Research and Development Alliance (WIRADA). WIRADA links CSIRO's expertise in water and information sciences with the Bureau's operational role in hydrologic analysis and prediction.

WIRADA's advances are complemented by research and development through the Centre for Australian Weather and Climate Research (CAWCR), an ongoing venture between CSIRO and the Bureau (www.cawcr.org.au), and the eWater CRC involving 45 of Australia's leading water management, consulting and research organisations, supported by the Australian Government's Cooperative Research Centres (CRC) program.

Partners in industry and government

The Bureau is also working closely with all levels of industry and government to deliver products that will help to improve the management of Australia's precious water resources.

For further information please visit our website at www.bom.gov.au/water.

Australian Government

Department of the Environment, Water, Heritage and the Arts

Bureau of Meteorology

National Water Commission

Murray-Darling Basin Authority