



Australian Government



**MURRAY-  
DARLING**  
BASIN AUTHORITY

## ANNUAL REPORT 2009–10



## How to use this report

This annual report contains the:

- report on MDBA activities from 1 July 2009 to 30 June 2010 of the Basin Plan Division, Natural Resource Management Division and the River Murray Division
- report on MDBA corporate and governance activities for 2009–10
- MDBA financial statements for the year ended 30 June 2010

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A silver ARA award was received  
for the MDBA's 2008 report



## Highlights for 2009–10

- Further progressed key Basin Plan requirements, including the water quality and salinity management and environmental watering plans; Basin Plan monitoring and evaluation program; sustainable diversion limit compliance method; water trading rules; and provisions for critical human water needs.
- Finalised and initiated the Basin Plan stakeholder engagement strategy.
- Identified Murray–Darling Basin key environmental assets and key ecosystem functions.
- Developed a new water-sharing schedule to the Murray–Darling Basin Agreement.
- Secured 472 gigalitres (GL) of water for The Living Murray program.
- Delivered 65.729 GL of environmental water to The Living Murray’s six icon sites, including 48 GL to the Lower Lakes in South Australia.
- Diverted approximately 490,000 tonnes of salt away from the River Murray by salt interception schemes.
- Commenced second stage of the South Eastern Australian Climate Initiative.
- Near-completion of the Sea-to-Hume fishway program.
- Sustained River Murray flows and satisfied essential water requirements in an environment of reduced water availability.
- Resumed control of Menindee Lakes when their stored volume exceeded 640 GL.
- Successfully forecast inflows from Darling River floods and continued to supply and refine water availability forecasts for all states.
- Formally commissioned the Waikerie 2L salt interception scheme.

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# Letter of transmittal



## Office of the Chief Executive

TRIM Ref: D10/29437

The Hon Tony Burke  
Minister for Sustainability, Environment, Water,  
Population and Communities  
Parliament House  
CANBERRA ACT 2600

Dear Minister

It is my pleasure to present the annual report of the Murray-Darling Basin Authority (MDBA) for the year ended 30 June 2010.

This report has been prepared in accordance with the requirements for annual reports prepared by the Joint Committee of Public Accounts and Audit, under subsection 63(2) of the *Public Service Act 1999*.

In accordance with the Commonwealth Fraud Control Guidelines, I certify that the MDBA has prepared fraud risk assessments and fraud control plans, and has in place appropriate fraud prevention, detection, investigation, reporting and data collection procedures and processes that meet the specific needs of the agency and comply with the guidelines.

The report notes the significant progress that has been made in the preparation of the proposed Basin Plan, due to be completed in late 2010.

Section 214(1) of the *Water Act 2007* requires that the Chief Executive must, as soon as practicable, prepare and give to the Minister, and to each other member of the Murray-Darling Basin Authority Ministerial Council, a report on MDBA's operations during that year.

Subsection 214(3) of the *Water Act* requires that you lay a copy of the report in each House of Parliament within 15 sitting days of that House after the day on which you receive the report.

Yours sincerely

A handwritten signature in black ink, appearing to read "Rob Freeman".

Rob Freeman  
Chief Executive

7 October 10

## Chief Executive's review

The first full year of operations for the Murray–Darling Basin Authority as the agency responsible for planning the integrated management of all water resources across the Basin saw the MDBA successfully achieve a number of key milestones.

The severe drought conditions that had prevailed in eastern Australia for most of the past 10 years eased during 2009–10. The resulting inflows to the rivers of the Basin system brought substantial gains to the environment and eased some of the pressures being experienced by Basin communities.

As in 2008–09, MDBA activities during the year remained focused on developing the proposed Basin Plan. Under the Commonwealth *Water Act 2007*, MDBA is required to develop a plan to manage the surface-water and groundwater resources of the Murray–Darling Basin and to develop sustainable diversion limits on the amount of water that can be taken from the Basin. This is to be based on best available science, social, cultural and economic knowledge and analysis.

During 2009–10, the Murray–Darling Basin Authority was extremely busy and held 24 meetings, which focused principally on developing the Basin Plan. Authority members consulted with community, industry, scientific and jurisdictional representatives; reviewed scientific evidence; analysed stakeholder feedback and consultants' reports; and developed policy for the proposed plan that will assist the future wellbeing of the Basin's water resources and the communities and environmental assets that rely upon them.

Public and jurisdictional interest in the proposed Basin Plan has increased as its release date draws nearer. MDBA worked diligently to assist community and other stakeholders to remain informed about and engaged with the Basin Plan development process throughout 2009–10.

Meetings of the Murray–Darling Basin Ministerial Council during the year resulted in significant outcomes, including the granting of approval to refurbish the Mildura–Merbein salt interception scheme and approving additions to the register of water recovered for the environment under The Living Murray program.

MDBA was supported in its work by the Ministerial Council's approval of the MDBA draft corporate plan for 2010–11 to 2013–14 and the MDBA Asset Management Plan, both of which will contribute to further development of the MDBA's structural dynamic as an effective government agency.

For further information on the structure and governance of MDBA, see pp. xi and xiv.

## Basin Plan development progress

During 2009–10, MDBA achieved the following milestones in its development of the Basin Plan:

- identified the Basin's key environmental assets and key ecosystem functions
- finalised the MDBA's stakeholder engagement strategy, designed to help groups or individuals contribute to the development and implementation of the Basin Plan
- developed a new water-sharing schedule to the Murray–Darling Basin Agreement
- further progressed the sustainable diversion limit compliance method, environmental watering plan, water quality and salinity management plan, and a monitoring and evaluation program for the Basin Plan's implementation
- further developed a process for accrediting and reviewing water resource plans.

Basin Plan stakeholders include people living in the Basin and the broader Australian community; industry, conservation, recreation and community groups; local governments; Indigenous Australians; state government agencies and departments dealing with scientific, technical and policy matters; and scientific and research organisations.

The MDBA's work on the Basin Plan has been supported by its scientific and technical partnerships with CSIRO, the Department of the Environment, Water, Heritage and the Arts, the Bureau of Meteorology and the Murray–Darling Freshwater Research Centre.

Throughout 2009–10, the Authority, the Basin Community Committee and the Basin Officials Committee held regular meetings on the development of the plan. A series of stakeholder meetings, a peak body forum, a government and science forum and an Indigenous Australian gathering were also held as part of the consultative process. Regional engagement activities during the year included individual meetings with key stakeholders and communities, and information stands and presentations at Basin Community Committee and Authority meetings, at conferences and at agriculture field days and shows.

MDBA supported the establishment of the Northern Murray–Darling Basin Aboriginal Nations interest group, which will help northern Aboriginal nations provide input to the Basin Plan.

Engagement activities were further supported by the publication of factsheets on Basin Plan matters and an issues paper on sustainable diversion limits.

## Delivering water

MDBA was able to manage the Murray's flows to ensure water was available for essential water requirements throughout the 2009–10 water year. Water allocations for the Murray Valley, which had started 2009–10 at minimal levels, increased slowly as River Murray system inflows improved. By 31 December 2009, New South Wales general and high security licence holders had been

allocated 10% and 97%, respectively. Victorian high reliability water shareholders had a 60% allocation, and South Australian licence holders had a 45% allocation.

Active storage under MDBA control at the beginning of July 2009 was 1,200 GL, or 14% of capacity. By 30 June 2010, active storage had increased to 3,285 GL, or 38% of capacity. Although this volume was significantly more than the historic minimum of 990 GL set at 30 June 2007, active storage was still well below the long-term average for June of 5,530 GL. Storage levels have now been below average since early 2002.

MDBA manages large dams, weirs, salt interception schemes and other infrastructure along the River Murray and the lower Darling. During 2009–10 major dam safety projects were advanced at Hume Dam, Dartmouth Dam, the Lake Victoria storage and other locations.

## Capping water diversions

MDBA is responsible for managing the implementation of the Cap on surface-water diversions for each river valley in the Basin. Under the Basin Plan, the Cap will be replaced by new sustainable diversion limits for surface water and groundwater.

The Cap audit for 2008–09 was completed in September 2009, with the *Review of Cap Implementation 2008–09* published in November 2009 and the *Water Audit Monitoring Report 2008–09* published in April 2010.

Diversions in all Cap valleys in South Australia and Victoria were within acceptable bounds for Cap management. In New South Wales, diversions in the combined Barwon–Darling — Lower Darling valley continued to exceed the Cap, and MDBA declared the continuation of the Cap breach in the valley.

## Keeping excess salt out of the Murray

In the Murray–Darling Basin, a naturally saline system, salinity has been a significant problem for many decades. MDBA minimises the impact of this salinity problem by implementing the Basin Salinity Management Strategy.

During 2009–10 salt interception schemes diverted some 490,000 tonnes of salt away from the river system. During 2009–10, salinity was 687 EC<sup>1</sup> for 95% of the time at Morgan, South Australia, peaking at 701 EC.

All partner governments (governments of New South Wales, Victoria and South Australia) have remained in net credit on the salinity registers.

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<sup>1</sup> EC: Electrical conductivity unit commonly used to indicate the salinity of water (1 EC = 1 microsiemens per centimetre, measured at 25 °C).



## Trading water

Throughout 2009–10, MDBA continued to supply and refine forecasts of water availability for each state, and to provide systems for assessing options for special water-sharing arrangements.

In the winter and spring of 2009–10, near-average rainfall across the upper Murray region resulted in significantly higher inflows to headwater storages and from the Ovens and Kiewa rivers than those experienced in the previous four years. Inflows to the River Murray from other tributaries, including the Murrumbidgee and Goulburn rivers, remained extremely low, at 38% of the long-term average of 8,790 gigalitres (GL). However, Darling River inflows early in 2010 boosted the Murray's water resources.

Following flooding in Darling River catchments, the Menindee Lakes received high inflows in January–February and then February–March 2010. The lakes began to refill, with MDBA resuming control of them in April 2010, when their stored volume exceeded 640 GL.

River Murray system inflows have been below average for 12 of the past 13 years. It will take a sustained period of above-average rainfall for river system inflows to recover to levels approaching the long-term average.

## The Living Murray

The Living Murray (TLM) program is a joint initiative of the Australian Government and the governments of New South Wales, Victoria, South Australia and the Australian Capital Territory. The Murray–Darling Basin Authority provides overall coordination and daily management of the program on behalf of the joint governments. The initiative's long-term goal is the achievement of a healthy working River Murray system for the benefit of all Australians.

During 2009–10, TLM made significant progress towards recovering its annual target of up to 500 GL to the river, with most of the water recovery measures to achieve this target completed by the end of 2009–10. This water is actively managed to improve the environmental health of the six icon sites (see Figure 2.1 for a map of these sites). Water allocated against the recovered entitlements was made available for watering of icon sites during the year.

TLM conducted effective icon site condition and event monitoring of fish, birds and vegetation communities during the year, finding that while severe drought conditions continue to impact on the health of wetland, floodplain and riverine habitats, even limited environmental watering of key refuges during the drought has resulted in positive ecological responses.

During 2009–10, MDBA began to buy irrigation entitlements under The Living Murray water purchase project. The project received over 400 expressions of interest, with 18.646 GL LTCE<sup>2</sup> of

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<sup>2</sup> LTCE = Long-term Cap equivalent.

water entitlements purchased from willing sellers in South Australia and Victoria. Returning this water to the environment will ensure further positive ecological responses.

In 2009–10, TLM engagement ensured that local communities were consulted about construction of TLM water management structures at several of these icon sites (Gunbower–Koondrook–Perricoota Forest, Hattah Lakes, Chowilla Floodplain and the Lindsay–Wallpolla islands). These structures deliver water to approximately 37,000 hectares of the River Murray's forests, wetlands and lakes.

## **Checking river health**

MDBA continued to monitor the long-term health of the Basin's rivers through the Sustainable Rivers Audit. The first five years of Sustainable Rivers Audit data is now available on the MDBA website.

A census of farm dam and land-cover change impacts on streamflow began during 2009–10; it is expected to be completed in 2010–11. Methods to compare observed data to expected conditions were finalised, along with methods to integrate these into overall ecosystem health scores for the second Sustainable Rivers Audit report.

## **Managing acid sulfate soils**

MDBA continued to assess the extent of and risk posed by acid sulfate soils at priority wetlands in the River Murray system. During 2009–10, on-ground assessments were made at approximately 1,450 Basin wetlands considered to be at risk of acidification. Detailed assessments were also conducted at priority wetlands, including 15 Basin wetlands listed under the International Convention on Wetlands (the 'Ramsar Convention') and 80 wetlands on the River Murray between Lock 1 at Blanchetown, South Australia and Wellington, South Australia, and at sites in the Loddon River catchment in northern central Victoria.

## **Identifying risks to water resources**

The condition and continued availability of Basin water resources are affected by the human taking and use of water (including through interception activities), the effects of climate change, changes to land use and limitations on the state of knowledge which forms the basis of estimates about Basin water resources.

The MDBA's assessment activities relating to these risks and their current and potential consequences included developing targeted research programs and the comprehensive mapping of Basin farm dams (in association with Geoscience Australia).

MDBA risk assessment activities will help develop better natural resource management strategies to enable MDBA to estimate the probability of identified risks occurring and their potential impacts.

## Understanding drought and climate change

It is critical to the future use of Basin water resources and the communities that depend on them that we continue to develop our understanding of Australia's climate variability and the possible ramifications of longer term climate change.

MDBA development of the proposed Basin Plan has been augmented by South Eastern Australian Climate Initiative (SEACI) research into improving modelling of Basin rainfall runoff, developing methods for climate change determination and understanding the causes of rainfall decline in the southern Basin.

MDBA was the lead agency in SEACI's first phase, completed in 2008–09; the second phase of SEACI began during 2009–10, with CSIRO acting as lead agency. SEACI 2 research is focused on understanding climate drivers, providing long-term climate and hydrology projections, and forecasting seasonal climate and hydrology.

## Helping native fish

The Murray–Darling Basin Authority's 10-year Sea-to-Hume fishway program is nearing completion. By building fishways for native fish, the program aims to return unimpeded passage for native fish along the length of the River Murray from the sea to Hume Dam. The program supports the Native Fish Strategy's objective of restoring the Basin's native fish populations to 60% of their estimated pre-European settlement levels within 50 years.

The fishways are purpose-built for native fish and include facilities to trap and remove carp. In 2009–10, the first 'dual' fishway was completed and made operational at Lock 3 on the River Murray. The fishways at locks 5 and 6 were also completed during 2009–10 and are almost operational.

MDBA and the Invasive Animals Cooperative Research Centre continued to explore a genetic technology that would prevent female carp developing, with the aim of ultimately distorting the sex ratio of males to females and causing a population crash.

Seven native fish demonstration reaches are now operating across the Murray–Darling Basin, the most recent on the upper Murrumbidgee River near the Monaro Plains. The demonstration reach concept involves landholders and community groups in river rehabilitation projects.

## Continuously improving performance

During 2009–10 MDBA consolidated policies and procedures developed and implemented following its establishment and the transfer of functions from the former Murray–Darling Basin Commission in 2008.

MDBA developed policies, frameworks and processes to ensure the agency complied with Australian Government financial, human resources, information and communication technology, legal and governance requirements. MDBA developed and implemented a business continuity plan and policy, an ICT disaster recovery plan and an internal audit plan.

To fulfil its Basin Plan responsibilities under the *Water Act 2007* (Cwlth), MDBA recruited 79 staff during 2009–10, around 25% more staff than at the end of 2008–09. To undertake this process more efficiently, MDBA streamlined and updated its recruitment and induction processes.

## Looking forward to 2010–11

During the coming year, MDBA will continue its work on the proposed Basin Plan, which is expected to be published for public consultation in late 2010 or early 2011, with the final plan approved in 2011. MDBA will continue to liaise and consult with Basin states to further develop the proposed Basin Plan.

A number of projects will be completed, or will move closer to completion, during 2010–11, including The Living Murray on-farm water efficiency round 2 project, which is funding rice irrigators to implement water savings. This project has returned close to its full target of 6.274 GL for The Living Murray.

Although the immediate threat of ongoing drought has eased following rain during 2009–10, MDBA will continue to monitor the effects of climate change on the Murray–Darling Basin. While the outlook for the River Murray system is more promising than in recent years, we will need sustained periods of above-average rainfall to significantly improve the availability of water in the Basin.

In the coming year, MDBA will continue to seek the most effective ways of balancing water supplies to communities with an ecologically robust Basin.

### Rob Freeman

Chief Executive

Murray–Darling Basin Authority

# MDBA role and functions

The Murray–Darling Basin Authority (MDBA) is the sole agency responsible for planning the integrated management of the water resources of the Murray–Darling Basin (see Figure 1). The agency is part of the portfolio of Environment, Water, Heritage and the Arts, reporting to the Minister for Climate Change, Energy Efficiency and Water (until April 2010, the Minister for Climate Change and Water).

The Murray–Darling Basin Authority is an integral element of the Australian Government's Water for the Future program, which has four priorities:

- tackling climate change
- supporting healthy rivers
- using water wisely
- securing our water supplies.

MDBA is an Australian Government agency. Its role was broadened in December 2008 when the Murray–Darling Basin Commission was abolished, and the former commission's role and functions transferred to the Authority.

MDBA was established under s. 171 of the Commonwealth *Water Act 2007*. Under this Act, MDBA key functions include:

- managing the water resources of the Murray–Darling Basin
- developing a water rights information service that facilitates water trading across the Basin
- preparing the Basin Plan for adoption by the Minister for Climate Change, Energy Efficiency and Water, including setting sustainable limits on water that can be taken from surface-water and groundwater systems across the Murray–Darling Basin
- advising the minister on the accreditation of state water resource plans
- managing water sharing between the states
- constructing and operating River Murray assets, such as dams and weirs
- measuring, monitoring and recording the quality and quantity of Basin water resources, and the condition of water-dependent ecosystems associated with Basin water resources
- supporting, encouraging and conducting research and investigations into using, conserving and improving the quality of Basin water resources
- engaging the community in the management of the Basin's resources.



**Figure 1** The Murray–Darling Basin. The Basin is the catchment for the Murray and Darling rivers and their many tributaries; it has 23 river valleys and covers over 1 million km<sup>2</sup>, or 14%, of the Australian mainland. The Basin is our most important agricultural area, producing over one-third of Australia’s food supply, and is home to more than 2 million people. It also contains numerous key environmental assets and key ecosystem functions that help maintain the region’s ecological processes and natural systems.

The agency consists of five divisions, headed by executive directors who report to the Chief Executive (see Figure 2). The divisions are Basin Plan; Natural Resource Management; River Murray; Engagement, Secretariat and Communications; and Corporate Services.

As at 30 June 2010, the agency employed 314 people.

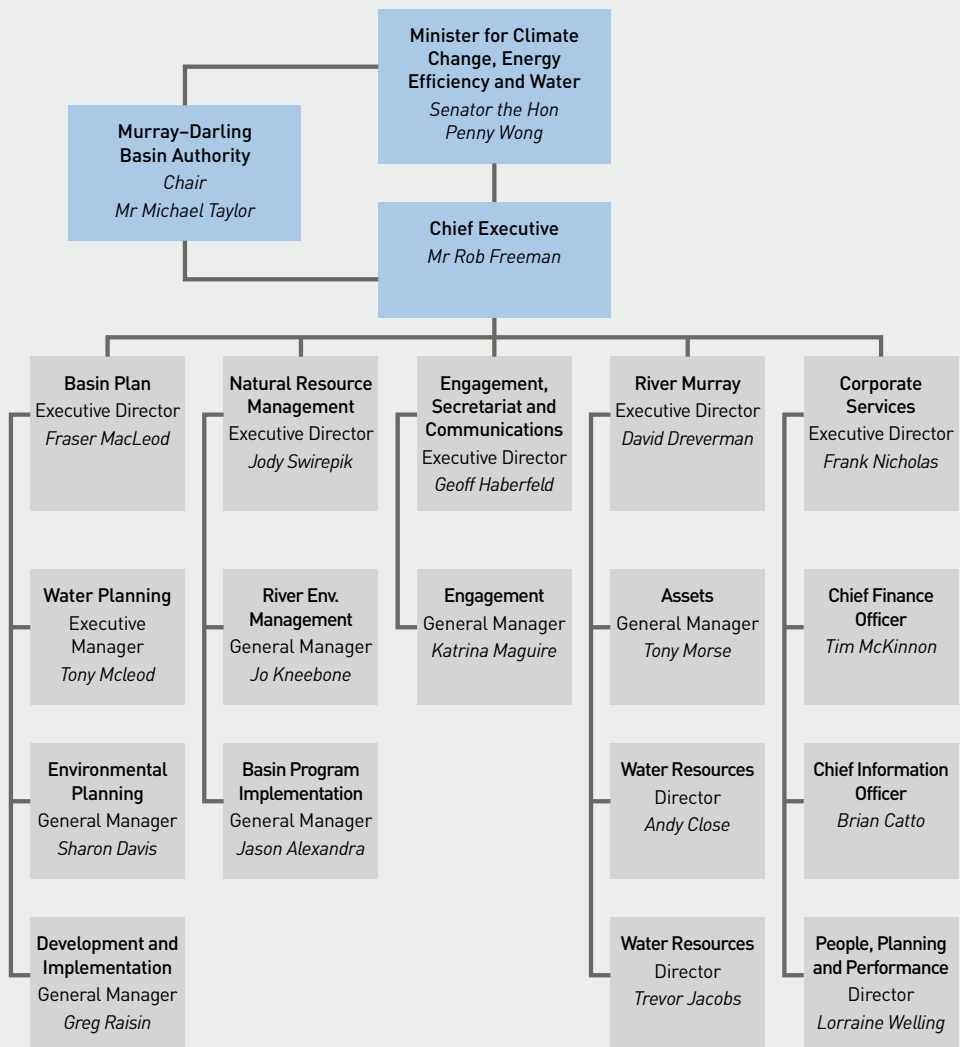


Figure 2 MDBA organisational structure

## Governance structure

The governance structure and relationships of the Murray–Darling Basin Authority (MDBA) are outlined in Figure 3. The key elements are:

- the federal Water Minister, currently the Minister for Climate Change, Energy Efficiency and Water, Senator the Hon Penny Wong
- the six-member Murray–Darling Basin Authority
- the Murray–Darling Basin Ministerial Council
- the Basin Officials Committee
- the Basin Community Committee.

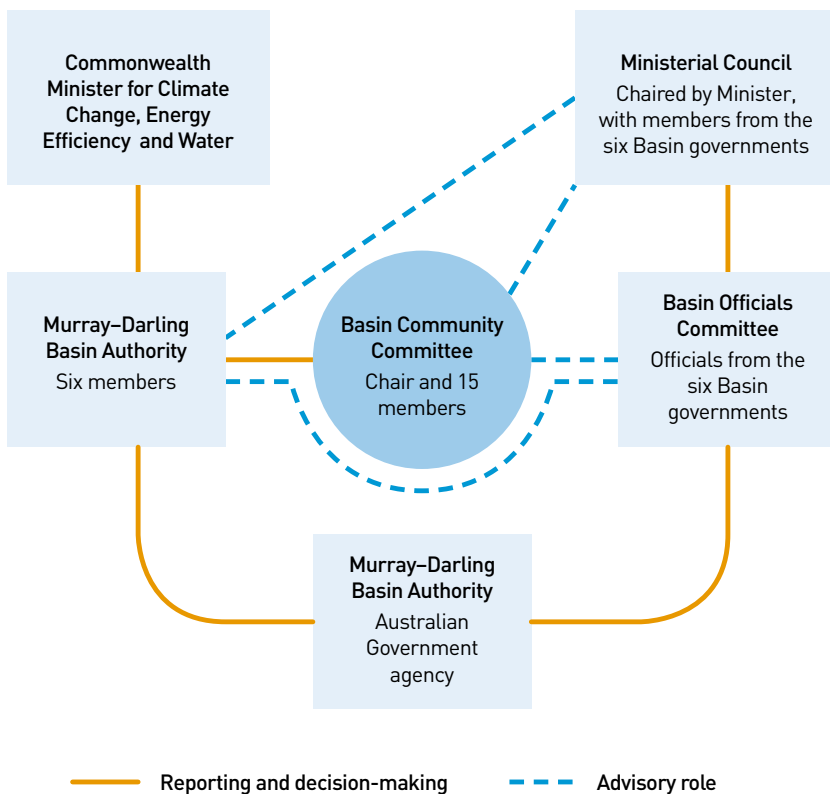
MDBA implements some aspects of its programs itself, while others are implemented through agencies of the state governments that, with the Australian Government, are partners in managing the Basin.

MDBA manages the water and other natural resources of the Murray–Darling Basin in conjunction with the Basin states through the Ministerial Council and Basin Officials Committee. The Ministerial Council has policy and decision-making roles for matters such as state water shares, critical human water needs and the funding and delivery of natural resource management programs.

The Basin Officials Committee facilitates cooperation and coordination between the Commonwealth, the Murray–Darling Basin Authority and the Basin states in implementing decisions of the Ministerial Council and the requirements of Schedule 1 of the *Water Act 2007* (Cwlth). The committee oversees funding of water management infrastructure and joint programs to manage the water and other natural resources of the Basin.

The Authority members are listed on p. xvi. The members of the Ministerial Council, the Basin Officials Committee and the Basin Community Committee are listed in Appendix A.





*Figure 3 MDBA governance structure*

## The Authority

The Authority's functions and powers are specified in the Water Act.

In broad terms, these functions relate to:

- planning for the water resources of the Murray-Darling Basin through preparing the Basin Plan, including planning for critical human water needs
- collecting and disseminating information about the water resources of the Basin
- carrying out river operations, including managing assets
- carrying out natural resource management measures
- giving effect to agreed state water shares
- carrying out detailed technical obligations such as water trades and transfers, the existing Cap on diversions and salinity measures.

The agency consists of the Chief Executive and MDBA staff.

## Authority members



Chair Michael Taylor, AO, has held senior positions in the Australian Public Service and the Victorian Public Service, most recently as Secretary for the federal Department of Infrastructure, Transport, Regional Development and Local Government. He has extensive experience and expertise in water, the environment, natural resource management and agriculture.

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Dianne Davidson has a strong management background in natural resources, particularly water and irrigated agriculture. She previously served on the South Australian Murray–Darling Basin Natural Resource Management Board and the South Australian Premier’s Climate Change Council.

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Dr Diana Day, a former Associate Professor at the University of Sydney, has expertise in hydrology, environmental issues, water futures and Indigenous Australian educational research. Her studies include research on catchment and stream hydrology, water quality and erosion.

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Rob Freeman, MDBA Chief Executive, previously held senior positions in the Queensland and South Australian public services, most recently as Chief Executive of what was the South Australian Department of Water, Land and Biodiversity Conservation. He was also Deputy President of the Murray–Darling Basin Commission and a South Australian Commissioner.

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David Green has been involved in water policy and water reform in Queensland since the mid-1990s. He has extensive experience in water resource management and planning, economics, governance and water trading matters. He was previously a Queensland Water Commissioner and board member of the South East Queensland Water Grid Manager.

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Professor Barry Hart is an Emeritus Professor at Monash University and has over 30 years’ experience in freshwater ecology. He has previously held the positions of Director of the Water Studies Centre at Monash University and Director of Research at the Cooperative Research Centre for Freshwater Ecology.

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## **Murray–Darling Basin Ministerial Council**

The Murray–Darling Basin Ministerial Council is established by the Murray–Darling Basin Agreement, Schedule 1 to the Water Act.

The Ministerial Council considers and determines outcomes and objectives on major water and natural resource management issues of common interest to Basin state governments.

The council also approves the MDBA's annual corporate plan and its budget for non-Basin planning functions. It has policy and decision-making roles in matters such as state water shares, critical human water needs and the funding and delivery of natural resource management programs; it also has an advisory role in the preparation of the proposed Basin Plan.

The council may give directions to the Basin Officials Committee concerning the committee's functions and powers under the Murray–Darling Basin Agreement.

Membership of the Murray–Darling Basin Ministerial Council comprises the federal Water Minister, who chairs the Ministerial Council, and one minister from the government of each Basin state.

## **Basin Officials Committee**

The Basin Officials Committee is established by the Murray–Darling Basin Agreement, Schedule 1 to the Water Act.

The committee facilitates cooperation and coordination between the Commonwealth, the Basin states and MDBA in managing the Basin water resources.

The committee is responsible for providing advice to the Murray–Darling Basin Ministerial Council, and for implementing council policy and decisions on matters such as state water shares and the funding and delivery of natural resource management programs.

The committee has high-level decision-making responsibilities for river operations, including setting objectives and outcomes to be achieved by the Authority in River Murray operations.

The committee has an advisory role relating to the proposed Basin Plan, including advising MDBA in the engagement of Basin states in the preparation of the proposed plan.

Membership of the committee comprises officials from the six Basin governments, and the committee is chaired by the Commonwealth committee member. The MDBA's Chair and Chief Executive attend and participate in committee meetings.

## Basin Community Committee

The 16-member Basin Community Committee advises MDBA about the performance of its functions, including those relating to:

- engaging the community in the preparation of each draft Basin Plan
- community matters relating to the Basin water resources
- matters referred to the committee by the Authority.

The committee's role relates to water and other natural resources of the Murray–Darling Basin.

The committee may advise the Murray–Darling Basin Ministerial Council on its functions under the Murray–Darling Basin Agreement, including matters such as the delivery of natural resource management programs.

To carry out its role, the Basin Community Committee liaises with the wider Basin community, including convening regional meetings with relevant groups during the planning process of the proposed Basin Plan, and undertakes appropriate liaison activities to provide advice to the Authority and the Murray–Darling Basin Ministerial Council.



*Basin Community Committee members learning about The Living Murray resnagging project at River Murray Gateway Island*

## Outcome 1: Objectives and key performance indicators

The Murray–Darling Basin Authority reported against the 2009–10 Portfolio Budget Statements found in the general outcome and deliverables structure in Table 1.

More information about performance measured against the Portfolio Budget Statements is located in Appendix B.

*Table 1 MDBA objectives and key performance indicators*

<b>OUTCOME</b> <b>The equitable and sustainable use of the Murray–Darling Basin by governments and the community, including through development and implementation of a Basin Plan, operation of the River Murray systems and shared natural resource management programs, research and information and advice.</b>			
Program	Objectives	Deliverables	Key performance indicators
<b>Basin Plan</b>	To develop a Basin Plan and administer its implementation in accordance with the Commonwealth <i>Water Act 2007</i> .	<p>Environmentally sustainable limits developed for the quantities of surface water and groundwater taken from the Basin water resources.</p> <p>Basin-wide environmental objectives, water quality objectives and salinity objectives developed.</p> <p>A water trading regime developed across the Murray–Darling Basin.</p> <p>Requirements for accreditation and adoption of water resource plans for water resource areas identified.</p> <p>Stakeholder engagement and consultation required to develop the Basin Plan undertaken.</p>	<p>Basin Plan developed consistent with the requirements of the Water Act.</p> <p>Key information for the implementation of the draft Basin Plan identified, collected and analysed.</p> <p>Evaluation, Monitoring and Compliance Program established.</p> <p>Water security for all users of Basin water resources improved.</p>

Program	Objectives	Deliverables	Key performance indicators
<b>Natural Resource Management</b>	To develop and implement programs for the protection, enhancement and sustainable use of the Basin's shared water and other natural resources.	<p>The Living Murray First Step decision implemented.</p> <p>Whole-of-Basin assessment of river health implemented.</p> <p>Cap on water diversions implemented.</p> <p>Basin Salinity Management Strategy implemented.</p> <p>Sea-to-Hume fishway program implemented.</p>	<p>Recovery of 500 GL of environmental water finalised.</p> <p>Up-to-date salinity registers agreed by Basin states.</p> <p>Breaches of the Cap are reported to Ministerial Council.</p>
<b>River Murray</b>	To equitably manage, operate and sustain the River Murray assets to deliver states' shares of water and environmental outcomes in the River Murray system.	<p>Water assets maintained for water storage, delivery and navigation.</p> <p>Salt interception schemes operated and maintained to achieve agreed River Murray salinity targets.</p> <p>Agreed water shares delivered to states in accordance with the Murray–Darling Basin Agreement.</p> <p>Murray Mouth kept open and connectivity to the Coorong maintained through operation of the Murray Mouth dredging program.</p>	<p>Planned and routine asset maintenance and improvement works undertaken each year according to schedule.</p> <p>Physical asset base is improved to achieve contemporary best practice standards.</p> <p>Salt interception schemes operated and maintained to meet agreed operating rules.</p> <p>Progress towards completion of priority Environmental Works and Measures Program projects in accordance with approved project plans.</p> <p>State water shares delivered and accounted for transparently each year.</p> <p>Diurnal tidal ratio targets achieved at Murray Mouth.</p>

# REPORT ON PERFORMANCE



# REPORT ON PERFORMANCE

## Chapter 1 Developing the Basin Plan

## Chapter 2 Protecting and enhancing water resources

## Chapter 3 Delivering water efficiently and equitably

For 2009–10, the Murray–Darling Basin Authority (MDBA) was required to meet one outcome for the Australian Government and the Australian community:

### **Outcome 1**

**The equitable and sustainable use of the Murray–Darling Basin by governments and the community, including through development and implementation of a Basin Plan, operation of the River Murray systems and shared natural resource management programs, research and information and advice.**

Performance of this outcome by the MDBA is divided between three divisions: Basin Plan Division, Natural Resource Management Division and River Murray Division — all of which are required to satisfy specific program objectives.

Each of the following three chapters describes the MDBA's achievement of Outcome 1 objectives during 2009–10. They are also discussed using objectives and deliverables described in the Murray–Darling Basin Authority's Corporate Plan 2009–13.





# CHAPTER 1

## Developing the Basin Plan

### Program objective 1 — Basin Plan

To develop a Basin Plan and administer its implementation in accordance with the *Water Act 2007*.

Chapter 1 and its main subsections also relate to the Basin Plan Division section of the Murray–Darling Basin Authority’s Corporate Plan 2009–13.

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## Overview

During 2009–10, work continued toward the development of the first Basin Plan — a single, consistent, integrated approach to managing the water resources of the Murray–Darling Basin. Work initially focused on settlement of policy positions for all mandatory elements of the Basin Plan, but progressed to writing a plain language *Guide to the proposed Basin Plan* and initial drafting of the statutory instrument.


The *Guide to the proposed Basin Plan* comprises a series of volumes that outline the history of the Murray–Darling Basin and management of its water resources, the issues currently confronting the Basin and its inhabitants, the science that underpins research into the Basin and its communities and habitats, and the effects of climate change.

The guide also presents proposals for each element of the Basin Plan as required by the *Water Act 2007* (Cwlth).

The Murray–Darling Basin Authority (MDBA) has brought together the best available information and scientific knowledge from a wide range of sources — Basin states, federal government agencies and the scientific community — to support development of the proposed Basin Plan. This evidence base has also been supplemented by extensive modelling and new work commissioned to improve understanding of the social and economic situation and impacts across the Basin.



*Reedy Creek, 2010*



To provide rigour to the science behind the proposed Basin Plan, the Authority invited national and international scrutiny of the evidence base and scientific approaches. These peer reviews confirm that the approaches being taken represent best available science.

During 2009–10, MDBA made a significant commitment to engaging all stakeholders, including those from government, key industry bodies and the public. A series of factsheets and an issues paper on sustainable diversion limits in the Basin were published to keep stakeholders informed about the Basin Plan's progress and to seek stakeholder input.

The *Guide to the proposed Basin Plan* is scheduled for release in October 2010. MDBA anticipates releasing the proposed Basin Plan for formal consultation in late 2010 or early 2011.

## The Basin Plan

### Background

Under the *Water Act 2007* (Cwlth), the Murray–Darling Basin Authority (MDBA) must prepare a Basin Plan for the management of Basin water resources. The Basin Plan is to provide for limits on the quantity of water that may be taken from the Basin water resources as a whole and from the water resources of each water resource plan area.

The purpose of the Basin Plan is to provide for the integrated management of the Basin's water resources in a way that promotes the objects of the Water Act. Broadly, the Act requires that the Basin's water resources be managed in the national interest to give effect to relevant international agreements, to address threats to Basin water resources and, in doing these things, to promote the use and management of Basin water resources in a way that optimises economic, social and environmental outcomes.

The Water Act sets out 15 items that the Basin Plan must contain, including:

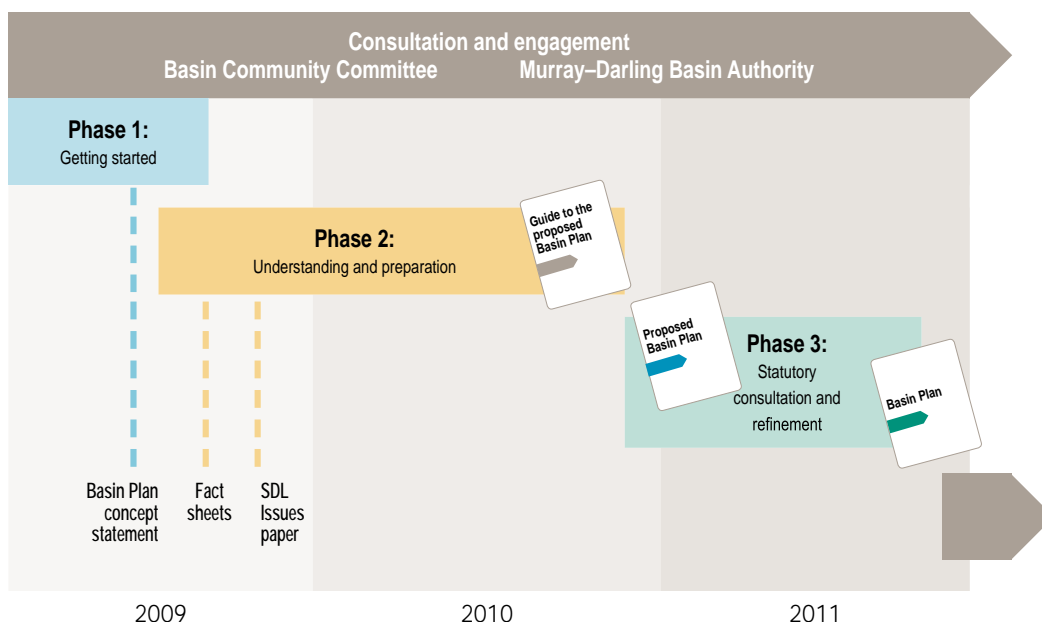
- limits on the amount of surface water and groundwater that can be sustainably taken from Basin water resources
- identification of risks to water resources and strategies to manage those risks
- requirements for accreditation of state water resource plans
- an environmental watering plan
- a water quality and salinity management plan
- rules for trading or transfer of tradeable water rights
- a program for monitoring and evaluating the effectiveness of the plan.

## Highlights

During 2009–10, MDBA made significant progress on the development of the proposed Basin Plan, including:

- gathering and analysing the best available Basin-wide evidence base in the areas of hydrology, ecology and socioeconomics
- completing the first-ever assessment of the environmental water needs of the Basin and publishing the methodology
- establishing a robust hydrological modelling framework to support the development of and compliance with surface-water and groundwater sustainable diversion limits
- developing policy settings for each mandatory element of the Basin Plan to form a single integrated proposal for the purposes of public consultation
- discussing the development of the proposed Basin Plan at over 200 stakeholder meetings, conferences, workshops and forums with industry, conservation, Indigenous Australian, community and government stakeholders across the Basin.

MDBA is approaching the end of the understanding and preparation phase of developing the Basin Plan (see Figure 1.1).



**Figure 1.1** Phases and timeline for development of the Basin Plan

## Building a robust evidence base

### Background

The *Water Act 2007* (Cwlth) requires that the proposed Basin Plan be developed on the basis of the best available scientific knowledge and socioeconomic analysis. This includes data, modelling and scientific knowledge in the areas of hydrology, ecology and socioeconomics.

One of the mandatory elements of the Basin Plan is a description of the Basin's water resources and the context in which they are used. Assembling a comprehensive picture of the Basin plays an important part in setting the scene for the remainder of the Basin Plan.

### Highlights

- Assembled the best available scientific knowledge and commissioned significant new work to fill identified knowledge gaps, in particular in the area of socioeconomic analysis.
- Established a robust hydrological modelling framework to support development of the Basin Plan.
- Received confirmation from national and international peer reviewers that the MDBA's approaches used in developing the Basin Plan are robust.

Planning of the scale and complexity required for the proposed Basin Plan has never been undertaken anywhere in the world. As a result, MDBA has brought together the best available data, modelling and scientific knowledge from the areas of hydrology, ecology and socioeconomics. However, recognising the importance of confidence in the underlying evidence base, MDBA also sought technical peer review within Australia of individual elements of the proposed Basin Plan. In addition, MDBA invited international scrutiny of the approaches used and these independent reviews confirm that the approaches being taken in developing the proposed Basin Plan represent the best available science and knowledge.

MDBA has drawn upon data from a range of reputable and internationally recognised national sources, supplemented by extensive data collections from government departments in each Basin state. MDBA supplemented this data with new work to gain insight into the social and economic situation within specific irrigation districts.

MDBA used a suite of modelling tools, most significantly in hydrology, to understand the complex water management arrangements that exist in the Basin. This modelling framework has adapted and updated the CSIRO Murray–Darling Basin Sustainable Yields Project work, linking 24 river system models. Groundwater modelling has also included the development of a new recharge model for the Basin.

Of the three broad categories of evidence MDBA has drawn from to develop the proposed Basin Plan, the hydrology evidence is considered the 'best' in terms of level of detail, historical record, completeness, availability and suitability. By comparison, there tends to be different ecological evidence collected in each state, invariably for different purposes and to different standards. Similarly, with social and economic evidence there is usually a choice between macro-scale data and purpose-specific collections, with little relating to the micro-scale social and economic fabric of the Basin.

To overcome the weakness of the available socioeconomic information, MDBA commissioned several projects to provide greater insight into the social and economic fabric of the Basin, and to assess the likely socioeconomic implications of any reductions to current water diversion limits. These projects include work to develop regional community profiles; a synthesis of current knowledge around the concepts of community resilience, vulnerability and adaptive capacity; and a review and synthesis of the results of previous socioeconomic studies conducted in the Murray–Darling Basin.

In addition, economic modelling was undertaken to estimate the direct impacts on agricultural industries of various scenarios of reductions in water availability. Work was undertaken to understand the effects of change in water availability on the Indigenous Australian peoples of the Murray–Darling Basin, and structural adjustment pressures on irrigated agriculture in the Murray–Darling Basin were also examined.

To provide insight into how much confidence might be ascribed to the evidence base, MDBA developed a framework for categorising the quality of every dataset and publication used to develop the proposed Basin Plan. MDBA intends to make the evidence base available for public scrutiny upon release of the *Guide to the proposed Basin Plan*.

Development of the Bureau of Meteorology's National Water Account has seen water accounting become an important tool for providing and reporting information to support preparation of the proposed Basin Plan. In 2009–10, MDBA helped prepare the Murray–Darling Basin's 2006–07 and 2007–08 subaccounts for publication as part of the National Water Account.

During 2009–10, the MDBA also developed water accounts for the 19 MDBA Basin regions (see Figure 1.2 for a map of the Basin regions). These accounts were created for inclusion in the guide as part of the description of the Basin's water resources. In addition, the MDBA compiled a six-monthly environmental water recovery report that accounted for held environmental water recovered since 2004 in the Basin.



Figure 1.2 Basin Plan regions: Murray-Darling Basin

## Developing the new arrangements

### Background

The *Water Act 2007* (Cwlth) sets out the purpose of the Basin Plan, the basis on which it is to be developed and what it must contain.

The primary element of the Basin Plan is the establishment of sustainable diversion limits (SDLs), which must reflect an environmentally sustainable level of take.

An environmentally sustainable level of take is the level above which any water taken would compromise key environmental assets (water-dependent ecosystems, ecosystem services and sites with ecological significance), ecosystem functions, environmental outcomes or the productive base.

River system and groundwater models are useful tools for guiding the development of SDLs as they allow MDBA to assess the impact of environmental water requirements on flow regimes and consumptive users.

Under the Water Act, critical human water needs must also be considered when developing the Basin Plan. This is the need for a minimum amount of water to meet core human consumption requirements in the urban and rural areas dependent on the water resources of the Murray–Darling Basin. These needs also include non-human consumption requirements that, if not met, would cause prohibitively high social, economic or national security costs. The Australian Government and the Basin states have agreed that critical human water needs are the highest priority water use for communities dependent on Basin water resources.


### Highlights

- Identified key environmental assets and key ecosystem functions of the Basin.
- Undertook the first-ever assessment of the Basin's environmental watering requirements.
- Released a discussion document on the development of SDLs.
- Proposed SDLs for surface water and groundwater.
- Developed proposed provisions for critical human water needs.

### Determining the Basin's environmental water requirements

During 2009–10, MDBA identified the key environmental assets and key ecosystem functions of the Murray–Darling Basin using a combination of government records and other sources of information, including inventories of aquatic ecosystems and information from Basin state agencies and scientific and other authorities. Spatial data, such as the distribution of threatened species and ecological communities, were also analysed.





Analysis of these records enabled MDBA to compile a list of key environmental assets for the proposed Basin Plan. These key environmental assets range from small alpine headwater streams to large, meandering lowland rivers and extensive floodplain wetland complexes.

Ecosystem functions that shape and support the Basin's riverine ecosystems were also identified for the proposed Basin Plan. These ecosystem functions are:

- creating and maintaining habitats for use by plants and animals (including fish)
- transporting and diluting nutrients, organic matter and sediment
- providing connections along rivers for migration and recolonisation by plants and animals
- providing connections across floodplains, adjacent wetlands and billabongs for foraging, migration and recolonisation by plants and animals.

Determining the environmental water needs of the Basin required an assessment encompassing key environmental assets, including water-dependent ecosystems; ecosystem services; sites with ecological significance; key ecosystem functions; the productive base; and key environmental outcomes for the water resource.

This task has never before been undertaken for the Murray–Darling Basin.

Recognising the hydrological interdependence of assets and functions, MDBA identified 106 indicator sites that drive the environmental hydrology of the Basin. Through extensive hydrological modelling of the flow regimes at each of these sites, MDBA has been able to specify the aggregate environmental water requirements of the Basin.

## **Setting sustainable diversion limits**

The extensive hydrological modelling to determine the Basin's environmental water requirements guided development of proposed surface-water SDLs that reflect an environmentally sustainable level of take. To undertake this modelling, MDBA updated and adapted the integrated river system modelling framework used in CSIRO's Murray–Darling Basin Sustainable Yields Project, and examined a range of possible future climates and options for meeting the additional environmental water requirements.

A similar process was followed to guide development of proposed SDLs for groundwater, although specific groundwater models were used and the detailed methods differed because of the different nature of surface-water and groundwater resources.

MDBA sought public input on the approach to developing SDLs through the release of a discussion document in November 2009, while the technical methods underpinning the development of SDLs underwent peer review in mid-2010. Related work was also undertaken to determine the requirements that state water resource plans must meet to ensure they effectively implement the SDLs in the proposed Basin Plan, as outlined later in this document.

## Providing for critical human water needs

During 2009–10, MDBA continued to develop provisions for critical human water needs.

The proposed provisions state the volumes of water required for meeting the critical human water needs of communities dependent on the River Murray system, and also set water quality and salinity triggers. To enable the delivery of critical human water needs during dry periods, these provisions propose the establishment of a conveyance reserve that will minimise the risk of insufficient conveyance water being available.

During the past year, MDBA developed a new water-sharing schedule to the Murray–Darling Basin Agreement, in consultation with representatives from each Basin state. Combined with Basin Plan provisions, the new schedule will specify water-sharing arrangements, accounting rules and operational rules required to minimise the risk of being unable to deliver critical human water needs during extremely dry conditions.



*Farmers Phil Schreiber and Mario Pardisa packing muscat grapes on racks for drying into sultanas at Redcliff, Victoria in 2010*

## Transitioning to the new arrangements

### Background

The *Water Act 2007* (Cwlth) provides several mechanisms to support the transition to the arrangements that the proposed Basin Plan will put in place. In particular, the Water Act includes risk allocation and temporary diversion provisions to provide a transition to the new sustainable diversion limits (SDLs). These provisions are complemented by broader measures under the Australian Government's Water for the Future program, such as the buyback of water entitlements.

Under the Water Act's risk allocation provisions, the Basin Plan must state the Commonwealth's share of any reduction in the diversion limit and must also indicate the nature of any change in the reliability of water allocations for reasons other than a reduction in the SDL.

The Basin Plan must also specify a temporary diversion provision (which may be zero) wherever a SDL is specified. If the temporary diversion provision is not zero, it must reduce to zero by the end of five years. In this way, the Basin Plan would provide a phase-in period for the new diversion limits.

### Highlights

- Developed a proposed policy for sharing the risk of any changes to the volume and reliability of entitlement holders' water.
- Developed proposed temporary diversion provisions.
- Worked with Australian Government agencies to address potential socioeconomic impacts of the proposed Basin Plan.

### Risk allocation

Risk allocation is a complex mechanism for sharing the risks of any change to the volume and reliability of entitlement holders' water between individual entitlement holders and governments. The risks are shared according to a formula that recognises changes attributable to new knowledge and policy changes as well as the effects of seasonal or long-term changes in climate and periodic natural events such as bushfire and drought.

During 2009–10, the Murray–Darling Basin Authority undertook preliminary work to determine the long-term average limits that will apply immediately before the Basin states' transitional and interim plans cease to have effect, to identify any reduction required to meet the proposed long-term average SDLs. When the reductions are calculated, MDBA will identify the portions

attributable to new Australian Government policy and the new knowledge component, and the Commonwealth's share of any reduction.

While MDBA is responsible for determining the Commonwealth's share of any reduction, the Minister for Climate Change, Energy Efficiency and Water, through the relevant Australian Government department, will be responsible for managing the effects of the Commonwealth's share of the reduction. This will be either through water recovery measures under the Water for the Future program or through payments to entitlement holders affected by reductions.

### **Temporary diversion provisions**

MDBA considered a number of factors when developing possible temporary diversion provisions for the proposed Basin Plan, including socioeconomic impacts, potential impacts on the environment and the size of the residual reduction in diversion limits after the Australian Government has undertaken water recovery measures.

A policy for temporary diversion provisions will be developed for inclusion in the proposed Basin Plan. However, the precise figures cannot be calculated until the new state water resource plans are prepared and the outcome of the Australian Government's water recovery is known in each area.

### **Australian Government coordination**

MDBA met with a working group of Australian Government agencies several times during 2009–10 to discuss issues relating to the development of the Basin Plan, including the potential socioeconomic implications.

## Implementing the new arrangements

### Background

The *Water Act 2007* (Cwlth) requires the proposed Basin Plan to include a number of specific items to help implement the new water management arrangements and to deliver the objectives of the Water Act.

The Basin states' water resource plans will be the primary way to implement much of the Basin Plan, including the sustainable diversion limits. The Basin Plan must set out requirements that water resource plans must comply with before they can be accredited by the Minister for Climate Change, Energy Efficiency and Water, to ensure that water resource plans are consistent with the overarching Basin Plan. It is the role of the Murray–Darling Basin Authority (MDBA) to consider proposed water resource plans and make recommendations to the minister.

The Water Act also allows existing water resource plans to be recognised before the Basin Plan is made.

Schedule 4 of the Water Act lists 27 transitional plans; interim plans continue to be prepared by jurisdictions in consultation with MDBA.

Under the Water Act, the Basin Plan must provide an environmental watering plan, which will coordinate management of environmental water to protect and restore the Murray–Darling Basin's wetlands and other environmental assets, and protect biodiversity dependent on Basin water resources.

The Water Act requires the Basin Plan to include a water quality and salinity management plan, to protect and enhance water quality to ensure it is suitable to meet the environmental, social, economic and cultural values of the Murray–Darling Basin's water resources.

The Basin Plan must also include rules governing the trade or transfer of tradeable water rights relating to the water resources of the Murray–Darling Basin. Tradeable water rights include water access rights, irrigation rights and water delivery rights.

## Highlights

- Continued development of proposed accreditation criteria for future state water resource plans.
- Consulted with Basin states in preparing interim water resource plans, and reviewed amendments to transitional and interim plans.
- Continued development of an environmental watering plan for the proposed Basin Plan, including proposed environmental objectives for the Basin and an environmental management framework.
- Continued development of a water quality and salinity management plan, including objectives and targets for water quality in the Basin.
- Continued development of water trading rules for the proposed Basin Plan, based on advice from the Australian Competition and Consumer Commission.

## Water resource plans

In 2009–10, MDBA developed draft criteria relating to accreditation of water resource plans, along with a number of additional requirements needed to give effect to the proposed Basin Plan. A draft process for accrediting water resource plans was also developed. The requirements were prepared after consultation with Basin states and independent expert advice. MDBA will undertake detailed consultation with stakeholders in 2010–11, in particular with Basin state agencies, to ensure that the proposed arrangements are practical.

During the year, MDBA received an amended transitional water resource plan (the water allocation plan for the River Murray Prescribed Watercourse) for assessment from South Australia. Following review of this plan under the Water Act by MDBA, the Minister for Climate Change, Energy Efficiency and Water approved the accreditation of the amended water allocation plan.

During 2009–10, New South Wales and South Australia consulted with MDBA regarding three interim water resource plans:

- NSW Water Sharing Plan for the Peel Valley Regulated, Unregulated, Alluvium and Fractured Rock Water Sources 2010
- SA Water Allocation Plan for the Marne Saunders Prescribed Water Resources Area
- SA Draft Water Allocation Plan for the Peake, Roby and Sherlock Prescribed Wells Area.

The first two of these plans were subsequently finalised during the year by the respective Basin states, while the last plan remains in draft form.

## Environmental watering plan

In 2009–10, MDBA developed a draft environmental watering plan for the proposed Basin Plan. Once approved, this environmental watering plan will be the primary mechanism for making the best use of water available to the environment. The plan will build on experience gained through The Living Murray and other environmental watering initiatives in recent years.

MDBA consulted with Basin states and the Commonwealth Environmental Water Holder about the overall environmental objectives for the water-dependent ecosystems of the Basin and the architecture of the environmental management framework. Feedback from this consultation led to improvements in these elements of the proposed plan.

Technical consultation and further development of the draft environmental watering plan will continue in 2010–11, both as part of broader consultation about the proposed Basin Plan and to help prepare the environmental watering plan's implementation once the Basin Plan becomes operational.

Further work will be undertaken to ensure that implementation of the environmental watering plan goes smoothly. It is expected that this work will include the establishment of an environmental watering advisory committee and a process for prioritising annual environmental watering commitments, along with the development of environmental watering guidelines.



*Wallpolla Island after receiving water, 2010*

## Water quality and salinity management plan

Development of the proposed water quality and salinity management plan progressed during 2009–10, with water quality and salinity monitoring data from across the Basin collated and carefully analysed. Extensive consultation with Basin state agencies and other stakeholders during the past year has informed the current version of the proposed plan's core objectives and targets for water quality in the Basin.

These objectives and targets relate to water quality characteristics of most concern in the Murray–Darling Basin: salinity, suspended matter, nutrients, dissolved oxygen, toxins (caused by blue-green algae — *cyanobacteria* — and pesticides), pH and water temperature.

A number of models for water quality management have been investigated, including the Coastal Catchments Initiative, a framework used for coastal catchments in Australia. Adopting the plan’s objectives and targets will lead to new water quality management obligations at the Basin level (for infrastructure managers) and at the catchment level, with water quality management actions as a component of water resource plans.

## **Basin-wide water trading rules**

Historically, water trading policies were set independently by Basin states, which meant that water trading rules varied between jurisdictions. Rules are currently found in state legislation and the policies and procedures of irrigation infrastructure operators; they are administered by the states or infrastructure operators. To ensure consistent treatment of interstate water trades in the southern-connected Basin, MDBA coordinates interstate water trade under Schedule D of the Murray–Darling Basin Agreement.

Water trading rules under the Basin Plan will create consistent water trading rules for all Basin water resources. Basin Plan water trading and transfer rules will apply to parties wishing to buy or sell water within the Basin. All buyers, sellers and administrators of water (including Basin states and irrigation infrastructure operators) will be required to comply with the new rules, which will support the intention that water markets across the Basin function consistently and transparently.

The intended purpose of water trading rules under the Basin Plan is to enable water to reach its most productive use. Basin Plan water trading rules will create efficient water trading regimes by removing barriers to trade, specifying the terms and processes for trading water, and providing market information.

During preparation of the proposed Basin Plan’s water trading and transfer rules, MDBA is required to obtain and take account of advice from the Australian Competition and Consumer Commission. Before providing final advice on water trading rules, the ACCC consulted with stakeholders by releasing issue, position and draft advice papers. Stakeholder submissions to these papers and other information collected by the ACCC were then used to inform the final advice. Throughout this process, MDBA continued to provide technical support and input to the ACCC, as well as providing information about the historical context of water trade within the Murray–Darling Basin.



## Case study

### **Interstate water trade in the southern-connected Murray–Darling Basin: An example of a mature water market**

With ongoing low water resource availability and only a limited allocation pool available for use, interstate allocation trade has become important for water users within the southern-connected Murray–Darling Basin. In 2008–09, the largest ever volume (593 GL) of interstate allocations was traded; in 2009–10, the interstate allocation was approximately 490 GL.

Using modelling undertaken by the National Water Commission, which was published in *The impacts of water trading in the southern Murray–Darling Basin: An economic, social and environmental assessment* (available on the National Water Commission website, <[www.nwc.gov.au](http://www.nwc.gov.au)>), it is estimated that water trade in the southern-connected Murray–Darling Basin increased gross domestic production by more than \$220 million and regional product by \$370 million in 2008–09.

The southern-connected Murray–Darling Basin is arguably the largest and most mature water market in Australia, with water trading bringing significant benefits to the region. The application of consistent and transparent Basin-wide water trading rules under the proposed Basin Plan will see opportunities for water users to use water markets extended throughout the Basin.



*Lake Alexandrina, between Wellington and Milang in South Australia*

## Tracking success

### Background

The *Water Act 2007* (Cwlth) sets out a new role for the Australian Government in water resource regulation, compliance and enforcement, operating in parallel with state and territory legislation. The Murray–Darling Basin Authority (MDBA) will be the primary regulator of compliance with the proposed Basin Plan and water resource plan rules. In particular, the Water Act requires the Basin Plan to include a method for assessing compliance with the sustainable diversion limits.

The Basin Plan must also include a program to monitor and evaluate its own effectiveness. This program must set out the principles to be applied and the framework to be used for monitoring and evaluation — including the requirements for reporting by the Australian Government and the governments of the Basin states — and must set out a process to review the environmental watering plan and water quality and salinity management plan targets.

### Highlights

- Progressed development of a proposed compliance and enforcement framework.
- Progressed development of a draft monitoring and evaluation program for the proposed Basin Plan.

### Compliance and enforcement

As required under the Water Act, MDBA undertook considerable work to develop specific and detailed proposed arrangements determining compliance with the long-term average sustainable diversion limits. This work included considering methods for determining compliance with the rules contained in water resource plans, assessing assumptions embedded in river system models, and determining the annual reporting that would be required from the Basin states. Preliminary consultation with Basin states was undertaken in 2009–10 and provided useful feedback for refining the proposed approach.

The Council of Australian Governments is developing a national framework for water legislation compliance and enforcement, including a proposal to agree and implement a common set of best-practice principles. MDBA intends to develop the draft compliance and enforcement framework into a more detailed strategy during 2010–11, aligned with the COAG approach and after further consultation with Basin states.

## Monitoring and evaluation

In 2009–10, MDBA developed a draft monitoring and evaluation program for the proposed Basin Plan. Using the Australian Government’s Monitoring, Evaluation, Reporting and Improvement Framework, the monitoring and evaluation program identifies immediate-, intermediate- and longer-term outcomes of elements of the Basin Plan.

Under the proposed monitoring and evaluation program, the Australian Government and the Basin states will monitor and report on a subset of these elements. In consultation with Basin states, MDBA is currently developing guidelines to assist this process.

The proposed monitoring and evaluation program also identifies key evaluation questions for each Basin Plan element. MDBA will evaluate the effectiveness of the Basin Plan annually, although particular emphasis will be given to the 5- and 10-year reviews.

To test the merit and feasibility of the draft monitoring and evaluation program, an initial round of consultation was undertaken with the Basin states and key Australian Government water agencies. Feedback from this consultation has led to improvements in the proposed program and identified issues needing more detailed technical discussion.

During 2009–10, MDBA also liaised closely with Basin states to assess the alignment of state monitoring programs with the proposed monitoring and evaluation program, and to determine the potential cost of implementing the program.

## Engaging with stakeholders

### Background

Stakeholder engagement is a major focus of the Murray–Darling Basin Authority, which is driven by a number of statutory and policy requirements. In particular, the *Water Act 2007* (Cwlth) specifies requirements for engaging stakeholders during the development of the proposed Basin Plan — MDBA must consult with the Basin states, the Basin Community Committee and the Basin Officials Committee, as well as undertaking other consultation as appropriate. Appendix A contains more information about these committees.

## Highlights


- Developed a Basin Plan stakeholder engagement strategy, an implementation plan and action plans.
- Published factsheets about the proposed Basin Plan and an issues paper on sustainable diversion limits.
- Supported establishment of a new Aboriginal interest group, the Northern Murray–Darling Basin Aboriginal Nations.
- Discussed development of the proposed Basin Plan at over 200 stakeholder meetings, conferences, workshops and forums with industry, environment, conservation, Indigenous Australian, community and government stakeholders across the Basin.

Preparation of the proposed Basin Plan is being accompanied by an extensive stakeholder engagement strategy that incorporates comprehensive community consultation and input. Stakeholders include the Basin states, the Basin Officials Committee and the Murray–Darling Basin Ministerial Council, along with non-government stakeholders such as Indigenous Australian, industry, environmental and community groups.

As mentioned above, an MDBA priority in 2009–10 was developing and implementing an integrated stakeholder engagement strategy to support development of the proposed Basin Plan. Endorsed by MDBA in September 2009, this strategy established objectives and principles for engaging all stakeholders in the development of the proposed plan. The strategy was implemented with input from the Basin Community Committee and its specialist subcommittees, and through public forums and events.

Stakeholder engagement with three broad groups — community and environment, Indigenous Australians and government agencies — has given MDBA opportunities to draw on stakeholder knowledge and to build stakeholder capacity to participate in, adapt to and implement current and future Basin planning processes.

To date, the MDBA Chief Executive, MDBA Executive members, Basin Community Committee members, MDBA stakeholder engagement staff and other MDBA experts have given numerous presentations to industry, government and community groups on the development of the proposed Basin Plan.



MDBA held forums in December 2009 and April 2010 attended by key industry, community, Indigenous Australian and government stakeholder groups to discuss the content and development of the proposed Basin Plan.

The *Basin Plan concept statement* and an accompanying factsheet were released in June 2009; since then, MDBA has developed other factsheets and an issues paper about the Basin Plan's development. These publications provide more context and detail about the proposed plan, aimed at helping stakeholders provide informed feedback once the Basin Plan is released.

All these publications are available on the MDBA website, <[www.mdba.gov.au](http://www.mdba.gov.au)>.

## **Community and environment stakeholders**

Once it had identified the key Basin stakeholder groups, the MDBA's community and environment team began carrying out extensive engagement activities, including providing information about the development of the proposed Basin Plan. These and similar engagement activities will continue following the plan's release.

During 2009–10, MDBA staff and Executive members attended more than 200 meetings, workshops and conferences to discuss Basin Plan issues with stakeholders.

## **Indigenous Australian stakeholders**

During 2009–10, MDBA engagement with Indigenous Australian stakeholders continued the work already begun in The Living Murray Indigenous Partnerships Program to ensure that Indigenous Australian issues are addressed across the Murray–Darling Basin.

The Murray Lower Darling Rivers Indigenous Nations (MLDRIN) met on numerous occasions throughout 2009–10, while a new group, the Northern Murray–Darling Basin Aboriginal Nations (NBAN), was formed with MDBA assistance to provide input from the northern Aboriginal nations to the development of the Basin Plan.

MDBA Indigenous Engagement staff held NBAN and MLDRIN meetings throughout 2009–10 and supported the River Country Spirit Ceremony, a very successful event that helped provide access to important information for consideration in developing the proposed Basin Plan.

MDBA also worked with traditional owners to develop a short film highlighting Indigenous Australian values and concerns about the rivers of the Murray–Darling Basin.

## **Government agencies**

In 2009–10, MDBA developed protocols for engaging Basin state government agencies in the preparation of the Basin Plan. These protocols acknowledge that the Basin states are the principal managers and information custodians of Basin water resources, and set out the MDBA's approach to consultation on key issues.

Using these agreed protocols, MDBA convened a series of bilateral and multilateral meetings and workshops with all jurisdictions on a wide range of technical issues, including surface-water and groundwater planning; hydrological modelling; environmental assets and water requirements; risk allocation; critical human water needs; and compliance, monitoring and evaluation.

To prepare for the formal public consultation period following the release of the proposed Basin Plan, during 2009–10, MDBA consulted with Basin states about their engagement needs at governmental and broad jurisdictional levels. MDBA also engaged extensively with local government and state natural resource management and catchment management authorities. Using regular meetings and information-sharing, MDBA also prioritised close cooperation with the Department of the Environment, Water, Heritage and the Arts.

During 2009–10, the Basin Officials Committee was the primary means of multilateral consultation on the proposed Basin Plan; the committee conducted 10 meetings in various regions (see Appendix A for more details).



*Delegates at case study workshop (Basin Plan Engagement Forum), 2010*

# CHAPTER 2

## Protecting and enhancing water resources

### Program objective 2 — Natural Resource Management

To develop and implement programs for the protection, enhancement and sustainable use of the Basin's shared water and other natural resources.

Chapter 2 and its main subsections also relate to the Natural Resource Management Division section of the Murray–Darling Basin Authority's Corporate Plan 2009–13.

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## Overview

The role of the Natural Resource Management Division is to undertake functions on behalf of, and in collaboration with, Basin jurisdictions, in relation to the planning, development and management of the water, land and other environmental resources of the Murray–Darling Basin.

The Natural Resource Management Division has lead responsibility for implementing a number of significant subprograms and policies arising from decisions of the Murray–Darling Basin Ministerial Council, including:

- Cap on water diversions
- Native Fish Strategy
- Basin Salinity Management Strategy
- Sustainable Rivers Audit
- water quality monitoring
- water trade and accounting
- The Living Murray (TLM) program (environmental watering on the River Murray and monitoring the environmental outcomes)
- acid sulfate soils risk assessment
- South Eastern Australian Climate Initiative
- emergency measures, including recent works around the lakes at the lower end of the River Murray.

TLM (a \$1 billion investment) is underpinned by two intergovernmental agreements between the southern Basin states and the Australian Government.

The Murray–Darling Basin Authority has a key function of ensuring that high-quality information and knowledge of the Basin are used to support policy and management decisions and to inform the Australian public about the Basin. MDBA invests in a wide range of research and investigations, including through longstanding partnerships with the Murray–Darling Freshwater Research Centre, CSIRO and several cooperative research centres. These partnerships are critical in bringing forward up-to-date information about the condition of the Basin and to focus programs on priorities. MDBA also maintains extensive datasets about the Basin and coordinates a comprehensive assessment of river condition — the Sustainable Rivers Audit, which is due to deliver its second report in 2011.



## Highlights

The key achievements of the Natural Resource Management Division in 2009–10 were:

- 472 gigalitres (GL) of water secured for TLM water entitlement portfolio
- TLM program delivered a total volume of 65.729 GL of environmental water to icon sites, including 48 GL to the Lower Lakes in South Australia
- successfully implemented the real-time management strategy and on-ground projects to mitigate acid sulfate soils in the Lower Lakes
- completed the first stage of the South Eastern Australian Climate Initiative (SEACI 1) and commencement of the SEACI 2 research program
- continued audit of the Cap on water diversion in the Murray–Darling Basin
- Continued implementation of the Basin Salinity Management Strategy, including significant progress on phase 1 of the salt interception schemes, which prevented approximately 490,000 tonnes of salt entering the river system
- continued implementation of the Sustainable Rivers Audit, providing data towards the first long-term assessment of the condition and health of the Murray–Darling Basin's 23 river valleys
- progressed the Sea-to-Hume fishway program and other activities to protect and improve native fish populations.



*Reed Beds Swamp, Barmah–Millewa Forest, after receiving TLM environmental water, 2010*

## The Living Murray River restoration program

### Background

The Living Murray (TLM) is one of Australia's most significant river restoration programs, with almost \$1 billion of funding provided for use between 2004 and 2012.

The program is a joint initiative of the Australian Government and the governments of New South Wales, Victoria, South Australia and the Australian Capital Territory. The Murray–Darling Basin Authority provides overall coordination and daily management of the program on behalf of the joint governments.

Over the long term, TLM aims to contribute to the achievement of a healthy working River Murray system for the benefit of all Australians. As a first step towards this goal, TLM focuses on:

- recovering 500 gigalitres (GL) of water per year, on average, to improve the ecological health of the River Murray system
- improving environmental outcomes at TLM's six icon sites through development of works and measures to allow targeted environmental watering.

TLM's six icon sites were chosen for their high ecological value — most are listed as internationally significant wetlands under the Convention on Wetlands of International Importance (the Ramsar Convention) — and their high cultural value to Indigenous Australian and other communities.

The locations of the six icon sites are shown in Figure 2.1.

TLM is made up of a number of programs that contribute to improved environmental outcomes at these icon sites. The following subsections detail the progress of these programs, with the exception of the Environmental Works and Measures Program, which can now be found in chapter 3 of the annual report (please see pp. 79–80).

TLM has made significant progress towards its water recovery target of returning an average of up to 500 GL per year to the river for the benefit of the six icon sites, with most of the water recovery measures to achieve this target completed by the end of 2009–10. Water allocated against the recovered entitlements was made available for watering of icon sites during the year.



**Figure 2.1** Location of the icon sites. The River Murray Channel icon extends along the river as shown by the dark-blue line.



*Birdwatcher, River Murray, Hattah National Park, 2009*

## TLM Water Recovery Program

### Background

The Water Recovery Program coordinates actions to recover water for The Living Murray (TLM), including:

- infrastructure measures
- market-based measures
- regulatory measures.

The volume of water recovered is calculated as a long-term Cap equivalent volume, or LTCE (see boxed definitions).

All water recovery measures are subject to an independent review on completion. All final listings on the Environmental Water Register (see 'Water recovery registers' in boxed definitions) are approved by the Murray–Darling Basin Ministerial Council.

### Definitions

#### *Long-term Cap equivalent*

The long-term Cap equivalent is a type of average. It takes into account the different characteristics and reliability of water entitlements in New South Wales, Victoria and South Australia. For instance, the recovery of a LTCE volume of 1.000 GL in the New South Wales Murray region requires purchase of either a 1.053 GL high security water access licence or a 1.237 GL general security water access licence. This measure of water recovery creates a common unit of measure, allowing equitable comparison of a broad range of water recovery measures.

#### *Water recovery registers*

Water recovery measures are approved and monitored using a system of three registers. The first stage of approval for a water recovery measure is the Developmental Register, which is the initial list of water recovery proposals deemed feasible as a water recovery measure under TLM. The second stage of approval is the Eligible Measures Register, which lists water recovery measures either ready to be implemented or being implemented. The Environmental Water Register is the third and final stage of approval for a water recovery measure, and the point at which the water entitlement is made formally available for use under TLM.

## Highlights

- Listed a total of 472.1 GL LTCE on the Environmental Water Register (as at 30 June 2010).
- Implemented measures sufficient to recover a further 13.9 GL LTCE.
- Completed or implemented 18 water recovery measures for TLM.

As at 30 June 2010, water recovery measures have recovered 472.1 GL LTCE of water (see Table 2.1). It is expected that a further 13.9 GL LTCE of water will be recovered by measures still being implemented (see Table 2.2).

During 2009–10, the Murray–Darling Basin Authority (MDBA) began to buy irrigation entitlements under TLM water purchase project. The project received over 400 expressions of interest, with 18.646 GL LTCE of water entitlements purchased from willing sellers in South Australia and Victoria. The Living Murray water purchase project will be completed early in 2010–11.

MDBA has been working with the Ricegrowers Association of Australia to implement the on-farm water efficiency round 2 project. Under this project, funding is provided to irrigators to implement water savings at a farm-scale level in return for permanent water entitlements. At 30 June 2010, the project had recovered close to its full target of 6.274 GL LTCE of water for TLM; it is expected the project will be completed early in 2010–11.

MDBA also commenced purchasing entitlements under the sustainable soils and farms measure during 2009–10. This measure is expected to be completed in early 2010–11 and is aiming to recover 3.026 GL LTCE.

**Table 2.1** *Listings on the Environmental Water Register (at 30 June 2010)*

Proponent	Measure	Volume recovered (GL LTCE)
<b>Final listings</b>		
Australian Government	Water through efficiency tender	0.176
New South Wales	Murray Irrigation Limited supplementary water access licence	17.800
New South Wales	Tandou Limited supplementary water access licence	9.300
New South Wales	Pipe-It	0.162
New South Wales	Wetlands Water Recovery — Stage 1	0.550
South Australia	Securing government-held water for environmental use	13.000
South Australia	Purchase from willing sellers	5.000

Proponent	Measure	Volume recovered (GL LTCE)
South Australia	Securing government water and purchase from willing sellers	17.000
Victoria	Goulburn–Murray Water recovery package	144.900
Victoria	Shepparton Irrigation Area modernisation project	29.300
MDBA	Pilot market purchase measure	13.285
MDBA	Ricegrowers Association on-farm water efficiency project: A1	1.186
<b>Interim listings</b>		
New South Wales	Market purchase measure	113.688
New South Wales	Package B	56.000
Victoria	Lake Mokoan water recovery package	28.100
MDBA	Ricegrowers Association on-farm water efficiency project: round 2	5.836
MDBA	TLM water purchase project	16.816
<b>Total</b>		<b>472.099</b>

**Table 2.2** Listings on the Eligible Measures Register (at 30 June 2010)

Proponent	Measure	Volume to be recovered (GL LTCE)
New South Wales	Market purchase measure	1.582
New South Wales	Package B	7.100
MDBA	TLM water purchase project	1.830
MDBA	Ricegrowers Association on-farm water efficiency project: round 2	0.438
MDBA	Sustainable soils and farms on-farm reconfiguration demonstration project	3.026
<b>Total</b>		<b>13.976 (approx.)</b>

## TLM Environmental Delivery Program

### Background

The Environmental Delivery Program is responsible for delivering water allocations from The Living Murray (TLM) water entitlements to the six icon sites to maximise ecological outcomes.

### Highlights

- Allocated volume available to TLM substantially increased because of the increase in the water entitlement portfolio from a long-term average of 342 GL to 472 GL and improved inflows.
- TLM program delivered a total volume of 65.729 GL of environmental water to icon sites, including key drought refuges and the Lower Lakes in South Australia.
- Implemented successfully the real-time management strategy and on-ground projects to mitigate acid sulfate soils in the Lower Lakes.

The increase in entitlements in The Living Murray water portfolio was complemented by an increase in annual allocations, due to the improved inflows in the River Murray system. As a result, 155.666 GL became available to TLM in 2009–10.

The Environmental Watering Group, which comprises representatives from each TLM partner government, makes decisions on environmental watering. At the beginning of the water year, a plan is developed to guide decision-making about the use of environmental water during the year. As a consequence of the drought and forecasted low water availability, management objectives for the 'extreme dry' climate scenario were used by the group to identify critical environmental water requirements for 2009–10. The extreme dry objectives are:

- avoid critical loss of threatened species
- avoid irretrievable environmental damage or catastrophic environmental events
- provide refuges to allow flora and fauna to recolonise following drought.

Although inflow to the River Murray increased during 2009–10 compared to the previous few years, it was still significantly lower than the river's long-term average flow. Many areas of the River Murray system remain in extreme drought and conditions at TLM icon sites have not improved significantly. However, TLM was able to achieve positive environmental outcomes by watering critical drought refuges at five of these icon sites. Initial monitoring results showed improvements in vegetation health and an increase in food resources and habitat for waterbirds at most sites. The delivery of 48.3 GL to Lake Albert in the Lower Lakes also helped maintain water levels, avoiding acidification and reducing salinity levels.

Floods in the Lower Darling were partly responsible for a significant proportion of allocation becoming available to TLM in the second half of the year. A decision was made to carryover 85 GL of environmental water into 2010–11, enabling larger watering actions to be delivered in spring to maximise the ecological benefits obtained from this water.

Record low water levels in the Lower Lakes were forecast in the first half of 2009–10 because of the continuing drought and system inflows tracking close to the historic minimum. These conditions resulted in the recording of high salinity levels and an increased risk of acidification due to critically low lake levels (–0.5 m Australian height datum in Lake Albert and –1.5 m AHD in Lake Alexandrina).

MDBA responded to the acidification risk by establishing a real-time management strategy to avoid acidification of the Lower Lakes. In 2009–10, this strategy supported the monitoring of water levels and the presence of acid sulfate soils in the Lower Lakes and their associated tributaries from July to December 2009. The risk of acidification eased in January 2010 when environmental water and higher inflows from the Darling and Murray river systems and Lower Lakes' tributaries reached the Lower Lakes, which ensured the lakes remained above the critical acidification levels.

As well as establishing the real-time management strategy, MDBA contributed \$6.9 million towards the South Australian Government's Goolwa Channel water level management project, which successfully mitigated the risk of acidification in the Goolwa Channel in 2009–10.

The project included:

- the construction of a temporary blocking bank across Goolwa Channel and Currency Creek
- pumping 26.95 GL to raise the newly formed weir pool to 0.7 m AHD
- limestone-dosing in the upper reaches of Goolwa Channel tributaries.

An ecological monitoring program conducted during this project found that fish, birds, vegetation and invertebrates had not been negatively affected by this work.

The South Australian Government has developed a long-term management plan to support the health of the Lower Lakes and the Coorong.



*Swans, Coorong Lakes, South Australia*



## TLM Environmental Monitoring Program

### Background

The Environmental Monitoring Program assesses the environmental outcomes of The Living Murray (TLM), focusing on fish, bird and vegetation communities aligned with the icon site ecological objectives. Environmental monitoring projects are in place at these icon sites to provide both long-term ecological assessments and to determine the immediate ecosystem benefits of environmental watering.

### Highlight

- Conducted icon site condition and event monitoring of fish, birds and vegetation communities during 2009–10, which indicated that while severe drought conditions continue to impact on the health of wetland, floodplain and riverine habitats, the limited environmental watering of key refuges during the drought has resulted in positive ecological responses.

In 2009–10, TLM Environmental Monitoring Program continued implementing standardised condition monitoring of fish, waterbirds and vegetation, enabling consistent reporting on progress towards the long-term ecological objectives at all TLM icon sites.

The Living Murray stand condition model was used in a project to assess the health of forests and woodlands across icon sites. Using a combination of ground surveys and satellite imagery, this model predicted tree-stand condition at 175 sites throughout the six icon sites. Overall findings in 2009–10 indicated that 79% of the river red gum (*Eucalyptus camaldulensis*) and black box (*E. largiflorens*) communities in TLM icon sites were in a stressed condition (i.e. in moderate to severely degraded condition), which is similar to the results for stand conditions at these icon site in 2008–09.

This result suggests that water availability (rainfall and flooding) across TLM icon sites remains insufficient to maintain the majority of forests and woodlands in healthy condition. It also indicates that environmental watering, despite its limited coverage, has improved the condition of forests and woodlands at these sites in the areas watered.

The third annual aerial survey of waterbird populations at icon sites was conducted in November 2009. This project was undertaken in conjunction with the Eastern Australian Waterbird Survey to enable survey results to be understood in the context of waterbird populations of the broader south-eastern Australian landscape.

Survey results showed that drought conditions continued to impact on waterbird communities and to limit the availability of other wetland, floodplain and riverine habitats throughout the Murray–Darling Basin. Concentrations of waterbirds were found in the north of the Basin on the

Paroo overflow lakes and the Georgina–Diamantina river system. The total number of waterbirds (247,923) surveyed in 2009 across all TLM icon sites represented a 44% increase in the number of waterbirds surveyed at the same time of year in 2008, which had been 4% lower than the number for 2007.

The overall condition for river fish communities in 2009–10 was poor, with some species severely affected by the ongoing drought. However, new fishways are restoring passage for the migratory fish community, and resnagging between Lake Hume and Yarrawonga has increased numbers of some native fish species. Detailed studies are continuing to determine whether the observed increases in the resnagged reach will result in growing populations of native fish.

During 2009–10, a number of projects to monitor responses to environmental watering events at TLM icon sites were coordinated under the umbrella of the Environmental Monitoring Program. These projects included:

- Monitoring of wetland bird responses to drought refuges created by watering at the Lindsay–Wallpolla islands and Hattah Lakes icon sites. The project found that the watered sites supported a high diversity and abundance of wetland birds, including 19 rare and threatened species, while 17 species were recorded breeding. These icon sites are therefore considered to be high-value refuges for wetland bird conservation and important to achieving icon site ecological objectives.



Dr Tamara Boyd and Paul O'Connor monitoring waterbird nesting after water allocation, Kinnairds Swamp, Victoria

- Assessing the effects of watering the Narrung wetland, a key refuge in the Lower Lakes, Coorong and Murray Mouth icon site, by examining the response of *Ruppia tuberosa* (a native aquatic grass plant) seeds. The project found that the number of *Ruppia tuberosa* seeds collected after the watering in October and November 2009 was statistically higher than that found in samples collected before watering. However, the density of seeds was still relatively low after many years of poor conditions in the Lower Lakes.

More information about the Environmental Monitoring Program and recent monitoring reports are available on the MDBA website, <[www.mdba.gov.au](http://www.mdba.gov.au)>.

## TLM Communications and Consultation Program

### Background

The Living Murray's Communications and Consultation Program aims to:

- increase awareness and understanding of The Living Murray (TLM)
- engage communities and provide opportunities for them to contribute their views through consultation forums
- provide feedback to communities on how their views have been considered in decision-making or planning activities.

### Highlights

- Consulted, at multiple levels, with communities living near icon sites where TLM program is building water management structures.
- Developed and updated communication products across a range of media.

TLM Communications and Consultation team comprises staff from the Murray–Darling Basin Authority (MDBA) and relevant agencies in South Australia, Victoria and New South Wales. The team is responsible for the development and effective implementation of TLM Strategic Communication and Consultation Strategy.

The team communicates the achievements of TLM program by developing and updating products such as media releases, publications and website content in conjunction with partner governments. It recently developed an environmental watering activities webpage (now available on the MDBA website).

In 2009–10, the team ensured that local communities were consulted about construction of TLM's water management structures at the icon sites of Gunbower–Koondrook–Perricoota Forest, Hattah Lakes, and Chowilla Floodplain and the Lindsay–Wallpolla islands. These structures are the largest environmental works of their kind in Australia and will deliver water to approximately 37,000 hectares of the River Murray's significant forests, wetlands and lakes.

Consultation included:

- holding community events such as public meetings (including with Indigenous Australian stakeholders)
- disseminating products such as digital video discs of Google Earth flyovers of icon sites
- opening a shopfront in Barham, Victoria to provide information about the Koondrook–Perricoota environmental works.

Following consultation with communities near TLM icon sites, amendments were made to the planning and construction phases of water management structures, including:

- building a levee bank at the Koondrook–Perricoota site to provide extra protection for neighbouring properties against flooding
- scheduling partial and staggered closures to public access to the Chowilla Floodplain, rather than total closure for the full duration of the construction period.

## Cap on water diversions

### Background

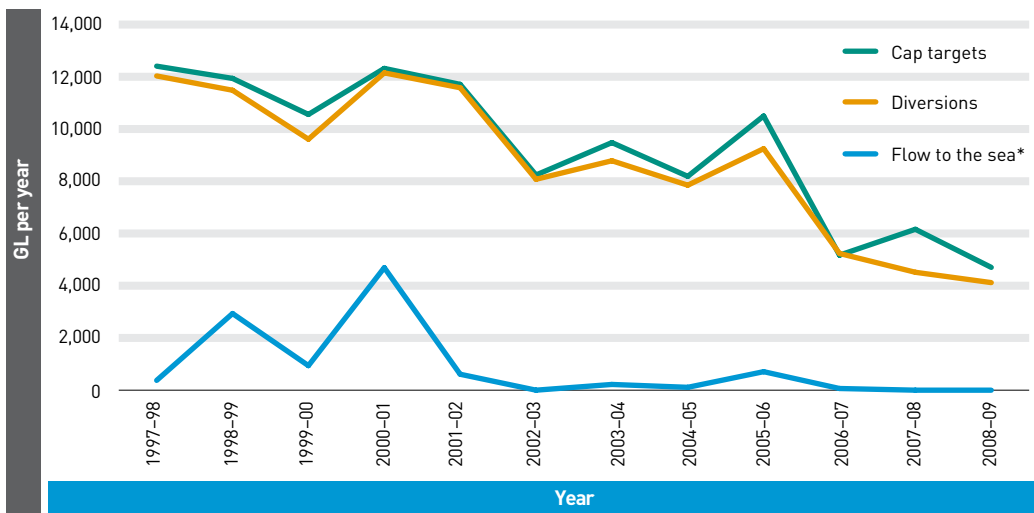
The Murray–Darling Basin Authority is responsible for managing the implementation of the Cap on water diversions for each river valley in the Murray–Darling Basin as set by Schedule E of the Murray–Darling Basin Agreement. The annual Cap target in each valley is calculated by a Cap model approved by MDBA.

The MDBA's responsibilities include arranging the audit of compliance with the Cap by the Independent Audit Group, and preparing and publishing the annual water audit monitoring reports.

### Highlights

- The Cap audit for 2008–09 (conducted and reported in 2009–10) found that in all valleys where a Cap applies, except for the combined Barwon–Darling — Lower Darling valley in New South Wales, diversions were within acceptable bounds.
- Out of 18 models requiring approval, 12 have been approved and five are being audited.
- The annual Cap audit, usually conducted at the end of October, was completed in September 2009 and the audit report published and distributed in November for the first time.
- The annual water audit monitoring report, usually published in the following June, was published and distributed earlier, in April 2010.

The Cap has kept the aggregate level of water extractions in the Basin below the level of extraction in 1993–94 (see Figure 2.2; green line represents 1993–94 extraction level).



**Figure 2.2 Annual diversions against annual Cap targets, 1997-98 to 2008-09**

\* The overall decline in flow to the sea and the lowering of Cap targets and consequent reduction of diversions resulted from decreased inflows into rivers and decreased water availability.

### Definition: the Cap

The 'Cap' refers to a limit on surface-water diversions from the Murray-Darling Basin. It was established in 1995 to stop increases in such diversions.

The Cap is an essential first step in establishing management systems to achieve healthy rivers and sustainable water use throughout the Basin.

The Cap varies from year to year, depending on inflow. Its main objectives are to:

- enhance the riverine environment by maintaining and, where appropriate, improving existing flows in the waterways of the Basin
- achieve sustainable water consumption by developing and managing Basin water resources to meet ecological, commercial and social needs.

The Cap promotes sustainable use of Basin resources by:

- preserving the existing security of supply for river valleys
- helping maintain water quality
- encouraging efficient use of water, which reduces waterlogging and land salinisation
- preventing further deterioration of the flow regime for the environment.

The Cap will be replaced by sustainable diversion limits under the Basin Plan.

### *Cap audit*

The Independent Audit Group usually conducts the Cap audit at the end of October every year. However, the 2008–09 audit was completed in September 2009, and the resulting *Review of Cap implementation 2008–09* was published and distributed in November for the first time. The *Water audit monitoring report 2008–09* was published and distributed in April 2010, two months earlier than usual.

The key findings of the Independent Audit Group's 2008–09 Cap audit were:

- Diversions of 4,119 GL from rivers in the Murray–Darling Basin were the lowest since 1983–84, reflecting worsening drought conditions and the onset of possible climate change throughout most of the Basin.
- Diversions in all Cap valleys in South Australia and Victoria were within acceptable bounds for Cap management.
- Diversions were within acceptable bounds for Cap management for all New South Wales valleys where the Cap has been defined, except for the Barwon–Darling — Lower Darling valley.
- The Cap for New South Wales Border Rivers is expected to be finalised in 2010.
- In Queensland, the Cap has been set for the Border Rivers, Warrego, Paroo, Nebine and Moonie catchments.
- The Resource Operation Plan for Condamine–Balonne was finalised in March 2010 following the conclusion of a judicial review.
- A Cap proposal for the Condamine–Balonne system is expected within six months of the finalisation of its Resource Operation Plan.
- Queensland Border Rivers, Warrego, Paroo, Nebine and the Moonie valleys were found to be within the Cap.
- In the absence of a Cap model, the Australian Capital Territory Cap could not be audited.

### *Progress of accreditation of Cap models*

Accreditation of Cap models progressed significantly in 2009–10. Of 24 Cap valleys in the Basin, caps have not been defined in three valleys and three other valleys currently do not require a Cap model. Of the remaining 18 Cap valleys, Cap models have been approved for 12 and five are currently being audited.

Significant progress has been made towards developing a Cap model for the Australian Capital Territory.

### *Breaches of the Cap*

In New South Wales, diversions in the combined Barwon–Darling — Lower Darling valley continued to exceed the Cap. As a consequence, MDBA declared the continuance of the Cap breach in the valley. As required by Schedule E of the Murray–Darling Basin Agreement,

New South Wales reported to the Murray–Darling Basin Ministerial Council in June 2010 on the reasons for the Cap breach and proposed to reduce the annual allocation by 30 GL from 2010–11 to address it; however, New South Wales deferred the proposed action until after the outcome of 2009–10 Cap audit, which is scheduled for late September 2010.

#### *Adjusting the Cap for environmental entitlements and uses*

In 2008, the Ministerial Council adopted a protocol under Schedule E for adjusting caps for environmental entitlements and uses. This protocol requires that the MDBA's annual water audit monitoring reports include information on:

- environmental entitlements created
- allocations for environmental use
- trade in environmental entitlements and allocations
- Cap adjustments for environmental use.

In 2009, the Cap adjustment for environmental use was 109 GL.

## Managing salinity

### Basin Salinity Management Strategy

#### **Background**

Salinity has been recognised as a significant problem in the Murray–Darling Basin for many decades. The Murray–Darling Basin Authority (MDBA) manages the Basin Salinity Management Strategy, which accounts for in-river salinity impacts of new and past land and water management actions.

The targets for salinity and salt loads in the Murray and major tributary valleys are set to achieve a Basin salinity target of less than 800 EC<sup>3</sup> for 95% of the time at Morgan, South Australia.

#### **Highlights**

- Peak salinity at Morgan, South Australia remained below 800 EC (at 687 EC for 95% of the time, peaking at 701 EC).
- Salt interception schemes prevented approximately 490,000 tonnes of salt entering the river system.
- All partner governments (governments of New South Wales, Victoria and South Australia) have remained in net credit on the salinity registers.

<sup>3</sup> EC: Electrical conductivity unit commonly used to indicate the salinity of water (1 EC = 1 microsiemens per centimetre, measured at 25 °C).

Table 2.3 summarises salinity levels recorded at Morgan over four time intervals (1, 5, 10 and 25 years) to June 2010. The comparison of salinity levels for these intervals shows a long-term reduction of peak salinity, which reflects the combined effects of reduced salt mobilisation into the river because of the cumulative benefits of salinity mitigation works and measures, and dry climate in recent years.

**Table 2.3** *Summary of salinity levels recorded at Morgan, South Australia*

Time interval		Average	Median	95th percentile	Peak	Percentage of time >800 EC*
1 year	July 2009 – June 2010	427	412	687	701	0
5 years	July 2005 – June 2010	440	434	696	785	0
10 years	July 2000 – June 2010	455	439	694	826	0
25 years	July 1985 – June 2010	530	507	838	1,220	6

\* Rounded to the nearest whole number.

## Salt interception schemes

A significant achievement for the first half of the Basin Salinity Management Strategy 2001–15 has been the salt interception schemes. Under the Basin Salinity Management Strategy program, salinity credits equivalent to 61 EC will be delivered when all salt interception schemes are commissioned. In 2009–10, the operation of salt interception schemes diverted approximately 490,000 tonnes of salt away from the River Murray.

A detailed performance report for salt interception in 2009–10 can be found in chapter 3 of this report.

## Salinity registers

Under the Basin Salinity Management Strategy, each entry on a salinity register is reviewed every five years. The review covers recent actions with significant salinity impacts as well as the salinity impacts from tributary valleys arising from major historical land and water use decisions.

For example, actions such as new irrigation developments may generate a debit on the register because in some areas they may increase salt loads to the River Murray. By comparison, actions such as investing in infrastructure (e.g. salt interception schemes) or improved irrigation practices may generate a credit.



Each year the Basin states provide information to MDBA about activities that have significant salinity effects for that year. MDBA calculates the salinity cost of these activities and updates the salinity registers for independent review by salinity auditors. In November 2009, independent auditors confirmed that all contracting governments remained in net credit on the salinity registers.

### **Definition: salinity registers**

Salinity registers are a salinity-based accounting system with debits and credits underpinning the Basin Salinity Management Strategy. The system provides an accounting record of states' actions that affect river salinity. This was one of the first pollutant trading schemes involving salinity in the world.



*Boama Amofo (NSW Office of Water), right, and David Watson (Public Works NSW) undertaking infiltration testing at the disposal Basin site for the upper Darling salt interception scheme*

## Monitoring Basin health

### Sustainable Rivers Audit

#### Background

The Sustainable Rivers Audit (SRA) provides a long-term assessment of the condition and health of the Murray–Darling Basin’s 23 river valleys. Assessments are based on indicators from five environmental themes — fish, macroinvertebrates, hydrology, vegetation and physical form. Data collection is undertaken using scientific methods applied consistently across the Basin. An independent panel of scientists prepares the river health assessment every three years, with the next report due in 2011.

The data collected by the SRA is a key input to the proposed Basin Plan and to other Murray–Darling Basin Authority programs. The SRA indicators are being used to evaluate ecosystem stress for different hydrology scenarios. The data and experience gained from the SRA are informing the development of the Basin Plan’s monitoring and evaluation framework.

#### Highlights

- Completed six years of data collection across the Basin, including fish and macroinvertebrate sampling at more than 1,000 sites; hydrological data collection at nearly 500 sites; and Light Detection and Ranging technology-derived physical form and vegetation data collection at over 1,600 sites.
- Commenced a census of farm dam and land-cover change impacts on streamflow; this census is set for completion in 2010–11.
- Developed additional river health indicators based on the indicator themes of vegetation and physical form along with the SRA conceptual framework.
- Finalised methods to compare observed data to expected conditions (reference condition), along with methods to integrate these into overall ecosystem health scores for the second SRA report.
- Published data from the first five years of monitoring; data from the sixth year will become available in 2010–11. These reports are available on the new SRA website, <[www.mdba.gov.au/sustainable-rivers-audit](http://www.mdba.gov.au/sustainable-rivers-audit)>.

In 2009–10, SRA collected physical form and vegetation data using aerial remote sensing, adding substantial diversity to what was already the largest set of Basin-wide ecosystem data.

SRA has undertaken substantial work in analysing the data collected for vegetation and physical form, and in developing additional river health indicators based on the vegetation and physical form components of river health.

More extensive use is also being made of existing data. In 2009–10, MDBA began working on a recruitment indicator for use in fish studies; when complete, this indicator will be included in the river health assessment and will help MDBA gain more insight into information collected about the structure of the Basin's native fish population. MDBA has also refined and expanded the environmental filters used to reference the condition of the Basin's macroinvertebrates.

This work on methodology and the inclusion of additional themes means that a more robust and integrated assessment of river health will be made for the 2011 SRA report.

During 2009–10 all SRA reports and data were made publicly available on an interactive website that facilitates access and ease of downloads. The first Sustainable Rivers Audit report — *SRA Report 1: A report on the ecological health of rivers in the Murray–Darling Basin, 2004–2007* — remains the definitive assessment of the health of the Basin's rivers; when published, the second SRA report will include two additional themes, vegetation and physical form.



*John Hawking (from the Murray–Darling Freshwater Research Centre) collecting macroinvertebrate samples for MDBA, Darling River, 2010*

## River Murray Water Quality Monitoring Program

### Background

The River Murray Water Quality Monitoring Program addresses the Murray–Darling Basin Authority's statutory responsibilities under the *Water Act 2007* [Cwlth].

The long-term water quality monitoring program comprises two components: physical and chemical data monitoring, and biological monitoring.

The physical and chemical data monitors up to 23 parameters; it has been collected from 35 sites in the River Murray since 1978.

The biological component consists of monitoring the health of macroinvertebrate communities and phytoplankton at selected sites. This 30-year dataset provides a comprehensive overview of water quality that can be used to inform natural resource management decisions and to provide a valuable context for investigations and research into the aquatic ecology of the Murray.

## Highlights

- Rapid response to the 2010 blue-green algal (*cyanobacteria*) bloom outbreak on the River Murray.
- Conducted a Cyanobacteria and Bathymetric Pilot Survey in Lake Hume.
- Advised on 91 floodplain development proposals.

In response to the blue-green algae outbreak in the River Murray, the program conducted aerial surveillance and reported on the extent of the algal bloom to help inform management decisions. Media was coordinated with state jurisdictional partner agencies, including the Murray Regional Algal Coordinating Committee, to ensure that the best advice and reporting was provided to partner agencies and the general public.

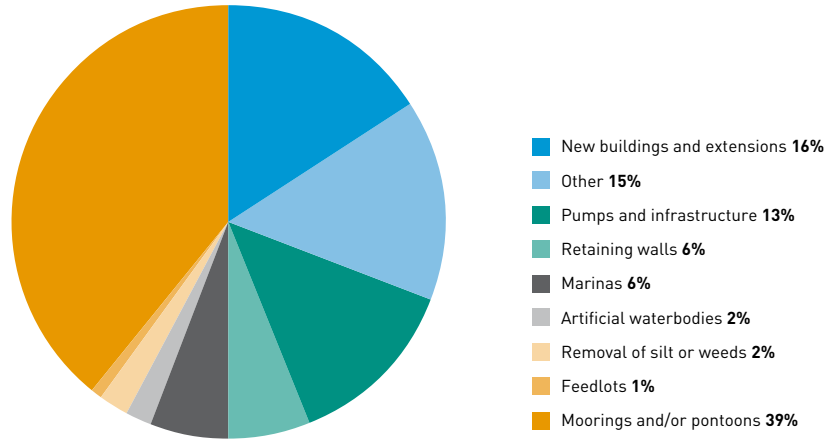
Following the system-wide 2009 algal bloom outbreak in the River Murray, a pilot survey was commissioned to evaluate rapid sampling techniques for surveying and monitoring blue-green algae blooms in the Murray–Darling Basin.

The Cyanobacteria and Bathymetric Pilot Survey, which employed rapid broad-area sampling for water quality and blue-green algae in Lake Hume, was conducted in April 2010. The study has given MDBA the capacity to conduct pre-emptive investigative assessment of algal bloom formation in waterbodies and channels to predict the risk of algal bloom outbreaks in advance. A predictive model will enable MDBA and its jurisdictional partners to implement risk management strategies to help reduce the extent of algal blooms and their negative effects on rural communities and the environment.



**Figure 2.3** Long-term monitoring sites for the River Murray Water Quality Monitoring Program

MDBA also comments on development applications along the River Murray floodplain. The majority of development applications received for review related to mooring and pontoons (39%), followed by new buildings and extensions (16%). The number and category of development applications received indicate that an increasing amount of urban development is occurring along the river. This information is important in enabling MDBA to assess the long-term cumulative impact these developments are having on the riparian and floodplain zone of the River Murray.



**Figure 2.4 Breakdown of the development applications by type**

Note: The 'Other' segment includes high-level advice to councils and the Commonwealth, large infrastructure projects and stormwater retardation as well as unusual development applications.

## Wetland Unit

### Acid sulfate soils risk assessment project

#### Background

The record low inflows and river levels of recent years have led to the drying of many permanent wetlands in the Murray–Darling Basin, resulting in the exposure of acid sulfate soils. The impacts of these soils had previously been an issue only at localised sites, but it became clear that acid sulfate soils may present a significantly larger scale issue in some parts of the Basin.

In March 2008, the Murray–Darling Basin Ministerial Council agreed to support an assessment of the spatial extent of, and risk posed by, acid sulfate soils at priority wetlands in the River Murray system, Ramsar wetlands and other key environmental sites in the Murray–Darling Basin.

## Highlights

- Finalisation and publication of protocols for the detailed assessment of acid sulfate soils in the Murray–Darling Basin.
- Phase 1 detailed assessment of acid sulfate soils at 99 priority wetlands throughout the Basin.
- Phase 2 detailed assessment to determine specific risks associated with acid sulfate soils at four sites listed under the Convention on Wetlands of International Importance (the Ramsar Convention) within the Basin.
- Rapid assessment of exposed bank sediments within the River Murray channel between Blanchetown (Lock 1) and Wellington in South Australia.



*Sulfidic sediments and salinity, Kings Billabong, River Murray, Victoria*

## Wetland disconnection

### Background

In response to critical water shortages in 2007–08, several wetlands in the Murray–Darling Basin were temporarily disconnected along the River Murray in New South Wales and South Australia. This disconnection was aimed at reducing evaporative losses under the Dry Inflow Contingency Planning Initiative to save water for community use.

### Highlights

- New South Wales trigger for refilling wetlands met.
- Three remaining disconnected wetlands in New South Wales reconnected and refilling initiated.

While the refill trigger has still not been reached in South Australia, four of the six disconnected wetlands in that state have received water to avoid environmental damage.

## Managing the science and spatial information

### Natural Resource Information

#### Background

The *Water Act 2007* (Cwlth) requires Murray–Darling Basin Authority (MDBA) to collect and disseminate information used in preparing the proposed Basin Plan and to make that information easily accessible to the public.

The Natural Resource Information section also provides spatial science capability to support MDBA's Enterprise Information Strategy (EIS), the goal of which is to establish an authoritative information service for the Murray–Darling Basin.

#### Highlights

- Completed about 1,000 mapping requests and 300 cartographic products for MDBA projects.
- Responded to 250 mapping requests from external customers.
- Launched the 'Water in storages — Whole of Basin' webpage, which currently receives around 500 hits a week.
- Continued to improve MDBA management of access to and publication of spatial information.
- Created a prototype web-mapping and information delivery system, MDBA Basin Map, which will enable MDBA data to be used by Google Earth and similar access portals.

Natural Resource Information provides technical advice on spatial information products and develops strategies to establish partnerships with external agencies.



## Spatial information search, discovery and access system

Recently Natural Resource Information created a prototype web-mapping and information delivery system known as MDBA Basin Map. This service will be operational for public release by late 2010.

### Water storage information

Natural Resource Information updates water volume data for publicly owned storages on a weekly basis and on a quarterly basis for private storages, providing important water information. Since its launch in 2009, the MDBA's water storage website (available at <[www.mdba.gov.au/water/waterinstorage](http://www.mdba.gov.au/water/waterinstorage)>) has received an average of 500 hits per week.



**Figure 2.5** When MDBA Basin Map goes live in 2010–11, it will offer a number of spatial information facilities (see inset boxes)

### Standards, quality assurance and licensing

During 2009–10 Natural Resource Information continued to promote adoption of the whole-of-government data licensing approach, which is leading to greater use of 'public good' spatial data by stakeholders. Natural Resource Information also continued to nationally implement enterprise-endorsed quality assurance procedures, standards and data licensing for the MDBA's substantial spatial data holdings.



## Imagery and remote sensing program

During 2009–10, MDBA, through Natural Resource Information, continued its program of acquiring imagery data for environmental monitoring and evaluation purposes. It also garnered in-principle support for the establishment of an optical geospatial radar elevation data and services panel for cooperative procurement and archival arrangements across the Commonwealth.

During 2009–10, Natural Resource Information also defined, implemented and promoted quality assurance procedures and standards, such as those created by the Spatial Information Council of Australia and New Zealand (formerly the Australia New Zealand Land Information Council); specifications from the Australian Government Office of Spatial Data Management; and data acquisition, storage, display and analysis of natural resource information under International Organization for Standardization 19011: *Guidelines for quality and/or environmental management systems auditing*.

## Research and Partnership Program

### Background

The Research and Partnership Program of the Murray–Darling Basin Authority (MDBA) manages existing partnership projects, including the South Eastern Australian Climate Initiative (SEACI), the Murray–Darling Freshwater Research Centre (MDFRC) Agreement and the Monash University Riparian Restoration Experiment.

The program also advises the Murray–Darling Basin Ministerial Council on emerging natural resource management issues, develops strategies to address natural resource management issues and delivers natural resource management outcomes through partnerships with universities, jurisdictions and the MDFRC.

### Highlights

- Collaborated with the MDFRC on planning future investment in ecological research in the Murray–Darling Basin.
- Completed SEACI 1 and initiated the SEACI 2 research program.
- Scoped development of the MDBA Research and Knowledge Strategy.
- Contributed to the development of an evidence-based environmental flow management — Australian Research Council (ARC) linkage project.

Through the Research and Partnership Program, MDBA collaborated with MDFRC on developing a business case for future investment in ecological research in the Murray–Darling Basin. This was influenced by the increasing demand for decisions about Basin resources to be based on best available science and for strong evidence-based evaluation of policy outcomes.

SEACI research has contributed to the proposed Basin Plan by:

- improving rainfall runoff modelling
- developing methods for climate scenario determination
- researching causes of rainfall decline in the southern Murray–Darling Basin
- advising on the choice of climate scenarios for use in hydrologic modelling.

SEACI 2 research began during the year; it focuses on understanding climate drivers, providing long-term climate and hydrology projections, and forecasting seasonal climate and hydrology.

The MDBA Research and Knowledge Strategy will support the MDBA's management and communication of existing knowledge. The strategy will ensure adoption of a strategic approach to investment in new knowledge generation (including research) linked to decision-making about Basin matters.

During the past year, a joint Research and Partnership Program–Melbourne University project team successfully gained ARC support for a scoping study into strengthening evidence-based decision-making for environmental water planning in the Basin. This three-year study will expand scientific understanding of the ecological response to natural and managed flow variation in the Basin, which will improve the MDBA's ability to plan, monitor and demonstrate the effects of environmental flows.

## Responding to risk

### Risk Assessment Program

#### Background

The Murray–Darling Basin Authority (MDBA) undertook a range of innovative risk assessment activities in 2009–10 aimed at informing Natural Resource Management and Basin Planning initiatives in the future. These follow on from the Murray–Darling Basin Risks Strategy, released in March 2008, and the Risks to Shared Water Resources program.

Under the *Water Act 2007* (Cwlth), MDBA is required to identify risks to the condition and continued availability of the Basin water resources, including risks that arise from:

- the taking and use of water (including through interception activities)
- the effects of climate change
- changes to land use
- the limitations on the state of knowledge on the basis of which estimates about matters relating to Basin water resources are made.

#### Highlights

- Continued risk assessment activities, including those originating from the former Murray–Darling Basin Commission’s Risks to Shared Water Resources program.
- Developed targeted research projects to assess the impact of current and potential risks to water quantity and quality in the Basin.
- Completed comprehensive mapping of farm dams in the Basin in partnership with Geoscience Australia.

The program commissioned 12 projects to support the development of improved risk assessment and risk management strategies. Among the risks addressed by these projects are those driven by climate change, catchment processes and direct water interception and use.

Risk assessment activities by the MDBA’s Natural Resource Management and Basin Plan divisions will help develop stronger natural resource management strategies that will enable MDBA to estimate the likelihood of risks occurring and their possible impacts. This will enable MDBA to continue to develop and implement effective monitoring programs for managing the Basin’s natural resources.

The MDBA’s risk assessment activities also support a strategy for mitigating the adverse impacts of inadequate knowledge of the Basin’s natural systems and processes, including the impact of climate change on water quantity and quality.

## Restoring native fish populations

### Background

The Native Fish Strategy was approved in 2003 by the former Murray–Darling Basin Commission as a 50-year plan to rehabilitate native fish populations in the Murray–Darling Basin. These populations have declined significantly over the past 150 years. The strategy comprises projects involving:

- on-ground construction, management and monitoring
- researching the reasons for low fish numbers and pragmatic solutions for arresting these declines
- investigating the particular role played by invasive species such as carp (*Cyprinus carpio*) in overall river health
- the importance of community engagement, participation and ongoing support in implementing the Native Fish Strategy.

### Highlights

- Continued work on the Sea-to-Hume fishway program.
- Continued research into undershot weirs and their impact on young native fish, and development of modified undershot weirs designed to reduce fish mortality.
- Ongoing work on managing alien fish species and their potential impact on the Murray–Darling Basin.
- Developed a new method to determine success of fish stocking.
- Developed seven native fish demonstration reaches.

### The Sea-to-Hume fishway program

The Murray–Darling Basin Authority's Sea-to-Hume fishway program began in 2001 and is scheduled for completion in 2011. The fishways are purpose-built for native fish and include facilities to trap and remove carp. The MDBA program has received numerous awards for the significance of the extent of the restoration it has achieved so far, and for its innovative design.

In 2009–10, the first 'dual' fishway (i.e. a 1:18 gradient vertical slot type plus a fish-lock) was completed and made operational at Lock 3 on the River Murray. The fishways at locks 5 and 6 were also completed during the year, but are yet to be made operational.

Figure 2.6 shows the progress on providing fish passage as part of the Sea-to-Hume fishway program at the end of 2009–10.



**Figure 2.6** Progress on providing fish passage as part of the Sea-to-Hume fishway program at the end of 2009–10. The orange line shows the length of the River Murray open to fish passage.

## Undershot weirs and juvenile native fish

Using Native Fish Strategy funding, researchers from Industry and Investment NSW found that ‘undershot’ weirs (i.e. weirs that allow water to pass below the barrier) injure and kill young native fish moving downstream. It was thought that these weirs affected only upstream fish movement; however, this new work shows that downstream movement across barriers also provides challenges for native fish.

The study found up to 90% of native perch larvae (from species such as silver perch, *Bidyanus bidyanus*) and 50% of Murray cod (*Maccullochella peelii peelii*) larvae were killed trying to pass through undershot weirs. Adult life stages are also affected by undershot weirs, but to a lesser degree.

The findings of this new study are important given that over 80% of main channel weirs in some parts of the Murray–Darling Basin now use automated undershot weirs as the primary water delivery mechanism. Many overshot weirs constructed in the early 1900s are currently being upgraded by state agencies to undershot designs to comply with safety requirements and to minimise maintenance. The continuation of undershot weir upgrades in smaller creeks and tributaries will certainly improve water delivery efficiency, but may substantially increase incidences of injury and mortality of native fish over a large spatial scale. State agencies have begun work on modifying the design of undershot weirs to reduce fish mortality.

## **Alien fish management**

Alien fish species, such as Tilapia, are major potential threats to biodiversity and native fish survival in the Murray–Darling Basin. Tilapia species are not currently found in the Murray–Darling Basin, although they are found in nearby Queensland catchments.

In 2009–10 Native Fish Strategy staff began working on identifying what parts of the Basin are most vulnerable to Tilapia and assessing the potential impacts of these species. An action program has also been initiated with the aims of reducing the risk of Tilapia being introduced into the Basin and furthering scientific knowledge about this alien species.

Using Native Fish Strategy funding, the Aquatic Sciences Branch of the South Australian Research and Development Institute evaluated the effectiveness of carp screens in Basin wetlands, finding that most screens currently deployed in the Basin are not only ineffective for carp management but that many of them actually represent a major barrier for native fish and other aquatic fauna. The institute has developed more suitable screen designs for use in low-velocity flow that can be used in conjunction with carp separation cages in wetlands. The institute continues to optimise the design of carp screens for high-flow environments.

During 2009–10, MDBA and the Invasive Animals Cooperative Research Centre continued their collaboration to explore the development of a genetic technology that would restrict the development of carp offspring to males, and allow this to occur across several ‘copies’ or generations. Successfully accomplishing this would eventually create a massive distortion in the sex ratio of males and females in wild carp, which population models predict would lead to a significant crash in both numbers and density.

This type of research, which is still ongoing, is complex, high-risk and expensive. However, daughterless fish have been produced in the laboratory, and a range of associated projects are underway to facilitate the logistics of releasing daughterless fish and to enhance the effectiveness of the methodology by exploring complementary control techniques.

## **New method developed to determine success of fish stocking**

Over the past 30 years various groups have stocked an estimated 60 million native fish into the Murray–Darling Basin. Stocking of hatchery-reared fish is a key tool in managing inland fisheries, yet very little is known about the effectiveness of fish stocking to enhance native fish populations. Fish-stocking effectiveness is difficult to determine because hatchery-bred fish are hard to separate from wild-bred fish.

Using Native Fish Strategy funding, a research team from the Arthur Rylah Institute and the University of Adelaide has developed and evaluated methods to mark hatchery fish using chemical tags. One method used a dye (calcein — a food-safe fluorescent fluid) to create a permanent mark on the bony parts of the fish (scales and skeleton). Calcein-marked fish

can be quickly and easily detected in the field using specialised equipment without killing the fish. The ease of use, simplicity and speed of calcein marking makes it particularly useful for evaluating the outcomes of fish-stocking projects.

### Demonstration reaches and community involvement

In 2009–10, the Native Fish Strategy funded seven native fish demonstration reaches, which are now operating across the Murray–Darling Basin. The most recent reach has been established on the upper Murrumbidgee River near the Monaro Plains.

The demonstration reach concept stresses the need for a holistic river approach to rehabilitation using community engagement as a foundation. To date, hundreds of landholders and community groups have been directly involved in river rehabilitation as a result of demonstration reaches. Table 2.4 shows the broad diversity of individuals, groups and organisations involved in river rehabilitation across the Basin.

**Table 2.4** *Individuals, groups and organisations involved with Native Fish Strategy demonstration reaches: Murray–Darling Basin*

Participants	Number
Private landholders	161
Community groups	65
Schools	14
Schools not directly involved with demonstration reaches (i.e. engaged with demonstration reaches through extension activities)	16
Not-for-profit groups	13
Industry bodies and lobby groups	21
Private companies	19
Local government	11
Natural resource management agencies (Basin state and regional)	25
Universities and other research bodies	18





# CHAPTER 3

## Delivering water efficiently and equitably

### Program objective 3 — River Murray Water

To equitably manage, operate and sustain the River Murray assets to deliver states' shares of water and environmental outcomes in the River Murray system.

Chapter 3 and its main subsections also relate to the River Murray Division section of the Murray–Darling Basin Authority's Corporate Plan 2009–13.

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## Overview

During 2009–10, considerable variation was observed in River Murray streamflows and their impact on water availability and the environment. Early in the year water was available to meet critical human water needs; however, access to private carryover was restricted and special water-sharing arrangements between partner governments were again required. By December 2009, all private carryover commitments were met and irrigation allocations had increased significantly, allowing River Murray diversions in 2009–10 to be higher than during the previous three years, although they remained only about half of pre-drought levels.

Heavy rainfall throughout mid-western New South Wales and Queensland from Christmas to early March resulted in significant flooding in many catchments and along parts of the Darling River, providing environmental benefits along the river and its tributaries. Some of the increased inflows to Menindee Lakes were used to boost inflows to the depleted Lower Lakes, and also resulted in late season increases in allocation for Murray irrigators. The health of the riverine environment along the Murray continues to decline due to the lack of overbank flows.

The outlook for the Murray system in 2010–11 is more promising than at the start of the past three years; however, sustained periods of above-average rainfall are still needed to significantly improve water resource availability.

During 2009–10, major construction works commenced on the Hume Dam spillway southern junction upgrade, the Chowilla Environmental Regulator and associated works, and the Mulcra Island Environmental Regulator and associated works. Contracts were awarded for navigable pass and fishway construction works at locks and weirs, and current construction contracts progressed on schedule. A major milestone of The Living Murray program of fish passage from the sea to Hume Dam, a distance of more than 2,200 km, will now be achieved with the completion of fishway projects early in 2011.

During 2009–10, the construction of salt interception schemes under the Basin Salinity Management Strategy achieved the following highlights:

- formal commissioning of the Waikerie 2L scheme
- optimisation of the Pyramid Creek borefield, which will enable its formal commissioning later in 2010
- significant progress in construction at the Loxton, Murtho and Upper Darling salt interception schemes.

During 2009–10, the Murray–Darling Basin Ministerial Council approved the first stage of the refurbishment of the Mildura–Merbein salt interception scheme.

The Murray–Darling Basin Authority also continued to provide significant support to the eWater Cooperative Research Centre on development of the next generation of modelling software to support river system planning and river operations, in particular River Manager and River Operator software. MDBA daily operations staff have begun testing the River Operator software.

## Agreed water shares delivered to states

### Background

The following key actions are undertaken to deliver agreed water shares in the River Murray system to the states, including in extreme conditions:

- regularly assess the water resources of the River Murray system to determine the volume of water available to each state
- operate structures under the control of the Murray–Darling Basin Authority (MDBA), and determine and review procedures for their efficient and effective operation
- establish, operate and maintain a system of continuous monitoring of the volumes of stored water, and of flows in the River Murray and from its tributaries
- liaise with state and federal authorities on matters related to the River Murray system to provide an up-to-date and comprehensive flow of information.

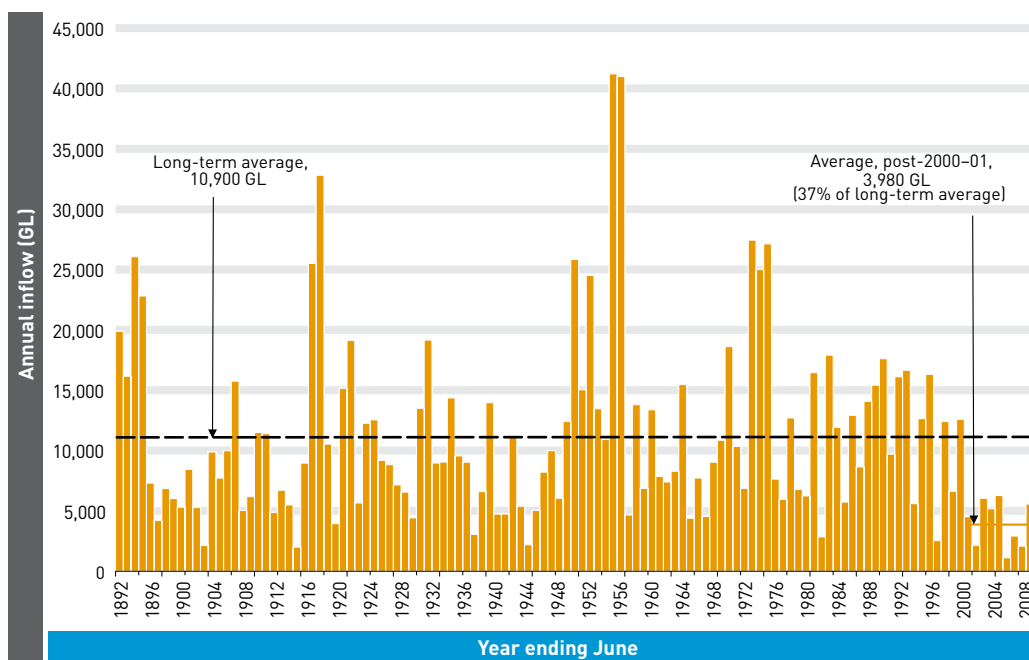
### Highlights

- Sustaining River Murray flows and delivering essential water requirements throughout the entire season were major achievements in 2009–10.
- Forecasting inflows to Menindee Lakes from the Darling River floods was a challenge that was met successfully.
- Continuing to supply and refine forecasts of water availability for each state and provide the systems for assessing options for special water-sharing arrangements.

### Low water availability

As a result of near-average rainfall across the upper Murray region during the winter and spring of 2009–10, inflows to headwater storages and from the Ovens and Kiewa rivers were significantly higher than during the past four years. Good inflows were also received from the Darling River; however, inflows to the River Murray from other tributaries, including the Murrumbidgee and Goulburn rivers, remained extremely low.

Overall, inflows continued to be well below average, despite near-average rainfall over most of the Murray–Darling Basin in 2009–10 (see Figure 3.1). Inflows to the River Murray system, excluding releases from the Snowy Mountains Scheme, totalled about 5,600 gigalitres (GL) (a little over half of the long-term average). Such an inflow volume has been exceeded 77 years out of a 100 since records began, making 2009–10 inflows in the driest 23% (or driest quarter) of years on record.



**Figure 3.1** River Murray system annual inflows from July 1891 to June 2010

While dry conditions continue, the focus of River Murray operations has been on water security. Flows along the River Murray have often been close to minimum requirements with as much water as possible being stored in Dartmouth and Hume reservoirs.

The riverine environment along the Murray continues to decline; it is now 14 years since extensive overbank flooding occurred downstream of Echuca.

In summary, the drought for many water users and the riverine environment, particularly in the southern Basin, is not over. Recovery from this severe period of water scarcity is expected to take multiple years of above-average inflow.

## Rainfall and inflows

Rainfall was average to above average across most of the Murray–Darling Basin during 2009–10. February and March were wetter than average across most of the Basin, with parts of Queensland and New South Wales recording the highest monthly totals on record. However, the higher-yielding months of July to October 2009 and June 2010 were generally drier than average.

The Christmas–New Year period brought significant rainfall to the northern Basin, with good streamflow responses in the Castlereagh, Culgoa and Namoi rivers. Good rain across most of the Basin in early February was useful in wetting up the catchment and maintaining streamflows.

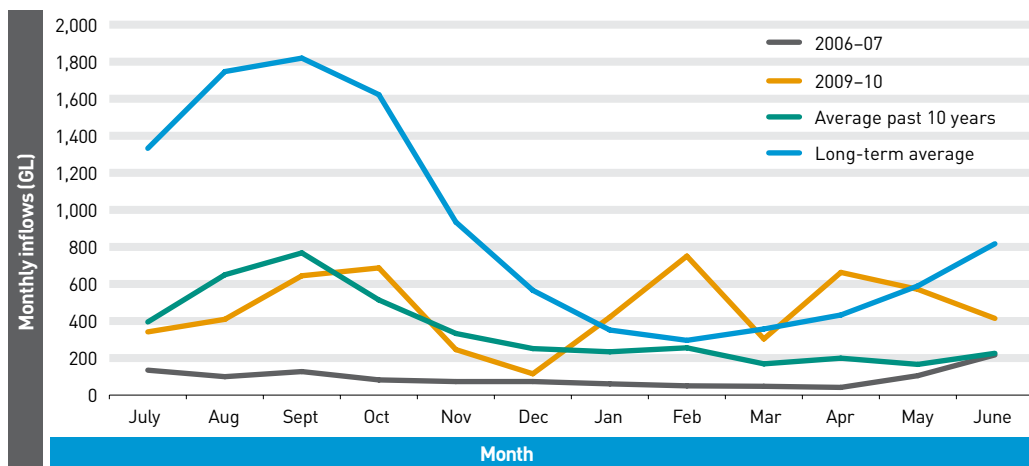


*Confluence of the Paroo and Darling rivers, May 2010*

Heavy rains fell in Queensland in late February–early March, resulting in record floods at St George and high flows in the northern tributaries of the Darling River. These rains contributed about 2,180 GL of inflow to the Menindee Lakes, with the Paroo River still contributing flows in June.

Murray system inflows (excluding Snowy Scheme releases and Menindee Lakes) were still well below average in 2009–10, despite the near-average rainfall in the catchment. The total inflow for the year was 3,380 GL, only 38% of the long-term average of 8,790 GL. Factors contributing to these low inflows include the dry antecedent conditions and the extremely low inflows to the River Murray from the Murrumbidgee and Goulburn rivers as storages in those catchments also gradually recover.

However, if inflows to Menindee Lakes are included, the total annual inflow was 5,560 GL, about half the long-term average of 10,900 GL (see Figure 3.2).

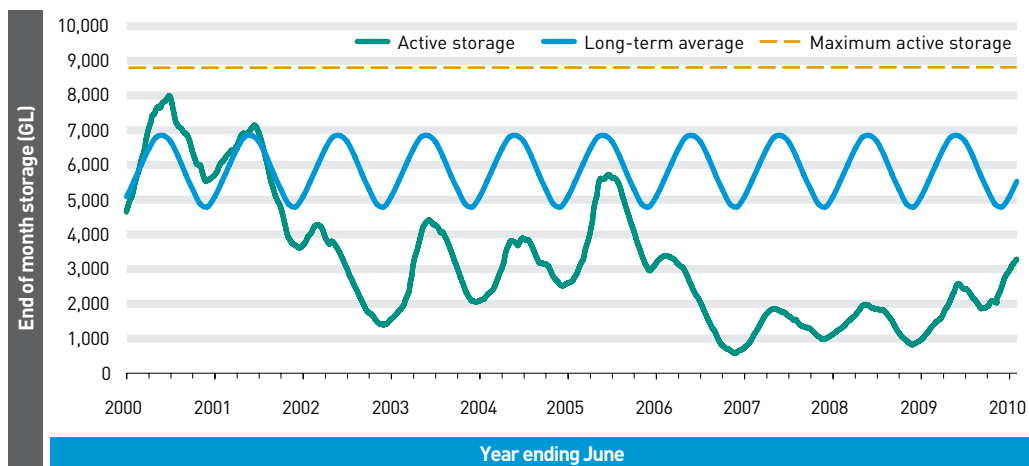


**Figure 3.2** River Murray system monthly inflows, 2009-10

River Murray system inflows have been below average for 12 of the past 13 years. It will take a sustained period of above-average rainfall for river system inflows to recover to levels approaching the long-term average.

## Active storage

Active storage under MDBA control at the beginning of July 2009 was 1,200 GL, or 14% of capacity. By 30 June 2010, active storage had increased to 3,285 GL, or 38% of capacity. Although this volume was significantly more than the historic minimum of 990 GL set at 30 June 2007, active storage was still well below the long-term average for June of 5,530 GL. Storage levels have now been below average since early 2002 (Figure 3.3).



**Figure 3.3** MDBA active storage, June 2000 to June 2010

Water shares for New South Wales and Victoria in MDBA storages at the beginning and end of 2009–10 are shown in Table 3.1.

**Table 3.1** Water shares for New South Wales and Victoria, June 2009 and June 2010

Storage	Storage at June 2009 (GL)			Storage at June 2010 (GL)		
	NSW	Vic	Total	NSW	Vic	Total
Dartmouth Reservoir	398	437	835	629	652	1,281
Hume Reservoir	178	150	328	405	409	814
Lake Victoria	90	150	240	229	129	358
Menindee Lakes	228	0	228	681	841	1,522
<b>Total</b>	<b>894</b>	<b>737</b>	<b>1,631</b>	<b>1,944</b>	<b>2,031</b>	<b>3,975</b>

Notes:

Data relates to total storage.

Menindee Lakes came under MDBA control in April 2010. This resource ceases to be available to MDBA when the volume in Menindee Lakes is less than 480 GL and NSW resumes control of the storage.

Accounts are based on the best available data, which may contain some unverified operational data that could change in the future. Figures are rounded to the nearest GL.

## Improving environmental outcomes

During 2009–10, MDBA delivered environmental water to a number of sites by managing weir–pool levels and river–flow rates. These sites included Werai Forest and Reed Beds Swamp in New South Wales, and Lake Walla Walla and Mulcra Island in Victoria, as well as delivering environmental water traded for environmental use in South Australia.

MDBA continued to trial ‘pulsed releases’ from Dartmouth Reservoir to provide environmental outcomes along the Mitta Mitta River. During November and December 2009, two pulses of up to 4,600 megalitres per day (ML/d) that simulated natural variability were released.

At Yarrawonga Weir (Lake Mulwala), a full drawdown of the lake took place in June–July 2009 to control the spread of the invasive aquatic weed leafy elodea (*Egeria densa*). This drawdown was reported as being very successful; however, further drawdowns will be required to minimise recolonisation by the weed.

Refilling of Euston Lakes commenced when the temporary weir disconnecting the lakes was removed in December. Dry Lake filled relatively quickly; Lake Benanee initially filled at a very slow rate, but is now expected to fill by December 2010, following the clearing of cumbungi (*Typha* species) from Benanee Creek.

No over-bank flows occurred along the River Murray in 2009–10; however, the release of water from Menindee Lakes by New South Wales provided significant flooding along the lower Darling River, some of which flowed into the Darling Anabranch.

As in previous years, algal blooms developed to red alert levels along the River Murray, initially between Hume Dam and Cobram, but later in the year as far downstream the river as Wentworth. All red alerts had been lifted by early April. Public water supplies were treated by the local authorities to maintain water quality. Factors contributing to the algal blooms included low flows and high water temperatures. It was recognised that no feasible operational actions could have reduced such a large bloom given the water scarcity at the time.

## **Special arrangements for water sharing and contingencies**

In response to the continued low water resource availability, partner governments agreed to special arrangements for sharing water resources between the states at the beginning of 2009–10. The initial water available for use in the River Murray system on 1 June 2009, whether from shared resources or from tributary inflow, was provided in the following priority order:

- conveyance water (including South Australia's 696 GL dilution and loss entitlement)
- critical human water needs within each state
- private carryover within each state
- 25 GL for each state.

Initially, contingency measures were used to underpin these water requirements.

By early August 2009, water availability had improved beyond the minimum adopted for planning purposes sufficient to meet conveyance water, critical human water needs, private carryover and an initial allocation of 25 GL for each state without the need for any contingency measures.

These initial (Tier 2) sharing arrangements resulted in advances arising between the states. South Australia repaid its advance from the upper Basin states at a rate of 50% of its share of improvements (based on the normal Tier 1 arrangements of the Murray–Darling Basin Agreement). New South Wales repaid Victoria its advance at a rate of 100% of its share of improvements (based on Tier 1 arrangements). All advances were repaid by mid-October 2009 and further improvements were distributed in accordance with Tier 1 arrangements.

The Lindsay River allocation was 30 ML/d plus 220 ML/d multiplied by the percentage allocation for Victorian high reliability water shares as at the end of the month, applied for that month less diversions, the same arrangement as in 2008–09.

Most wetlands disconnected during 2007–08 to achieve water savings were reconnected during 2009–10; however, Euston Lakes was still filling as at 30 June 2010.

Flooding during the Christmas–New Year period in mid-western New South Wales resulted in about 1,000 GL reaching Menindee Lakes while it was under New South Wales control. Of this, about 500 GL was delivered to the River Murray and shared between the states according to a special arrangement that ensured a significant portion was provided to the Lower Lakes with no adverse effect on Victoria.

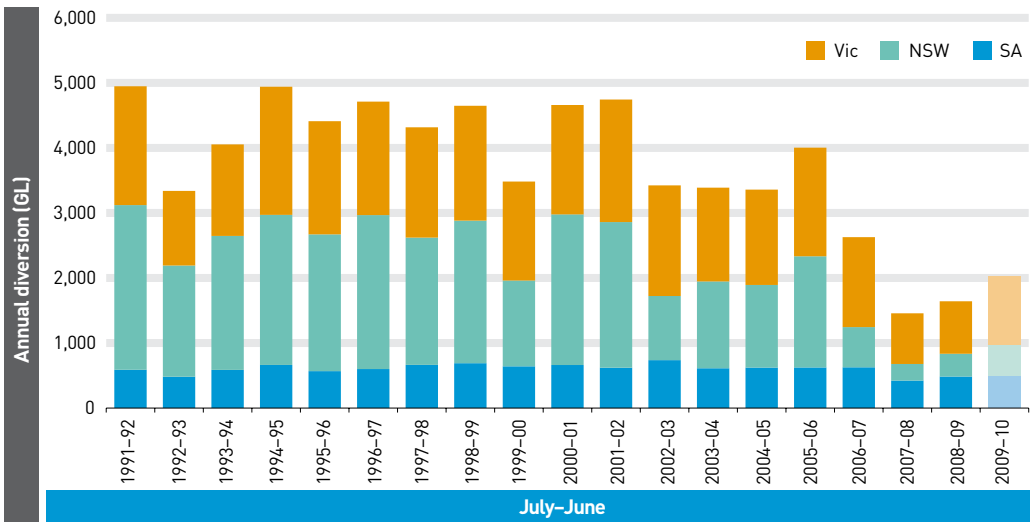


# State water allocations and diversions

The 2009–10 water allocations for the Murray Valley started at minimal levels, with only South Australia making an allocation (2% of entitlement to its high security licence holders). Allocations increased slowly as River Murray system inflows improved. By 31 December 2009, New South Wales general and high security licence holders had been allocated 10% and 97%, respectively. Victorian high reliability water shareholders had a 60% allocation, and South Australian licence holders had a 45% allocation.

Inflows from the Darling River in early 2010 provided a welcome boost to the water resources of the River Murray system. By early April, water allocations had increased to 100% for high reliability water shareholders in Victoria; 27% and 97% for general and high security licence holders in New South Wales, respectively; and 62% for licence holders in South Australia.

The total amount of water diverted by the states was about 2,060 GL, including water traded in from the Murrumbidgee and Goulburn regions (see Figure 3.4). About 1,200 GL of allocated water in 2009–10 was carried over by individual water licence holders in preparation for the 2010–11 water year. This volume of carryover water was more than double the amount carried over during the previous year (approximately 580 GL) and was more than one-third of the MDBA active storage on 30 June 2010.



**Figure 3.4 State diversions, 1991–92 to 2009–10: River Murray system**

Notes: 2009–10 figures are indicative only and will change.

Diversions include the Lower Darling and any inter-valley trade received by a state.

## Flow to South Australia

The 2009–10 flow to South Australia was 1,175 GL, including 341 GL trade and 834 GL entitlement. This was the highest total flow since 2006–07, but was about a third of the long-term median of 4,880 GL and below the normal annual entitlement of 1,850 GL.

South Australia elected to receive low flows during the first six months of the year to build reserves to carry over to 2010–11. With improved water availability, full normal monthly entitlement volumes (plus trade) were delivered from January 2009 onwards. Higher flows from January 2010, including 194 GL from the Darling River floods, assisted in reducing the salinity downstream of Lock 1 and raising the water level in Lake Alexandrina.

## The Murray component of the Snowy Mountains Scheme

The required annual release from the Murray 1 Power Station was gradually increased during the year from 334 GL at 1 July 2009 to 1,067 GL at 30 June 2010, including 200 GL of transfer from the Murrumbidgee system. An additional 14 GL was released by Snowy Hydro as a partial repayment of the dry inflow sequence volume, resulting in a total release of 1,081 GL.

## Operation of the River Murray system

Low storage levels and inflows saw 2009–10 begin with New South Wales, Victoria and South Australia on zero or near-zero water allocations. System operations were aimed at maximising water availability by storing as much water as possible in Dartmouth Reservoir, where evaporation losses are lower, and minimising losses along the river. As in recent years, river levels and flows were generally well below historical averages.

### Upper Murray system

At the start of 2009–10, storage was low in both the Dartmouth (837 GL, 21% of capacity) and Hume reservoirs (333 GL, 11% of capacity).

Releases from Dartmouth Reservoir were close to minimum for most of the year. However, two pulsed releases, totalling about 48 GL, were made to Hume Reservoir in late 2009. High inflows to the River Murray system from the Darling River in early 2010 meant that further releases from Dartmouth to Hume Reservoir were not required. Dartmouth Reservoir therefore increased in volume over the year by 444 GL to 1,281 GL (33% of capacity).

Releases from Hume Reservoir peaked at 16,000 ML/d in December 2009, but did not exceed 13,000 ML/d after early February 2010. These lower releases were possible because water from Menindee Lakes was used to deliver the entitlement to South Australia. The volume stored in Hume Reservoir at the end of the year was 814 GL (27% of capacity), about 481 GL more than in the previous year.

## Mid-Murray

Lake Mulwala was refilled in mid-July 2010 by inflows from the Ovens and Kiewa rivers, after last year's drawdown to control leafy elodea. The lake was then maintained close to its normal operating target of 124.7 metres Australian height datum (AHD), or 0.2 m below full supply level. Other weir pools along the mid-Murray remained close to full supply level, with the exception of a short period in May when the pool at Torrumbarry Weir was lowered to assist with supply of irrigation water through the National Channel.

Flows along the River Murray between Yarrawonga and Wentworth weirs were lower than usual in autumn 2010 because the Menindee Lakes were supplying downstream water requirements. Flow at Swan Hill in April 2010 averaged 2,530 ML/d, compared with the 50-year average of 4,570 ML/d for April.

## Lake Victoria

In 2009–10, the volume stored in Lake Victoria varied between a low of 242 GL in July and a high of 550 GL in April. Water released from Menindee Lakes in January–February, in anticipation of high Darling River inflows, was stored in Lake Victoria. Storage of this Darling River water in Lake Victoria also assisted in improving the quality of the water supplied to South Australia through mixing and dilution.

Lake Victoria was also used to store and dilute further releases from Menindee Lakes made during March. At the end of the year, storage in Lake Victoria was 358 GL (53% of capacity).

## Menindee Lakes

Menindee Lakes received high inflows from the Darling River in January–February 2010 as a result of flooding rainfall during the Christmas–New Year period in the Castlereagh, Culgoa and Namoi river catchments. At that time, insufficient flows were forecast to warrant filling lakes Menindee and Cawndilla because these lakes had been dry since 2002 and high seepage losses would have been incurred. Therefore, about 630 GL of water was released into the lower Darling River, while lakes Wetherell and Pamamaroo were surcharged.

A second flood occurred in the Darling River catchment in late February–early March, with major flooding in south-western Queensland. Inflows from these floods reached Menindee Lakes in late March and were still continuing, albeit slowly, at the end of June. These inflows were sufficient to justify filling lakes Menindee and Cawndilla, which, at the end of June 2010, were at 81% capacity. At this time, lakes Wetherell and Pamamaroo were close to surcharge levels and the total volume stored in the Menindee Lakes was 1,522 GL (88% capacity).

MDBA resumed control of Menindee Lakes in mid-April 2010, when the stored volume exceeded 640 GL. The lakes will return to New South Wales' control when the volume in storage drops below 480 GL.

## Case study

### Where did all the water go?

In late February and early March 2010, widespread and heavy rain was recorded across central Australia and southern Queensland. This caused major flooding within the northern Murray–Darling Basin, including in the Paroo, Warrego, Nebine, Maranoa, Condamine, Balonne, Culgoa, Moonie and Weir rivers. The flood peak at St George on the Balonne River exceeded 250,000 ML/d, while other peaks were 100,000 ML/d on the Paroo River at Willara Crossing and 270,000 ML/d at Wyandra on the Warrego River.

However, only about 1,300 GL, or 19% of the total volume, which had passed the gauging stations on the tributaries, reached the Darling River at Wilcannia by 30 June 2010 — these large ‘losses’ are typical of floods in the northern Basin. Much of the northern Darling River catchment is a complex network of anabranches and creeks that naturally divert a large proportion of the floodwaters to terminal wetlands and lakes. For example, the Cuttaburra Channel diverts large volumes of water from the Warrego River into Yantabulla Swamp, while the Narran Lakes are a terminal lake system downstream of the Balonne River.

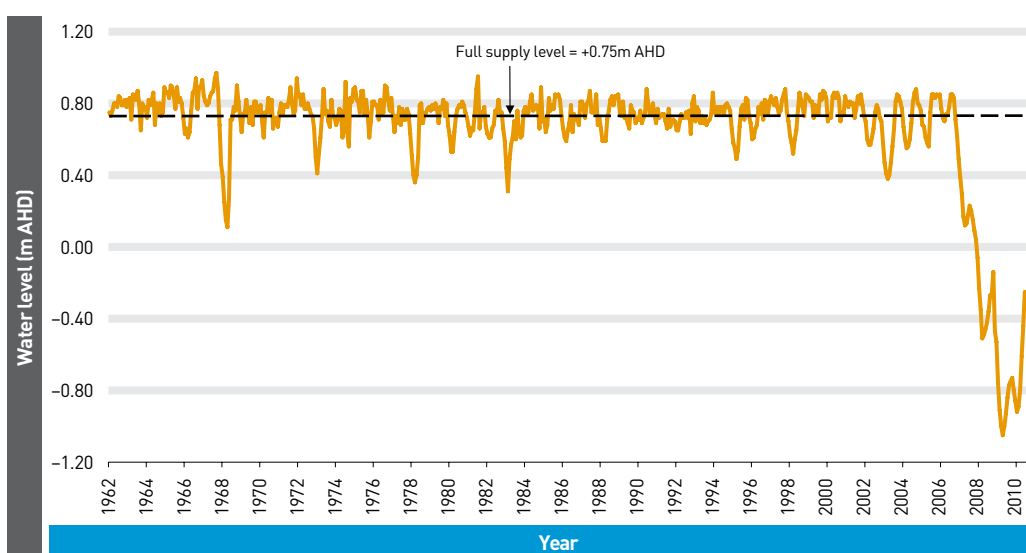
Some water was also diverted by irrigators; over the first three months of 2010, the volume of water in private storages across the northern Basin increased by about 1,000 GL. This means that most of the ‘missing’ water has spread out onto the floodplains, filling local lakes and wetlands, as well as seeping into the ground or evaporating. This water is providing significant environmental benefits for floodplain vegetation and wildlife.



*View over the Cuttaburra Basin*

## Lower Lakes

The levels in the Lower Lakes in South Australia have improved over the past year, from a low of  $-0.93$  m AHD in January to  $-0.20$  m AHD at 30 June 2010 (see Figure 3.5). However, this level still poses an environmental risk and emergency response measures, including pumping water into Lake Albert and maintaining a blocking bank at Clayton to isolate the Goolwa Channel, remain in place. There has been no release to the sea since October 2006 and consequently salt continues to accumulate in excess of normal entitlement flow in the Lower Lakes. It will take a year with substantial flow to South Australia to return the lakes to their full supply level of  $+0.75$  m AHD.



*Figure 3.5 Lake Alexandrina water levels, January 1962 to June 2010*

## Operations Review

The River Murray System Operations Review continued into its second year with the program responding to a number of key requirements of the Murray–Darling Basin Agreement and continuing to progress projects related to River Murray System Operations.

During the year, a large focus of the Operations Review was helping prepare drafts of two new schedules to the Murray–Darling Basin Agreement — the schedule to account for South Australia’s storage right and the schedule for water sharing.

This work has involved considerable modelling and legal drafting. It is expected that these schedules will come into effect in 2010–11.

Apart from the schedules, Operations Review has also contributed to:

- preparation of guidelines for the operation of River Murray system storages to examine and take into account possible environmental effects

- oversight and development of phase 3 of the Barmah Choke Study (the individual options modelling and assessment phase).

## **Water monitoring data for the River Murray**

MDBA is responsible for streamlining and managing the collection and delivery of reliable and timely water information for day-to-day river operations and other business activities. During 2009–10, an automated data acquisition system was implemented to deliver near-to-real-time river information for flood operations and day-to-day river operations. This system continues to expand as more data is gathered through the automated data acquisition system.

## **Water resource modelling**

MDBA develops, operates and maintains river models and hydrographic data management systems for use in river management, water sharing and salinity management, and for other water resource issues and projects.

During 2009–10, some members of the modelling team were seconded to work on modelling for the proposed Basin Plan. This work has included significant development of the MDBA's MSM-Bigmod model (see Glossary for description) of the River Murray system and the development of a framework to allow the models of the Basin to be run in conjunction with each other.

A major modelling task undertaken in 2009–10 was the investigation of water delivery options for The Living Murray program. This included adding proposed physical works to the model to determine volumes required to meet environmental targets with the proposed works and measures in place. Improvements to the MSM-Bigmod modelling suite in 2009–10 included the addition of detailed models of Gunbower–Koondrook–Perricoota Forest and Mulcra and Lindsay islands.

Operations Review program work included extensive modelling of state water-sharing options in times of drought, the provision of critical human water needs, the holding by South Australia of a storage right in major Murray storages, and alternative reserve policies to address potential water shortages.

The modelling group continues to support the development of eWater's River Manager software, including writing specifications for additional functionality, undertaking a River Murray test case and developing a water resource assessment module. The group was also involved in specifying and managing a major consultancy to investigate using freshwater flows from upstream to maintain water quality at South Australia's urban offtakes below Lock 1.

During 2009–10, longstanding modelling programs continued, including modelling and data services for the Basin Salinity Management Strategy, the Cap on water diversions, state water sharing in accordance with the Murray–Darling Basin Agreement and supporting river operations.

## Managing assets

### Background

River Murray Operations assets, principally those shown at Schedule A and Appendix 2 of Schedule B of the Murray–Darling Basin Agreement, are owned by the asset-controlling governments (the Australian Government and the governments of New South Wales, Victoria and South Australia).

An asset agreement is in place between the four partner governments and the Murray–Darling Basin Authority regarding management of River Murray Operations assets. For the most part MDBA carries out its roles and responsibilities under the asset agreement and the Murray–Darling Basin Agreement through the New South Wales, Victorian and South Australian state constructing authorities, including:

- State Water Corporation (State Water NSW) (the NSW Office of Water also undertakes significant works relating to salt interception schemes, river improvement, hydrometric and water quality monitoring, and the environment)
- Goulburn–Murray Water (Victoria)
- South Australian Minister for the River Murray, including the operating agents South Australian Water Corporation (SA Water) and the South Australian Department of Water, Land, and Biodiversity Conservation.

The River Murray Division of MDBA oversees the works associated with management of the assets. The Executive Director River Murray has particular delegations under the Murray–Darling Basin Agreement and the asset agreement.

A strong relationship has developed between MDBA and state constructing authorities, so that maintenance is proactive, decision-making is generally by consensus and issues are raised by constructing authorities at an early stage.

In 2009–10, the Environmental Works and Measures Program transferred from the Natural Resource Management Division of MDBA to the River Murray Division.

## Highlights

- The increase in Lake Dartmouth storage levels enabled releases from the dam through the high level outlet works after three years of operating from the low level outlet works.
- Construction commenced on dam improvement works at the Hume Dam spillway southern junction.
- Detailed design commenced on the Hume Dam spillway southern training wall buttress stabilisation works.
- Fishway at Lock 3 completed and made operational.
- Practical completion of the navigable pass upgrade and fishway construction at locks 5 and 6.

## Assessment of asset management

Each year MDBA inspects all River Murray Operations assets, specifically to assess the operational performance of the staff at each site (and the asset managers of the state constructing authorities).

Assessment criteria include condition of the assets, operations and maintenance documentation, occupational health and safety documentation and performance, achievement of the works program set for the year, and expenditure against budget in meeting the program.

Results of the 2009–10 structures assessment were pleasing. Over the past decade, a concerted effort has been made to bring the assets up to contemporary best practice. The success of this effort is now evident with the following outcomes:

- dam improvement program well underway
- award of the final navigable pass upgrade (and associated fish passage construction) contract (for completion in 2010–11)
- near-completion of the housing and office stock refurbishment and replacement program.

In recognition of its performance, the Goulburn–Murray Water Dartmouth team was awarded the MDBA's Collings Trophy for 2008–09 at an award dinner in December 2009.

## Major works on assets in 2009–10

### Hume Dam

The past year saw the completion of a 15-year program to remove, sandblast, paint and reinstall each of the 29 large spillway gates at Hume Dam. The condition of the first gates to be refurbished will be assessed to determine when the process will need to start again.



The first of the three significant dam improvement projects progressed with the award of a contract to undertake installation of a zone of filter and drainage materials. This installation will require the drilling of a series of holes adjacent to the spillway southern junction and backfilling the holes as the drill casing is withdrawn. Work has begun on installing 300 mm diameter filter columns. A much larger rig capable of installing 1,200 mm diameter columns was delivered to the site and is being assembled ready to begin work later in 2010–11.



*Drilling work in progress at Hume Dam for the installation of an improved filter and drainage system at the spillway southern junction*

During 2009–10, the concept design for the second dam improvement project, to increase the stability of the spillway southern training wall, was completed, and work on the detailed design commenced. Funding over a three-year period for construction of the concrete buttress concept has been approved by the Murray–Darling Basin Ministerial Council.

The third dam safety project to assess and, if necessary, upgrade, the spillway capacity at Hume Dam has concluded its associated hydrological studies. To decide the extent to which the crest of the dam will need to be strengthened and/or raised to allow the dam to pass the revised probable maximum flood will require MDBA consideration of:

- Australian National Committee on Large Dams guidelines
- the current move by the Dam Safety Commission (the New South Wales dams regulator) towards a more risk-based strategy
- whether a change in operating strategy in the event of extreme rainfall events would avoid or reduce the necessity to undertake structural works
- the possible impact of the proposed Basin Plan on future lake levels.

### **Dartmouth Dam**

MDBA places a high priority on ensuring all its dam assets comply with Australian National Committee on Large Dams guidelines. In 2009–10, concept designs were finalised for the upgrade of spillway capacity and the refurbishment of the dam crest at Dartmouth Dam. The scope of the staged approach to the detailed design of the upgrade was agreed during the year. It is recognised that construction will not proceed until other higher priority dam improvement projects within the asset-controlling governments are completed and funds can be allocated to the Dartmouth project.

By the end of 2009–10, Lake Dartmouth had risen to a level high enough to operate via the high level outlet works, the first time in three years. This enabled the low level outlet works to be isolated for inspection and significant maintenance to be completed. It also enabled the Australian Gas Light Company to recommence operation of Dartmouth Power Station.

### **Locks and weirs**

The lock chamber refurbishment program continued with works at locks 2 and 3 successfully completed during 2009–10. The works are part of a six-year planned maintenance program of all the locks along the river. The comprehensive maintenance involves dewatering of locks, repainting each lock's four large gates, refurbishing or replacing the large valves used to fill and empty the locks (including the frames holding the valves), and inspecting the drains under the locks. The refurbishment program is also providing the opportunity to inspect and/or repair other items not normally accessible while locks are in service. The locks are closed to river traffic during the maintenance works, which are programmed to minimise inconvenience to the public.

Late in 2009–10, fabrication began on the prototype of a new trestle unit for the Lock 11 (Mildura) Dethridge-type weir. The new trestle will greatly improve the safety of operations by using three sets of electrically driven two-leaf gates per trestle instead of the manually installed heavy timber drop-boards in the original Dethridge design. It is planned to install the prototype trestle by mid-August 2010 for trial operation over the coming year.



*Infrastructure at Lock 4 on the River Murray*

### **Navigable pass upgrade and fishways project**

York Civil Pty Ltd, under contract to SA Water, has made good progress on upgrading navigable passes and constructing fishways at locks 2, 4, 5 and 6. By the end of June 2010, the Lock 6 works were practically complete, while works at Lock 5 were nearing completion. Work was well advanced at Lock 2; this work requires replacement of the individual navigable pass piers inside special box cofferdams, unlike the works at locks 4, 5 and 6, where steel-sheet pile cofferdams were used, enabling dewatering of all the navigable pass piers at the same time.

During the year a contract was awarded for the construction of a similar upgrade of the navigable pass and fishway at Lock 15 (Euston) and provision for fish passage at Lock 11 (Mildura) in conjunction with the upgrade of the Dethridge trestle weir. During 2010–11 the Sea-to-Hume fishway program, which aims to establish fish passage on the main stem of the River Murray between the sea and Hume Dam, a distance of 2,225 km, will be completed.

### **Lake Victoria**

During 2009–10, the following important maintenance milestones were achieved at Lake Victoria:

- successful implementation of supervisory control and data acquisition at the inlet and outlet regulators
- completion of the gate refurbishment at the inlet regulator
- progress on the dam improvement issues at the outlet regulator
- major advances in resurfacing the many kilometres of banks that contain the Lake Victoria storage.

These major works were supported by improvements to the depot and associated facilities.

In 2007–08, the Lake Victoria Scientific Review Panel, comprising experts with skills in cultural heritage, aquatic ecology, geomorphology, hydrology and rangeland management, was convened. During the past year, the panel reviewed vegetation and erosion monitoring reports and made recommendations on improvements to these monitoring programs.

The panel is currently processing the cultural heritage data collected, redesigning its database and modifying the cultural heritage monitoring program to simplify its methodology and make it more informative, with more emphasis on a preservation management response. The panel is helping direct analysis of 10 years of data collected from vegetation and shoreline monitoring programs; it is also assisting to redesign the programs to provide better cultural heritage preservation and more appropriate management responses.

During the year the panel oversaw an external review of the current monitoring program's suitability to address requirements of the consent conditions issued by the New South Wales Department of Environment, Climate Change and Water. The panel also plays an ongoing role in identifying and guiding further research needs and reviewing research results.

## **Barrages**

Refurbishment of the Tauwitchere Island public lockage facility was completed during 2009–10 by SA Water staff.

The replacement of around 2 km of deck units at the Ewe Island and Tauwitchere barrages has resumed after methods were developed to remediate early corrosion of some stainless steel embedded items and amendment of the specification for casting of future precast units. The deck replacement program is being implemented over a 15-year time-frame as existing units reach the end of their useful lives.

## **Mitta Mitta River channel improvements**

Erosion protection and repair works were required following 2006–07 season operations, which involved transfer of large volumes of water from Dartmouth Dam to Hume Dam. These works have been ongoing to enable the Mitta Mitta River to sustain prolonged high flows into the future.

Works in 2009–10 focused on controlling willows that had fallen into the river and caused erosive flow diversions. Other works targeted broader environmental outcomes for the riparian zone; where possible, this was done through revegetation, willow control and stock exclusion. An updated waterway action plan is currently being prepared for the Mitta Mitta River from Dartmouth Dam to Hume Dam. This plan will assess whether current river management practices, in particular erosion control and vegetation management, are appropriate, and will recommend a future management program for the river.

## **Hume to Yarrawonga reach**

### **Hume to Yarrawonga River Murray Works Program**

Erosion control works comprising willow removal and the placement of log-and-rock revetments restored a further 5 km of degraded river in 2009–10. Other works included fencing off 11 km of riverbank and establishing 32,000 native plants. Work continued on developing a monitoring program to assess the effectiveness of the erosion control works. The monitoring program

will inform adaptive management and enhance the existing works program by improving understanding of geomorphic processes.

### **Murray Mouth sand pumping**

Dredging at the Murray Mouth to enable connectivity between the sea and the Coorong has now been in operation since October 2002. Dredging is required because drought conditions and levels of extraction from the River Murray have led to very low or no flows out of the Murray Mouth.

Dredging has successfully achieved tidal ratio targets in the Tauwitchere and Goolwa arms of the Coorong and prevented unacceptable water quality in the upper Coorong.

Over the past three years a significant effort has been made to optimise costs. In 2009–10 the cost of dredging was \$3.9 million, \$1.2 million lower than the 2006–07 cost. This reduction has been achieved by the use of bathymetry (i.e. surveying underwater topography), aerial photography and sophisticated hydraulic modelling to ensure that dredging operations are providing the best shape and depth of channels to optimise tidal water flow without being so strong that sand transport from the ocean simply refills the dredged channels. It is now possible to achieve the correct shape by use of a one-dredge operation.

## **Environmental Works and Measures Program**

### **Background**

The Environmental Works and Measures Program aims to improve the health of the River Murray system through infrastructure that delivers and manages water to the six icon sites of The Living Murray. Infrastructure includes water-regulating structures, water-delivery channels, fishways and complementary works and measures.

### **Highlights**

- Construction commenced at the Chowilla and Mulcra Island floodplain inundation projects.
- Detailed designs completed for the Koondrook–Perricoota floodplain inundation project.
- Detailed designs commenced for the Hattah Lakes and Gunbower lower landscape works.
- Lock 3 fishway completed and made operational.
- Construction commenced on fishways at locks 2, 4 and 5 and at Stevens Weir; fishways at locks 5 and 6 completed during the year.
- Construction contracts let for fishways at Mildura and Euston weirs and the Edward River offtake regulator.

Due to a concerted effort by all agencies involved, significant progress was made in 2009–10 towards completion of the priority works under the Environmental Works and Measures Program. During the year the program's focus continued to shift from developing concepts for environmental watering at the icon sites towards undertaking designs of structures for the proposed schemes, working through construction approvals and tender processes and, most notably, commencing groundworks.

Progress made by the Environmental Works and Measures program during the year was influenced by a number of initiatives that began in 2008–09 and were refined in 2009–10, including:

- 'Early contractor involvement'-type procurement models were employed for the Chowilla and Koondrook projects. The ECIs proved to be an effective way of expediting these projects and limiting potential delays. While the Mulcra and Hattah projects did not adopt the full ECI model, construction contractors were engaged during detailed design to provide advice on constructability and cost issues, which was invaluable as the projects progressed.
- The streamlined approvals process initiated by the Murray–Darling Basin Authority (MDBA) late in 2008–09 was used extensively during 2009–10. The new process delivered project outcomes for the projects in a more timely way than previously, which allowed most of the proposals to proceed to their next phases with minimum interruption.
- The Sea-to-Hume fishway program rapidly advanced during 2009–10. Its good progress can largely be attributed to efficiencies gained by the award of a single construction contract for fishways at locks 2, 4, 5 and 6 in late 2008. This allowed the contractor flexibility to work at multiple sites and to transfer knowledge gained from one site to another.

During the year the Environmental Works and Measures Program budget for completion of the prioritised works increased by \$5 million to \$280 million, primarily to enable the Koondrook floodplain inundation works sufficient funds to go to tender but also to allow new work on a small project for the upper Lindsay River.

The first construction work on the large-scale floodplain inundation projects is a major milestone for the Environmental Works and Measures Program. The start of the Chowilla and Mulcra construction works brought more certainty to these projects' time-frames and budgets, and to the overall program. A further positive note is that these on-ground works have instilled greater confidence and impetus to the environmental water delivery planning process.

During 2009–10 the Environmental Works and Measures Program began developing operating plans to deliver maximum ecological outcomes for each section of floodplain influenced by the works. Additionally, detailed models for all floodplain inundation projects have been incorporated into the MDBA's system-wide model, MSM-Bigmod (see Glossary). The operating plans and the system model changes will be vital in planning future watering events and conducting operations during those events.

## Improving river modelling

### Background

The Murray–Darling Basin Authority (MDBA) strategy to improve water management and delivery tools includes creating:

- a daily model of the River Murray system
- a real-time model of the upper Murray.

The work involves extensive collaboration with research organisations such as the eWater Cooperative Research Centre (CRC).

### Highlights

- A test case for the eWater CRC's River Manager software product is underway for the River Murray.
- A test case for the eWater CRC's River Operator software product is underway for the River Murray upstream of Yarrawonga.

### Definition: eWater Cooperative Research Centre

eWater CRC is a joint venture of 45 Australian water-cycle management, consulting and research organisations, which is supported by the Australian Government's Cooperative Research Centres Program.

eWater CRC builds water management tools for partners; it also markets those tools. The tools include decision software, guidelines, forecasting models and databases designed for use in operating river systems, managing catchments, developing monitoring programs and guiding investment in river and catchment restoration.

### River operations and planning tools for the River Murray system

eWater CRC is developing the next generation of tools to support river system planning, management and operation. Two products are being developed:

- River Manager: a model to support planning and policy decision-making
- River Operator: a model to support day-to-day river operation decisions.

## River Manager

During 2009–10, the design of the River Manager model continued to progress as a result of additional funding from the Department of the Environment, Water, Heritage and the Arts and the National Water Commission.

Advances were made in the model's functionality, and significant hydrological and software testing has been undertaken to determine the robustness of the model and the software platform. The River Manager model is to be trialled in four catchments across the Murray–Darling Basin in partnership with the relevant jurisdictions.

MDBA continues to contribute resources to support the design of River Manager model, including how it describes physical and management functions, and undertaking hydrological testing and trialling of the model on the River Murray. MDBA also contributes to the model's development through representation on the high-level steering committee, the user reference group and technical user groups.

## River Operator

River Operator is being designed to support the efficient management of water storage, flow and delivery in regulated river systems. The model will support operational decisions such as how much water should be released from storage on a given day. River Operator builds on the functionality provided by River Manager. MDBA operations staff have begun testing the River Operator software on the upper River Murray.

# Salt interception schemes

## Background

The salt interception schemes are a significant component of the Basin Salinity Management Strategy. These schemes intercept saline groundwater before it reaches the main river system.

These schemes are operated to maximise environmental benefits for the Murray–Darling Basin, and to achieve and maintain salinity levels agreed for the River Murray.

The 18 current salt interception schemes (including five state-owned schemes) represent a significant achievement in the first half of the 2001–15 Basin Salinity Management Strategy [see Figure 3.6 for more details about these schemes].



## Highlights

- Diverted approximately 490,000 tonnes of salt from the River Murray in 2009–10 by salt interception schemes.
- Finalised two business cases — rehabilitation of the Mildura–Merbein salt interception scheme and development of a new scheme in South Australia’s Riverland.
- Completed upper Darling salt interception scheme roads and pipelines.
- Commissioned the Waikerie 2L scheme.
- Progressed construction of the Murtho and Loxton schemes in South Australia.



*Evaporation ponds, Buronga groundwater salt interception scheme, NSW. Salt from the evaporation ponds is harvested by Mildura company SunSalt, and is exported all over the world.*



- |                      |                   |                     |
|----------------------|-------------------|---------------------|
| 1. Waikerie          | 7. Bookpurnong    | 13. Mildura Merbien |
| 2. Waikerie 2L       | 8. Murtho         | 14. Lake Hawthorn   |
| 3. Sunlands - Qualco | 9. Rufus River    | 15. Psyche Bend     |
| 4. Woolpunda         | 10. Upper Darling | 16. Mallee Cliffs   |
| 5. Noora             | 11. Curlwaa       | 17. Barr Creek      |
| 6. Loxton            | 12. Buronga       | 18. Pyramid Creek   |

## Investigations

The focus for 2009–10 was the finalisation of a business case to rehabilitate the Mildura–Merbein salt interception scheme in the Sunraysia region of Victoria as well as finalisation of a business case for the development of a new salt interception scheme adjacent to the Pike River in South Australia’s Riverland.

## Construction

Progress was achieved at the upper Darling salt interception scheme (near Bourke, New South Wales), with the completion of all pipelines and access roads in 2009–10. The disposal Basin design has been finalised and a contract let for construction during 2010–11.

At the Loxton salt interception scheme, the construction of an extension to the cliff-toe drain, adjacent to the Loxton town centre, was completed, with construction of the highland borefields in the areas known as Rillis Cliffs and Proud Avenue expected to be completed by September 2010.

The full borefield for the Pyramid Creek scheme has been operational for 12 months. Following a program of pumping optimisation and the installation of a number of additional valves to assist with scheme maintenance, it is anticipated that the full scheme will be formally commissioned later in 2010.

Considerable progress was achieved during 2009–10 with the construction of the Murtho salt interception scheme. Work was completed on the construction of some 38 km of collection and disposal pipelines, including 600 metres of directional boring under the River Murray at Renmark. At the end of 2009–10, all the proposed production bores and associated monitoring bores had been drilled. Testing of these bores has now begun.

The Waikerie 2L scheme was formally commissioned during 2009–10, and its salinity benefits included on the Murray–Darling Basin Authority's Salinity Register (see p. 42).

In 2009–10, detailed design work began on the first stage of the Pike River scheme.

## **Operations and maintenance**

During the past year, operation and maintenance of existing salt interception scheme assets continued to focus on minimising running costs, with the cost of energy for pumping a particular target. By careful monitoring, it has been possible to maintain target groundwater levels while scheduling pumping times to coincide with periods of lower power tariffs.

Table 3.2 on the following page shows the performance of the salt interception schemes over the past year.

**Table 3.2 Performance of salt interception schemes, 2009–10**

Salt interception scheme	Volume pumped (ML)	Salt load diverted (Tonnes)	Average salinity (EC units)	Target achieved (% of time)	Power consumption (Kilowatt hours) (Totals)
Pyramid Creek	1,427	42,739	43,115	100	258,775
Barr Creek	1,801	3,580	6,566	100	17,713
Mildura–Merbein	1,034	25,106	43,269	63	38,098
Mallee Cliffs	2,059	56,900	51,453	80	737,500
Buronga	2,602	66,000	44,410	97	488,744
Bookpurnong	1,428	43,836	38,550	100	581,272
Loxton	1,537	36,282	36,700	100	593,710
Woolpunda	5,491	115,860	34,000	96	4,709,233
Waikerie	3,784	83,626	35,300	93	1,616,692
Rufus River					
Line 1	236	1,605	11,758	100	20,484
Line 2	102	3,877	56,713	100	29,243
Line 3	46	2,249	70,695	100	33,127
Line 4	54	1,899	53,390	100	29,030
Minor pump station	0	0	145,911	100	0
Major pump station	326	5,542	28,138	100	1,645
<b>Total diversion for Rufus River</b>	<b>764</b>	<b>15,172</b>	<b>61,100</b>	<b>100</b>	<b>113,529</b>
<b>Total diversion</b>	<b>21,927</b>	<b>489,101</b>	<b>N/A*</b>	<b>N/A</b>	<b>9,155,266</b>

\* Not applicable

# MANAGEMENT AND ACCOUNTABILITY



## Overview

During 2009–10 the Murray–Darling Basin Authority (MDBA) consolidated the policies and procedures that were developed and implemented following its establishment and the transfer of functions from the former Murray–Darling Basin Commission in 2008.

This entailed addressing financial, human resources, information and communication technology, legal and governance measures to ensure compliance with Australian Government requirements. It also involved further development and improvement of policies, procedures and practices to improve internal service delivery and line area processes.

Priority was also given to managing and improving reporting frameworks to ensure that MDBA met its obligations relating to human resources; financial and performance reporting; risk and fraud management; Senate Order requirements for contracts and file creation; freedom of information requirements; and Legal Services Directions.

By managing effectively its media relations, online initiatives, publication production and information resources, MDBA has strengthened stakeholder and community access to information about the Murray–Darling Basin and the work of MDBA itself.

## Ensuring effective governance

### Highlights

- Effective operation of internal senior management committees.
- Significant improvement in the MDBA's overall risk management, as measured in the Comcover benchmarking study.
- Development and testing of business continuity and disaster recovery plans.

### Senior management committees

#### Executive Committee

The Executive Committee of the MDBA is chaired by the Chief Executive. Its membership comprises the executive directors of MDBA's five divisions: Basin Plan; Natural Resource Management; River Murray; Engagement, Secretariat and Communications; and Corporate Services (also see p. xii and xiii).

The Executive Committee is the main forum in which governance requirements are discussed. The committee meets weekly and considers the positioning, safeguarding and enabling necessary for MDBA to achieve its business outcomes.

During 2009–10, the committee considered the following key issues: corporate planning and budgets, financial performance, resourcing issues, workforce metrics, workforce planning, the employee Enterprise Agreement, staff awards, the risk management framework, amendments to the *Water Act 2007* (Cwlth), internal communications strategy, web and social media, internal and external audit reports, the annual report, research and knowledge strategy, *Ahead of the Game: Blueprint for Reform of Australian Government Administration*, and reports from business managers' meetings.

### **Business Managers Committee**

The Business Managers Committee is the MDBA governance body responsible for planning and coordinating cross-divisional issues to facilitate the implementation of MDBA business. Its membership comprises all general managers and directors who report directly to the executive directors. The committee meets fortnightly.

While the Executive is focused on working on the MDBA's strategic direction, risks and enabling, the Business Managers Committee is focused on implementing MDBA business, identifying appropriate management strategies for cross-divisional issues and ensuring that cross-divisional communication enables MDBA to function as an integrated team.

In 2009–10 the committee engaged specifically in the oversight of budget implementation and business performance; discussion of approaches to implementing operational aspects of MDBA business; business alignment; review, refinement and recommendation of internal policies and procedures; and internal communication matters.

### **Information Management Committee**

The Information Management Committee is chaired by the Executive Director Basin Plan Division. Other members are the Executive Director Engagement, Secretariat and Communications, the General Manager Assets and the Chief Information Officer. Committee meetings are held monthly.

The committee was established as a subcommittee of the Executive to provide advice and strategic direction in the management of the MDBA's information and communications technology needs. The committee also discusses and endorses all projects with ICT components or impacts. The committee's main focus during 2009–10 was the continuing advancement of the suite of projects in the Enterprise Information Strategy, further improvements in ICT security and governance arrangements for ICT.

### **Occupational Health and Safety Committee**

The Occupational Health and Safety Committee (OH&SC) is a subcommittee of the Executive and is chaired by the General Manager Assets; it comprises health and safety representatives from the MDBA's two designated work groups and the Workplace Consultative Committee; the Director People, Planning and Performance; the Chief Fire Warden; and the Occupational Health and Safety Coordinator.

The committee is established under the *Occupational Health and Safety Act 1991* (Cwlth) and meets quarterly. In 2009–10, the committee met four times to consider a range of health and safety issues, including:

- the revised Health and Safety Management Arrangements and a range of policies, procedures and guidelines
- workplace inspections (undertaken in October 2009)
- workplace incident and injury reports
- reports from first aid officers, fire wardens and harassment contact officers
- accommodation issues with occupational health and safety implications
- ensuring staff awareness of health and safety issues.

### **Audit Committee**

The Audit Committee reports to the Chief Executive. Until 6 December 2009, the committee was chaired by the Executive Director Basin Plan Division. Since 30 March 2010, it has been chaired by an independent chair (Mr Paul McGrath).

Until 6 December 2009, committee membership comprised an independent deputy chair (Mr Paul McGrath), the executive directors of the River Murray and Corporate Services divisions, and the General Manager River Environmental Management/Executive Director Natural Resource Management. Between 6 December 2009 and 30 March 2010, the deputy chair acted as chair of the committee. Since 30 March 2010, committee membership has comprised the Executive Director River Murray Division (as deputy chair), the executive directors of Corporate Services Division and Natural Resource Management Division, and the General Manager Water Planning, Basin Plan Division.

The committee met five times in 2009–10 — in July, September and December 2009 and in April and June 2010.

The committee's objective is to provide independent assurance and assistance to the Chief Executive on the integrity of the MDBA's financial data and processes; its risk, control and compliance framework; and its external accountability responsibilities. In particular, the committee ensures that MDBA:

- has a sound internal control framework, including effective identification and management of business risks, with supporting procedures in place
- has an appropriate fraud control plan and supporting procedures
- has reliable financial and management reporting systems
- ensures clearance of financial statements
- ensures compliance with applicable laws, regulations and government policies
- maintains an effective and efficient audit service.



In 2009–10, the committee considered the MDBA's 2008–09 financial statements, the Australian National Audit Office financial audit report, the 2008–09 Certificate of Compliance and the agency's risk management, fraud risk management, business continuity and disaster recovery plans. The committee also considered the internal audit work plan and monitored implementation of risk and fraud controls and business continuity arrangements.

During 2009–10, the internal audit focus moved from mostly compliance audits to a mix of performance and compliance audits. The committee continued to monitor implementation of the internal and external audit report recommendations during the year, including an audit of MDBA privacy arrangements.

### **Workplace Consultative Committee**

The Workplace Consultative Committee is established under clause 8 of the Enterprise Agreement (EA) to provide a forum for:

- staff consultation and input to decision-making about matters affecting their employment
- provision of advice to the Executive team on a range of workplace issues
- oversight of the implementation of the EA.

The committee is chaired by the Chief Executive and comprises two management representatives; an elected employee representative from each of the five MDBA divisions; and an elected employee representative from the Association of Professional Engineers, Scientists and Managers, the Media, Entertainment and Arts Alliance, and the Community and Public Sector Union.

During 2009–10 the committee met three times, focusing particularly on reviewing the human resources policies underpinning the EA and progress in implementing productivity measures under the 2009 EA.

### **Risk management**

Effective risk management is fundamental to good corporate governance and sound management practice; it is a key component of the MDBA's planning and review systems. The Audit Committee monitors key risks and the development of policies and procedures for risk management.

The 2009–10 risk management plan was prepared in late 2008–09, following a detailed organisational risk assessment. The Audit Committee considered the 2009–10 risk management plan and implementation of associated treatments in all its 2009–10 meetings. The risk management plan identified 22 enterprise risks, most of which were significant corporate risks associated with the establishment of a new organisation; operational risks related to the delivery of programs and asset management; and risks associated with developing the proposed Basin Plan.

In 2009–10, training in risk management, including fraud risk management, was provided to approximately 100 MDBA employees and managers. The induction process was also upgraded to include risk management. Further targeted risk management training is planned for 2010–11.

The MDBA's insurable risks were identified as part of Comcover's insurance renewal process, and will be reassessed annually. In 2009–10, Comcover assessed the MDBA's performance at a much improved level in its benchmarking study, which resulted in an 8% discount in the MDBA's Comcover premium.

Comcover assessed the MDBA's overall risk performance as 'structured' in its maturity level, with a score of 8 out of 10 in its benchmarking study. The MDBA's greatest strengths were in accountability and responsibility, integration and risk management policy and objectives.

MDBA is covered by Comcare for risks associated with injury to employees.

The 2010–11 risk management plan was prepared in June 2010. The plan focuses on risks that affect the achievement of key corporate objectives and risks that affect most, if not all, MDBA functions and processes. Each identified risk was assessed by consequence, likelihood and effectiveness of existing control measures. Additional risk mitigation activities were proposed where appropriate, and were aimed at reducing risks to acceptable levels.

The Audit Committee will monitor the operation of the 2010–11 risk management plan.

## **Fraud control**

MDBA has prepared fraud risk assessments and fraud control plans; it also has in place appropriate fraud prevention, detection, investigation, reporting and data collection procedures and processes that meet MDBA-specific needs and comply with the Commonwealth Fraud Control Guidelines.

The Audit Committee monitored the implementation of the MDBA's 2009–11 fraud risk assessment and fraud control plans and their associated treatments and actions at each of its meetings. In addition, the quarterly Certificate of Compliance process seeks assurance from all employees with financial delegations, about their compliance with the fraud control guidelines and any known instances of fraud or potential fraud-related occurrences.

A fraud awareness training program was undertaken, and the MDBA's fraud policy was included in the induction process. Further targeted fraud awareness training is planned for 2010–11. Training and information about the Australian Public Service Values and Code of Conduct and access to the APS Ethics Advisory Service were also provided.

No cases of potential fraud were investigated during 2009–10.

## **Business continuity and ICT disaster recovery plans**

In 2009–10, MDBA developed and implemented a business continuity policy and an ICT disaster recovery plan.

The MDBA Business Continuity Plan describes arrangements to ensure the continuity of MDBA key services after a significant, unexpected and disruptive incident (such as a fire). It also describes MDBA management structure; MDBA staff roles and responsibilities; activation criteria; procedures for continuing core business activities and managing recovery from emergencies, disasters and other disruptive events; and maintenance procedures.

The MDBA ICT Disaster Recovery Plan provides recovery procedures to address the potential loss of critical ICT resources (e.g. hardware, data and voice network equipment, and critical business data and systems).

The Audit Committee reviews and monitors both plans. The plans were tested during the first half of 2010, and some second stage tests will be undertaken early in 2010–11 before the plans are amended.

## **Internal audit**

Internal audit services during 2009–10 were provided by Ernst & Young.

The 2009–10 Internal Audit Plan was developed after consideration of the MDBA's strategic risks and following discussions with senior managers. Focus shifted during the year from concentration on the corporate risks associated with the establishment of a new agency towards inclusion of performance audits in the Internal Audit Plan. Internal audits finalised during the year covered:

- financial processes
- Certificate of Compliance processes (relating to compliance with the Australian Government financial management framework)
- compliance with Commonwealth Procurement Guidelines
- compliance with Legal Services Directions
- MDBA's financial reporting and budget management framework
- employee benefits
- attack and penetration testing of MDBA ICT and website
- review of cash equivalents
- review of travel and credit card usage.

Three audits began during the year but will not be finalised until early 2010–11. The audits covered the Basin Salinity Management Strategy program, the efficiency and effectiveness of internal mechanisms and structures supporting the implementation of the MDBA Basin Plan stakeholder engagement strategy and the review of the financial processes of Indigenous Basin Plan and Indigenous Living Murray programs.

The compliance audits found a strong and positive attitude to internal control, and identified matters requiring a continued focus or additional treatments to ensure improved compliance.

A number of recommendations were made about the completed audits, but no serious control breaches were identified.

The Audit Committee monitors the implementation of report recommendations through implementation status reports at its quarterly meetings.

## **Certificate of Compliance**

The MDBA's online Certificate of Compliance system underpins the certification the Chief Executive must provide by 15 October each year to the Minister for Climate Change, Energy Efficiency and Water and the Minister for Finance and Deregulation, of MDBA compliance with the Australian Government's financial management framework.

The online Certificate of Compliance system was upgraded in 2009–10 to improve efficiency and ease of use by staff.

The certificate is completed by all staff who hold financial delegations and all senior executives to ascertain compliance during the financial year with the:

- *Financial Management and Accountability Act 1997*
- Financial Management and Accountability Regulations 1997
- Financial Management and Accountability (Finance Minister to Chief Executives) Delegation 2007 (No. 2) as amended from time to time
- Australian Government's foreign exchange risk management requirements
- legal and financial requirements for the management of special accounts
- financial management policies of the Commonwealth.

The system also allows for the identification of compliance with internal procedures and policies.

During the 2009–10 financial period, MDBA identified 143 breaches in the annual Certificate of Compliance process. The Chief Executive will provide a completed 2009–10 Certificate of Compliance for the agency to the relevant ministers by 15 October 2010.

## External scrutiny

### Auditor-General reports

The Auditor-General did not table any specific reports that examined program delivery by MDBA during the year.

MDBA reviews all cross-agency reports issued by the Auditor-General; where the reports are assessed as relevant to MDBA operations, practices and procedures are reviewed in line with recommendations contained in the reports. A key responsibility of the Audit Committee is to oversee implementation of the recommendations contained in these reports (see p. 90). MDBA provided input to the Auditor-General's audits on fraud control and confidentiality provisions in Australian Government contracts.

### Commonwealth Ombudsman

The Commonwealth Ombudsman made no formal reports relating to MDBA during 2009–10.

### Parliamentary committees

During 2009–10, MDBA gave evidence at two inquiries conducted by parliamentary committees — the Senate Standing Committee on Environment, Communications and the Arts, and the Senate Environment, Communications and the Arts References Committee.

The Senate Standing Committee on Environment, Communications and the Arts inquired into the impacts of mining in the Murray–Darling Basin. The committee released its inquiry report on 4 December 2009, finding that the main areas of public concern are the impacts of coalmining and coal-seam methane extraction in the Namoi Valley and Darling Downs catchments. It made recommendations relating to:

- support by all governments for the National Catchment Water Study
- establishment of regional water plans in areas potentially subject to mining or extractive industry operations
- investigation of the scope of s. 255A of the Water Act to groundwater
- restrictions on licensing of mining
- ensuring better coordination of analysis of regional water plans.

The committee also recommended that the Australian Government should ensure prevention of new mines or extractive industries in the Murray–Darling Basin if their impacts on Basin water resources are inconsistent with the proposed Basin Plan.

MDBA also gave evidence at the Senate Environment, Communications and the Arts References Committee inquiry into water licences and rights. The committee report on this inquiry is expected to be completed early in 2010–11.

## Judicial decisions and decisions of administrative tribunals

No judicial decisions or decisions of administrative tribunals relating to MDBA were made during 2009–10.

## Privacy

MDBA policy on privacy is set out on the agency intranet and included in a Chief Executive Instruction. MDBA treats personal information in accordance with the *Privacy Act 1988* (Cwlth), including the Information Privacy Principles.

During 2009–10, MDBA commissioned Minter Ellison to conduct a privacy audit to examine MDBA policies and practices to identify privacy compliance gaps and risks relating to the handling of personal information. Audit recommendations were largely implemented during the year and were monitored by the Audit Committee.

## Legal services

During 2009–10, legal services were provided to MDBA primarily through an in-house legal team, which was established in July 2009.

As part of the preparation of the proposed Basin Plan, MDBA also used the legal services of the Australian Government Solicitor. The legal panel established by the Department of the Environment, Water, Heritage and the Arts also provided assistance with legal support to MDBA. The internal demand for legal services has increased in light of the preparation of the Basin Plan and relatively new governance arrangements. The use of the panel assisted in efficiently servicing that demand.

MDBA implemented a number of important initiatives relating to legal services during the year, including:

- contributing to development of possible amendments to the Water Act, the Murray–Darling Basin Agreement and aspects of the Water Regulations 2008 relating to MDBA
- providing advice to the Department of the Environment, Water, Heritage and the Arts, MDBA staff members and partner jurisdictions on amendments to protocols and schedules to the Murray–Darling Basin Agreement
- coordinating provision of legal advice from the legal panel established by the Department of the Environment, Water, Heritage and the Arts
- providing continuing high-level legal advice throughout the year for the development of the draft Basin Plan
- introducing new business management systems for obtaining legal services from both internal and external legal service providers to ensure compliance with the Legal Services Directions 2005

- providing advice to all MDBA divisions about program delivery and legislative obligations, including guidance to program areas on the transition of key documents and programs from the former Murray–Darling Basin Commission to MDBA.

## Freedom of information

Two freedom of information (FOI) requests were received during 2009–10. One request sought publicly available information and the second sought information held by MDBA that includes material requiring third-party consultation. The second request was not finalised at the end of the year, but will be finalised in 2010–11.

The *Freedom of Information Act 1982* (Cwlth) gives individuals the right to view documents held by Australian Government ministers and agencies, with some exceptions. Section 8 of this Act requires MDBA to report on:

- MDBA organisation and functions (for more information, see p. xi)
- the types of documents MDBA holds (see 'Documents we hold')
- arrangements for outside participation (see below)
- MDBA FOI procedures, facilities and contact details (see 'How to lodge a freedom of information request').

## Documents we hold

MDBA holds the following types of documents:

- representations to the Minister for Climate Change, Energy Efficiency and Water on various aspects of government activity
- working files, including correspondence, analysis and advice
- internal administrative records, such as personnel files, staffing and financial records, and office procedures
- submissions and comments from the public and stakeholders
- papers relating to new and amended legislation, drafting instructions and draft legislation
- briefing papers and submissions prepared for the Minister for Climate Change, Energy Efficiency and Water
- documents relating to meetings and committees (such as agendas, minutes and reports)
- copies of questions asked in parliament, together with related replies
- tender documents
- government (including agency) policy statements, communiqués, guidelines and media releases
- contracts

- educational materials
- reports on research, water audits and MDBA activities
- spatial data and water modelling information.

### Arrangements for outside participation

MDBA consults with members of the public and bodies outside the Australian Government's administration when developing its policy and programs and administering legislation. As well as general public consultation, MDBA receives advice from various committees and other bodies.

Generally, people can participate by making oral or written representations to MDBA. Several formal arrangements under the Water Act provide for input from Basin states, other bodies and members of the public.

### How to lodge a freedom of information request

If you want to view one or more documents, you must send MDBA a request in writing — by mail, fax or email. You need to provide an address in Australia where MDBA can send notices under the Freedom of Information Act, and you also need to include:

- the \$30 application fee (a cheque or money order made out to the Murray–Darling Basin Authority)
- as much detail as possible about the document(s) you want to access
- a phone number in case MDBA needs to clarify your request.

If your request is approved, you will be provided either with a copy of the document(s) or the opportunity to inspect them at the MDBA's Canberra office.

**Canberra address** 51 Allara Street  
Canberra  
Australian Capital Territory

Please note that copying charges may apply.

#### *More information*

For more information, contact the MDBA Freedom of Information Coordinator in one of the following ways:

**Mail** FOI Coordinator  
Murray–Darling Basin Authority  
GPO Box 1801  
Canberra ACT 2601

**Email** [foi@mdba.gov.au](mailto:foi@mdba.gov.au)

**Phone** (02) 6279 0452

**Fax** (02) 6248 8053



## Directions under section 175 of the Water Act

No directions were given by the Minister for Climate Change, Energy Efficiency and Water under s. 175 of the Water Act.

## Advice to government

MDBA advises and supports the Minister for Climate Change, Energy Efficiency and Water through briefings and correspondence, and uses the ministerial workflow system of the Department of the Environment, Water, Heritage and the Arts to ensure the timely provision of advice to the minister. The volume of advice provided to the minister during the past year compared to the previous year is set out in Table 4.1.

*Table 4.1 Volume of ministerial advice, 2009–10*

Type of advice	2008–09	2009–10
Ministerial correspondence	12	21
Briefs	34	87
Question time briefs	3	6
Senate Estimates questions on notice	15	27

## Our people

### Highlights

- Negotiation and implementation of the Murray–Darling Basin Authority’s first Enterprise Agreement.
- Implementation of a broad-ranging learning and development program linked to employee performance management and development plans.
- Review and development of MDBA human resources policies and procedures.
- Development of the MDBA’s first strategic workforce plan.
- Implementation of the MDBA’s inaugural graduate program.
- Significant improvement in processing times for recruitment and significant increase in numbers of applicants for MDBA jobs.

## Learning and development

MDBA successfully demonstrated commitment to the learning of its employees with employees spending an average of 4.8 days in training during the year. Most training activity (71%) was conducted in-house using consultant providers to customise and deliver training to MDBA requirements; 59% of employees attended external short courses. The Australian Public Service Commission was the primary provider of external training (16%).

As a relatively new Australian Public Service agency, MDBA is focusing its learning and development plan on augmenting APS culture in the key areas of compliance and governance (44% of all training activities) covering freedom of information, MDBA induction and Senior Executive Service (SES) orientation, risk (including fraud risk) management, occupational health and safety (OH&S), privacy and security. This focus was further enhanced by other training (27% of all training) in APS core skills of writing, financial management, purchasing and procurement, and project management. Work also began on revamping the MDBA's induction process in 2009–10.

Learning and development included activities designed to build technical skills. MDBA collaborated with the National Water Commission and the Centre for Groundwater Management in designing and developing the 'Groundwater for decision-makers' course. Attendance by employees from all organisations created an opportunity for staff to network and share knowledge and experience. Furthermore, 4% of MDBA staff began or continued postgraduate qualifications in hydrology, environmental science and environmental law through the MDBA study assistance program.

In the areas of leadership and succession planning, MDBA expanded its coaching program beyond the executive levels, resulting in a staff participation rate of 12% across the agency. MDBA also began to develop a new leadership program that will be implemented in 2010–11.

During the year, MDBA developed a selection advisory committee training program that focuses on a more strategic approach to recruitment. From the beginning of 2010–11, all selection committees will be required to have at least one member who has received this training.

MDBA also implemented a health and wellbeing program during 2009–10. Over a third of staff participated in fitness assessments, psychological resilience workshops and lunchtime relaxation classes.

## Performance management

MDBA performance management development scheme (PMDS) provides a mechanism for:

- setting individual objectives and evaluating individual performance
- addressing employee development needs and learning opportunities
- identifying and managing underperformance.

Managers and employees use the PMDS as a mechanism for two-way feedback to:

- promote continual informal communication and feedback
- link career and salary advancement to individual performance
- take responsibility for setting individual and/or team goals that support MDBA strategic objectives
- gain the skills needed to achieve these goals.

All ongoing MDBA staff and non-ongoing staff employed for more than three months are required to participate in the PMDS.

In 2009–10, MDBA completed revision of its PMDS and underperformance management policies in accordance with the new Enterprise Agreement. As a productivity measure arising from the new EA, MDBA began developing an electronic performance management system (ePMDS) for implementation in 2010–11.

## Workforce planning

MDBA recognises that people are critical to the MDBA's success in achieving its outcomes and responsibilities under the Water Act. As a newly established and developing public service agency, MDBA has a unique opportunity to position itself to meet the challenges of managing the Murray–Darling Basin's water resources.

To take full advantage of this opportunity, in 2009–10 MDBA began developing a workforce strategic plan, which will be finalised and implemented in 2010–11. The plan identifies six priority areas that MDBA will address over the next five years to strengthen its existing organisational capability and capacity, and to build a high-performance organisation that will successfully carry out its role and responsibilities under the Water Act.

The six priority areas are:

- building a dynamic and flexible workforce with a 'one organisation' culture
- strengthening leadership
- widening and deepening the MDBA's skill base
- securing the MDBA's workforce
- improving how MDBA manages change
- addressing the MDBA's demographic and classification imbalance.

MDBA made submissions to the development of the *Ahead of the Game: Blueprint for the Reform of Australian Government Administration*. The Chief Executive is a member of the APS 200, a senior leadership forum that supports the Secretaries Board, the pre-eminent leadership forum for discussing issues that affect the APS.

## Australia Day Achievement Awards

The Australia Day Achievement Awards are designed to honour and recognise outstanding achievements in the MDBA over the preceding year and are part of the National Australia Day Council's national awards.

A total of 17 nominations were received for the 2010 awards, comprising 14 individual and three team nominations. Recipients were Daniela Croce (Basin Plan Division), Petra Downs (Corporate Services Division), Ruth Ridgway (Engagement, Secretariat and Communications Division), Anthony Scott and Robert Wilson (River Murray Division). The team award recipient was The Living Murray Water Recovery Team (Natural Resources Division) comprising Michael Makin, David Meyers, Famiza Yunus and Adam Cotterill.



*Australia Day awards presentation, 27 January 2010 (L to R: Adam Cotterill, Mike Makin, Rob Freeman (Chief Executive), Anthony Scott (kneeling), Daniela Croce, Petra Downs, David Meyers, Ruth Ridgway and Robert Wilson; absent: Famiza Yunus)*

## Determination of SES employee remuneration

MDBA had 12 ongoing SES employees at 30 June 2010. The rates of pay for employees are set by the Chief Executive, in consultation with the employee and in accordance with the MDBA's SES remuneration policy.

The remuneration packages for SES employees who transitioned from the former Murray-Darling Basin Commission (MDBC) are covered by individual employment contracts novated to MDBA. The remuneration package for all new SES employees is provided through a 24(1) Determination.

The salary package offered to an SES employee may include a vehicle allowance and a car-parking space.

## **Enterprise Agreement**

Priority was given to negotiating the Murray–Darling Basin Authority Enterprise Agreement 2009–11 under the new *Fair Work Act 2009* (Cwlth) and the associated Australian Government Bargaining Framework. The EA came into effect on 21 October 2009 and has a nominal expiry date of 30 June 2011.

The EA was achieved through a mutually beneficial negotiation process that included an elected staff representative team and representatives from employee organisations such as the Association of Professional Engineers, Scientists and Managers, the Community and Public Sector Union and the Media, Entertainment and Arts Alliance.

The EA enhanced elements of the former MDBC collective agreement and is now aligned with accepted APS standards to improve overall terms and conditions for MDBA employees. It delivered a competitive salary increase of 3.25% on commencement and a further 3.25% on 21 October 2010.

The EA obtained significant support with 152 eligible employees voting (64% of all eligible employees), of whom 96.05% voted in support of approving the agreement.

## **Performance pay**

Performance bonuses to SES employees were discontinued in 2009–10 and have been rolled into the SES basic salary package.

Non-SES staff are not eligible for performance pay. However, non-SES staff at the top of the salary range may be eligible for a one-off bonus arising from a superior performance rating.

## **Individual non-SES terms and conditions**

Where appropriate, special terms and conditions of employment are currently provided to non-SES employees through the use of:

- individual employment contracts (for nine non-SES employees who transitioned from the former MDBC)
- individual flexibility agreements (for six non-SES employees).

## **Staffing profile**

The tables on pp. 104–106 and 112 summarise statistics on MDBA staffing in 2009–10.

**Table 4.2** *MDBA staff by employment agreement as at 30 June 2010*

Category	Number of staff
Enterprise Agreement	286
Non-SES individual flexibility agreements	6
Non-SES individual employment contracts	9
<b>SES</b>	
Individual s. 24(1) determinations	8
Individual employment contracts	4
Chief Executive	1
<b>Total</b>	<b>314</b>

Note: The Chair and the other four part-time members of the Authority are not included.

**Table 4.3** *Salary range for MDBA employees as at 30 June 2010*

Classification	Salary range
Australian Public Service 1 (APS 1)	\$38,388 – \$41,799
APS 2	\$44,204 – \$48,106
APS 3	\$50,840 – \$55,233
APS 4	\$56,779 – \$61,684
APS 5	\$63,752 – \$70,164
APS 6	\$72,439 – \$79,727
Executive Level 1 (EL 1)	\$86,752 – \$95,437
EL 2	\$100,914 – \$118,931
Senior Executive Service 1 (SES 1)	\$125,498 – \$183,884
SES 2	\$198,310 – \$235,228

Note: Salary rates as at 30 June 2010. The salary ranges incorporate salaries under the EA.

**Table 4.4** Salary range for MDBA employees (non-SES employees on individual flexibility arrangements and non-SES individual employment contracts) as at 30 June 2010

Classification	Salary range
<b>Individual flexibility arrangements</b>	
EL 1	\$98,632 – \$107,159
EL 2	\$123,900 – \$134,225
<b>Non-SES individual employment contracts</b>	
EL 2	\$103,531 – \$155,193

**Table 4.5** MDBA staff by job classification and gender as at 30 June 2010

Classification	Gender	Subtotal	Total
APS 1	Female	1	2
	Male	1	
APS 2	Female	2	3
	Male	1	
APS 3	Female	5	8
	Male	3	
APS 4	Female	18	22
	Male	4	
APS 5	Female	31	46
	Male	15	
APS 6	Female	43	72
	Male	29	
EL 1	Female	43	93
	Male	50	
EL 2	Female	12	55
	Male	43	
SES	Female	3	12
	Male	9	
Chief Executive	Male	1	1
<b>Total</b>		<b>314</b>	<b>314</b>

Note: The Chair and the other four part-time members of the Authority are not included.

**Table 4.6** Age profile of MDBA staff as at 30 June 2010

Age	Ongoing	Non-ongoing	Total
Under 25 years	8	7	15
25–34 years	68	17	85
35–44 years	77	15	92
45–54 years	62	14	76
55–64 years	36	6	42
65 +	2	2	4
<b>Total</b>	<b>253</b>	<b>61</b>	<b>314</b>

**Table 4.7** MDBA staff by equal employment opportunity group as at 30 June 2010

By group	Ongoing	Non-ongoing	Total	Percentage
Female	114	1	115	48.91
Non-English speaking background	33	4	37	15.42
Indigenous Australians	0	0	0	0
People with a disability	2	0	2	0.83
Proportion of staff volunteering personal data				97.92

## Recruitment

Recruitment activity continued to be a major MDBA focus during 2009–10.

Rapid growth over the past 12 months saw a significant increase in staff numbers, from 235 at 30 June 2009 to 314 at 30 June 2010. Recruitment activities for 2009–10 were slightly lower (79) than in 2008–09 (98). Of the 79 recruitment processes, 64 were external and attracted a total of 1,427 applications, an increase, when compared to the previous reporting period, of over 500 applications.

Attracting suitably qualified and experienced employees in an ongoing tight employment market, particularly in areas of policy development and water planning, has proved challenging. To improve MDBA performance in recruitment and attraction of staff, a strategic approach to recruitment has been implemented. A comprehensive training program for selection advisory committee members was developed in 2009–10, for commencement early in 2010–11.



Online short-listing and application assessment were introduced to improve efficiency and enable a shorter turnaround from closing date to offers of employment. During 2008–09, the average turnaround for MDBA recruitment processes (from date of advertising to offer accepted) was 90.25 days. Improved processes and the adoption of a strategic approach saw this figure reduce to 61.75 days in 2009–10. However, MDBA is still working on improving this, to attain a target of 45 days' turnaround time.

### Graduate program

The inaugural Murray–Darling Basin Authority graduate program began in 2009–10, and resulted in six graduates from a range of academic backgrounds joining MDBA.

During their graduate year, graduates complete placements in three different MDBA areas and undertake a comprehensive development program — the Small Agencies Graduate Development Program — through the Australian Public Service Commission (APSC). This training is designed to equip graduates with the skills and knowledge they will need to make a meaningful contribution to MDBA and the APS.

Graduates are supported in their professional development through a mentoring program and additional training sourced from various professional bodies and training providers. In 2011, MDBA will expand the graduate program by recruiting up to eight participants, in recognition of the program's importance in increasing diversity and depth of talent in the workforce. Strong retention rates and feedback demonstrating high levels of satisfaction with the program support this expansion.



*The inaugural MDBA 2010 graduate cohort (L to R: Adam Sluggett, Abbi Mieog, Alice McRorie, Emma Coats and Matthew Higgins; absent: Tanja Funnell)*

## **Cadetship and trainee programs**

MDBA initiated its first comprehensive workforce planning process in 2009–10, with development of the MDBA Workforce Strategic Plan 2010–14. The plan identified six priority areas, one of which is addressing the MDBA's demographic and classification imbalance (for more information, see 'Workforce planning', p. 101).

Workforce planning strategies to address this specific priority include implementing pilot cadetship and trainee programs. Initial recruitment to these programs will be through the APSC's centralised Indigenous Australian programs, with MDBA supplementing the cadetship program through Australian Capital Territory universities. It is hoped to achieve recruitment levels of four cadets (two of whom are Indigenous Australian) and two Indigenous Australian trainees in 2010–11.

## **Employee survey**

The MDBA's 2010 employee survey was developed during 2009–10, for administration in August 2010. The survey will seek employee perceptions on a wide range of workplace issues, including working environment, internal communication, the APS Values and Code of Conduct, professional development, performance management, workplace consultation, business processes and change management.

The survey will provide information for workforce planning, learning and development needs and MDBA culture, and will identify change management and other emerging issues.

## **Occupational health and safety**

### **Executive commitment, OH&S structure and oversight**

MDBA Executive is committed to providing and maintaining a safe and healthy workplace for all its employees, contractors and visitors, in accordance with the *Occupational Health and Safety Act 1991* (Cwlth).

The MDBA's Health and Safety Management Arrangements (HSMA) and its occupational health and safety (OH&S) policies detail how this will be achieved. Where incidents do occur, MDBA is committed to supporting ill and injured employees and assisting them to return to work in a safe and supportive environment in accordance with the agency's rehabilitation policy and guidelines.

All parties to the Murray–Darling Basin Authority Enterprise Agreement 2009–11 are committed to the safe operation of all equipment, safe working practices and a healthy work environment for all employees under applicable OH&S obligations.

Under the EA:

- MDBA will continue to support a safe and healthy working environment for all employees
- MDBA and its employees will fulfil their responsibilities under the Occupational Health and Safety Act, as varied from time to time

- OH&S will be facilitated by appropriate measures, including HSMA and the Occupational Health and Safety Committee (OH&SC).

Dispute settlement procedures will be consistent with the EA, subject to s. 24 of the Occupational Health and Safety Act.

At the administrative level, responsibility for OH&S coordination, administration and policy and procedures lies with the People, Planning and Performance Section within the Corporate Services Division of MDBA. The OH&SC provides a forum for employees to provide input to and be consulted on MDBA management of OH&S issues.

OH&S risk management is undertaken in accordance with the OH&S Code of Practice 2008. MDBA risk management guidelines contain a specific section on OH&S hazard and risk management, and specific provisions are made in the HSMA.

Late in 2009–10, MDBA began auditing its OH&S arrangements to determine compliance with legislation, regulation, the OH&S Code of Practice and relevant standards, and to determine possible improvements to these.

### **Health and safety management arrangements**

Topics covered in the MDBA HSMA include:

- mechanisms for informing employees about the arrangements
- mechanisms for reviewing effectiveness of the arrangements
- mechanisms for variation of the arrangements
- a mechanism for dispute resolution
- the manner in which the OH&SC is to be constituted and how it operates.

As with the HSMA for the previous year, the 2010–11 HSMA were developed by an extensive process that involved the OH&SC, the Workplace Consultative Committee and all-staff consultation; it was approved by the Chief Executive in June 2010.

During 2009–10, an investigation by Comcare as part of its national campaign looking into HSMA found that MDBA had demonstrated a commitment to consultation when developing its HSMA and that adequate processes were in place to review and vary the agreement and resolve disputes relating to OH&S matters.

In 2009–10, MDBA focused on reviewing the HSMA and OH&S-related policies, procedures and guidelines. This included:

- amending and developing a range of OH&S policies, procedures and guidelines, including those relating to first aid, screen-based work, home-based work, off-site work, travel, safe driving, unacceptable behaviour (including harassment and bullying), OH&S hazard identification and risk management. A number of policies, procedures and guidelines will be finalised in 2010–11; these cover dealing with difficult situations and risks to personal safety,

safe work practices guidelines, employee induction, the employee assistance program and revised emergency procedures

- amending OH&SC guidelines
- reporting on the HSMA
- ensuring all staff are included in appropriate designated work groups and are represented by an elected health and safety representative and deputy HSR.

### **Effective communication and consultation**

Executive directors and general managers are responsible for consulting and cooperating with employees to achieve the common aim of promoting and developing measures to ensure MDBA employees' health, safety and wellbeing.

To ensure that each individual is fully informed about current OH&S activities and that a framework is established to encompass the views of all parties, MDBA:

- promotes the HSMA throughout the organisation via email, the intranet, posters, signage and other means as required
- conducts information sessions for managers, supervisors, unions and employees
- has established dispute resolution procedures under the EA
- has established appropriate forums, in particular the OH&SC, to consider OH&S issues.

The OH&SC is consulted before implementation of, or changes to, new policies, guidelines or procedures relating to OH&S issues. The OH&SC may also consider workplace relations issues relating to OH&S, protective security, and accommodation and amenities.

### **Initiatives ensuring the health, safety and welfare at work of employees and contractors**

To actively promote the health, safety and welfare at work of employees and contractors, during 2009–10, MDBA:

- undertook comprehensive workplace inspections of all its designated work group workplaces in conjunction with the responsible managers
- offered influenza vaccinations to all employees
- developed posters on reducing the spread of coughs and colds in the workplace
- developed safety posters for the workplace
- offered health checks to all employees
- provided an information session on managing energy, stress and personal health
- provided guided relaxation classes to all employees
- developed and reviewed internal policies and procedures, to ensure currency and to address any new or emerging hazards

- offered workstation assessments to all employees
- provided a comprehensive OH&S induction to all new MDBA employees
- promoted the use of the employee assistance program
- placed a high priority on early intervention, encouraging staff to report any symptoms early to prevent the development of chronic injury or illness
- reviewed and regularly updated OH&S information on the intranet where it can be accessed by all staff
- continued its commitment to recognising, respecting and valuing the importance of individual differences in the workplace, and fostering an inclusive work environment free from discrimination and harassment by establishing a network of specialist volunteer harassment contact officers
- supported paid training for harassment contact officers, first aid officers, health and safety representatives, fire wardens and staff involved in OH&S and rehabilitation management.

### **Health and safety outcomes achieved as a result of initiatives**

As MDBA employee numbers grew significantly during the year, OH&S services were increasingly in demand.

During 2009–10, almost all issues identified in the workplace inspections were rectified. Similarly, as a result of the uptake of workstation assessments by a large number of employees, it was necessary to provide special equipment that assisted in reducing the incidence of illness, injury and costs and increased productivity. All employees involved in OH&S-related activity received appropriate training, and general OH&S training was provided and taken up by approximately 20% of MDBA employees.

Lost time as a result of incident and injury not reported to Comcare was four staff days. Lost time as a result of incident and injury reported to Comcare was 2.5 staff days; however, no incident reported to Comcare resulted in serious injury lost time of a week or more. Two incidents reported to Comcare during the year equated to a rate of 6.59 incidents per 1,000 employees. Lost time because of rehabilitation cases was 63 staff days, or 29.66 weeks, per 1,000 full-time equivalent employees.

Comcare did not conduct any investigations or issue any notices to MDBA under the Occupational Health and Safety Act during 2009–10. Throughout the year, 30 internal reports were made relating to workplace hazards and incidents.

### **Comcare premiums**

During the year MDBA had a total of 3.3 claims with Comcare, with a total cost of \$24,000. The average cost of claim was \$7,597 and claim frequency was \$0.18 per \$1 million payroll. In 2009–10, the Comcare premium cost was \$288,033, declining to 1.04% compared with the rate of 1.36% in 2008–09.

**Accident and dangerous occurrence statistics**

Section 68 of the Occupational Health and Safety Act requires certain incidents to be notified to Comcare within specific time-frames. The following table details MDBA incidents notified in 2009–10.

*Table 4.8 MDBA incidents notified to Comcare, 2009–10*

Notice type	2009–10
Death	0
Serious personal injury	2
Dangerous occurrence	0
Incapacity >30 working days/shifts	0

**Commonwealth Disability Strategy**

MDBA is committed to embracing the principles of equity and diversity in its daily business. MDBA aims to provide an inclusive work environment by recognising and valuing individual differences, providing a fair, harmonious and safe workplace and offering opportunities for all employees to achieve their full potential.

During 2009–10, MDBA began developing a comprehensive workplace diversity program that encompasses a disability strategy and disability action plan.

MDBA achievements for 2009–10 are outlined in Table 4.9.

**Table 4.9** *MDBA performance in implementing the Commonwealth Disability Strategy, 2009–10*

Performance indicator	Results
<b>Policy adviser role</b>	
All new or revised human resource policies and strategies consider the needs of people with disability	<p>The new MDBA Enterprise Agreement (EA) creates a requirement to consult, consider and develop policy identifying and accommodating the needs of people with disability.</p> <p>Employees with disability were consulted during negotiations for the EA and during policy development.</p> <p>Internal policies, where relevant, include contingencies meeting the needs of people with disability.</p> <p>All policies are checked for the inclusion of provisions for people with disability as required prior to sign-off by the Chief Executive.</p> <p>MDBA development of a disability action plan ensures that MDBA continues to improve access and services for people with disability and to meet the performance reporting requirements of the Commonwealth Disability Strategy.</p>
Development of the Basin Plan and associated strategies considered the needs of people with disability during development	Information available on the MDBA website is developed in World Wide Web Consortium (W3C) and/or accessible rich internet applications (ARIA) format.
Community engagement related to the completed first draft of the Basin Plan considered the needs of people with disability	<p>As part of gathering information for drafting the Basin Plan, a range of peak bodies representing specific community sectors were invited to participate in consultations.</p> <p>As part of the consultative strategy, various media and assistive technologies are being used to allow people with disability from throughout the Murray–Darling Basin to comment on the draft Basin Plan.</p> <p>The needs of people with disability are being considered in the organisation and choice of venues for the open forums conducted as part of the Basin Plan community engagement.</p>

Performance indicator	Results
<b>Regulator role</b>	
Links to the legislation are available in accessible formats	MDBA website provides links to the <i>Water Act 2007</i> (Cwlth) in W3C and/or ARIA formats via <www.comlaw.gov.au>.
Publicly available information on quasi-regulations and public policy is accessible to people with disability	Factsheets and additional information are available on request from the MDBA Engagement, Secretariat and Communications Branch.
Dedicated systems to support participation of people with disability in development and revision of quasi-regulations and public policy	<p>A hotline and dedicated email address to provide information and a first point of contact for processing requests increases opportunities for people with disability to comment on the draft Basin Plan.</p> <p>MDBA staff have had specific training to answer and/or respond to questions from diverse stakeholders.</p> <p>Guidelines are being developed to provide guidance for staff conducting consultative forums and meetings to assist them to deal with diverse audiences and challenging situations.</p>
Development of a quality system to monitor compliance with quasi-regulations considers the needs of people with disability	<p>Monitoring compliance with the regulations to be established by the proposed Basin Plan will include information about impacts on stakeholders with disability.</p> <p>Compliance monitoring systems include mechanisms for complaints and grievances from people with disability.</p>
<b>Purchaser role</b>	
Purchasing specifications and contract requirements for the purchase of goods and services are consistent with the requirements of the <i>Disability Discrimination Act 1992</i> (Cwlth) and facilitate the employment of people with disability	<p>Where applicable, MDBA requires request for tender (RFT) respondents to provide evidence of compliance with the Disability Discrimination Act.</p> <p>Where appropriate, MDBA encourages RFT suppliers who are employers of people with disability to tender for works.</p> <p>Procurements valued at \$80,000 or more are advertised and are available for download in W3C and/or ARIA formats on AusTender at &lt;www.tenders.gov.au&gt;.</p>
Risk assessments for venue hire and accommodation consider OH&S issues and risks for people with disability	Risk assessments carried out when hiring venues or renting work space consider adjustments to access for wheelchairs and people with visual impairment.



Performance indicator	Results
Complaints and grievance mechanisms, including access to external mechanisms, are available to address issues and concerns about purchasers' performance	MDBA has a complaints and grievance mechanism in place in accordance with the Commonwealth Procurement Guidelines.
Purchases of workplace technology consider the needs of employees, consultants and contractors with disability	<p>An assistive technology working group has been established to research and keep abreast of assistive technology and flexible equipment that meet a range of needs.</p> <p>Reasonable adjustment is clearly defined for all purchasing policies.</p>
Service provider role	
Maintenance and access to MDBA assets consider the needs of people with disability	<p>Risk assessments carried out as part of maintaining and repairing environmental assets consider the OH&amp;S risk to employees, stakeholders and members of the public.</p> <p>MDBA requires jurisdictional partners to comply with the Disability Discrimination Act.</p> <p>MDBA requires jurisdictional partners and suppliers to have quality assurance that complies with the Commonwealth Procurement Guidelines.</p>
Development of a service charter that identifies the needs of people with disability as a consumer group	Development of the service charter ensures MDBA clearly defines reasonable adjustment in the service of people with disability and commits MDBA to respect and sensitivity in the service of clients.

## Our planning and finances

### Highlights

- Development and implementation of a number of electronic systems, including a web-based Certificate of Compliance data collection and reporting system; electronic credit card reconciliation module integrated with the financial management information system (FMIS); a web-based travel approval system; online travel booking system; and an online leave application and approval system integrated with the existing human resource (HR) system.
- Approval of the Murray–Darling Basin Authority (MDBA) Corporate Plan for 2010–11 to 2013–14 by the Murray–Darling Basin Authority (the Authority) and Murray–Darling Basin Ministerial Council.
- Enhanced project reporting through implementation of an electronic project registration and reporting system.

### Business planning

The MDBA's second corporate plan, for 2010–11 to 2013–14, was developed and approved by the Authority (for the Basin Plan component) and the Murray–Darling Basin Ministerial Council (for components of the corporate plan relating to the Murray–Darling Basin Agreement) before being given to the Minister for Climate Change, Energy Efficiency and Water in June 2010.

MDBA plans to develop its first strategic plan in 2010–11.

### Performance reporting

Performance reporting during 2009–10 included:

- monthly financial reporting provided to MDBA Executive
- quarterly workforce statistics and project management reports provided to Executive, with monthly reports provided to business managers
- a report for the Basin Officials Committee on quarterly financial and non-financial performance against the corporate plan prepared for the June quarter 2009–10
- quarterly reports provided to the Audit Committee on implementation of the risk management, fraud control, business continuity and disaster recovery plans, and internal and external audit reports produced.

MDBA reviewed the internal performance reporting framework, in particular how the internal performance reporting aligned with the reporting obligations specified in the Portfolio Budget Statements and the *Water Act 2007* [Cwlth].

During 2009–10, a new integrated planning and reporting framework was developed for implementation during 2010–11. The framework incorporates a holistic approach to quarterly performance reporting and consolidates reporting on financial and non-financial performance, risk management, project management and workforce metrics.

## **Project management framework**

During 2009–10, implementation of the project management framework continued, with an emphasis on improving project management skills and culture. Targeted information sessions, training and staff mentoring supported the management of over 120 minor and major projects. A project registration and reporting database, tailored to deliver Executive status reports, was implemented and was instrumental in facilitating the management of Basin Plan development during a critical period.

A post-implementation review of the project management framework was undertaken late in the financial year. The review delivered positive findings and made key recommendations on further enhancing the framework, including by:

- improving categorisation of projects, contracts and service delivery arrangements with jurisdictions
- renewing the focus on project and contract management applied skills training
- upgrading the project registration system into an MDBA business system.

## **Financial management**

During the year, an ongoing focus of MDBA was the continued development of its financial and procurement systems by:

- developing and implementing the MDBA's web-based Certificate of Compliance data collection and reporting system
- developing and implementing an electronic credit card reconciliation module integrated with the FMIS
- developing and implementing a web-based travel approval system
- implementing an online travel booking system
- configuring and implementing an online leave application and approval system integrated with the existing HR system.

## **Financial performance**

The MDBA's total expenditure for 2009–10 was \$280.813 million, including contributions from external parties to water recovery measures of \$37.262 million. Net expenditure was \$243.551 million, \$36.664 million below the expenditure budget.

Table 4.10 explains the main features of MDBA financial performance in 2009–10.

**Table 4.10** *MDBA financial performance, 2009–10*

<b>Murray–Darling Basin Authority</b>		<b>2008–09 Actuals \$'000</b>	<b>2009–10 Actuals \$'000</b>	<b>2009–10 Variance \$'000</b>
Outcome 1	Revenue	517,641	174,998	(342,643)
	Expenses	177,678	280,813	(103,135)
	Surplus/(deficit)	339,963	(105,815)	(445,778)
Total departmental	Revenue	517,641	174,998	(342,643)
	Expenses	177,678	280,813	(103,135)
	Surplus/(deficit)	339,963	(105,815)	(445,778)

## Financial position

MDBA's net equity position reduced in 2009–10 by \$105.815 million to \$225.515 million.

This change was an outcome of the 2009–10 operating deficit of \$105.815 million, which was funded from existing cash resources. The operating deficit and reduction in cash resources was due to planned activity in the Environmental Works and Measures Program, which covers major landscape floodplain inundation works at The Living Murray (TLM) six icon sites to improve the health of the River Murray.

## Assets and asset management

MDBA financial and non-financial assets at the end of 2009–10 were \$264.918 million and \$5.872 million respectively. Financial assets consist of cash and cash equivalents, trade and other receivables. Non-financial assets consist of information and communications technology (ICT) infrastructure, office fitout and office equipment.

## Liabilities

Liabilities administered directly by MDBA at the end of 2009–10 amounted to \$45.275 million. These mainly consist of amounts owing to suppliers and provisions for employee entitlements.

## Total equity

MDBA ended the year with total equity of \$225.515 million (see Table 4.11), which consists mainly of cash resources and minor fixed assets offset by trade and employee liabilities.

**Table 4.11** *MDBA equity at end of 2009–10*

Measurement	2008–09 \$ million	2009–10 \$ million
Assets	385.239	270.790
Liabilities	53.909	45.275
Total equity	331.330	225.515

## Discretionary grant programs

MDBA did not make any discretionary grants during 2009–10.

## Managed assets: joint ventures

MDBA manages two unincorporated joint ventures established to hold jurisdictional assets previously held by the former Murray–Darling Basin Commission (MDBC) on behalf of the relevant jurisdictions.

The joint ventures were established through two agreements between the partner governments:

- the asset agreement for River Murray Operations Assets (RMO joint venture agreement)
- the Further Agreement on Addressing Water Overallocation and Achieving Environmental Objectives in the Murray–Darling Basin — Control and Management of Living Murray Assets (LMI joint venture agreement).

The RMO joint venture held net assets of \$2.041 billion. The LMI joint venture held net assets of \$651.139 million at 30 June 2010, which comprises gross investment in water recovery measures of \$690.402 million and an impairment loss of \$39.263 million.

The RMO joint venture agreement acknowledges that each jurisdiction will exercise control over its share of the RMO assets through its representative on the Murray–Darling Basin Ministerial Council and its representative on the Basin Officials Committee. The jurisdictions acknowledge that RMO assets are managed by MDBA on their behalf.

The LMI joint venture agreement acknowledges that TLM assets are controlled jointly by TLM partner governments. These governments acknowledge that TLM assets are not under MDBA control but that MDBA has management responsibilities for these assets.

## Procurement activities

### Purchasing and procurement

MDBA has conducted its procurement in accordance with the Commonwealth Procurement Guidelines.

## **Procurement framework**

MDBA follows a devolved procurement framework that places responsibility for procurement with the appropriate financial delegate. To support these delegates, Chief Executive's Instructions for procurement have been established and ongoing training is provided.

A central procurement and contracts unit provides advice and assistance to line areas conducting procurement. The unit ensures compliance with relevant instructions, policies and procedures and compliance with the Commonwealth Procurement Guidelines; it also provides probity advice and maintains standard tender and contract templates.

## **Performance against core purchasing policies**

MDBA has complied with the mandatory procurement procedures of the Commonwealth Procurement Guidelines.

MDBA advertises tender opportunities through the AusTender website, <[www.tenders.gov.au](http://www.tenders.gov.au)>. Documentation is available from the MDBA website (<[www.mdba.gov.au](http://www.mdba.gov.au)>), which also includes a facility for tender submission. The MDBA's annual procurement plan for 2009–10 was published on the AusTender website in June 2010 and will be updated as required throughout 2010–11.

## **Reporting**

All contracts with a value of \$10,000 or more were reported on AusTender in 2009–10.

MDBA met the requirements to report on the Senate Order on Government Agency Contracts for the calendar year 2009 and the financial year 2009–10.

All contracts with a value of \$100,000 or more are listed at <[www.mdba.gov.au/about/tenders](http://www.mdba.gov.au/about/tenders)>.

MDBA met the requirement to report to the Department of Finance and Deregulation relating to authorisations to spend public money under Regulation 10 of the Financial Management and Accountability Regulations 1997.

## **Consultancy services**

MDBA conducts procurement for consultancy services in accordance with the Commonwealth Procurement Guidelines and the Chief Executive's Instructions. Selection of consultants is determined by the principle of value for money.

## **Expenditure on consultancies during 2009–10**

During 2009–10, 98 new consultancy contracts were entered into, involving total commitments of \$16.770 million. In addition, 144 consultancy contracts were active during the 2009–10 year, involving total actual commitments of \$26.678 million.

Details of contracts let by MDBA in 2009–10 to the value of \$10,000 or more are available on AusTender or from MDBA as a portable document format file.

The list of consultancy contracts let in 2009–10 to the value of \$100,000 or more is at <[www.mdba.gov.au/about/corporate\\_documents/contract\\_listings](http://www.mdba.gov.au/about/corporate_documents/contract_listings)>.

Anyone who cannot access this list can obtain it in a suitable alternative format by contacting MDBA. Information on expenditure on contracts and consultancies is also available on the AusTender website (<[www.tenders.gov.au](http://www.tenders.gov.au)>).

### **Exempt contracts**

During 2009–10, no standing offers or contracts in excess of \$10,000 (GST inclusive) were exempted by the Chief Executive from publication on AusTender under the *Freedom of Information Act 1982* (Cwlth).

### **Access by the Auditor-General**

The MDBA's consultancy agreements comply with Australian National Audit Office requirements. The standard long-form consultancy agreement allows for ANAO access; the short-form agreement does not include a specific provision allowing ANAO access, but does provide for MDBA's nominee to conduct audits of those contracts. Other agreements may include a requirement for ANAO access depending on the nature of the services.

## **Our information and communication resources**

### **Highlights**

- Continued second phase of the South Eastern Australian Climate Initiative.
- Continued a strong partnership with the Murray–Darling Freshwater Research Centre.
- Consolidated spatial assets into centralised repositories.
- Upgraded remote access to MDBA information and communications technology (ICT) systems, rationalised use of high-cost, low-use software products and introduced more energy-efficient and powerful server infrastructure.

### **Information and communications technology**

During 2009–10, the main focus of the MDBA's Information and Communications Technology team was on beginning a broad-reaching program to implement the Enterprise Information Strategy (EIS), endorsed by the Information Management Committee and the Executive in the first quarter of the year.

The program's first deliverable was a comprehensive review of both information and information technology governance and processes. This review made a number of recommendations for consolidating ICT operations within MDBA and establishing more formal structures consistent with the MDBA's significant recent growth.

Work began during the year on planning and implementing a number of EIS initiatives, including a review of the data and systems architecture; the introduction of automated workflows; an improved enterprise-wide search capability; the adoption of a standardised application development and content management platform; and the introduction of role-based desktop environments that will better support users in different parts of MDBA. In a collaborative project, high-performance systems to support hydrological modelling hosted by the CSIRO are now being moved in-house.

Significant achievements during 2009–10 also included:

- upgrading software and hardware used to provide remote access to MDBA systems
- establishing improved project governance systems and reporting tools
- introducing more energy-efficient and powerful server infrastructure, and improving the tools used to monitor server and network performance
- introducing a rolling refresh of desktop hardware, replacing the oldest 20% of workstations
- rationalising the use of high-cost, low-use software products and beginning a comprehensive audit of software installations across the network.

MDBA undertook extensive attack and penetration testing of its ICT systems during the year, followed by trials of its disaster recovery and business continuity plans. Both exercises showed that MDBA systems were generally secure, but provided feedback that was used in the development of an updated Information and Communications Technology Security Policy, which was endorsed in March 2010.

An extensive program of security awareness training for staff has now been completed, with over 300 staff attending seminars on information, technology and personnel security.

## **Records management**

During the year, work continued on improving MDBA records management processes and practices. A revised business classification scheme was prepared, and will be introduced along with an upgraded version of the records management software (TRIM) in the coming financial year.

Development of an MDBA records disposal authority commenced during the year, setting out requirements for keeping or destroying MDBA core business records. The Records Management team has worked with MDBA staff in all areas to provide training on records classification and cataloguing, and to develop shortcuts to help users store and retrieve information more efficiently. An indicator of the team's success is that monthly use of the electronic records management system in MDBA grew by over 30% on average in the past year.



## Communicating with stakeholders and communities

### Highlights

- The Murray–Darling Basin Authority (MDBA) website received 25,000 visitors each month, an increase of about 7,000 visitors per month over the previous year's visits.
- Distributed 36 media releases; published 11 eLetters and 41 other documents, including brochures, factsheets and Basin Plan-specific publications.
- Implemented measures to reduce the environmental footprint of MDBA publications.
- Upgraded MDBA website servers to cope with an anticipated increase in website use associated with the launch of proposed Basin Plan and its associated documents.
- Developed and tested new website to improve information accessibility on current MDBA website.
- Sponsored 14 conferences.
- Began developing the MDBA's first client service charter.

### Communications and information delivery

MDBA continued to use a variety of information and communication methods in 2009–10 to raise awareness of the development of the proposed Basin Plan and its public consultation period, and to help to keep partner governments, water users and the community aware of river operations and water resource issues in the Murray–Darling Basin.

#### Media

Media relations during 2009–10 concentrated on providing information about why and how the Basin Plan would be developed. Continuing dry conditions and lower than historical average inflows were also conveyed and explained through media activity.

Thirty-six media releases were distributed, along with 11 eLetter editions, with an average of 10 news items per issue.

Media strategies were implemented to support MDBA meetings and public information sessions held at regional centres such as Mildura (Victoria), Wentworth and Moree (New South Wales), Toowoomba (Queensland) and Albury–Wodonga (New South Wales–Victorian border). Numerous media interviews were facilitated for the MDBA Chair and Chief Executive. All this media activity resulted in widespread coverage of key MDBA messages to audiences throughout the Basin and beyond.

Much of the coverage was provided by regional radio, followed by regional print media and television. MDBA messages were successfully conveyed through key state-based rural newspapers such as *The Land*, *Stock Journal* and *The Weekly Times*. Online news services continued to grow in extent and influence.

Media monitoring confirmed strong public interest in Basin water issues and the proposed Basin Plan.

## Website

Web-based initiatives during 2009–10 primarily centred on preparation for the release of the proposed Basin Plan. Increases in visits to the MDBA website (<[www.mdba.gov.au](http://www.mdba.gov.au)>) can be attributed to increasing stakeholder interest in the MDBA's work. Again, most news content related to the release of the proposed Basin Plan and commencement of the formal Basin Plan public consultation period.

The MDBA website was receiving about 25,000 visitors each month at the end of 2009–10, an increase of about 7,000 visitors per month over the previous financial year. Collectively these visitors viewed about 95,000 pages per month. Most visitors went to website pages that provide regular updates of information or data, such as the River Operations weekly report, the salinity and flow report and the 'Water in storages' pages.

MDBA website servers were upgraded to new 'virtual servers' — which are servers within a super computer that have the ability to have their load and performance capacity increased in times of peak demand to remain stable and operational. This is a significant improvement that will be required during the release of the Basin Plan and during the public consultation period.

An independent audit carried out on security and penetration testing for the website found no major weaknesses. A few minor weaknesses were highlighted, all of which were addressed promptly.

A new website was developed and internally tested during 2009–10; implementation of the new site is scheduled for early in 2010–11. The design of the new website was developed in response to external and internal feedback. The website will increase information accessibility by providing more popular links from the MDBA home page. It will also include a simplified menu structure to allow easier navigation and a prominent space in which to highlight the community engagement activities that will take place during the proposed Basin Plan's public consultation period.

## Publications

During 2009–10, MDBA produced 41 publications, including eight brochures and seven factsheets. Ten Basin Plan-specific publications were released during the year, half of which were plain English factsheets. A complete list of MDBA publications is in Appendix F.

Updated writing style and design guides were adopted for use throughout MDBA, which has assisted in ensuring consistency in MDBA content.

The MDBA's publications team introduced measures to reduce the environmental footprint of MDBA publications, including:

- introducing a design guide policy to use 100% or partially recycled paper stock for all hard-copy publications
- working with program areas to carefully plan print-run numbers to avoid waste through printing too many copies
- making key electronic publications more accessible through the MDBA website by offering portable document format and hypertext markup language versions of publications.

The quality of the Murray–Darling Basin Commission/Murray–Darling Basin Authority combined 2008–09 annual report was independently recognised when it received a silver Australasian Reporting Award.

## **Sponsorship**

MDBA sponsored 14 conferences during 2009–10 at a cost of \$214,245. The agency is currently reviewing its sponsorship policy to be more proactive and supportive of the engagement process.

## **Education**

MDBA is committed to engaging and educating the Australian community about the Basin's water resources. As part of this process, MDBA has developed a number of educational resources, including activity sheets, aimed at primary schoolchildren, all of which are available at <[www.mdba.gov.au/services/education-resources](http://www.mdba.gov.au/services/education-resources)>.

MDBA factsheets on water volumes, the water cycle and salinity issues were also developed during 2009–10, and are available for download.

During the year MDBA also began to develop an education strategy that looks at innovative ways to provide information to all MDBA community stakeholders. MDBA also sponsored the 'Special Forever' water education program aimed at primary schools and the 'Kids Teaching Kids' international and regional conferences. MDBA also continued to be an industry partner in the Engaging Visions — Australian Research Council linkage grant, by which artists engaged with selected Basin communities represent local environmental issues through the visual arts.

## **Library**

With a collection of some 13,700 items, the MDBA's largely technical library continues to provide agency staff and the broader public with a reference and information service. Over 500 requests for assistance were recorded during 2009–10.

The MDBA Image Gallery continues to be in demand by both staff and external clients; in the last four months of 2009–10, 3,146 images were received and processed for inclusion within the gallery, largely to support the development of the Basin Plan. Within the same period, 244 images were provided to clients on request. The gallery now has more than 16,000 images available for use by MDBA staff and external clients.

During 2009–10, work continued on preserving MDBA corporate records and providing access to them.

## **Feedback**

### **Service charter**

MDBA began developing its first client service charter during 2009–10. The charter will set out the standards of service clients can expect and how they can give feedback on MDBA performance. It is expected that the charter will be finalised in 2010–11.

### **Complaints about services**

No formal complaints were received by MDBA during the year relating to services. One formal complaint was received about a recruitment process.

## **Access and equity**

MDBA deals with culturally diverse groups, including Indigenous Australian peoples.

MDBA funds the Murray Lower Darling Rivers Indigenous Nations and Northern Murray–Darling Basin Aboriginal Nations. It has a collaborative relationship with both MLDRIN and NBAN, and funds a large proportion of their operational costs to help ensure their capacity to engage with MDBA and other natural resource management agencies. MLDRIN and NBAN are well positioned to provide strategic advice relating to their respective areas of the Murray–Darling Basin on how best to engage local Indigenous Australian communities in future Basin planning.

MDBA began developing a workplace diversity plan and an Indigenous Australian employment strategy during 2009–10. MDBA also began developing a disability strategy that supports access for, and employment of, people with disabilities.

## **Working with jurisdictions to develop the proposed Basin Plan**

Under the *Water Act 2007* (Cwlth), MDBA is required to consult with Basin states, the Basin Officials Committee and the Murray–Darling Basin Ministerial Council in preparing the proposed Basin Plan. This consultation includes setting specific steps for formal consultation once the plan has been prepared.

In September 2009, MDBA endorsed a stakeholder engagement strategy for the proposed Basin Plan that establishes objectives and principles for engaging with all stakeholders.

As a first step in working cooperatively with the Basin states, MDBA developed protocols for engagement with Basin states in preparing the proposed Basin Plan. These protocols acknowledge the states as the principal managers and information custodians of water resources in the Murray–Darling Basin and set out MDBA’s approach to consultation on key issues.

Using these protocols, MDBA convened a series of bilateral and multilateral meetings and workshops with all jurisdictions. These meetings and workshops dealt with a range of technical issues, including surface-water and groundwater planning, hydrological modelling, environmental assets and water requirements, risk allocation, critical human water needs, and compliance, monitoring and evaluation.

During its preparation for the formal public consultation period, MDBA also consulted with all Basin states on their engagement needs at both a general government level and a broader inter-jurisdictional level.

MDBA is also closely involved in working with jurisdictions through The Living Murray program, a jointly funded partnership between the Australian Government and the governments of the Basin states that focuses on maintaining the health of six icon sites along the river. The sites — Barmah–Millewa Forest; Gunbower–Koondrook–Perricoota Forest; Hattah Lakes; Chowilla Floodplain and Lindsay–Wallpolla islands; the Lower Lakes, Coorong and Murray Mouth; and the River Murray Channel — were chosen for their environmental, cultural and international significance.

During 2009–10, MDBA worked with all states on a range of works programs designed to deliver environmental water to these sites.

More information on The Living Murray program is available in Chapter 2 of this report.

For more information about the Murray–Darling Basin Ministerial Council and the Basin Officials Committee, see pp. xvii and Appendix A.



## FINANCIAL STATEMENTS



# FINANCIAL STATEMENTS

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Statement by Chief Executive and Chief Finance Officer

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MDBA balance sheet

MDBA statement of changes in equity

MDBA cash flow statement

MDBA schedule of commitments

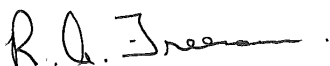
MDBA schedule of asset additions

MDBA notes to and forming part of the financial statements



**MURRAY-DARLING BASIN AUTHORITY**  
**STATEMENT BY THE CHIEF EXECUTIVE AND CHIEF FINANCE OFFICER**

In our opinion, the attached financial statements for the year ended 30 June 2010 are based on properly maintained financial records and give a true and fair view of the matters required by the Finance Minister's Orders made under the *Financial Management and Accountability Act 1997*, as amended.



Rob Freeman  
Chief Executive

15 Sep-10



Tim McKinnon  
Chief Finance Officer

15 Sep-10



## INDEPENDENT AUDITOR'S REPORT

To the Minister for Sustainability, Environment, Water, Population and Communities

### Scope

I have audited the accompanying financial statements of the Murray-Darling Basin Authority for the year ended 30 June 2010, which comprise: the Statement by the Chief Executive and Chief Finance Officer; Statement of Comprehensive Income; Balance Sheet; Statement of Changes in Equity; Cash Flow Statement; Schedule of Commitments; Schedule of Asset Additions; and Notes to and forming part of the Financial Statements, including a Summary of Significant Accounting Policies.

### *The Responsibility of the Chief Executive for the Financial Statements*

The Chief Executive is responsible for the preparation and fair presentation of the financial statements in accordance with the Finance Minister's Orders made under the *Financial Management and Accountability Act 1997*, including the Australian Accounting Standards (which include the Australian Accounting Interpretations). This responsibility includes establishing and maintaining internal controls relevant to the preparation and fair presentation of the financial statements that are free from material misstatement, whether due to fraud or error; selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.

### *Auditor's Responsibility*

My responsibility is to express an opinion on the financial statements based on my audit. I have conducted my audit in accordance with the Australian National Audit Office Auditing Standards, which incorporate the Australian Auditing Standards. These auditing standards require that I comply with relevant ethical requirements relating to audit engagements and plan and perform the audit to obtain reasonable assurance whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Murray-Darling Basin Authority's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Murray-Darling Basin Authority's internal control. An audit also includes

GPO Box 707 CANBERRA ACT 2601  
19 National Circuit BARTON ACT 2600  
Phone (02) 6203 7300 Fax (02) 6203 7777

evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by the Chief Executive, as well as evaluating the overall presentation of the financial statements.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

#### ***Independence***

In conducting the audit, I have followed the independence requirements of the Australian National Audit Office, which incorporate the requirements of the Australian accounting profession.

#### **Auditor's Opinion**

In my opinion, the financial statements of the Murray–Darling Basin Authority:

- (a) have been prepared in accordance with the Finance Minister's Orders made under the *Financial Management and Accountability Act 1997*, including the Australian Accounting Standards; and
- (b) give a true and fair view of the matters required by the Finance Minister's Orders including the Murray–Darling Basin Authority's financial position as at 30 June 2010 and its financial performance and cash flows for the year then ended.

Australian National Audit Office



Rebecca Reilly  
Executive Director

Delegate of the Auditor-General

Canberra  
15 September 2010

# Murray-Darling Basin Authority

## Statement Of Comprehensive Income

for the year ended 30 June 2010

	Notes	2010	2009
		\$'000	\$'000
<b>EXPENSES</b>			
Employee benefits	3A	31,578	12,059
Suppliers	3B	245,532	163,904
Depreciation and amortisation	3C	1,051	385
Write-down and impairment of assets	3D	387	-
<b>Total expenses</b>		<b>278,548</b>	<b>176,348</b>
<b>LESS:</b>			
<b>OWN-SOURCE INCOME</b>			
<b>Own-source revenue</b>			
Contributions from jurisdictions	4A	83,699	44,455
Interest	4C	-	13,522
Other income	4B	40,068	2,096
<b>Total own-source revenue</b>		<b>123,767</b>	<b>60,073</b>
<b>Gains</b>			
Sale of assets	4D	20	23
Other gains	4E	58	58
<b>Total gains</b>		<b>78</b>	<b>81</b>
<b>Total own-source income</b>		<b>123,845</b>	<b>60,154</b>
<b>Net cost of services</b>		<b>(154,703)</b>	<b>(116,194)</b>
Revenue from Government	4F	51,066	457,487
Share of operating result of joint ventures accounted for using the equity method	3E	(2,265)	(1,330)
<b>Surplus (Deficit) attributable to the Australian Government</b>		<b>(105,902)</b>	<b>339,963</b>
<b>OTHER COMPREHENSIVE INCOME</b>			
Changes in asset revaluation reserves		87	-
<b>Total comprehensive income (loss) attributable to the Australian Government</b>		<b>(105,815)</b>	<b>339,963</b>

The above statement should be read in conjunction with the accompanying notes.

## Murray-Darling Basin Authority Balance Sheet

as at 30 June 2010

	Notes	2010 \$'000	2009 \$'000
<b>ASSETS</b>			
<b>Financial Assets</b>			
Cash and cash equivalents	5	3,321	8,615
Trade and other receivables	5	261,597	371,562
<b>Total financial assets</b>		<b>264,918</b>	<b>380,177</b>
<b>Non-Financial Assets</b>			
Property, Plant & equipment	6A	885	1,149
Leasehold improvements	6B	1,395	1,683
Intangibles	6C	2,298	1,292
Investment in Joint Ventures	6E	519	669
Other non-financial assets	6D	775	269
<b>Total non-financial assets</b>		<b>5,872</b>	<b>5,062</b>
<b>Total Assets</b>		<b>270,790</b>	<b>385,239</b>
<b>LIABILITIES</b>			
<b>Payables</b>			
Suppliers	7A	36,867	38,286
Revenue received in advance	7C	386	9,883
Other payables	7B	544	386
<b>Total payables</b>		<b>37,797</b>	<b>48,555</b>
<b>Non-Interest Bearing Liability</b>			
Lease incentive	8	886	1,018
<b>Total non-interest bearing liability</b>		<b>886</b>	<b>1,018</b>
<b>Provisions</b>			
Employee provisions	9	6,592	4,336
<b>Total provisions</b>		<b>6,592</b>	<b>4,336</b>
<b>Total Liabilities</b>		<b>45,275</b>	<b>53,909</b>
<b>Net Assets</b>		<b>225,515</b>	<b>331,330</b>
<b>EQUITY</b>			
<b>Parent Entity Interest</b>			
Contributed equity		(11,199)	(11,199)
Reserves		87	-
Retained surplus		236,627	342,529
<b>Total parent entity interest</b>		<b>225,515</b>	<b>331,330</b>
<b>Total Equity</b>		<b>225,515</b>	<b>331,330</b>

The above statement should be read in conjunction with the accompanying notes.

**Murray-Darling Basin Authority**  
**Statement Of Changes In Equity**  
*for the period ended 30 June 2010*

	Retained Earnings		Asset Revaluation Reserves		Contributed Equity/Capital		Total Equity	
	2010	2009	2010	2009	2010	2009	2010	2009
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
<b>Opening balance</b>								
Balance carried forward from previous period	342,529	2,566	-	-	(11,199)	-	331,330	2,566
<b>Adjusted opening balance</b>	342,529	2,566	-	-	(11,199)	-	331,330	2,566
<b>Comprehensive income</b>								
Other comprehensive income - Changes in asset revaluation reserves	-	-	87	-	-	-	87	-
Surplus (Deficit) for the period	(105,902)	339,963	-	-	-	-	(105,902)	339,963
<b>Total comprehensive income</b>	(105,902)	339,963	87	-	-	-	(105,815)	339,963
of which:								
Attributable to the Australian Government	(105,902)	339,963	87	-	-	-	(105,815)	339,963
<b>Transactions with owners</b>								
<b>Distributions to owners</b>								
Returns on capital:								
Transition from former Murray-Darling Basin Commission	-	-	-	-	-	(11,199)	-	(11,199)
<b>Sub-total transactions with owners</b>	-	-	-	-	-	(11,199)	-	(11,199)
Closing balance as at 30 June	236,627	342,529	87	-	(11,199)	(11,199)	225,515	331,330
<b>Closing balance attributable to the Australian Government</b>	236,627	342,529	87	-	(11,199)	(11,199)	225,515	331,330

The above statement should be read in conjunction with the accompanying notes.

## Murray-Darling Basin Authority

### Cash Flow Statement

for the year ended 30 June 2010

	Notes	2010 \$'000	2009 \$'000
<b>OPERATING ACTIVITIES</b>			
<b>Cash received</b>			
Contributions from Jurisdictions		83,616	40,018
Appropriations / Drawdown from Special Account		162,463	106,152
Net GST received		15,738	11,825
Other cash received		31,486	12,974
<b>Total cash received</b>		<b>293,303</b>	<b>170,969</b>
<b>Cash used</b>			
Employees		29,166	10,583
Suppliers		267,648	150,569
<b>Total cash used</b>		<b>296,814</b>	<b>161,152</b>
<b>Net cash from (used by) operating activities</b>	10	<b>(3,511)</b>	<b>9,817</b>
<b>INVESTING ACTIVITIES</b>			
<b>Cash received</b>			
Proceeds from disposal of property, plant and equipment		38	49
<b>Total cash received</b>		<b>38</b>	<b>49</b>
<b>Cash used</b>			
Purchase of property, plant and equipment		150	526
Purchase of Computer Software		1,535	269
Leasehold improvements		136	456
<b>Total cash used</b>		<b>1,821</b>	<b>1,251</b>
<b>Net cash from (used by) investing activities</b>		<b>(1,783)</b>	<b>(1,202)</b>
<b>Net increase (decrease) in cash held</b>		<b>(5,294)</b>	<b>8,615</b>
Cash and cash equivalents at the beginning of the reporting period		8,615	-
<b>Cash and cash equivalents at 30 June 2010</b>	5A	<b>3,321</b>	<b>8,615</b>

The above statement should be read in conjunction with the accompanying notes.

## Murray-Darling Basin Authority Schedule of Commitments

as at 30 June 2010

	Notes	2010 \$'000	2009 \$'000
<b>BY TYPE</b>			
<b>Commitments receivable</b>			
GST recoverable on commitments		(3,553)	(4,318)
<b>Total commitments receivable</b>		<u>(3,553)</u>	<u>(4,318)</u>
<b>Commitments Payable</b>			
<b>Capital commitments</b>			
Intangibles		221	9
Property, Plant & equipment		95	-
<b>Total capital commitments</b>		<u>316</u>	<u>9</u>
<b>Other commitments</b>			
Operating leases	(a)	13,506	15,361
Other commitments		26,938	36,123
<b>Total other commitments</b>		<u>40,444</u>	<u>51,484</u>
<b>Net commitments by type</b>		<u>37,207</u>	<u>47,175</u>
<b>BY MATURITY</b>			
<b>Commitments Receivable</b>			
One year or less		(2,249)	(2,579)
From one to five years		(1,154)	(1,207)
Over five years		(150)	(532)
<b>Total commitments receivable</b>		<u>(3,553)</u>	<u>(4,318)</u>
<b>Commitments Payable</b>			
<b>Capital commitments</b>			
One year or less		316	9
<b>Total capital commitments</b>		<u>316</u>	<u>9</u>
<b>Operating leases commitments</b>			
One year or less		1,851	1,798
From one to five years		10,005	9,776
Over five years		1,650	3,787
<b>Total operating leases commitments</b>		<u>13,506</u>	<u>15,361</u>
<b>Other commitments</b>			
One year or less		23,581	29,475
From one to five years		3,357	6,648
<b>Total other commitments</b>		<u>26,938</u>	<u>36,123</u>
<b>Net commitments by maturity</b>		<u>37,207</u>	<u>47,175</u>

NB: Commitments were GST inclusive where relevant.



## **Murray-Darling Basin Authority Schedule of Commitments**

*as at 30 June 2010*

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### **(a) Operating leases and licences**

Operating leases and licences are effectively non-cancellable and comprise:

#### **Leases and licences for office accommodation**

##### **Canberra, ACT**

Commencing on 1 April 2007 a 10 year lease was initiated in respect of premises at 51 Allara Street. Lease payments are subject to fixed annual increases of 3.5% on review date (January each year), apart from 2012 when a market review will be undertaken.

##### **Wayville, SA**

Commencing on 1 September 2008 a 2 year 10 month lease was initiated in respect of premises at 67 Greenhill Road. Lease payments are subject to fixed annual increases of 4% on review date (September each year).

##### **Albury, NSW**

Commencing on 1 September 2008 a 3 year licence was initiated in respect of premises at Charles Sturt University. Licence payments are fixed for the term of the lease.

All the leases and licences were originally authorised by the Murray-Darling Basin Commission. The liability for the unexpended portion of the leases has transitioned on 15 December 2008 to the MDBA in accordance with the transition provisions of the *Water Act 2007*.

**Murray-Darling Basin Authority**  
**Schedule of Asset Additions**  
for the year ended 30 June 2010

The following non-financial non-current assets were added in 2009-10:

	Land \$'000	Buildings \$'000	Investment Properties \$'000	Heritage & cultural \$'000	Other property, plant & equipment \$'000	Intangibles \$'000	Other \$'000	Total \$'000
By purchase - appropriation equity	-	-	-	-	-	-	-	-
By purchase - appropriation ordinary annual services	-	-	-	-	-	-	-	-
By purchase - donated funds	-	-	-	-	-	-	-	-
By purchase - other	-	-	-	-	286	1,535	-	1,821
<b>Total additions</b>	-	-	-	-	286	1,535	-	1,821

The following non-financial non-current assets were added in 2008-09:

	Land \$'000	Buildings \$'000	Investment Properties \$'000	Heritage & cultural \$'000	Other property, plant & equipment \$'000	Intangibles \$'000	Other \$'000	Total \$'000
By purchase - appropriation equity	-	-	-	-	-	-	-	-
By purchase - appropriation ordinary annual services	-	-	-	-	-	-	-	-
By purchase - donated funds	-	-	-	-	-	-	-	-
By purchase - other	-	-	-	-	823	269	-	1,092
By finance lease	-	-	-	-	-	-	-	-
Assets received as gifts/donations	-	-	-	-	-	-	-	-
From acquisition of entities or operations (including restruct	-	-	-	-	2,261	-	-	2,261
<b>Total additions</b>	-	-	-	-	3,084	269	-	3,353

## **Murray-Darling Basin Authority**

### **Notes to and forming part of the Financial Statements**

*for the year ended 30 June 2010*

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## Murray-Darling Basin Authority

### Notes to and forming part of the Financial Statements

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#### Note 1: Summary of Significant Accounting Policies

##### 1.1 Objective of Murray-Darling Basin Authority

Murray-Darling Basin Authority (MDBA) is an Australian Government controlled entity. The Authority was established under the *Water Act 2007* in March 2008 and commenced operations on 8 September 2008.

In line with the objectives of the *Water Act 2007*, the Authority will prepare a Basin Plan for the integrated and sustainable management of water resources in the Murray-Darling Basin. The Plan will:

- provide limits on the quantity of water that may be taken from the Basin water resources as a whole and from the water resources of each water resource plan area; and
- include requirements to be met by water resource plans, identify risks to Basin water resources, set out strategies to address these risks, establish sustainable diversion limits and temporary diversion provisions, develop environmental watering and water quality and salinity management plans, rules for trading or transfer of tradeable water rights and a program for monitoring and evaluating effectiveness of the Basin Plan.

The Basin Plan will also take into account and provide for critical human water needs and associated monitoring and risk management.

The immediate priority for the Authority is the development of the Basin Plan to be submitted to the Minister for Water during 2010-11. A major component of the planning for the Basin Plan will be consultation with the Basin community, Basin jurisdictions and research organisations.

Following passage of the *Water Amendment Bill 2008* the Authority assumed responsibility for the functions of the former Murray-Darling Basin Commission (MDBC) on 15 December 2008, under an amended Murray-Darling Basin Agreement. The Authority delivers its functions under the Murray-Darling Basin Agreement in conjunction with and on behalf of the Basin Governments. The key priorities under the Agreement include:

- the continued development and implementation of Natural Resource Management (NRM) programs for the protection, enhancement and sustainable use of the Basin's shared water and other natural resources through the MDBA's NRM program. The NRM Program has lead responsibility for implementing a number of significant strategies, sub-programs and policies emanating from Ministerial Council decisions including: The Living Murray, the Native Fish Strategy, Basin Salinity Management Strategy (BSMS), the Sustainable Rivers Audit, Water Quality monitoring, management and accounting of interstate water trade, the Cap on surface water diversions, and the assessment of threats to Ramsar and other wetlands; and
- directing the management and operation of River Murray assets to deliver states' shares of water for productive and sustainable consumption and environmental outcomes in the River Murray System as set out in the Murray-Darling Basin Agreement. The River Murray program is also responsible for the construction and operation of a network of Salt Interception Schemes (SIS) to achieve agreed outcomes and construction of any new SIS agreed under Stage 2 (BSMS). In collaboration with jurisdictions, the program works to achieve efficient, transparent and equitable operation of the River Murray system assets, including a network for real time data.

The Authority is structured to meet one outcome:

- Equitable and sustainable use of the Murray-Darling Basin by governments and the community including through development and implementation of a Basin Plan, operation of the River Murray system, shared natural resource management programs, research, information and advice.

## **Murray-Darling Basin Authority**

### **Notes to and forming part of the Financial Statements**

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The Authority activities contributing toward this outcome are classified as 'Departmental'. Departmental activities involve the use of assets, liabilities, income and expenses controlled or incurred by the Authority in its own right.

#### **1.2 Economic dependency**

The continued existence of the Authority in its present form and with its present programs is dependent on:

- Government policy and on continuing appropriations by Parliament for the Authority's administration and Basin Plan Programs; and
- Ongoing funding from the Australian Government and the jurisdictions to deliver the Murray-Darling Basin Agreement functions and the Authority administration.

#### **1.3 Basis of Preparation of the Financial Statements**

The financial statements and notes are required by section 49 of the *Financial Management and Accountability Act 1997* and are a general purpose financial Statements.

The Financial Statements and notes have been prepared in accordance with:

- Finance Minister's Orders (or FMO) for reporting periods ending on or after 1 July 2009; and
- Australian Accounting Standards and Interpretations issued by the Australian Accounting Standards Board (AASB) that apply for the reporting period.

The financial report has been prepared on an accrual basis and is in accordance with the historical cost convention, except for certain assets at fair value. Except where stated, no allowance is made for the effect of changing prices on the results or the financial position.

The financial report is presented in Australian dollars and values are rounded to the nearest thousand dollars unless otherwise specified.

Unless an alternative treatment is specifically required by an accounting standard or the FMO, assets and liabilities are recognised in the balance sheet when and only when it is probable that future economic benefits will flow to the entity or a future sacrifice of economic benefits will be required and the amounts of the assets or liabilities can be reliably measured. However, assets and liabilities arising under Agreements Equally Proportionately Unperformed are not recognised unless required by an accounting standard. Liabilities and assets that are unrecognised are reported in the schedule of commitments or the schedule of contingencies.

Unless alternative treatment is specifically required by an accounting standard, income and expenses are recognised in the statement of comprehensive income when and only when the flow, consumption or loss of economic benefits has occurred and can be reliably measured.

#### **1.4 Significant Accounting Judgements and Estimates**

No accounting judgements, assumptions or estimates have been identified that have a significant risk of causing a material adjustment to carrying amounts of assets or liabilities within the next accounting period.

## **Murray-Darling Basin Authority**

### **Notes to and forming part of the Financial Statements**

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#### **1.5 Changes in Australian Accounting Standards**

##### ***Adoption of New Australian Accounting Standard Requirements***

No accounting standard has been adopted earlier than the application date as stated in the standard. Of the new standards, amendments to the standards and interpretations issued by the Australian Accounting Standard Board that are applicable to the current period, none have a material impact.

##### ***Future Australian Accounting Standard Requirements***

Of the new standards, amendments to standards or interpretations that were issued prior to the signing of the financial statement by Chief Executive and Chief Finance Officer and are applicable to future reporting period none are expected to have a future financial impact on MDBA.

#### **1.6 Revenue recognition**

##### ***Appropriations from Government***

Amounts appropriated for departmental output for the year (adjusted for any formal additions and reductions) are recognised as revenue when the Authority gains control of the appropriation, except for certain amounts that relate to activities that are reciprocal in nature, in which case revenue is recognised only when it has been earned.

##### ***Resources Received Free of Charge***

Resources received free of charge are recognised as revenue when, and only when, a fair value can be reliably determined and the services would have been purchased if they had not been donated. Use of those resources is recognised as an expense.

Contributions of assets at no cost of acquisition or for nominal consideration are recognised as gains at their fair value when the asset qualifies for recognition, unless received from another Government agency or authority as a consequence of a restructuring of administrative arrangements (refer to Note 1.8).

Resources received free of charge are recorded as either revenue or gains depending on their nature.

##### ***Other Income***

Revenue from sale of goods is recognised when:

- The risks and rewards of ownership have transferred to the buyer;
- The seller retains neither managerial involvement nor effective control over the goods;
- The revenue and costs incurred can be reliably measured; and
- It is probable that the economic benefits associated with the transaction will flow to the entity.

Revenue from rendering of services is recognised by reference to the stage of completion of contracts at the reporting date. The revenue is recognised when:

- The amount of revenue, stage of completion and transaction costs incurred can be reliably measured; and
- The probable economic benefits with the transaction will flow to the entity.

## **Murray-Darling Basin Authority**

### **Notes to and forming part of the Financial Statements**

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The stage of completion of contracts at reporting date is determined by reference to the proportion that costs incurred to date bear to the estimated total costs of the transaction.

Receivables for items of other income are recognised at the nominal amounts due less any provision for bad and doubtful debts. Collectability of debts is reviewed at balance date. Provisions are made when collectability of the debt is no longer probable.

Interest is earned by the MDBA on funds held in its Special Account. The interest equivalency amount is directly appropriated from the Budget according to agreed estimates. The amounts are recognised when the Authority gains control of the appropriation. Interest revenue is recognised within appropriation if appropriated to the agency.

#### **1.7 Gains**

##### ***Other Resources Received Free of Charge***

Resources received free of charge are recognised as gains when and only when a fair value can be reliably determined and the services would have been purchased if they had not been donated. Use of those resources is recognised as an expense.

Contributions of assets at no cost of acquisition or for nominal consideration are recognised as gains at their fair value when the asset qualifies for recognition, unless received from another Government Agency or Authority as a consequence of a restructuring of administrative arrangements.

Resources received free of charge are recorded as either revenue or gains depending on their nature that is whether they have been generated in the course of the ordinary activities of the Authority.

##### ***Sale of Assets***

Gains from disposal of non-current assets are recognised when control of the assets have passed to the buyer.

#### **1.8 Transactions with the Government as Owner**

##### ***Equity injections***

Amounts appropriated which are designated as 'equity injections' for a year (less any formal reductions) are recognised directly in contributed equity in that year.

##### ***Restructuring of Administrative Arrangements***

Net assets received from or relinquished to another Australian Government Agency or Authority under a restructuring of administrative arrangements are adjusted at their book value directly against contributed equity.

#### **1.9 Employee Benefits**

Liabilities for services rendered by employees are recognised at the reporting date to the extent that they have not been settled.

Liabilities for "short-term employee benefits" (as defined in AASB 119) and termination benefits due within twelve months of end of reporting period are measured at their nominal amounts.

## **Murray-Darling Basin Authority**

### **Notes to and forming part of the Financial Statements**

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The nominal amount is calculated with regard to the rates expected to be paid on settlement of the liability.

All other employee benefit liabilities are measured as the present value of the estimated future cash flows to be made in respect of services provided by employees up to the reporting date.

#### **Leave**

The liability for employee benefits includes provision for annual leave and long service leave. No provision has been made for sick leave as all sick leave is non-vesting and the average sick leave taken in future years by employees of the Authority is estimated to be less than the annual entitlement for sick leave.

The leave liabilities are calculated on the basis of employees' remuneration at the estimated salary rates that applied at the time the leave is taken, including the Authority's employer superannuation contribution rates to the extent that the leave is likely to be taken during service rather than paid out on termination.

#### **Separation and Redundancy**

Provision is made for separation and redundancy benefit payments if required. The Authority recognises a provision for termination when it has developed a detailed formal plan for the terminations and has informed those employees affected that it will carry out the terminations.

#### **Superannuation**

A majority of the staff of the Authority are members of the Commonwealth Superannuation Scheme (CSS), the Public Sector Superannuation Scheme (PSS) or the PSS accumulation plan (PSSap).

The CSS and PSS are defined benefit schemes for the Australian Government. The PSSap is a defined contribution scheme.

The liability for defined benefits is recognised in the financial statements of the Australian Government and is settled by the Australian Government in due course. This liability is reported by the Department of Finance and Deregulation as an administered item.

The Authority makes employer contributions to the Australian Government at rates determined by an actuary to be sufficient to meet the current cost to the Government of the superannuation entitlements of the Authority's employees. The Authority accounts for the contributions as if they were contributions to defined contribution plans.

The liability for superannuation recognised as at 30 June represents outstanding contributions for the final fortnight of the year.

#### **Others**

The Authority also contributes to a number of complying funds to discharge the Authority's liability in regard to individual employees and the *Superannuation Guarantee (Administration) Act 1992* as well as to facilitate the salary sacrifice options of employees.



## **Murray-Darling Basin Authority**

### **Notes to and forming part of the Financial Statements**

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#### **1.10 Leases**

A distinction is made between finance leases and operating leases. Finance leases effectively transfer from the lessor to the lessee substantially all the risks and benefits incidental to ownership of leased non-current assets. An operating lease is a lease that is not a finance lease. In operating leases, the lessor effectively retains substantially all such risks and benefits.

Where a non-current asset is acquired by means of a finance lease, the asset is capitalised at either the fair value of the lease property or, if lower, the present value of minimum lease payments at the beginning of the lease term and a liability recognised at the same time and for the same amount.

The discount rate used is the interest rate implicit in the lease. Leased assets are amortised over the period of the lease. Lease payments are allocated between the principal component and the interest expense.

Operating lease payments are expensed on a straight line basis which is representative of the pattern of benefits derived from the leased assets.

#### **1.11 Borrowing costs**

All borrowing costs are expensed as incurred.

#### **1.12 Cash and Cash Equivalents**

Cash and cash equivalents includes notes and coins held and any deposits in bank accounts with an original maturity of three months or less that are readily convertible to known amounts of cash and subject to insignificant risk of changes in value. Cash and cash equivalents are recognised at their nominal amount.

#### **1.13 Financial Assets**

The Authority classifies its financial assets in the following categories:

- \* financial assets at fair value through profit or loss;
- \* held-to-maturity investments;
- \* available-for-sale financial assets; and
- \* loans and receivables.

The classification depends on the nature and purpose of the financial assets and is determined at the time of initial recognition.

Financial assets are recognised and derecognised upon 'trade date'.

The Authority only has financial assets that fall into the loans and receivables category

#### ***Effective interest method***

The effective interest method is a method of calculating the amortised cost of a financial asset and of allocating interest income over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash receipts over the expected life of the financial asset, or, where appropriate, a shorter period.

Income is recognised on an effective interest rate basis except for financial assets 'at fair value through profit or loss'.

## Murray-Darling Basin Authority

### Notes to and forming part of the Financial Statements

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#### **Loans and receivables**

Trade receivables, loans and other receivables that have fixed or determinable payments that are not quoted in an active market are classified as 'loans and receivables'. Loans and receivables are measured at amortised cost using the effective interest method less impairment. Interest is recognised by applying the effective interest rate.

#### **Impairment of financial assets**

Financial assets are assessed for impairment at each balance date.

- *Financial assets held at amortised cost* - If there is objective evidence that an impairment loss has been incurred for loans and receivables or held to maturity investments held at amortised cost, the amount of the loss is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows discounted at the asset's original effective interest rate. The carrying amount is reduced by way of an allowance account. The loss is recognised in the statement of comprehensive income.

- *Available-for-sale financial assets* - If there is objective evidence that an impairment loss on an available-for-sale financial asset has been incurred, the amount of the difference between its cost, less principal repayments and amortisation, and its current fair value, less any impairment loss previously recognised in expenses, is transferred from equity to the statement of comprehensive income.

- *Available-for-sale financial assets (held at cost)* - If there is objective evidence that an impairment loss has been incurred the amount of the impairment loss is the difference between the carrying amount of the asset and the present value of the estimated future cash flows discounted at the current market rate for similar assets.

#### **1.14 Financial Liabilities**

Financial liabilities are classified as either financial liabilities 'at fair value through profit or loss' or other financial liabilities.

Financial liabilities are recognised and derecognised upon 'trade date'.

#### **Financial liabilities at fair value through profit or loss**

Financial liabilities at fair value through profit or loss are initially measured at fair value. Subsequent fair value adjustments are recognised in profit or loss. The net gain or loss recognised in profit or loss incorporates any interest paid on the financial liability.

#### **Other financial liabilities**

Other financial liabilities, including borrowings, are initially measured at fair value, net of transaction costs.

Other financial liabilities are subsequently measured at amortised cost using the effective interest method, with interest expense recognised on an effective yield basis.

The effective interest method is a method of calculating the amortised cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments through the expected life of the financial liability, or, where appropriate, a shorter period.

## **Murray-Darling Basin Authority**

### **Notes to and forming part of the Financial Statements**

#### ***Supplier and other payables***

Supplier and other payables are recognised at amortised cost. Liabilities are recognised to the extent that the goods or services have been received (and irrespective of having been invoiced).

#### **1.15 Contingent Liabilities and Contingent Assets**

Contingent liabilities and contingent assets are not recognised in the Balance Sheet but are disclosed in the relevant schedules and notes. They may arise from uncertainty as to the existence of a liability or asset, or represent an existing liability or asset in respect of which settlement is not probable or the amount cannot be reliably measured. Contingent assets are reported when settlement is probable but not virtually certain and contingent liabilities are recognised when settlement is greater than remote.

#### **1.16 Financial Guarantee Contracts**

Financial guarantee contracts are accounted for in accordance with *AASB 139 Financial Instruments: Recognition and Measurement*. They are not treated as a contingent liability, as they are regarded as financial instruments outside the scope of *AASB 137 Provisions, Contingent Liabilities and Contingent Assets*.

#### **1.17 Acquisition of Assets**

Assets are recorded at cost on acquisition except as stated below. The cost of acquisition includes the fair value of assets transferred in exchange and liabilities undertaken. Financial assets are initially measured at their fair value plus transaction costs where appropriate.

Assets acquired at no cost, or for nominal consideration, are initially recognised as assets and revenues at their fair value at the date of acquisition, unless acquired as a consequence of restructuring of administrative arrangements. In the latter case, assets are initially recognised as contributions by owners at the amounts at which they were recognised in the transferor Agency's accounts immediately prior to the

#### **1.18 Property, Plant and Equipment**

##### ***Asset Recognition Threshold***

Purchases of property, plant and equipment are recognised initially at cost in the Balance Sheet, except for purchases costing less than \$2,000 in which case they are expensed in the year of acquisition (other than where they form part of a group of similar items which are significant in total).

The initial cost of an asset includes an estimate of the cost of dismantling and removing the item and restoring the site on which it is located. This is particularly relevant to 'makegood' provisions in property leases taken up by the Authority where there exists an obligation to restore the property to its original condition. These estimated costs are included in the value of the Authority's leasehold improvements with a corresponding provision for the 'makegood' recognised.

##### ***Revaluations***

Fair value of Leasehold improvements and equipment are measured at depreciated replacement cost and market selling price respectively.

## Murray-Darling Basin Authority

### Notes to and forming part of the Financial Statements

Following initial recognition at cost, property plant and equipment are carried at fair value less subsequent accumulated depreciation and accumulated impairment losses. Valuations are conducted with sufficient frequency to ensure that the carrying amounts of assets do not differ materially from the assets' fair values as at the reporting date. The regularity of independent valuations depends upon the volatility of movements in market values for the relevant assets.

Revaluation adjustments are made on a class basis. Any revaluation increment is credited to equity under the heading of asset revaluation reserve except to the extent that it reverses a previous revaluation decrement of the same asset class that was previously recognised through operating result. Revaluation decrements for a class of assets are recognised directly through operating result except to the extent that they reverse a previous revaluation increment for that class.

Any accumulated depreciation as at the revaluation date is eliminated against the gross carrying amount of the asset and the asset restated to the revalue amount.

#### **Depreciation**

Depreciable property, plant and equipment assets are written-off to their estimated residual values over their estimated useful lives to the Authority using, in all cases, the straight-line method of depreciation. Leasehold improvements are depreciated on a straight-line basis over the lesser of the estimated useful life of the improvements or the unexpired period of the lease.

Depreciation rates (useful lives), residual values and methods are reviewed annually and necessary adjustments are recognised in the current, or current and future reporting periods, as appropriate.

Depreciation rates applying to each class of depreciable assets are based on the following useful lives.

	<b>Years</b>	<b>% - pa</b>
Motor Vehicles	<b>2-3</b>	<b>33%-57%</b>
Computers and IT equipment	<b>3-13</b>	<b>8%-33%</b>
Office Equipment	<b>2-13</b>	<b>8%-57%</b>
Furniture, Fixtures and Fittings	<b>3-20</b>	<b>5%-20%</b>
Leasehold Improvement	<b>6-10</b>	<b>11%-15%</b>
Software	<b>3</b>	<b>33%</b>

#### **Impairment of Non-current Assets**

All assets were assessed for impairment at 30 June 2010. Where evidence of impairment exists, the asset's recoverable amount is estimated and an impairment adjustment made if the assets recoverable amount is less than its carrying value.

The recoverable amount of an asset is the higher of its fair value less costs to sell and its value in use. Value in use is the present value of the future cash flows expected to be derived from the asset. Where the future economic benefit of an asset is not primarily dependent on the asset's ability to generate future cash flows, and the asset would be replaced if the Authority were deprived of the asset, its value in use is taken to be its depreciated replacement cost.

#### **1.19 Intangibles**

The Authority's intangibles comprise externally and internally developed software for internal use. These assets are carried at cost less accumulated amortisation and accumulated impairment losses (if applicable).

## **Murray-Darling Basin Authority**

### **Notes to and forming part of the Financial Statements**

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#### **Software - External Suppliers and Internally Developed**

Computer software is carried at cost less accumulated amortisation and accumulated impairment losses. Annual maintenance costs are expensed directly to the statement of comprehensive income.

Software is amortised over a maximum three year period on a straight line basis.

All software assets were assessed for indications of impairment as at 30 June 2010.

#### **1.20 Inventories**

Inventories - where held - are valued at the lower of cost and net realisable value. Inventories held for distribution are valued at cost, adjusted for any loss of service potential.

#### **1.21 Taxation**

The Authority is exempt from all forms of taxation except Fringe Benefit Tax (FBT) and the Goods and Services Tax (GST)

Revenue, expenses and assets are recognised net of GST:

- except where the amount of GST incurred is not recoverable from the ATO ; and
- except for receivables and payables.

#### **1.22 Interests in Joint Ventures**

The equity method is used to account for the Authority's interest in jointly controlled entities.

## **Murray-Darling Basin Authority**

### **Notes to and forming part of the Financial Statements**

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#### **Note 2: Events After the Balance Sheet Date**

No events have occurred after reporting date that should be brought to account or noted in the 2010 Financial Statements.

**Murray-Darling Basin Authority**  
**Notes to and forming part of the Financial Statements**

**Note 3: Expenses**

	2010	2009
	\$'000	\$'000
<u>Note 3A: Employee Benefits</u>		
Wages and Salaries	23,189	9,750
Superannuation		
Defined contribution plans	2,216	666
Defined benefit plans	1,951	808
Leave and other entitlements	3,114	631
Other	1,108	204
<b>Total employee benefits expense</b>	<b>31,578</b>	<b>12,059</b>

Note 3B: Supplier Expenses

**Goods and services**

Expenditure by State Constructing Authorities	102,825	48,934
Water Entitlements	72,360	65,725
Communication & IT Expenses	2,130	731
Water Licence Fee	2,121	1,336
Consultants	56,342	42,936
Recruitment	433	392
Training and development	728	205
Provision of goods & services	6,899	2,845
<b>Total goods and services</b>	<b>243,838</b>	<b>163,104</b>

**Goods and services are made up of:**

Provision of goods - external parties	907	1,497
Provision of goods - related entities	94	66
Rendering of services - external parties	230,334	157,219
Rendering of services - related entities	12,503	4,322
<b>Total goods and services</b>	<b>243,838</b>	<b>163,104</b>

**Other Supplier Expenses**

Operating lease rentals -unrelated entities:

Minimum lease payments	1,431	663
Workers compensation expenses	263	137
<b>Total other supplier expenses</b>	<b>1,694</b>	<b>800</b>

<b>Total supplier expenses</b>	<b>245,532</b>	<b>163,904</b>
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Note 3C: Depreciation and Amortisation

Depreciation

Motor vehicle	59	38
Furniture, fittings and office equipment	88	45
Computers and IT equipment	196	68
Leasehold improvements	178	76
<b>Total depreciation</b>	<b>521</b>	<b>227</b>

Amortisation

Computer software	530	158
<b>Total amortisation</b>	<b>530</b>	<b>158</b>

<b>Total depreciation and amortisation</b>	<b>1,051</b>	<b>385</b>
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Note 3D: Write-down and impairment of assets

Revaluation decrements - Plant & Equipment	141	-
Revaluation decrements - Leasehold Improvement	246	-
	<b>387</b>	<b>-</b>

Note 3E: Share of Operating Result of Joint Ventures

Share of operating result of joint ventures	2,265	1,330
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## Murray-Darling Basin Authority

### Notes to and forming part of the Financial Statements

#### Note 4: Income

	2010	2009
	\$'000	\$'000
<b>Note 4A: Contributions from Jurisdictions</b>		
Australian Government	83	779
New South Wales	29,721	15,523
Victoria	28,266	14,763
South Australia	24,388	12,737
Queensland	965	508
Australian Capital Territory	276	145
<b>Total contributions from Jurisdictions</b>	<b>83,699</b>	<b>44,455</b>

#### Note 4B: Other Income

<b>External parties</b>		
Hydropower generation	1,397	130
Salinity costs recovery	605	323
Legal fees recovery	80	107
Land and cottage rents	673	475
Contributions for research programs	-	1,058
Contribution to Water Recovery Measures	9,487	-
Other	51	1
<b>Total external parties</b>	<b>12,293</b>	<b>2,094</b>
<b>Related parties</b>		
Other	-	2
Contribution to Water Recovery Measures	27,775	-
<b>Total related parties</b>	<b>27,775</b>	<b>2</b>
<b>Total other income</b>	<b>40,068</b>	<b>2,096</b>

#### Note 4C: Interest

Interest on special account	-	13,522
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Prior year interest was booked as a receivable. Interest for the current year \$9.922m is included in Note 4F under Appropriations - Departmental Outputs.

#### Note 4D: Gain/(Loss) on Sale of Assets

<b>Motor Vehicles:</b>		
Proceeds from disposal	38	44
Net book value of assets disposed	(18)	(26)
<b>Computers &amp; IT Equipment</b>		
Proceeds from disposal	-	5
Net book value of assets disposed	-	-
<b>Net gain from sale of assets</b>	<b>20</b>	<b>23</b>

#### Note 4E: Other Gains

Resources received free of charge	58	58
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#### Note 4F: Revenue from Government

Appropriations - Departmental outputs	51,066	16,000
Special appropriation	-	441,487
<b>Total revenue from Government</b>	<b>51,066</b>	<b>457,487</b>



## Murray-Darling Basin Authority

### Notes to and forming part of the Financial Statements

#### Note 5: Financial Assets

	2010	2009
	\$'000	\$'000
<u>Cash and Cash Equivalents</u>		
Cash at bank	3,321	8,615
<b>Total cash and cash equivalents</b>	<b>3,321</b>	<b>8,615</b>
Appropriations receivable:		
Special account	256,022	353,897
<b>Total appropriations receivable</b>	<b>256,022</b>	<b>353,897</b>
Other		
GST receivable from the Australian Taxation Office	4,912	2,830
Accrued interest	-	13,522
Other debtors	663	1,313
<b>Total other receivables</b>	<b>5,575</b>	<b>17,665</b>
<b>Total trade and other receivables (gross)</b>	<b>261,597</b>	<b>371,562</b>
Receivables are expected to be recovered in:		
No more than 12 months	261,597	371,562
More than 12 months	-	-
<b>Total trade and other receivables (net)</b>	<b>261,597</b>	<b>371,562</b>
Receivables are aged as follows:		
Not overdue	261,474	371,497
Overdue by:		
0 to 30 days	-	-
31 to 60 days	16	-
61 to 90 days	-	65
More than 90 days	107	-
<b>Total receivables (gross)</b>	<b>261,597</b>	<b>371,562</b>

No indicators of impairment allowance were found for trade and other receivables.

## Murray-Darling Basin Authority

### Notes to and forming part of the Financial Statements

#### Note 6: Non-Financial Assets

	2010	2009
	\$'000	\$'000
Note 6A: <u>Property, Plant &amp; Equipment</u>		
<b>Motor Vehicles</b>		
- gross carrying value (at fair value)	165	189
- accumulated depreciation	-	(34)
<b>Total motor vehicles</b>	<b>165</b>	<b>155</b>
<b>Furniture, Fittings and Office Equipment</b>		
- gross carrying value (at fair value)	369	542
- accumulated depreciation	-	(45)
<b>Total furniture, fittings and office equipment</b>	<b>369</b>	<b>497</b>
<b>Computers &amp; IT Equipment</b>		
- gross carrying value (at fair value)	354	565
- accumulated depreciation	(3)	(68)
<b>Total computers &amp; IT equipment</b>	<b>351</b>	<b>497</b>
<b>Total property, plant &amp; equipment (non-current)</b>	<b>885</b>	<b>1,149</b>

All revaluations are independent and are conducted in accordance with the revaluation policy stated at Note 1. In 2009-10, the revaluation were conducted by an independent valuer of the Australian Valuation Office.

Revaluation increments of \$87,000 for Motor Vehicles (2008-09: Nil) were credited to the asset revaluation reserve by asset class and included in the equity section of the balance sheet. Revaluation decrements of \$138,000 (2007-08: Nil) for all other plant and equipment were debited to the profit and loss statement.

No indicators of impairment were found for plant and equipment.

Motor Vehicles with an appropriate market value of \$28,000 are expected to be sold within the next 12 months, no other plant and equipment are expected to sold or disposed within the next 12 months.

#### Note 6B: Leasehold Improvements

- fair value	1,395	1,758
- accumulated depreciation	-	(75)
<b>Total leasehold improvements (non-current)</b>	<b>1,395</b>	<b>1,683</b>

A revaluation decrement of \$246,000 (2008-09: Nil) for Leasehold Improvement was debited to the profit and loss statement.

No indicators of impairment were found for leasehold improvements.

No leasehold improvements are expected to be sold or disposed of within the next 12 months.

**Murray-Darling Basin Authority**  
**Notes to and forming part of the Financial Statements**

	2010	2009
	\$'000	\$'000
<u>Note 6C: Intangibles</u>		
<b>Computer Software</b>		
- at cost	2,985	1,449
- accumulated amortisation	(687)	(157)
<b>Total intangibles</b>	<b>2,298</b>	<b>1,292</b>

No indicators of impairment were found for intangible assets.

Note 6D: Other Non-Financial Assets

Prepayments	775	269
<b>Total other non-financial assets</b>	<b>775</b>	<b>269</b>

All other non-financial assets are expected to be recovered in no more than 12 months

No indicators of impairment were found for other non-financial assets.

**Murray-Darling Basin Authority**  
**Notes to and forming part of the Financial Statements**

**Note 6: Non-Financial Assets Continued**

Note 6E: Investment in Joint Ventures using the equity method 2009-10

Joint Venture	% Equity held by MDBA	Balance as at 30 June 2009 \$'000	Contribution During the year \$'000	Gain/(Loss) \$'000	Balance as at 30 June 2010 \$'000
Ewater Co-operative Research Centre	4.83%	-	500	(500)	-
Invasive Native Animals Co-operative Research Centre	21.02%	367	750	(876)	241
Murray-Darling Freshwater Research Centre	19.80%	302	865	(889)	278
		669	2,115	(2,265)	519

Investment in Joint Ventures using the equity method 2008-09

Joint Venture	% Equity held by MDBA	Balance as at 15 Dec 2008 \$'000	Contribution During the year \$'000	Gain/(Loss) \$'000	Balance as at 30 June 2009 \$'000
Ewater Co-operative Research Centre	4.83%	-	250	(250)	-
Invasive Native Animals Co-operative Research Centre	21.02%	462	750	(845)	367
Murray-Darling Freshwater Research Centre	19.80%	325	213	(236)	302
		787	1,213	(1,331)	669

**Murray-Darling Basin Authority**  
**Notes to and forming part of the Financial Statements**

**Note 6: Non-Financial Assets Continued**

Note 6f: Analysis of Property, Plant and Equipment

Table A - Reconciliation of the opening and closing balances of property, plant and equipment (2009-10)

Item	Motor Vehicles \$'000	Furniture, Fittings & Office Equipment \$'000	Computer and IT Equipment \$'000	Total Plant & Equipment \$'000	Leasehold Improvements \$'000	Total \$'000
<b>As at 1 July 2009</b>						
Gross book value	189	542	565	1,296	1,758	3,054
Accumulated depreciation and impairment	(34)	(45)	(68)	(147)	(75)	(222)
<b>Net book value 1 July 2009</b>	<b>155</b>	<b>497</b>	<b>497</b>	<b>1,149</b>	<b>1,683</b>	<b>2,832</b>
<b>Additions:</b>						
By purchase	-	19	130	149	137	286
Depreciation expense	(59)	(88)	(196)	(343)	(179)	(522)
Other disposals	(18)	-	(1)	(19)	-	(19)
Revaluations and impairments recognised in the operating result	-	(59)	(79)	(138)	(246)	(384)
Revaluations and impairments through equity	87	-	-	87	-	87
<b>Net book value 30 June 2010</b>	<b>165</b>	<b>369</b>	<b>351</b>	<b>885</b>	<b>1,395</b>	<b>2,280</b>
<b>Net book value as of 30 June 2010 represented by:</b>						
Gross book value	165	369	354	888	1,395	2,283
Accumulated depreciation	-	-	(3)	(3)	-	(3)
Accumulated impairment losses	-	-	-	-	-	-
<b>Net book value</b>	<b>165</b>	<b>369</b>	<b>351</b>	<b>885</b>	<b>1,395</b>	<b>2,280</b>

## Murray-Darling Basin Authority

### Notes to and forming part of the Financial Statements

Table A - Reconciliation of the opening and closing balances of property, plant and equipment (2008-09)

Item	Motor Vehicles \$'000	Furniture, Fittings & Office Equipment \$'000	Computer and IT Equipment \$'000	Total Plant & Equipment \$'000	Leasehold Improvements \$'000	Total \$'000
<b>As at 1 July 2008</b>						
Gross book value	-	-	-	-	-	-
Accumulated depreciation and impairment	-	-	-	-	-	-
<b>Net book value 1 July 2008</b>	-	-	-	-	-	-
<b>Additions:</b>						
By purchase	-	46	321	367	456	823
By acquisition of entities of operation (including restructuring)	219	496	244	959	1,302	2,261
Depreciation expense	(38)	(45)	(68)	(151)	(75)	(226)
Other disposals	(26)	-	-	(26)	-	(26)
Revaluations and impairments through equity	-	-	-	-	-	-
<b>Net book value 30 June 2009</b>	<b>155</b>	<b>497</b>	<b>497</b>	<b>1,149</b>	<b>1,683</b>	<b>2,832</b>
<b>Net book value as of 30 June 2009 represented by:</b>						
Gross book value	189	542	565	1,296	1,758	3,054
Accumulated depreciation	(34)	(45)	(68)	(147)	(75)	(222)
Accumulated impairment losses	-	-	-	-	-	-
<b>Net book value</b>	<b>155</b>	<b>497</b>	<b>497</b>	<b>1,149</b>	<b>1,683</b>	<b>2,832</b>

**Murray-Darling Basin Authority**  
**Notes to and forming part of the Financial Statements**

**Note 6: Non-Financial Assets Continued**

Table B: Reconciliation of the opening and closing balances of intangibles (2009-10).

Item	Computer Software Internally Developed	Computer Software Purchased	Total
	\$'000	\$'000	\$'000
<b>As at 1 July 2009</b>			
Gross book value	269	1,180	1,449
Accumulated amortisation and impairment	(132)	(25)	(157)
<b>Net book value 1 July 2009</b>	<b>137</b>	<b>1,155</b>	<b>1,292</b>
<b>Additions:</b>			
By purchase	-	1,535	1,535
By internally developed	585	-	585
Amortisation	(147)	(383)	(530)
<b>Net book value 30 June 2010</b>	<b>438</b>	<b>1,152</b>	<b>1,590</b>
<b>Net book value as of 30 June 2010 represented by:</b>			
Gross book value	854	2,131	2,985
Accumulated amortisation	(279)	(408)	(687)
Accumulated impairment losses	-	-	-
<b>Net book value</b>	<b>575</b>	<b>1,723</b>	<b>2,298</b>

Table B: Reconciliation of the opening and closing balances of intangibles (2008-09).

Item	Computer Software Internally Developed	Computer Software Purchased	Total
	\$'000	\$'000	\$'000
<b>As at 1 July 2008</b>			
Gross book value	-	-	-
Accumulated amortisation and impairment	-	-	-
<b>Net book value 1 July 2008</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Additions:</b>			
By purchase	269	-	269
From acquisition of entities or operations (incl.restructuring)	-	1,022	1,022
By internally developed	-	158	158
Amortisation	(132)	(25)	(157)
<b>Net book value 30 June 2009</b>	<b>137</b>	<b>1,155</b>	<b>1,292</b>
<b>Net book value as of 30 June 2009 represented by:</b>			
Gross book value	269	1,180	1,449
Accumulated amortisation	(132)	(25)	(157)
Accumulated impairment losses	-	-	-
<b>Net book value</b>	<b>137</b>	<b>1,155</b>	<b>1,292</b>

## Murray-Darling Basin Authority

### Notes to and forming part of the Financial Statements

#### Note 7: Payables

	2010	2009
	\$'000	\$'000

##### Note 7A: Suppliers

Trade creditors	36,867	38,286
<b>Total supplier payables</b>	<b>36,867</b>	<b>38,286</b>

Supplier payables expected to be settled within 12 months:

Related entities	464	4,339
External parties	36,403	33,947
<b>Total supplier payables</b>	<b>36,867</b>	<b>38,286</b>

Settlement is usually made net 30 days.

##### Note 7B: Other Payables

Salaries and wages	455	338
Superannuation	89	48
<b>Total other payables</b>	<b>544</b>	<b>386</b>

Other payables are expected to be settle within 12 months.

##### Note 7C: Revenue Received in Advance

Revenue received in advance - external entities	386	9,883
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## Murray-Darling Basin Authority

### Notes to and forming part of the Financial Statements

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#### Note 8: Non-Interest Bearing Liabilities

	2010	2009
	\$'000	\$'000
Lease incentive	<u>886</u>	<u>1,018</u>
Payable:		
No more than 12 months	131	131
More than 12 months	<u>755</u>	<u>887</u>
<b>Total lease incentive</b>	<u><b>886</b></u>	<u><b>1,018</b></u>

A lease fitout incentive received on execution of the lease on 51 Allara Street will be amortised over ten years term of the lease from April 2007.

#### Note 9: Employee Provisions

<b>Leave</b>	<u><b>6,592</b></u>	<u><b>4,336</b></u>
Employee provisions are expected to be settled in:		
No more than 12 months	1,700	1,084
More than 12 months	<u>4,892</u>	<u>3,252</u>
<b>Total employee provisions</b>	<u><b>6,592</b></u>	<u><b>4,336</b></u>

## Murray-Darling Basin Authority

### Notes to and forming part of the Financial Statements

#### Note 10: Cash Flow Reconciliation

	2010	2009
	\$'000	\$'000
<b>Reconciliation of cash and cash equivalents as per Balance Sheet to Cash Flow Statement</b>		
<b>Cash and cash equivalents as per:</b>		
Cash flow statement	3,321	8,615
Balance sheet	3,321	8,615
<b>Difference</b>	-	-
<b>Reconciliation of net cost of services to net cash from operating activities:</b>		
Net cost of services	(154,703)	339,963
Add revenue from Government	51,066	-
Less Share of Operating Result in Joint Venture Investment	(2,265)	-
<b>Adjustment for non-cash items</b>		
Depreciation /amortisation	1,051	385
Write-down and impairment of assets	387	-
Gain on disposal of assets	(20)	(23)
<b>Changes in assets / liabilities</b>		
(Increase) / decrease in net receivables	109,965	(365,909)
(Increase) / decrease in inventories	-	108
(Increase) / decrease in other non-financial assets	(506)	(40)
(Increase) / decrease in Joint Venture Investments	150	-
Increase / (decrease) in supplier payables	(1,421)	29,439
Increase / (decrease) in other payables	158	990
Increase / (decrease) in revenue in advance	(9,497)	4,005
Increase / (decrease) in lease incentive	(132)	(71)
Increase / (decrease) in employee provisions	2,256	970
<b>Net cash from / (used by) operating activities</b>	<b>(3,511)</b>	<b>9,817</b>

## **Murray-Darling Basin Authority**

### **Notes to and forming part of the Financial Statements**

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#### **Note 11: Contingent Liabilities and Assets**

##### **Quantifiable Contingencies**

Nil

##### **Unquantifiable Contingencies**

In 2003, the Authority was joined as a party to a Native Title Determination Application before the courts related to land rights. It is not possible to estimate any liabilities arising out of this matter. The matter is currently subject to mediation.

In May 2008, a group of landowners lodged a claim in the Victorian Civil and Administrative Tribunal in relation to salinity impacts on land. The landowners appealed to the Supreme Court of Victoria. On 30 July 2009, the landowners discontinued their appeal against the Authority. The matter continues against Goulburn-Murray Rural Water Corporation.

Under Section 239F of *Water Act 2007* the liabilities of the Murray-Darling Basin Commission became liabilities of the Authority. This included any liability, duty or obligation, whether contingent or prospective, but does not include a liability, duty or obligation imposed by:

- (a) an Act; or
- (b) regulations or other subordinate legislation made under an ACT; or
- (c) the *Murray-Darling Basin Act 1992* of New South Wales; or
- (d) the *Murray-Darling Basin Act 1993* of Victoria; or
- (e) the *Murray-Darling Basin Act 1996* of Queensland; or
- (f) the *Murray-Darling Basin Act 1993* of South Australia; or
- (g) the former MDB Agreement.

To avoid doubt, this section does not apply to liabilities that relate to River Murray Operations assets or Living Murray Initiative assets, except to the extent that they were liabilities of the Murray-Darling Basin Commission.

## Murray-Darling Basin Authority

### Notes to and forming part of the Financial Statements

#### Note 12: Senior Executive Remuneration

##### Note 12 A Executive Remuneration:

	2010	2009 <sup>2</sup>
<b>The number of senior executives who received:</b>		
less than \$145,000 <sup>1</sup>	-	-
\$145,000 to \$159,999	-	-
\$160,000 to \$174,999	-	-
\$175,000 to \$189,999	1	-
\$190,000 to \$204,999	-	-
\$205,000 to \$219,999	-	1
\$215,000 to \$229,999	3	-
\$230,000 to \$244,999	2	-
\$245,000 to \$259,999	1	-
\$260,000 to \$274,999	1	-
\$275,000 to \$289,999	2	-
\$290,000 to \$304,999	-	-
\$305,000 to \$329,999	1	-
\$330,000 to \$344,999	-	-
\$345,000 to \$359,999	-	-
\$360,000 to \$374,999	1	-
<b>Total</b>	<b>12</b>	<b>1</b>

1. Excluding acting arrangements and part-year service.

2. The MDBA was established under the *Water Act 2007* in March 2008 and commenced operation on 08 September 2008. The staff of the Murray-Darling Basin Commission were taken over by the Authority on 15 December 2008. The 2009 comparatives refers to the part year only.

#### Total expense recognised in relation to Senior Executive employment

	\$000	\$000
Short-term employee benefits		
Salary (including annual leave taken)	2,030,058	104,667
Changes in annual leave provisions	62,235	11,818
Performance bonus	24,766	-
Other <sup>1</sup>	339,672	29,830
<b>Total Short-term employee benefits</b>	<b>2,456,731</b>	<b>146,315</b>
Superannuation (post-employment benefits)	487,801	59,038
Other long-term benefits	135,371	8,065
<b>Total</b>	<b>3,079,903</b>	<b>213,418</b>

During the year the entity paid \$Nil in termination benefits to senior executives (2009: \$Nil).

##### Notes

1. "Other" includes motor vehicle allowances and other allowances.

**Murray-Darling Basin Authority**  
Notes to and forming part of the Financial Statements

**Note 12: Senior Executive Remuneration (continued)**

**Note 12B Salary Packages of Senior Executives**

Average annualised remuneration packages for substantive Senior Executives employed at:

	As at 30 June 2010			As at 30 June 2009		
	No. SES	Base Salary (including annual leave)	Total Remuneration Package <sup>1</sup>	No. SES	Base Salary (including annual leave)	Total Remuneration Package <sup>1</sup>
<b>Total remuneration:</b>		\$000	\$000		\$000	\$000
less than \$145,000	-	-	-	-	-	-
\$145,000 to \$159,999	-	-	-	-	-	-
\$160,000 to \$174,999	-	-	-	-	-	-
\$175,000 to \$189,999	-	-	-	-	-	-
\$190,000 to \$204,999	1	150,759	201,752	2	137,939	186,509
\$205,000 to \$219,999	1	156,872	209,020	2	163,312	209,045
\$215,000 to \$229,999	4	184,463	224,467	3	176,550	216,628
\$230,000 to \$244,999	1	182,288	242,240	2	177,840	236,418
\$245,000 to \$259,999	1	198,310	254,349	-	-	-
\$260,000 to \$274,999	1	198,310	267,041	2	223,630	270,595
\$275,000 to \$289,999	2	230,898	280,178	-	-	-
\$290,000 to \$304,999	-	-	-	-	-	-
\$305,000 to \$329,999	-	-	-	-	-	-
\$330,000 to \$344,999	-	-	-	-	-	-
\$345,000 to \$359,999	-	-	-	-	-	-
\$360,000 to \$374,999	-	-	-	1	286,980	372,760
\$375,000 to \$389,999	1	295,585	382,460	-	-	-
<b>Total</b>	<b>12</b>			<b>12</b>		

**Notes**

1. Non-Salary elements available to Senior

Executives include:

- (a) Accommodation and reunion allowance
- (b) Motor vehicle allowance
- (c) Superannuation

**Murray-Darling Basin Authority**  
**Notes to and forming part of the Financial Statements**

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**Note 13: Remuneration of Auditors**

	<b>2010</b>	2009
	<b>\$'000</b>	\$'000

Financial statement audit services were provided free of charge to the Authority.

The fair value of the services provided was:

Australian National Audit Office - MDBA 30 June	<u>58</u>	<u>58</u>
	<u>58</u>	<u>58</u>

Other Services provided by ANO and paid by the Authority.

Australian National Audit Office - Living Murray Initiative Joint Venture Special Purpose Financial Statements to 30 June	<b>22</b>	27
Australian National Audit Office - River Murray Operations Joint Venture Special Purpose Financial Statements to 30 June	<u>24</u>	<u>27</u>
	<u>46</u>	<u>54</u>

No other services were provided by the Auditor-General.

**Murray-Darling Basin Authority**  
**Notes to and forming part of the Financial Statements**

**Note 14: Financial Instruments**

	2010	2009
	\$'000	\$'000
<b>14A: Categories of Financial Instruments</b>		
Financial Assets:		
Loans and receivables:		
Cash and cash equivalents	3,321	8,615
Trade receivables	175	362
<b>Carrying amount of financial assets</b>	<b>3,496</b>	<b>8,977</b>
Financial Liabilities:		
<i>At amortised cost:</i>		
Trade creditors	36,867	38,286
Revenue received in advance	386	9,883
<b>Carrying amount of financial liabilities</b>	<b>37,253</b>	<b>48,169</b>
<b>14B: Net Income and Expense from Financial Assets</b>		
Loans and receivables		
Interest revenue	-	13,522
<b>Net income from receivables</b>	<b>-</b>	<b>13,522</b>
<b>Net income from financial assets</b>	<b>-</b>	<b>13,522</b>

**14C: Fair Value of Financial Instruments**

All financial instruments are held at fair value

## Notes to and forming part of the Financial Statements

### Note 14: Financial Instruments Continued

#### 14D: Credit Risk Exposure

Credit risk represents the loss that would be recognised if counterparties failed to perform as contracted. The maximum credit risk on financial assets of which the Authority recognised is exposed is the carrying amount net of any impairment loss as indicated in the Balance Sheet. Due to the nature of the majority of the Authority's receivables are from Government Agencies, such risk is considered by the Authority to be low.

MDBA holds no collateral to mitigate against credit risk.

#### Credit quality of financial instruments not past due or individually determined as impaired

	Not past due nor impaired 2010 \$'000	Not past due nor impaired 2009 \$'000
Cash and cash equivalents	3,321	8,615
Trade receivables	175	362
<b>Total</b>	<b>3,496</b>	<b>8,977</b>

#### 14E: Liquidity Risk

#### Maturities for financial liabilities 2010

	within 1 year \$'000	1 to 5 years \$'000	>5 years \$'000	Total 2010 \$'000
Finance lease	-	-	-	-
Trade creditors	36,867	-	-	36,867
Revenue received in advance	386	-	-	386
<b>Total</b>	<b>37,253</b>	<b>-</b>	<b>-</b>	<b>37,253</b>

MDBA's financial liabilities are payables and revenue receivable in advance.

MDBA is appropriated funding from the Australian Government and Jurisdictions and the MDBA manages its budgeted funds to ensure it has adequate funds to meet payments as they fall due. In addition, the MDBA has policies in place to ensure timely payment are made when due and has no past experience of default.

#### 14F: Market Risk

The Authority holds basic financial instruments that do not expose the Authority to certain market risks. The Authority is not exposed to 'Currency risk' or 'Other past due' financial risks. The Authority does not have any interest bearing liabilities at the period end.



## Murray-Darling Basin Authority

### Notes to and forming part of the Financial Statements

#### Note 15: Appropriations

**Table 1: Acquittal of Authority to Draw Cash from the Consolidated Revenue Fund for Ordinary Annual Services Appropriations**

Particulars	Departmental Outputs	
	2010 \$'000	2009 \$'000
Balance brought forward from previous period ( <i>Appropriation Acts</i> )	-	-
<i>Appropriation Act:</i>		
<i>Appropriation Act (No. 1) 2009-2010 as passed</i>	50,349	-
<i>Appropriation Act (No. 3) 2009-2010 as passed</i>	717	-
<i>FMA Act:</i>		
Adjustment of appropriations on change of agency function (FMA Act s 32)	-	18,566
<b>Total appropriation available for payments</b>	<b>51,066</b>	<b>18,566</b>
Cash payments made during the year (GST inclusive)		
Appropriations credited to special accounts (GST exclusive)	(51,066)	(18,566)
Balance of authority to draw cash from the Consolidated Revenue Fund for ordinary annual services appropriations and as represented by:	-	-
Cash at bank and on hand	-	-
Departmental appropriations receivable	-	-
<b>Total as at 30 June</b>	<b>-</b>	<b>-</b>

**Table 2: Acquittal of Authority to Draw Cash from the Consolidated Revenue Fund for Other than Ordinary Annual Services Appropriations**

Particulars	Departmental	
	2010 \$'000	2009 \$'000
Balance brought forward from previous period ( <i>Appropriation Acts</i> )	-	-
<i>Appropriation Act:</i>		
<i>Appropriation Act (No. 2) 2009-2010 as passed</i>	13,522	-
<b>Total appropriation available for payments</b>	<b>13,522</b>	<b>-</b>
Cash payments made during the year (GST inclusive)		
Appropriations credited to special accounts (GST exclusive)	(13,522)	-
Balance of authority to draw cash from the Consolidated Revenue Fund for	-	-
Cash at bank and on hand	-	-
Departmental appropriations receivable	-	-
<b>Total as at 30 June</b>	<b>-</b>	<b>-</b>

## Murray-Darling Basin Authority

### Note 16: Special Account

	2010 \$'000	2009 \$'000
<b>Departmental - Murray Darling Special Account</b>		
Appropriation: <i>Financial Management and Accountability Act 1997 section 21</i>		
Establishing Instrument: <i>Water Act 2007 s 209</i>		
<i>Purpose:</i>		
i) in payment or discharge of the costs, expenses and other obligations incurred by the Authority in the performance of the Authority's functions;		
ii) in payment of any remuneration and allowances payable to any person under the <i>Water Act 2007</i> ; and		
iii) meeting the expenses of administering the Account.		
Balance brought forward from previous period	365,342	-
<i>Appropriation Act:</i>		
Appropriation Act (No. 1) 2009-2010 as passed	50,349	-
Appropriation Act (No. 2) 2009-2010 as passed	13,522	-
Appropriation Act (No. 3) 2009-2010 as passed	717	-
<i>FMA Act:</i>		
Adjustment or appropriation on change of agency functions (FMA Act s 32)	-	18,566
Appropriations to take account of recoverable GST (FMA Act section 30A)	17,820	14,655
Transition from Murray-Darling Basin Commission	-	441,487
Contribution from Jurisdictions	83,616	40,018
Other receipts	31,524	900
<b>Total increase</b>	<b>197,548</b>	<b>515,626</b>
Payments made to employees	29,166	10,583
Payments made to suppliers	269,469	139,701
<b>Total decrease</b>	<b>298,635</b>	<b>150,284</b>
<b>Balance carried to next period (excluding investment balances) and represented by:</b>	<b>264,255</b>	<b>365,342</b>
Cash - held by the agency	3,321	8,615
Cash - held in the Official Public Account	256,022	353,897
Receivables - Net GST Receivable from ATO	4,912	2,830
<b>Total balance carried to the next period</b>	<b>264,255</b>	<b>365,342</b>

### Note 17: Special Appropriation - Departmental

**Acquittal of Authority to Draw Cash from the Consolidated Revenue Fund - Special Appropriations (Unlimited Amount)**

<i>Purpose:</i> Amount available to the MDBA in accordance with Section 239C and 239T of the <i>Water Act 2007 - Act No.137</i> - to perform the functions of the Authority including those functions of the Murray-Darling Basin Act.	Departmental Outputs	
	2010 \$'000	2009 \$'000
<b>Nature: Departmental</b>		
Cash payments made during the year	-	-
Total charged to Special Appropriation	-	-
Appropriation credited to Special Account	-	441,487

## **Notes to and forming part of the Financial Statements**

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### **Note 18: Compensation and Debt Relief**

#### **Departmental**

No payments were made during the reporting period.

No 'Act of Grace' expenses were made during the reporting period. (2008-09: Nil)

No waivers of amounts owing to the Australian Government were made pursuant to subsection 34(1) of the Financial Management and Accountability Act 1997 (2008-09: Nil).

No payments were provided under the Compensation for Detriment caused by Defective Administration (CDDA) Scheme during the reporting period (2008-09: Nil)

No ex-gratia payments were provided for during the reporting period (2008-09: Nil).

No payments were provided in special circumstances relating to APS employment pursuant to section 73 of the Public Service Act 1999 (PS Act) during the reporting period. (2008-09: Nil).

No payments were made under s73 of the *Public Service Act 1999* during the reporting period.

### **Note 19: Reporting of Outcomes**

The Authority has one outcome. The Authority's activities are classified as departmental (refer to Note 1.1).

## APPENDIXES



# APPENDIX A

## MDBA governance bodies and committees

### **Murray–Darling Basin Authority**

#### **Chair**

Mr Michael Taylor, AO

#### **Members**

Mr Rob Freeman, MDBA Chief Executive

Ms Dianne Davidson

Mr David Green

Dr Diana Day

Professor Barry Hart

The Authority held 24 meetings during 2009–10. Among its significant outcomes for the year were:

- six regional meetings, several community information sessions and forums with peak bodies, scientists and government
- a meeting with the Murray–Darling Basin Ministerial Council and a briefing with the Basin Officials Committee on the development of the proposed Basin Plan
- production of *The development of sustainable diversion limits for the Murray–Darling Basin — Issues paper*, accompanied by a consultation and submissions process
- establishment of the Northern Murray–Darling Basin Aboriginal Nations to progress Aboriginal engagement matters in that region
- concentrated major effort on the production of the *Guide to the proposed Basin Plan*, to be released in 2010; this effort involved reviewing scientific evidence, analysing stakeholder feedback and consultants' reports, and determining policy
- agreed to develop and release the *Guide to the proposed Basin Plan* documents ahead of the proposed Basin Plan.

## **Murray–Darling Basin Ministerial Council**

### **Chair**

Senator the Hon Penny Wong (Commonwealth)

### **Members**

The Hon Phillip Costa (New South Wales)

The Hon Tim Holding (Victoria)

The Hon Karlene Maywald (to 20 March 2010) (South Australia)

The Hon Paul Caica (from 2 May 2010) (South Australia)

The Hon Stephen Robertson (Queensland)

Mr Simon Corbell (Australian Capital Territory)

The Ministerial Council held two meetings during 2009–10, and achieved the following significant outcomes:

- approved the MDBA draft corporate plan for 2010–11 to 2013–14
- approved the MDBA Asset Management Plan
- approved the commencement of a review of Ministerial Council resolutions
- approved refurbishment of the Mildura–Merbein salt interception scheme
- approved additions to the register of water recovered for the environment under The Living Murray program.

## **Basin Officials Committee**

### **Chair**

Dr James Horne (Commonwealth)

### **Members**

Mr David Harriss (New South Wales)

Mr David Downie (Victoria)

Mr Scott Ashby (South Australia)

Ms Debbie Best (Queensland)

Mr David Butt (to 19 April 2010)  
(Australian Capital Territory)

Mr David Papps (from 20 April 2010)  
(Australian Capital Territory)

The committee held 10 meetings during the year. Its significant outcomes included:

- commissioned a review and received a taskforce report on the Murray–Darling Basin Agreement
- agreed a strategy for MDBA funding beyond 2010–11 for approval by the Ministerial Council
- approved the objectives and outcomes to be achieved by the Authority in relation to a River Murray system operations document for the 2009–10 water year
- reviewed the 2009–10 water-sharing arrangements and agreed that they worked efficiently to achieve their intended outcomes in 2009–10
- discussed and agreed upon water management issues arising from floodwaters from northern New South Wales entering the Menindee Lakes system
- agreed to submit the MDBA draft corporate plan for 2010–11 to 2013–14 to the Ministerial Council.

## Basin Community Committee

### Chair

Ms Joan Burns

### Members

Ms Danielle Anderson	Mr Jeff Parish
Ms Arlene Buchan	Mr Russell Pell
Ms Cheryl Buchanan	Ms Kathryn Ridge
Mr Ian Falconer	Mr Matthew Rigney
Ms Mary-Lou Gittins	Mr Guy Roth
Mr Les Gordon	Mr Dick Thompson
Mr Henry Jones	Mr Rory Treweek
Ms Sarah Nicholas	

The committee held 10 meetings during the year and achieved the following significant outcomes:

- Held community information sessions that included representatives from councils, Indigenous Australian communities, industry, environment, local and state government that:
  - informed stakeholders about the proposed Basin Plan
  - gave context to the stakeholder engagement strategy
  - provided opportunities for members to hear about local issues

The last three meetings for 2009–10 focused mainly on Basin Plan development updates, and were held in central locations to enable attendees to access MDBA staff.

- Established Basin Community Committee subcommittees (e.g. Irrigation Subcommittee, Environmental Water Subcommittee, and the Indigenous Water Subcommittee, as well as an additional subcommittee focusing on urban, industry and recreation water matters).
- Supported the Northern Basin Indigenous Australian gathering held in Moree on 9 and 10 December, after which the Northern Murray–Darling Basin Aboriginal Nations was formed.
- Provided feedback to MDBA on the:
  - draft management objectives and outcomes of the proposed Basin Plan
  - elements of the Stakeholder Engagement Strategy
  - socioeconomic context paper for the Basin Plan
  - sustainable diversion limits issues paper
  - recognition of Aboriginal cultural flows
  - draft Frontier Economics report
  - draft water quality and salinity management plan
  - content, structure and format of the draft Basin Plan
  - critical human water needs information
  - engagement activities during the 16-week consultation phase
  - *Guide to the proposed Basin Plan*
  - peer review: progress and analysis.



## APPENDIX B

# Progress against key performance indicators 2009–10

### **Annual report against 2009–10 Portfolio Budget Statements**

The following tables (B.1 to B.6) record the Murray–Darling Basin Authority’s progress against Portfolio Budget Statement deliverables and key performance indicators for the full financial year 2009–10.

Key performance indicators for the proposed Basin Plan were based on the MDBA’s Corporate Plan 2009–13.

Table B.1 Basin Plan deliverables

BASIN PLAN PROGRAM		
Objective: To develop a Basin Plan and administer its implementation in accordance with the Commonwealth Water Act 2007		
Deliverables	Comments	
Environmentally sustainable limits developed for the quantities of surface water and groundwater taken from the Basin water resources	<p>The Commonwealth Water Act 2007 requires the proposed Basin Plan to include maximum long-term annual average quantities of water that can be taken on a sustainable basis (i.e. long-term average sustainable diversion limits, or SDLs). Significant progress has been made on this work during 2009–10.</p> <p>A robust modelling platform has been developed to guide the development of SDLs, using the existing models in use by Basin states. This platform includes updated versions of the integrated river system modelling framework and numerical groundwater models used in CSIRO's Murray–Darling Basin Sustainable Yields Project.</p> <p>Drawing on a range of information sources, key environmental assets and key ecosystem functions were identified for surface water and form the basis for determining the Basin's environmental water requirements. Analogous work was undertaken for groundwater to determine an environmentally sustainable level of take. Work was also commissioned to fill gaps in existing social and economic knowledge and allow analysis of the potential implications of SDLs.</p> <p>The Murray–Darling Basin Authority (MDBA) sought public input on the approach to developing SDLs through the release of a discussion document in November 2009, while technical methods underpinning the development of SDLs underwent peer review in mid-2010. Related work was also undertaken to determine the requirements that state water resource plans must meet to ensure they effectively implement the SDLs in the proposed Basin Plan.</p> <p>Work will continue during 2010–11 to improve understanding of environmental water requirements and socioeconomic considerations, and to refine the river system and groundwater modelling ahead of finalising the SDLs.</p>	

BASIN PLAN PROGRAM		
Objective: To develop a Basin Plan and administer its implementation in accordance with the Commonwealth Water Act 2007		
Deliverables	Comments	
Basin-wide environmental objectives, water quality objectives and salinity objectives developed	<p>MDBA defined a suite of broad strategic objectives of the proposed Basin Plan, as required by the Water Act, including a number of objectives relating to ecological health, ecosystem resilience, environmental sustainability and water quality and salinity.</p> <p>During 2009–10, MDBA worked with the Basin states and the Commonwealth Environmental Water Holder to develop more detailed environmental objectives for the Basin's water-dependent ecosystems as part of the development of a proposed environmental watering plan, as well as broad targets for measuring progress against the objectives. Work to establish more detailed targets was progressed as part of the process for determining the environmental water requirements of key environmental assets and key ecosystem functions.</p> <p>Preparation of a draft water quality and salinity management plan proceeded during 2009–10, including development of objectives and targets informed by extensive consultation with state agencies and other stakeholders. The draft water quality and salinity management plan will set objectives at the Basin scale with targets at the catchment scale, and will build on existing established frameworks, including the Basin Salinity Management Strategy and the National Water Quality Management Strategy.</p> <p>This work will be finalised during 2010–11.</p>	
A water trading regime developed across the Murray–Darling Basin	<p>The Water Act requires the Basin Plan to include rules for the trading or transfer of tradeable water rights, and those rules must contribute to achieving the water market and trading objectives set out in the Act. In preparing the rules, MDBA is required to obtain and take account of advice from the Australian Competition and Consumer Commission (ACCC).</p> <p>During 2009–10, MDBA provided technical support and input to the ACCC. Its advice was received in March 2010 and covered a range of issues relating to reducing barriers to trade, ensuring equal access to information, minimising transaction costs and minimising costs to third parties. The ACCC's advice informed the MDBA's preparation of draft rules for the proposed Basin Plan, as well as the development of requirements that state water resource plans must meet in respect of the circumstances in which water rights may be traded or transferred and the conditions applicable to such transactions.</p> <p>This work complements processes that are already underway, led by the federal Department of the Environment, Water, Heritage and the Arts in consultation with the state and territory governments, to improve the reporting and availability of information for water market participants. The detailed rules will be finalised in 2010–11 for inclusion in the proposed Basin Plan.</p>	

BASIN PLAN PROGRAM		
Objective: To develop a Basin Plan and administer its implementation in accordance with the Commonwealth Water Act 2007		
Deliverables	Comments	
Requirements for accreditation and adoption of water resource plans for water resource areas identified	<p>Under the Water Act, the proposed Basin Plan must set out the requirements that water resource plans must comply with before they can be accredited by the Commonwealth Water Minister. In this way, the requirements ensure that water resource plans are consistent with the overarching Basin Plan.</p> <p>MDBA undertook considerable work during 2009–10 to identify water resource plan requirements, including the mandatory requirements specified in the Act and a number of additional requirements. MDBA also continued work on articulating the evaluation framework and process for accrediting plans.</p> <p>Once the draft requirements are prepared and released in the proposed Basin Plan, MDBA will undertake detailed consultation with stakeholders, in particular state agencies, as part of the process to finalise the requirements.</p>	
Stakeholder engagement and consultation required to develop the Basin Plan undertaken	<p>During 2009–10, the Basin Plan Stakeholder Engagement Strategy was developed and implemented. The strategy is available on the MDBA website. Extensive assessment of the effectiveness of the Basin Plan engagement strategy has been carried out to date, including a mid-term review.</p>	

Legend

 Achieved


 Progress continuing

Table B.2 Basin Plan key performance indicators

BASIN PLAN PROGRAM			
Objective: To develop a Basin Plan and administer its implementation in accordance with the Commonwealth Water Act 2007			
Key performance indicators	Performance status	Comments	
(a) Basin Plan developed consistent with the requirements of the Water Act		Preparation of a proposed Basin Plan substantially progressed during 2009–10, including the development of policies and the drafting of the legislative instrument. Ongoing internal and external legal reviews have ensured development remains consistent with the requirements of the Water Act.  The proposed Basin Plan is scheduled for release during 2010–11, followed by the formal statutory consultation period. The final Basin Plan will be considered by the Commonwealth Water Minister once formal submissions have been considered.	
(b) Key information for the implementation of the proposed Basin Plan identified, collected and analysed		MDBA identified, collected and analysed the best-available information, data, hydrologic modelling and scientific knowledge during the development of the proposed Basin Plan to ensure the plan is underpinned by a robust evidence base. MDBA has also undertaken significant new work where required, in particular in the area of socioeconomic analysis.  Since not all information and knowledge is of the same quality, a classification system has been developed and applied to all datasets and publications used to develop the proposed Basin Plan. This indicates the degree of confidence that can be placed on each source of information.  Once the proposed Basin Plan is released in 2010–11, MDBA intends to make the evidence base available for public scrutiny. MDBA is also identifying further investigations for inclusion in future work programs.	

BASIN PLAN PROGRAM			
Objective: To develop a Basin Plan and administer its implementation in accordance with the Commonwealth Water Act 2007			
Key performance indicators	Performance status	Comments	
(c) Evaluation, Monitoring and Compliance Program established	●	<p>During 2009–10, MDBA substantially continued development of a proposed monitoring and evaluation program, using the Commonwealth's Monitoring, Evaluation, Reporting and Improvement Framework and applying program logic to identify immediate-, intermediate- and longer-term outcomes for various elements of the Basin Plan.</p> <p>MDBA also developed a proposed compliance and enforcement framework during 2009–10, including a proposed method for assessing compliance with the sustainable diversion limits.</p> <p>Initial consultation with Basin states has provided useful feedback, and further consultation will be undertaken once the proposed Basin Plan is released in 2010–11.</p>	
(d) Water security for all users of Basin water resources improved	●	<p>MDBA worked with Basin states during 2009–10 to determine provisions in the proposed Basin Plan and Murray–Darling Basin Agreement for critical human water needs. Once these arrangements are in place (through the adoption of the proposed Basin Plan and agreed changes to the Murray–Darling Basin Agreement), this will ensure that Basin communities' essential water needs are safeguarded.</p> <p>Implementation of the Basin Plan will improve clarity in water management arrangements and improve certainty of access to the available resource.</p>	

Table B.3 Natural Resource Management deliverables

NATURAL RESOURCE MANAGEMENT PROGRAM	
Objective: To develop and implement programs for the protection, enhancement and sustainable use of the Basin's shared water and other natural resources	
Deliverables	Comments
The Living Murray (TLM) First Step decision implemented	<p>The Living Murray First Step decision sought to:</p> <ul style="list-style-type: none"><li>• recover 500 GL of water (per year on average) to achieve environmental outcomes at the six TLM icon sites</li><li>• build infrastructure works at the six TLM icon sites to enable efficient use of water and enhance environmental benefits.</li></ul> <p>At 30 June 2010, TLM had recovered 472.1 GL (per year on average) of environmental water, with a further 14 GL in the process of being recovered. Based on available allocations since 2007–08, over 90 GL has been delivered to the icon sites (including 68 GL in 2009–10), with watered areas showing clear ecological improvements.</p> <p>The building of infrastructure works (including five major works across three icon sites) is progressing to schedule. Construction of most major works has commenced and detailed design of the remaining works is nearing completion. Overall, the infrastructure program remains on track to be completed in 2012.</p>
Whole-of-Basin assessment of river health implemented	<p>The Sustainable Rivers Audit (SRA) was implemented in 2004 (Murray–Darling Basin Ministerial Council 35 11(b)). The SRA provides a long-term assessment of the condition and health of the Basin's 23 river valleys. An independent panel of scientists prepares the river health assessment every three years, with the next report due in 2011.</p> <p>In 2009–10, the SRA completed the sixth year of data collection across the Basin; fish and macroinvertebrates have been sampled from more than 1,000 sites; hydrological data from nearly 500 sites; a census of farm dam and land cover change impacts on streamflow is being completed; and Light Detection and Ranging technology-derived physical form and vegetation data has been collected from over 1,600 sites.</p> <p>Methods to integrate these data into overall ecosystem health scores for SRA Report 2 have been finalised.</p> <p>Data from the first five years of monitoring is publicly available and data from the sixth year will become available in late 2010. Reports, including SRA Report 1 (2008), are available on a new interactive SRA website, &lt;<a href="http://www.mdba.gov.au/sustainable-rivers-audit">www.mdba.gov.au/sustainable-rivers-audit</a>&gt;.</p> <p>SRA Report 2 is currently being prepared by the independent auditors for delivery to the Murray–Darling Basin Ministerial Council and the MDBA Board in 2010–11.</p> <p>The seventh year of data collection will take place in 2010–11.</p>

## NATURAL RESOURCE MANAGEMENT PROGRAM

### Objective: To develop and implement programs for the protection, enhancement and sustainable use of the Basin's shared water and other natural resources

Deliverables	Comments
Cap on water diversions implemented	<p>Deliverables included the audit of the Cap on water diversions, publication of the Independent Audit Group report, maintenance of the Cap register and preparation and publication of the water audit monitoring report.</p> <p>All the deliverables were achieved. There was some under-expenditure because a significant number of activities initially planned under the Cap were undertaken under the Basin Plan.</p>
Basin Salinity Management Strategy implemented	<p>The implementation of the Basin Salinity Management Strategy aimed to deliver rigorous assessment, effective communication, governance and reporting of BSMS Schedule B of the Murray–Darling Basin Agreement obligations, including proposals and rolling reviews of accountable actions. Other deliverables included development of policies for environmental watering, irrigation salinity accountability and business cases for salt interception schemes.</p> <p>Completion of the Schedule B obligations was confirmed by the annual audit of BSMS program. The implementation of the strategy and outcomes of the BSMS audit was reported to MDBA and noted by the Ministerial Council in May 2010. Business cases were completed for the refurbishment of the Mildura–Merbein salt interception scheme and the feasibility of the Redcliffs salt interception scheme.</p> <p>Significant progress has been made in development of environmental watering salinity accountability policies; however, irrigation salinity accountability policy development has been slowed.</p>
Sea-to-Hume fishway implemented	<p>The Sea-to-Hume fishway program represents the largest fish passage rehabilitation project ever undertaken in Australia and has been recognised as one of Australasia's top 25 restoration ecology projects. The objective is to restore passage to over 2,000 km of the River Murray by rehabilitating 14 dams and weirs, which will provide long-term benefits to fish communities within the Murray–Darling Basin. The program began in 2001 and will be completed in 2011. During 2009–10, the first dual fishway (i.e. a 1:18 gradient vertical slot-type plus a fish lock) was completed and made operational at Lock 3 on the River Murray. Fishways at locks 5 and 6 were also completed during the year, and are almost operational. Locks 1, 2 and 3 fish community sampling in 2009–10 continued to demonstrate seasonal and spatial differences in fish communities along the lower River Murray.</p> <p>Since 2003, the former Murray–Darling Basin Commission, the MDBA and Basin states have invested significant resources to capture and tag fish. Over the past seven years, approximately 25,000 fish have been implanted with passive integrated transponder tags. Over 1,800 fish were PIT-tagged between the Lower Lakes and Lock 6 in 2009–10. During 2009–10, a centralised data management system came online to manage the collation and initial data queries of movements of tagged fish through the fishways.</p>



Legend

- Achieved
- Progress continuing

Table B.4 Natural Resource Management key performance indicators




NATURAL RESOURCE MANAGEMENT PROGRAM			
Objective: To develop and implement programs for the protection, enhancement and sustainable use of the Basin’s shared water and other natural resources			
Key performance indicator	Performance status	Comments	
(a) Recovery of 500 GL of environmental water finalised		As part of its First Step, TLM sought to recover 500 GL (per year on average) of water for the six TLM icon sites by 30 June 2009.  At 30 June 2010, 472.1 GL (per year on average) had been recovered and was available to be used for environmental waterings at the TLM icon sites. A further 14 GL is in the process of being recovered, and is expected to be finalised within 2010–11.	
(b) Up-to-date salinity registers agreed by Basin states		Salinity registers are a salinity-based accounting system with debits and credits underpinning the Basin Salinity Management Strategy. MDBA recorded all joint and state accountable actions of New South Wales, Victoria and South Australia in the register. The registers were audited by the independent auditors in November 2009 and were endorsed by MDBA and noted by the Ministerial Council in May 2010. The contracting governments of New South Wales, Victoria and South Australia remained in net credit in the salinity registers as required under the Schedule B of the Murray–Darling Basin Agreement.	
(c) Breaches of the Cap are reported to Ministerial Council		As required under Schedule E of the agreement, the New South Wales Government was required to report to the Ministerial Council on the reasons for the Cap breach in the Barwon–Darling – Lower Darling Cap valley, the actions taken to fix the breach and the time it would take to fix the breach.  In its report to Ministerial Council Meeting 3, held on 18 June 2010, New South Wales proposed to reduce the annual allocation by 30 GL in the Barwon–Darling as a means to address the Cap breach.  However, New South Wales deferred the proposed action until after the outcome of Cap audit 2009–10 scheduled in late September 2010.	




Table B.5 River Murray deliverables

RIVER MURRAY PROGRAM		
Objective: To equitably manage, operate and sustain the River Murray assets to deliver states' shares of water and environmental outcomes in the River Murray system		
Deliverables	Comments	
Water assets maintained for water storage, delivery and navigation	The annual assessment of the River Murray Operations assets concluded that over the past decade the program to refurbish and/or replace aging support infrastructure and ongoing maintenance of the core infrastructure is addressing past neglect and finally achieving the sustainable level of asset condition targeted by MDBA.	
Salt interception schemes operated and maintained to achieve agreed River Murray salinity targets	Construction of new salt interception schemes to meet Basin Salinity Management Strategy Stage 1 targets is progressing well, with all approved schemes completed or under contract for completion by 2011–12.  The cost of existing salt interception schemes has been optimised by targeting well cleaning and/or dosing frequencies and off-peak power rates for pumping, while still achieving target groundwater levels and extraction rates.	
Agreed water shares delivered to states in accordance with the Murray–Darling Basin Agreement	Agreed water shares delivered for the full water year; in addition, ongoing support and advice were provided to jurisdictions to enable consensus to be reached on critical water resource management decisions.	
Murray Mouth kept open and connectivity to the Coorong maintained through operation of the Murray Mouth dredging program	Another year of maintaining target tidal ratios at the Murray Mouth in the absence of flows through the barrages. The cost of dredging has decreased from \$5.1 million in 2006–07 to \$3.9 million in 2009–10. Efforts are being made to reduce costs further in the coming year.	

Legend

-  Achieved
-  Progress continuing

Table B.6 River Murray key performance indicators

RIVER MURRAY PROGRAM			
Objective: To equitably manage, operate and sustain the River Murray assets to deliver states' shares of water and environmental outcomes in the River Murray system			
Key performance indicators	Performance status	Comments	
(a) Planned and routine asset maintenance and improvement works undertaken each year according to schedule		<p>The annual assessment of assets noted that the condition of the assets is gradually improving to the sustainable levels targeted by the asset management plan and the MDBA corporate plan.</p> <p>The expenditure on routine and planned maintenance for 2009–10 was lower than budget because of later than scheduled award of contracts; however, actual expenditure was a record for River Murray Division as it expedites the key navigable pass upgrade program, the dam improvement program and salt interception scheme construction with the assistance of the \$500 million in funding from the Australian Government in 2006–07.</p>	
(b) Physical asset base is improved to achieve contemporary best practice standards		See notes for (a).	
(c) Salt interception schemes operated and maintained to meet agreed operating rules		The salt interception schemes are operating as intended to achieve target groundwater levels and extraction rates while optimising costs.	

RIVER MURRAY PROGRAM			
Objective: To equitably manage, operate and sustain the River Murray assets to deliver states' shares of water and environmental outcomes in the River Murray system			
Key performance indicators	Performance status	Comments	
(d) Progress towards completion of priority Environmental Works and Measures Program projects in accordance with approved project plans	●	<p>Although the timing of the construction of Environmental Works and Measures Program infrastructure is slower than scheduled, significant progress was made in 2009–10, with construction well underway at Chowilla, Mulcra Island and the Gunbower lower landscape. At the end of the year, the tenders for construction of the Koondrook works were about to close (in line with the very tight timelines for that project).</p> <p>The costs for prioritisation projects are being contained reasonably, considering there has been only a \$4 million (1.5%) increase over the two years since the overall budget of \$276 million was set. The building cost index increased significantly more than this during that time.</p>	
(e) State water shares delivered and accounted for transparently each year	●	Target achieved 100% of the time.	
(f) Diurnal tidal ratio targets achieved at Murray Mouth	●	Target tidal ratios were achieved for all but a few weeks in November 2009. By mid-summer, tidal ratios well in excess of targets had been achieved.	

## APPENDIX C

# Agency resource statement and resourcing for outcome

### **Agency resource statement**

Agency resource statements provide information about the various funding sources an agency may draw upon during the year.

This agency resource statement has been designed to allow reconciliation of the final usage of all resources in cash terms, by declaring the actual available appropriation for 2009–10 (including carried forward cash balances and further adjustments such as s. 32 transfers under the *Financial Management and Accountability Act 1997* (Cwlth) and advances to the Finance Minister) and comparing this to the actual payments made.

Additionally, for departmental appropriations and special accounts, information about any remaining balance that will be carried over to the next financial year must also be reported.

**Table C.1** MDBA agency resource statement, 2009–10

	Actual available appropriations for 2009–10 \$'000	Payments made for 2009–10 \$'000	Balance remaining \$'000
<b>Ordinary annual services</b>			
<b>Departmental appropriation<sup>1</sup></b>			
Departmental appropriation	51,066	51,066	
<b>Total</b>	<b>51,066</b>	<b>51,066</b>	<b>-</b>
<b>Administered expenses</b>			
Outcome	-	-	
<b>Total</b>	<b>-</b>	<b>-</b>	
<b>Total ordinary annual services</b>	<b>51,066</b>	<b>51,066</b>	
<b>Other services<sup>2</sup></b>			
<b>Administered expenses</b>			
<b>Specific payments to states, ACT, NT and local government</b>			
Outcome	-	-	
<b>Total</b>	<b>-</b>	<b>-</b>	
<b>New administered expenses</b>			
Outcome	-	-	
<b>Total</b>	<b>-</b>	<b>-</b>	
<b>Departmental non-operating</b>			
Equity injections	-	-	
Previous years' outputs	13,522	13,522	
<b>Total</b>	<b>13,522</b>	<b>13,522</b>	<b>-</b>
<b>Administered non-operating</b>			
Administered assets and liabilities	-	-	
Payments to CAC Act* bodies — non-operating			
<b>Total</b>	<b>-</b>	<b>-</b>	

	Actual available appropriations for 2009–10 \$'000	Payments made for 2009–10 \$'000	Balance remaining \$'000
<b>Total other services</b>	<b>13,522</b>	<b>13,522</b>	
<b>Special appropriations</b>			
Special appropriations limited by criteria/entitlement			
Special appropriations limited by amount			
<b>Total special appropriations</b>		<b>-</b>	
<b>Special accounts</b>			
Opening balance	365,342		
Departmental Appropriations Acts 1 and 3	51,066		
Departmental — Act 2 previous year's outputs	13,522		
Appropriations to take account of recoverable GST (FMA Act# s. 30A)	17,821		
Non-appropriation receipts to Special Accounts <sup>3</sup>	115,140		
Payments made		298,636	
Closing balance			264,255
<b>Total resourcing and payments</b>	<b>627,479</b>	<b>363,224</b>	
Less appropriations drawn from annual or special appropriations above and credited to special account	(64,588)	(64,588)	
<b>Total net resourcing and payments</b>	<b>562,891</b>	<b>298,636</b>	<b>264,255</b>

1. Departmental appropriation includes Appropriation Act 1 for \$50.349 million and Appropriation Act 3 for \$0.717 million.

2. Actual interest equivalency for 2008–09 provided as prior year appropriation.

3. Non-appropriation receipts to the Special Account include contributions from jurisdictions to Murray–Darling Basin Agreement functions and water recovery measures.

Notes:

\* *Commonwealth Authorities and Companies Act 1997*

# *Financial Management and Accountability Act 1997*

## Resourcing for the outcome

Table C.2 shows the total resourcing for the outcome specified in the 2009–10 Portfolio Budget Statements (PBS). The Murray–Darling Basin Authority had only one outcome in these statements:

Equitable and sustainable use of the Murray–Darling Basin by governments and the community including through development and implementation of a Basin Plan, operation of the River Murray system, shared natural resource management programs, research, information and advice.

Table C.2 presents information by appropriation source rather than against specific outputs and administered expenses.

The information in Table C2 reconciles with the relevant portion in the financial statements.

The actual expenses (column 3) agree with the appropriate line in the financial statements (as represented by Table A Division 121 (Reporting of Outcomes and Outputs) in the 2009–10 Finance Ministers' Orders). To view the Finance Minister's orders, go to <[www.finance.gov.au/publications/finance-ministers-orders/index.html](http://www.finance.gov.au/publications/finance-ministers-orders/index.html)>.



## Outcome 1: Equitable and sustainable use of the Murray–Darling Basin

**Table C2** Total resourcing for outcome specified in 2009–10 PBS

	<b>Budget*</b> <b>2009–10</b> <b>\$'000</b>	<b>Actual</b> <b>expenses</b> <b>2009–10</b> <b>\$'000</b>	<b>Variation</b> <b>\$'000</b>
Outcome 1: Equitable and sustainable use of the Murray–Darling Basin by governments and the community including through development and implementation of a Basin Plan, operation of the River Murray system, shared natural resource management programs, research, information and advice			
Departmental outputs	51,066	51,066	–
Departmental — previous year's outputs	13,522	13,522	
<b>Subtotal</b>	<b>64,588</b>	<b>64,588</b>	
Murray–Darling Basin Special Account — s. 21 FMA Act (s. 209, Water Act 2007 — Act No. 137)	215,627	234,048	18,421
<b>Subtotal</b>	215,627	234,048	18,421
<b>Total for Outcome 1</b>	<b>280,215</b>	<b>298,636</b>	<b>18,421</b>
Departmental	280,215	298,636	18,421
Administered	–	–	–
	<b>2008–09</b>	<b>2009–10</b>	
<b>Average staffing level (number)</b>		<b>273</b>	

Note:

\* Actual expenditure includes \$37.262 million investment in water recovery measures contributed by jurisdictions. MDBA net under-spend was \$18.841 million.

## APPENDIX D

### Advertising and market research

This table of expenditure for 2009–10 is presented in accordance with the reporting requirements in s. 311A of the *Commonwealth Electoral Act 1918*. Expenditure was in the media advertising category only.

Media advertising		
Agency	Purpose	Expenditure \$
Adcorp Australia	External advertising for recruitment	85,666.30
Adcorp Australia	Graduate program advertising: Natural Resource Management jobs	487.76
Email media	Natural Resource Management: recruitment advertising	375.00
HMA Blaze	Public notices: land and water management plans project	22,767.59
HMA Blaze	Recruitment press advertising	198.00
McCann Eriksen	Public notices: water management structures under construction	4,340.90
Unimail Pty Ltd	Graduate program 2012: advertising	5,200.00
Universal McCann	Campaign advertisements (National Farmers Federation's <i>Annual Review</i> and the <i>Australian local government yearbook</i> )	4,975.22
<b>Total</b>		<b>124,010.77</b>

## APPENDIX E

# Ecologically sustainable development and environmental performance

The Murray–Darling Basin Authority (MDBA) is an integral part of the Australian Government’s Water for the Future program, which has four priorities:

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

MDBA is responsible for planning the integrated management of the water resources of the Murray–Darling Basin, a responsibility reflected in MDBA’s outcome in the 2009–10 Portfolio Budget Statements: ‘Equitable and sustainable use of the Murray–Darling Basin by governments and the community including through development and implementation of a Basin Plan, operation of the River Murray system, shared natural resource management programs, research, information and advice.’

Ecologically sustainable development is the core of MDBA activities and business. Section 21(4)(a) of the *Water Act 2007* (Cwlth) requires that when exercising its powers to perform functions relating to Basin Planning, MDBA must consider the following ESD principles:

- decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations
- if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation
- the principle of intergenerational equity — that the present generation should ensure that the health, biodiversity and productivity of the environment is maintained or enhanced for the benefit of future generations
- the conservation of biodiversity and ecological integrity should be a fundamental consideration in decision-making
- improved valuation, pricing and incentive mechanisms should be promoted.

## **Contributions to ESD through MDBA policies and programs**

The general programs referred to below are from the MDBA Corporate Plan 2009–13.

### **Program 1: Basin Planning**

**To prepare, implement, monitor and enforce the Basin Plan, and undertake activities relevant to jurisdictional water resource plans, for the sustainable management of water resources in the Murray–Darling Basin.**

Key elements of this program include:

- preparing a Basin Plan by 2011, which includes sustainable limits on water that can be taken from surface-water and groundwater systems across the Murray–Darling Basin and includes an environmental watering plan, a water quality and salinity management plan, water trading rules, and an evaluation, monitoring and compliance strategy
- advising the Commonwealth Water Minister on accreditation of state water resource plans
- measuring and monitoring water resources in the Basin.

### **Program 2: Natural Resource Management**

**To develop and implement strategies for the protection and enhancement of the Basin's shared water and other natural resources.**

Key elements of this program include:

- finalising water recovery programs, progressing works programs and managing environmental water for the River Murray
- delivering Basin-wide programs for protection and enhancement of natural systems
- developing a Basin-wide information strategy, including a water rights information service.

### **Program 3: River Murray**

**To manage, operate and sustain the River Murray assets to deliver states' shares of water and environmental outcomes in the River Murray system.**

Key elements of this program include:

- delivering agreed water shares
- sustaining and improving physical assets to contemporary best practice standards
- improving environmental and consumptive use outcomes through development of improved water management and delivery tools.

A highlight in 2009–10 was the commencement of construction of new infrastructure under the Environmental Works and Measures Program to maximise the environmental gains from the use of water recovered for the environment within the Basin.

## **The MDBA's contribution to ESD through its internal operations**

MDBA's internal operations also reflect ESD principles. Examples include:

- operating a paper, plastic and organic waste recycling program
- using 100% recycled A3 paper and 80% recycled A4 paper for all printing
- minimising paper usage by setting printers to double-sided printing
- recycling printer cartridges
- using recycled paper products in all bathrooms
- using water-saving flushes and sensor taps in all bathrooms to reduce water consumption
- using power-efficient centralised multi-function devices instead of distributed desktop printing
- implementing server virtualisation to reduce power usage
- turning off computers automatically overnight to save power
- monitoring desktop computer power usage so that the success of power-saving initiatives can be measured
- operating lighting through movement sensors in all work spaces, so that lights are switched off when areas are not in use
- purchasing energy-saving whitegoods and information and communications technology equipment.

During 2010–11, MDBA will seek to further minimise its impact on the environment through internal office initiatives.

## APPENDIX F

### MDBA publications

	Title	Pub No./format
1	<i>Water audit monitoring report 2007–08: Report of the Murray–Darling Basin Authority on the Cap on diversions</i>	12/09
2	<i>TLM Annual Environmental Watering Plan 2009–10</i>	28/09
3	<i>Socio-economic context for the Murray–Darling Basin descriptive report (ABS/ABARE/BRS)</i>	35/09
4	<i>A real-time hydrological model for the Narran Lakes ecosystems</i>	36/09
5	<i>A review of the impact of eastern gambusia on native fishes of the Murray–Darling Basin</i>	38/09
6	MDBA 2008–09 annual report	41/09
7	<i>Proceedings of the Murray–Darling Basin Native Fish Forum 2009, 1–2 September 2009, Albury Entertainment Centre</i>	44/09
8	<i>Review of Cap implementation 2008–09: Report of the Independent Audit Group</i>	45/09
9	<i>Stakeholder Engagement Strategy: Involving Australia in the development of the Murray–Darling Basin Plan</i>	46/09
10	<i>MDBA overview</i>	brochure
11	Education resources starter kit	47/09
12	<i>Development of sustainable diversion limits for the Murray–Darling Basin (issues paper)</i>	48/09
13	<i>Audit of The Living Murray implementation 2007–08: Report of the Independent Audit Group</i>	25/09
14	<i>Planned works in the Gunbower Forest</i>	brochure
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20	<i>Planned works in the Koondrook–Perricoota Forest</i>	brochure
21	<i>Planned works on Mulcra Island</i>	brochure
22	<i>Lake Victoria Annual Report 2008–09</i>	50/09
23	<i>Mapping the condition of the river red gum and black box stands in The Living Murray icon sites</i>	51/10
24	<i>Planned works on the Chowilla Floodplain</i>	brochure
25	<i>Riparian restoration experiment</i>	factsheet
26	<i>Report of the Independent Audit Group for Salinity 2008–09</i>	52/10
27	<i>Basin Salinity Management Strategy: 2008–09 Annual Implementation Report</i>	53/10
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# Abbreviations and acronyms

ACCC	Australian Competition and Consumer Commission
AHD	Australian height datum
ANAO	Australian National Audit Office
ANCOLD	Australian National Committee on Large Dams
APS	Australian Public Service
APSC	Australian Public Service Commission
ARC	Australian Research Council
BSMS	Basin Salinity Management Strategy
COAG	Council of Australian Governments
CRC	cooperative research centre
CSIRO	Commonwealth Scientific and Industrial Research Organisation
Cwlth	Commonwealth
EA	Enterprise Agreement
EC	electrical conductivity unit
EL	Executive Level
ESD	ecologically sustainable development
FMA Act	<i>Financial Management and Accountability Act 1997</i> (Cwlth)
FMIS	financial management information system
FOI	freedom of information
GL	gigalitre
HSMA	Health and Safety Management Arrangements
ICT	information and communications technology
LTCE	long-term Cap equivalent
MDBA /the Authority	Murray–Darling Basin Authority
MDBC	Murray–Darling Basin Commission
MDFRC	Murray–Darling Freshwater Research Centre
ML	megalitre

ML/d	megalitre per day
MLDRIN	Murray Lower Darling Rivers Indigenous Nations
Ministerial Council	Murray–Darling Basin Ministerial Council
NBAN	Northern Murray–Darling Basin Aboriginal Nations
OH&S	occupational health and safety
OH&SC	Occupational Health and Safety Committee
PAES	Portfolio Additional Estimates Statements
PBS	Portfolio Budget Statements
SDL	sustainable diversion limit
SEACI	South Eastern Australian Climate Initiative
SES	Senior Executive Service
SRA	Sustainable Rivers Audit
TLM	The Living Murray

# Glossary

<b>Acid sulfate soils</b>	Soils formed naturally when sulfate-rich water (e.g. saline groundwater or seawater) mixes with sediments containing iron oxides and organic matter. Under waterlogged, anaerobic (oxygen-free) conditions, bacteria convert sulfates to sulfides, which can form sulfidic sediments. When these sediments are exposed to oxygen, such as during drought conditions, chemical reactions may lead to the generation of sulfuric acid.
<b>Acidification</b>	The process of change or conversion into an acid.
<b>Algal bloom</b>	A sudden increase in the number of algae in a water body, to levels that cause visible discolouration of the water.
<b>Allocation</b>	The water to which the holder of an access licence is entitled from time to time under licence, as recorded in the water allocation account for the licence. Under New South Wales' <i>Water Management Act 2000</i> , water allocations in that state are called 'available water determinations'.
<b>Anabran</b>	A branch of a river that leaves the main stream and rejoins it downstream.
<b>Aquatic ecosystem</b>	An ecosystem that is in or depends on water.
<b>Australian Competition and Consumer Commission</b>	The ACCC promotes competition and fair trade in the marketplace to benefit consumers, businesses and the community. It also regulates national infrastructure services. Its primary responsibility is to ensure that individuals and businesses comply with the Commonwealth competition, fair trading and consumer protection laws. It has a role in enforcing the Water Market Rules 2009 and the Water Charge (Termination Fees) Rules 2009. In this, the ACCC intends to use a cooperative approach, including working with irrigation infrastructure operators to achieve compliance. However, when necessary, it is prepared to use remedies available to it under the Commonwealth <i>Water Act 2007</i> .
<b>Australian height datum</b>	In 1971 the mean sea level for 1966–68 was assigned the value of zero on the Australian height datum (AHD) at 30 tide gauges around the coast of the Australian continent. The resulting datum surface, with minor modifications in two metropolitan areas, was termed the Australian height datum and was adopted by the National Mapping Council of Australia as the datum to which all vertical control for mapping is to be referred. Elevations quoted using this datum are normally followed with the acronym 'AHD'.

<b>Australian National Committee on Large Dams</b>	The Australian National Committee on Large Dams Incorporated is an incorporated voluntary association of organisations and individual professionals with an interest in dams in Australia. ANCOLD technical working groups produce, for example, guidelines on design, management and risk assessment of dams.
<b>Bankfull</b>	The maximum amount of discharge that a stream channel can carry without overflowing. Bankfull flows are an important trigger for fish breeding in the Murray–Darling Basin.
<b>Barmah Choke</b>	A narrow section of the River Murray that constrains the volume of water that can pass during major floods. During floods, large volumes of water are temporarily banked up behind the Barmah Choke, which floods the Barmah–Millewa Forest wetland system.
<b>Barrages</b>	Five low and wide weirs built at the Murray Mouth in South Australia to reduce the amount of seawater flowing in and out of the mouth due to tidal movement. The barrages also help to control the water level in the Lower Lakes and River Murray below Lock 1 (Blanchetown, South Australia).
<b>Baseline</b>	Conditions regarded as a reference point for the purpose of comparison. In the Basin Plan, the baseline is defined by a number of elements, including the time under consideration; climate characteristics; each jurisdiction's policies, water management rules, entitlement systems and operating rules; the configuration and specification of water resource models; and the mix and location of various water uses and water sources.
<b>Basin Community Committee</b>	The Basin Community Committee advises the Murray–Darling Basin Authority about the performance of its functions, including engaging the community in the preparation of each draft Basin Plan; community matters relating to the Basin water resources; and matters referred to the committee by MDBA.
<b>Basin Officials Committee</b>	A committee set up to facilitate cooperation and coordination between the Commonwealth, the Murray–Darling Basin Authority and the Basin states in funding works and managing the Basin's water and other natural resources.
<b>Basin Plan</b>	A plan for the integrated management of the water resources of the Murray–Darling Basin, to be adopted by the Commonwealth Minister for Water under s. 44 of the Water Act.
<b>Basin Salinity Management Strategy</b>	A 15-year plan for communities and governments in cooperating to control salinity in the Murray–Darling Basin. The strategy establishes targets for the river salinity in each major tributary valley and across the Murray–Darling system. The strategy was agreed by the Murray–Darling Basin Ministerial Council on 17 September 2001.

<b>Basin state agencies</b>	Under the Water Act, a person or entity appointed or established by, or on behalf of, a Basin state. For a more detailed definition, see s. 4 of the Act.
<b>Basin states</b>	For the purposes of the Basin Plan, the Basin states are defined in the Water Act as New South Wales, Victoria, Queensland, South Australia and the Australian Capital Territory.
<b>Basin water resources</b>	According to s. 4 of the Water Act, Basin water resources are within or beneath the Murray–Darling Basin, but do not include water resources within or beneath the Murray–Darling Basin that are prescribed by the regulations, or groundwater that forms part of the Great Artesian Basin.
<b>Biodiversity</b>	The variety of species of plants, animals and microorganisms, their genes and the ecosystems they comprise, often considered in relation to a particular area.
<b>Blue-green algae</b>	A group of photosynthetic bacteria more correctly referred to as <i>cyanobacteria</i> .
<b>Borefield</b>	A deep hole of small diameter bored to the aquifer of an artesian basin, through which water rises under hydrostatic pressure.
<b>Bureau of Meteorology</b>	Under the Water Act, the Bureau of Meteorology has a water information role — compiling and delivering Australia’s water information — to accurately monitor, assess and forecast water availability, condition and use.
<b>Cap (the Cap on diversions)</b>	A limit, implemented in 1997, on the volume of surface water that can be diverted from rivers for consumptive use. Under the proposed Basin Plan, the Cap will be replaced by long-term average sustainable diversion limits.
<b>Carryover</b>	A way to manage water resources and allocations that allows irrigators to take a portion of unused water from one season into the new irrigation season.
<b>Catchment</b>	The area of land drained by a river and its tributaries.
<b>Channel</b>	Of a watercourse, a natural or artificial streamflow with definite bed and banks to confine and conduct water. Of a landform, the bed of a watercourse that commonly is barren of vegetation and is formed of modern alluvium (deposited during relatively recent geologic time).
<b>Climate change</b>	A significant change in usual climatic conditions, especially those thought to be caused by global warming.

<b>Commonwealth Environmental Water Holder</b>	The official who manages the environmental water entitlements held by the Australian Government. Under the Water Act, this official is responsible for using these entitlements to protect and restore the environmental assets of the Murray–Darling Basin, or assets outside the Basin where water is held by the Australian Government for that area.
<b>Community</b>	An ecological unit composed of a group of organisms or a population of different species occupying a particular area, usually interacting with each other and with their environment.
<b>Connectivity</b>	Connections between natural habitats, such as a river channel and adjacent wetland areas. Connectivity is a measure or indicator of whether a water body (river, wetland, floodplain) has water connections or flow connections to another body.
<b>Consumptive use</b>	Use of water for irrigation, industry, urban, stock and domestic use, or for other private consumptive purpose.
<b>Convention on Wetlands of International Importance</b>	See ‘Ramsar Convention’.
<b>Conveyance water</b>	The water required to ensure sufficient flow in a river to physically deliver water for critical human water needs without it evaporating or seeping into the riverbed. Under the Water Act, ‘conveyance water’ is water in the River Murray system required to deliver water to meet critical human water needs as far downstream as Wellington in South Australia.
<b>Cooperative research centres</b>	Cooperative research centres are key bodies for Australian scientific research across a range of sectors to enhance Australia’s industrial, commercial and economic growth.
<b>Critical human water needs</b>	Under s. 86A(2) of the Water Act, critical human water needs are the minimum amount of water required to meet core requirements of communities dependent on Basin water resources. The definition also includes non-human requirements that, if not met, would cause prohibitively high social, economic or national security costs.
<b>CSIRO</b>	CSIRO is Australia’s national science agency. Water for a Healthy Country is one of CSIRO’s national research flagships. CSIRO’s Land and Water Division takes part in a wide range of research relevant to the Murray–Darling Basin.

<b>CSIRO Murray–Darling Basin Sustainable Yields Project</b>	The Murray–Darling Basin Sustainable Yields Project was undertaken by the CSIRO as a major research project on current and future water availability in the Murray–Darling Basin. It included an overall Basin report as well as 18 regional analyses.
<b>Cultural flows (or cultural water flows)</b>	These are water entitlements legally and beneficially owned by the Indigenous Australian nations of the Murray–Darling Basin. Such water entitlements are of sufficient and adequate quantity and quality to improve the spiritual, cultural, environmental, social and economic conditions of Indigenous Australians.
<b>Cyanobacteria</b>	A group of photosynthetic bacteria (see ‘Blue-green algae’).
<b>Demonstration reach</b>	A demonstration reach is a section of river where a number of management actions, such as provision of fish passage, resnagging and management of alien species, are carried out. The purpose of such a reach is to demonstrate to the community the benefits from rehabilitating native fish habitat and populations using an adaptive management framework.
<b>Dewatering</b>	Lowering of the water level at a particular location.
<b>Discharge</b>	Flow of groundwater from a saturated zone to the earth’s surface; flow of surface water out of a defined catchment.
<b>Diurnal</b>	Any pattern that recurs daily, such as a cycle of daily temperature change or oxygen levels in water.
<b>Diversion</b>	A structure in a river or canal that diverts water to another watercourse; a turning aside or alteration of the natural course of a flow of water; or the transfer of water from a water source by a canal, pipe, well or other conduit to a watercourse or to the land (as in the case of an irrigation system).
<b>Diversion limit compliance method</b>	The method to determine compliance with a long-term annual diversion limit. Under s. 22 (1), item 8 of the Water Act, it is mandatory content of the Basin Plan.
<b>Drawdown</b>	The lowering of the water level in a weir pool.
<b>Dredging</b>	The mechanical removal of mud and other material to deepen a waterway.
<b>Drought refuge</b>	An area that a species can retreat to during times of drought; for instance, a permanent pool that remains when a river dries out during droughts.



<b>Ecologically sustainable development</b>	Using, conserving and enhancing the community's resources so that the ecological processes on which life depends are maintained and the total quality of life, now and in the future, can be increased.
<b>Ecology</b>	The study of the interrelationships of living things to one another and to the environment.
<b>Ecosystem</b>	A dynamic complex of plant, animal and microorganism communities and the non-living environment, interacting as a functional unit.
<b>Electrical conductivity</b>	A unit commonly used to indicate water salinity. One unit of electrical conductivity equals one microsiemen per centimetre, measured at 25 °C.
<b>Entitlement (or water entitlement)</b>	The volume of water authorised to be taken and used by an irrigator or water authority, including bulk entitlements, environmental entitlements, water rights, sales water and surface-water and groundwater licences.
<b>Entitlement holder</b>	An irrigator or water authority.
<b>Environmental asset</b>	A key environmental asset for the purposes of the Basin Plan is a water-dependent ecosystem that meets one or more criteria outlined in the Water Act. Environmental assets include water-dependent ecosystems, ecosystem services and sites of ecological significance.
<b>Environmental connectivity</b>	Environmental connectivity consists of links between water-dependent ecosystems that allow migration, colonisation and reproduction of species. These connections also enable nutrients and carbon to be transported throughout the system to support the healthy functioning and biodiversity of rivers, floodplains and wetlands. Hydrological and ecological links are between upstream and downstream sections of river (longitudinal connectivity), and between rivers and their floodplains (lateral connectivity).
<b>Environmental flow</b>	Any river flow pattern provided with the intention of maintaining or improving river health.
<b>Environmental outcome</b>	An outcome (usually of a project) that benefits the ecological health of the river system.
<b>Environmental water</b>	Water used to achieve environmental outcomes, including benefits to ecosystem functions, biodiversity, water quality and water resource health.
<b>Environmental water requirements</b>	The amount of water needed to meet an ecological or environmental objective.

<b>Environmental Watering Plan</b>	A plan to restore and sustain the wetlands and other environmental assets of the Basin and to protect biodiversity dependent on the Basin water resources.
<b>Environmental Works and Measures Program</b>	A program to deliver works and measures to improve the health of the River Murray system by making the best use of available water, optimising the benefits of any water recovered in the future, and considering other policy interventions.
<b>Environmentally sustainable level of take</b>	The level of water extraction from a particular system that if exceeded would compromise key environmental assets or ecosystem functions and the productive base of the resource.
<b>Ephemeral stream</b>	A stream that flows only in direct response to precipitation, usually for a short time, and stops flowing during dry seasons. Most dry washes in more arid regions may be classified as ephemeral streams.
<b>ePMDS</b>	An electronic performance management system.
<b>Farm dam</b>	Small dams (usually of <5 ML storage capacity) designed to capture runoff from rainfall events. While most farm dams are located on farms, the term includes dams on other types of properties, such as public or urban land.
<b>Fish passage</b>	The capacity for fish to travel upstream and downstream; weirs and dams obstruct the passage of fish within streams, and structures such as fishways are built to restore fish passage by enabling fish to pass.
<b>Fishway</b>	A structure that provides fish with passage past an obstruction in a stream.
<b>Floodplain</b>	Any normally dry land area susceptible to inundation by water from any natural source.
<b>Flow</b>	The movement of water; the rate of water discharged from a source, given in volume with respect to time.
<b>Flow event</b>	A single event of flow in a river; sometimes required to achieve one or more environmental targets. A series of flow events comprises a flow history.
<b>Flow regime</b>	The characteristic pattern of a river's flow quantity, timing and variability.
<b>Flow variability</b>	When applied to the Murray–Darling Basin, refers to the combined variability of the magnitude (size in height and volume), the duration (the time the flow lasts) and the frequency (how often a flow occurs).

<b>Geoscience Australia</b>	Geoscience Australia is an Australian Government agency that provides geoscientific information to facilitate informed decisions on exploitation of resources, environmental management and safety of critical infrastructure.
<b>GL</b>	A gigalitre; 1 billion litres.
<b>Global warming</b>	The increase in the average temperature of Earth's near-surface air and oceans since the mid-20th century and its projected continuation, believed to be caused in part by the greenhouse effect.
<b>Groundwater</b>	Water occurring naturally below ground level (in an aquifer or otherwise).
<b>Groundwater connectivity</b>	Surface-water and groundwater systems are not separate resources but components of one system. Their connectivity is a dynamic relationship that fluctuates both seasonally and over the long term in response to climatic variations and the delayed impact of groundwater extractions. Where the connection is strong, groundwater extraction may directly affect surface-water streamflow by inducing leakage to groundwater, or intercepting stream base flow over short and long time-frames. Similarly, surface-water extraction and management regimes may affect the availability of groundwater.
<b>Habitat</b>	The natural environment or place where living things exist and grow.
<b>Held environmental water</b>	Water available under an access, delivery or irrigation right that is held to achieve environmental outcomes.
<b>High flow</b>	A persistent increase in seasonal base flow that remains within the channel; high flows do not fill the channel to 'bankfull'.
<b>Hydrologic year</b>	See 'Water year'.
<b>Icon sites</b>	Six locations chosen for The Living Murray program because of their regional, national and international ecological value, and the concurrence that they are at risk and require improved water flow regimes. The sites are Barmah–Millewa Forest; Gunbower–Koondrook–Perricoota Forest; Hattah Lakes; Chowilla Floodplain and the Lindsay–Wallpolla islands; Murray Mouth, Coorong and Lower Lakes; and the River Murray Channel.
<b>Inflow</b>	The source of the water that flows into a specific body of water; for a lake, inflow could be a stream or river, and inflow for a stream or river could be rain.
<b>Key environmental asset</b>	An environmental feature deemed 'key' for the purposes of the Basin Plan because it meets at least one of five criteria set by MDBA.
<b>Lock</b>	A rectangular chamber with gates at either end, allowing vessels to move from one water level to another.

<b>Long-term Cap equivalent</b>	An average that takes into account the different characteristics and reliability of water entitlements and allocations in New South Wales, Victoria and South Australia. This creates a common unit of measure, allowing equitable comparison of a broad range of water recovery measures.
<b>Loss</b>	Water lost from a river system that is not available to other users (e.g. water loss caused by evaporation and seepage).
<b>Low flow</b>	A continuous flow through a water channel that either maintains the flow above a cease-to-flow condition or provides habitat as a change from high flow.
<b>Macroinvertebrate</b>	An animal without a backbone that is large enough to be seen without magnification.
<b>Main channel</b>	Many of the rivers of the Murray–Darling Basin have a large number of channels, particularly in their lower reaches; however, they usually have a main channel, which is the one given the name of the river.
<b>Median</b>	The single middle value in a range of values. If there is an even number of values (therefore two middle values), the median is the average of the two middle values.
<b>ML</b>	A megalitre; 1 million litres.
<b>ML/d</b>	Megalitres per day.
<b>Modelling</b>	The application of a mathematical process or simulation framework (e.g. a mathematical or econometric model) to describe various phenomena and analyse the effects of changes in some characteristics on others.
<b>Monitoring and Evaluation Program</b>	A program to monitor and evaluate the effectiveness of the proposed Basin Plan as required by the Water Act. This program must set out the principles to be applied and the framework to be used for monitoring and evaluation, including the requirements for reporting.
<b>MSM-Bigmod</b>	<p>MSM-Bigmod comprises two computer-based models that work together — output from MSM (Monthly Simulation Model) feeds into Bigmod (a daily simulation model).</p> <p>MSM models monthly volumes of water in the river system based on inflows (from rainfall and tributaries), storage volumes and outflows (including diversions and losses). It models the River Murray system from Dartmouth Dam to the South Australian border, including the Lower Darling River. It is used for planning seasonal allocations, planning releases from storages and water accounting.</p>

<b>Murray Lower Darling Rivers Indigenous Nations</b>	A confederation of 10 Indigenous Australian nations in the southern part of the Basin, comprising representatives of the Wiradjuri, Yorta Yorta, Taungurung, Wamba Wamba, Wadi Wadi, Mutti Mutti, Latji Latji, Ngarrindjeri, Barapa Barapa and Wergaia peoples.
<b>Murray–Darling Basin</b>	The entire tract of land drained by the Murray and Darling rivers, covering parts of Queensland, New South Wales, Victoria and South Australia and the whole of the Australian Capital Territory.
<b>Murray–Darling Basin Commission</b>	The Murray–Darling Basin Commission was the executive arm of the Murray–Darling Basin Ministerial Council, set up under the Murray–Darling Basin Agreement in 1992. The functions of the MDBC were subsumed by the Murray–Darling Basin Authority in 2008.
<b>Murray–Darling Basin Ministerial Council</b>	The Murray–Darling Basin Ministerial Council has an advisory role in the preparation of the Basin Plan, and policy and decision-making roles for matters such as state water shares, critical human water needs, and the funding and delivery of natural resource management programs. The Ministerial Council is chaired by the Commonwealth Water Minister and includes one minister from each Basin state.
<b>National Water Commission</b>	The organisation responsible for driving progress towards the sustainable management and use of Australia’s water resources under the National Water Initiative.
<b>Native Fish Strategy</b>	This strategy aims to ensure that the Murray–Darling Basin sustains viable fish populations and communities throughout its rivers. The strategy’s goal is to rehabilitate native fish communities to 60% of their estimated pre-European settlement levels within 50 years of completion.
<b>Natural flow</b>	Water movement past a specified point on a natural stream from a drainage area for which there have been no effects caused by stream diversion, storage, import, export, return flow, or change in consumptive use caused by human-controlled modification to land use.
<b>Natural resource management</b>	The management of natural resources such as land, water, soil, plants and animals, with a particular focus on how management affects the quality of life for both present and future generations.
<b>Northern Murray–Darling Basin Aboriginal Nations</b>	A confederation of 21 Aboriginal nations in the northern part of the Basin, comprising representatives of the Barkindji, Barunggam, Bidjara, Bigambul, Budjiti, Euahlayi, Gamilaroi, Githabul, Gunggari, Jarowair, Gwamu (Kooma), Kunja, Kwiambul, Malangapa, Mandandanji, Mardigan, Murrawarri, Ngemba, Ngiyampaa, Wailwan and Wakka Wakka peoples.

<b>Nutrient</b>	An element or compound essential to life, which sustains individual organisms and ecosystems; the portion of any element or compound in the soil that can be readily absorbed and assimilated to nourish growing plants.
<b>Offtake</b>	A location where water is diverted from an open water supply system for consumptive use.
<b>Ramsar Convention</b>	The Convention on Wetlands of International Importance is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.
<b>Recharge</b>	The process of replenishing an aquifer, usually from rainfall or losses from surface-water bodies such as rivers and lakes.
<b>Reference condition</b>	The condition of a river, as assessed by an audit, relative to how it would have been had it not been changed.
<b>Regulated</b>	A water system in which water is stored or flow levels are controlled through the use of structures such as dams and weirs.
<b>Regulated flow</b>	A controlled flow rate resulting from the influence of a regulating structure such as a dam or weir.
<b>Regulation</b>	The artificial manipulation of the flow of a body of water.
<b>Resnagging</b>	A program to reinstate snags or instream woody habitats used by native fish to shelter from currents and predators, and as feeding and spawning sites and nurseries for juvenile fish.
<b>Risk allocation</b>	When there are reductions to the volume or change to the reliability of an entitlement holder's water allocation from the Basin Plan, the risks are shared between individual entitlement holders and governments according to a formula in the Water Act that recognises climate change and other natural events, new knowledge and changes in government policy.
<b>River health</b>	Status of a river system based on water quality, ecology and biodiversity.
<b>Riverine</b>	Relating to, formed by or resembling a river, including tributaries, streams, brooks and so on; pertaining to or formed by a river; situated or living along the banks of a river.
<b>Runoff</b>	Flow of surface water from a given area resulting from the effects of rainwater.
<b>Saline</b>	Water that contains a significant concentration of dissolved salts, predominantly sodium chloride.

<b>Salinity</b>	The concentration of dissolved salts in groundwater or river water, usually expressed in electrical conductivity units or milligrams of dissolved solids per litre.
<b>Salinity register</b>	A salinity-based accounting system that underpins the Basin Salinity Management Strategy, providing an accounting record of Basin state actions that affect river salinity.
<b>Salt interception scheme</b>	Large-scale groundwater pumping and drainage projects that intercept saline groundwater inflowing to rivers, and dispose of the saline waters by evaporation and aquifer storage at more distant locations.
<b>Salt load</b>	The amount of salt carried in rivers, streams, groundwater or surface runoff in a given time.
<b>Schedule for Water Sharing</b>	Water-sharing arrangements that replace the 'normal' arrangements of the Murray–Darling Basin Agreement to deliver water to meet critical human water needs when water availability is so low that the normal arrangements cease to be appropriate. The schedule sets out how state and territory water entitlements are determined, delivered and accounted for during tiers 2 and 3 (see s. 135(6)(a) of the agreement), and during the transition to and from tiers 2 and 3.
<b>Spatial</b>	Usually refers to area or distance.
<b>Spatial data</b>	Any data that can be mapped.
<b>Surface water</b>	Includes water in a watercourse, lake or wetland, and any water flowing over or lying on the land after having precipitated naturally or after having risen to the surface naturally from underground (see s. 4 of the Water Act).
<b>Surface-water diversion</b>	Changing the natural flow of surface water to another location by artificial means, such as dams or pipelines.
<b>Sustainable diversion limit</b>	The maximum long-term annual average quantities of water that can be taken, on a sustainable basis, from the Basin water resources as a whole, and the water resources, or particular parts of the water resources, of each water resource plan area.
<b>Sustainable Rivers Audit</b>	A program designed to determine the ecological condition and health of river valleys in the Murray–Darling Basin, to give a better insight into the variability of river health indicators over time and to trigger changes to natural resource management.
<b>Take</b>	The removal of water from, or the reduction in flow of water in or into, a water resource.

<b>The Living Murray program</b>	A partnership of the Australian Government and the governments of New South Wales, Victoria, South Australia and the Australian Capital Territory, aimed at achieving a healthy, working River Murray system.
<b>Threatened species</b>	Species or ecological communities considered threatened with extinction as defined by the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i> or relevant jurisdictional legislation.
<b>Tiered water-sharing arrangements (tiers 1, 2 and 3)</b>	These arrangements set out the sharing of water in the River Murray system (see s. 86 of the Water Act); they will be included in the Basin Plan and the schedule for water sharing in the Murray–Darling Basin Agreement, to manage the risks to critical human water needs due to water availability and/or water quality. The arrangements include a reserves policy to set aside water to meet conveyance water requirements.
<b>Water accounting</b>	A systematic process of identifying, recognising, quantifying, reporting and assuring information about water, the rights or other claims to water, and the obligations against water. Water accounting applies Australian Water Accounting Standards.
<b>Water allocation</b>	The specific volume allocated to the holders of water entitlements in a given season, often quoted as a percentage of the volume of each entitlement. For example, a 20% allocation in a particular season allows a water user with a 100 ML entitlement to take 20 ML of water.
<b>Water entitlement</b>	Water users in the Basin hold legal entitlement, or licence, to a share of the available water. The entitlement usually specifies size (or volume) of the share; the source of the water (e.g. the river, catchment or aquifer); and the category (which can be a combination of priority and purpose).
<b>Water for the Future</b>	An initiative to prepare Australia for a future with less water. It has four key priorities — taking action on climate change, using water wisely, securing water supplies, and supporting healthy rivers and wetlands.
<b>Water market rules</b>	Rules that apply to irrigation infrastructure operators holding group water entitlements on behalf of their members, which are designed to ensure that members can separate their portion of the group-held entitlement into a separate entitlement held by the individual. Water market rules are required under the Water Act, but are not within the Basin Plan. These rules are made by the Commonwealth Water Minister.
<b>Water quality</b>	The condition of water and its suitability for different purposes. Water quality refers to a combination of physical, chemical and biological characteristics of water in the context of the value or use for which the water body is being recognised.



<b>Water quality and salinity management plan</b>	A draft plan to protect and enhance water quality in the Basin for environmental, social, economic and cultural uses. It will be included in the Basin Plan.
<b>Water quality components</b>	Salinity, turbidity, total nitrogen content and total phosphorous content.
<b>Water recovery</b>	Implementation of measures that result in water being made available under The Living Murray environmental watering plan.
<b>Water recovery registers</b>	Water recovery measures are approved and monitored using a system of staged registers — the developmental register, the eligible measures register and the environmental water register.
<b>Water resource</b>	<p>Of groundwater, water that occurs naturally beneath the ground level (whether in an aquifer or otherwise), or water that has been pumped, diverted or released to an aquifer for the purpose of being stored there. Murray–Darling Basin groundwater resources exclude groundwater in the Great Artesian Basin.</p> <p>Of surface water, includes water in a watercourse, lake or wetland, and any water flowing over or lying on land after having precipitated naturally, or after having risen to the surface naturally from beneath the ground level.</p>
<b>Water resource plan</b>	A plan that provides for the management of the water resources of a water resource plan area, recognised under provisions of the Water Act.
<b>Water resource plans</b>	Statutory management plans developed for particular surface-water and groundwater systems, currently known by different names throughout the Murray–Darling Basin (e.g. ‘water sharing plans’ in New South Wales and ‘water allocation plans’ in South Australia).
<b>Water trading rules</b>	A set of overarching consistent rules enabling market participants to buy, sell and transfer tradeable water rights.
<b>Water year (or hydrologic year)</b>	<p>A continuous 12-month period starting from July, or any other month as prescribed under the water regulation or a resource operations plan, but usually selected to begin and end during a relatively dry season.</p> <p>The water year is used as a basis for processing streamflow and other hydrologic data.</p>
<b>Water-dependent ecosystems</b>	Ecological communities that depend on periodic or sustained inundation, waterlogging or significant inputs of surface water or groundwater for their ecological integrity.
<b>Water-regulating structure</b>	An object (e.g. a bar or gate) fitted to regulate water flow or depth.

<b>Weir</b>	A dam in a river to stop and raise the water (to conduct it to a mill, form a fishpond or the like).
<b>Weir pool</b>	A body of water stored behind a weir.
<b>Wetland</b>	Areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres. An area that is periodically inundated or saturated by surface water or groundwater on an annual or seasonal basis that displays hydric soils and that typically supports, or is capable of supporting, hydrophytic vegetation.

# Compliance index

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A.5		Glossary	Mandatory	207
A.5		Contact officer(s)	Mandatory	inside back cover
A.5		Internet home page address and Internet address for report	Mandatory	inside back cover
9.1	Review by Secretary	Review by departmental secretary	Mandatory	iv–x
9.2		Summary of significant issues and developments	Suggested	iv–x
9.2		Overview of department's performance and financial results	Suggested	x
9.2		Outlook for following year	Suggested	x
9.3		Significant issues and developments — portfolio	Portfolio departments — suggested	not applicable
10	Departmental overview	Overview description of department	Mandatory	xi–xx
10.1		Role and functions	Mandatory	xi–xx
10.1		Organisational structure	Mandatory	xii–xv
10.1		Outcome and program structure	Mandatory	xix–xx
10.2		Where outcome and program structures differ from Portfolio Budget Statements (PBS)/Portfolio Additional Estimates Statements (PAES) or other portfolio statements accompanying any other additional appropriation bills (other portfolio statements), details of variation and reasons for change	Mandatory	not applicable
10.3		Portfolio structure	Portfolio departments — mandatory	not applicable

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11.1		Performance of purchaser/provider arrangements	If applicable, suggested	119–120
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11.2		Performance against service charter customer service standards, complaints data, and the department's response to complaints	If applicable, mandatory	126
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Published by the Murray–Darling Basin Authority

Postal address: GPO Box 1801, Canberra ACT 2601  
Office location: Level 4, 51 Allara Street, Canberra City ACT  
Telephone: (02) 6279 0100, international + 61 2 6279 0100  
Facsimile: (02) 6248 8053, international + 61 2 6248 8053  
Email: [info@mdba.gov.au](mailto:info@mdba.gov.au)  
Internet: [www.mdba.gov.au](http://www.mdba.gov.au)

Please address any requests and inquiries to the Executive Director, Engagement, Secretariat and Communications, MDBA, GPO Box 1801, Canberra ACT 2601

Electronic copies of this annual report are available at [www.mdba.gov.au/about/corporate\\_documents](http://www.mdba.gov.au/about/corporate_documents).

This report may be cited as: *Murray–Darling Basin Authority Annual Report 2009–10*.

MDBA publication No. 110/10

ISSN 1003-6745

ISBN 978-1-921783-64-7 (print); 978-1-921783-65-4 (online)

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