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# SAVE THE RIVER MURRAY FUND

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ANNUAL REPORT 2011 – 12



Government of  
South Australia

Prepared for the South Australian Parliament by  
the Minister for Water and the River Murray

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# INTRODUCTION

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**THE SAVE THE RIVER MURRAY FUND WAS ESTABLISHED UNDER THE WATERWORKS ACT 1932 ON 24 JULY 2003. THE FUND IS HELD BY THE MINISTER FOR WATER AND THE RIVER MURRAY AND ADMINISTERED BY THE DEPARTMENT FOR WATER ON BEHALF OF THE MINISTER.**

**THE SAVE THE RIVER MURRAY LEVY WAS INTRODUCED ON 1 OCTOBER 2003 UNDER THE WATERWORKS (SAVE THE RIVER MURRAY LEVY) AMENDMENT BILL. THE LEVY IS CHARGED TO ALL SA WATER CUSTOMERS ACROSS SOUTH AUSTRALIA, BOTH RESIDENTIAL AND NON-RESIDENTIAL, AND IS INDEXED ANNUALLY.**

The levy contributes to a program of works and measures to address the health of the River Murray in South Australia and increasing community demands for a high security of water of acceptable quality for urban and irrigation purposes. The program, known as the River Murray Improvement Program (RMIP), is integrated within a larger Murray-Darling Basin program of works and measures, the South Australian River Murray Salinity Strategy and the South Australian Environmental Flows Strategy for the River Murray.

### **The RMIP contributes to the delivery of three high-level outcomes:**

- Improved environmental health of the River Murray system in South Australia.
- High security of water of acceptable quality for irrigation in South Australia at an appropriate price.
- High security of water quality for domestic water supplies.
- It also contributes to a range of targets identified in South Australia's Strategic Plan as at 30 June 2012), including:
- South Australia's water resources are managed within sustainable limits by 2018 (T 75).
- Increase environmental flows in the River Murray by a minimum of 1500 gigalitres by 2018 (T 76).
- South Australia maintains a positive balance on the Murray-Darling Basin Authority salinity register (T 77).

### **The 2011–12 Year**

Much of the Murray-Darling Basin experienced high rainfall and above-average inflows, with several events of extensive flooding. As a result, South Australia received unregulated flow for most of the year and additional dilution flow for the entire year.

Water access entitlement holders had access to 100 per cent water allocation from 1 July 2011 and water was accessible for critical human needs and all other uses.

Salinities at the South Australian border remained low, in the 200 to 250 EC range, with a subsequent maximum at Morgan of 450 EC. Approximately 1.5 million tonnes of salt passed Morgan. Flow rates enabled the barrages to be opened, facilitating flushing of salt to sea. The maximum salt load at Morgan in this period was approximately 250 000 tonnes/month in May 2012.

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At Lake Alexandrina, five salinity recording stations operated continuously during 2011–12. The mean salinity at all of these stations was between 330 EC and 530 EC; however, salinity levels in Lake Albert remained higher. The average salinity in Lake Albert was 3700 EC at the end of June 2012, which represents a reduction from July 2011 when the average salinity level was 6400 EC. Lake level cycling will continue in 2012–13 to facilitate further salinity reductions.

The Lake Alexandrina and Goolwa Barrage fishways were operated continuously throughout

2011–12, benefiting dozens of species of fish which rely on them to move from the estuary and lagoon to fresh water, often as an essential part of their life cycle.

South Australia received a total of 468 gigalitres of environmental water during 2011–12. This included 138.8 gigalitres from The Living Murray Initiative, 328.8 gigalitres from Commonwealth Environmental Water and 0.3 gigalitres from Nature Foundation SA.

### Water Industry Act

The Water Industry Bill was introduced in the South Australian Parliament in July 2011 and was passed by the Parliament on 5 April 2012. The legislation provides a modern legislative framework for the water and wastewater service industries in the State. It repeals the Waterworks Act 1932, Water Conservation Act 1936 and the Sewerage Act 1929 and complements other existing water, environmental and public health legislation.

The Act provides a legislative basis for an open, transparent and collaborative approach to water demand and supply planning, providing for:

- An assessment of South Australia's water resources.
- An assessment of current and future demand for water, including for the environment.
- Policies, plans and strategies to ensure the State's water supplies are secure, reliable and sustainable.

Under the transitional provisions of the new Act, the Save the River Murray Levy will remain unchanged for 2012–13. However, the Act does amend the Save the River Murray Levy so it will not apply in relation to land if the water is supplied as part of a water supply system that is not in any way connected to a water resource that is sourced from the River Murray. This new arrangement means that, once the relevant provision of the Act comes into operation, certain SA Water customers will no longer be liable to pay the levy. It will continue to be imposed in relation to land that is supplied by a water supply system that sources water from the River Murray.

### Financial Summary

In 2011–12 a total of \$26.2 million was received into the fund and \$29.059 million was expended from the fund on works and measures under the RMIP.

### Annual Report Framework

The annual report is presented to highlight achievements in the following five key outcome areas:

- Returning water to the river.
- Securing water rights.
- Protecting the river.
- Enhancing the environment.
- Building capacity.

# 01 RETURNING WATER TO THE RIVER

## THE LIVING MURRAY (TLM) INITIATIVE WAS ESTABLISHED IN 2002 IN RESPONSE TO SUBSTANTIAL EVIDENCE THAT THE RIVER MURRAY SYSTEM WAS DEGRADED, AND A CONCERN THAT ITS DEGRADATION THREATENED THE MURRAY-DARLING BASIN'S AGRICULTURAL INDUSTRIES, COMMUNITIES, NATURAL AND CULTURAL VALUES AND NATIONAL PROSPERITY.

### The Living Murray Water Recovery

The initiative focuses on improving and maintaining the health of six icon sites along the river, chosen for their environmental, cultural and international significance. In South Australia they include the River Murray channel, the Chowilla floodplain and the Lower Lakes, Coorong and Murray Mouth. The program aims to achieve improved outcomes for the River Murray through:

- Recovering water for the environment.
- Building infrastructure to deliver water efficiently.
- Delivering environmental water to the icon sites as it becomes available.
- Monitoring the impacts of environmental water at the icon sites.
- Consulting with the community to ensure its input into achieving these outcomes.

Under TLM the Australian, New South Wales, Victorian, South Australian and Australian Capital Territory governments agreed to recover an average of 500 gigalitres per year for environmental purposes. South Australia had dual targets – recovery of 35 gigalitres (long-term average) of water from within the state, and expenditure of \$65 million on water recovery initiatives which were met in 2009. So far The Living Murray program has recovered 479.97 gigalitres of environmental water for the six icon sites.

### Murray-Darling Basin Reform

The main focus of Murray-Darling Basin (MDB) reform supported by the levy in 2011–12 has been South Australia's significant contribution to the continued development of a Murray-Darling Basin Plan. Under the Commonwealth Water Act 2007, the Murray-Darling Basin Authority (MDBA) is responsible for developing a Basin Plan for the integrated and sustainable management of water resources in the Murray-Darling Basin. The proposed Basin Plan was released in 2011.

The South Australian Government response to the proposed Basin Plan was based on careful analysis informed by South Australian scientists, policy makers, legal experts, irrigators and the broader community. The submission addressed environmental water requirements, key environmental assets, catchment risks, socio-economic issues, water quality and salinity issues, critical human water needs and state water resource plan requirements.

### Murray-Darling Basin Hydrological Modelling

As part of the development of the South Australian response on the MDBA's proposed Basin Plan, South Australian Government scientists undertook analysis of the proposed water recovery scenario. Three scenarios were analysed: the recovery of 2750 gigalitres as put forward by the proposed Basin Plan, 2400 gigalitres and 3200 gigalitres. The analysis, undertaken by a team of hydrologists and ecologists, focused on assessing whether the outcomes for the health of the River Murray floodplain and the Lower Lakes, Coorong and Murray Mouth would be met. An expert panel comprising members of the Goyder Institute for Water Research peer reviewed the analysis by the South Australian Government and provided advice on the likely ecological outcomes of the proposed flow regimes. This work was released by the Government of South Australia and is available on the Water for Good website.

### Communication and Legal Costs Associated with the MDB Plan

The proposed Basin Plan is a legislative instrument and the development of the South Australian response to the MDBA's proposed Basin Plan required legal resources throughout 2011–12.

The Government consulted extensively across South Australia to gain an understanding of the plan's potential implications for communities, irrigators and Aboriginal Traditional owners. Engagement activities included community leaders meetings held in Adelaide, regional meetings in Berri, Mannum and Murray Bridge and numerous presentations and meetings with key stakeholders.

Presentations were provided to numerous environment, industry and community organisations such as the Natural Resources Committee of Parliament, the Local Government Association, Regional Development Australia committees, the Conservation Council of South Australia, the Natural Resources Management Council, the River Murray Advisory Committee, the Lower River Murray Reference Group, South Australian River Communities group and the Ngarrindjeri Regional Authority.



### The Premier's Murray-Darling Basin Plan Taskforce

As the Basin Plan is such an important issue for the River Murray, and South Australia as a whole, the Premier of South Australia and the Minister for Water and the River Murray established a specialised Premier's Murray-Darling Basin Plan Taskforce in June 2012 to lead the state's response to the proposed Basin Plan and further engage the community. The taskforce is comprised of Ministers and senior Government officials including the Chief Executive of the taskforce, Scott Ashby, Chief Scientist, Professor Don Bursill AM, Director Goyder Institute, Dr Tony Minns, Chief Executive of the Department of Environment, Water and Natural Resources Allan Holmes and Under Treasurer Brett Rowse.

The taskforce worked on amendments to the draft Basin Plan in the interest of South Australia's River Murray. It is also involved in negotiations with the Commonwealth about complementary programs, including addressing constraints to the delivery of water and programs to bridge the gap between current diversions and the Sustainable Diversion Limit (SDL).

The taskforce will lead the South Australian Government's response to the revised proposed Basin Plan, providing a formal response to the Murray-Darling Basin Ministerial Council in 2012–13.

The final Basin Plan will set SDLs on water extractions from surface water and groundwater sources in the Murray-Darling Basin and may have a significant impact on determining the future long-term health of the River Murray system and the quality and quantity of water that flows into South Australia.

### Murray-Darling Basin Agreement

The Murray-Darling Basin Agreement 2008 sets out the arrangements for the sharing and management of the Basin's water resources, particularly of the River Murray system. The agreement is being reviewed with state input through an issues-based review stemming from a First Ministers' agreement on contingency water sharing arrangements in 2009–10. In 2011–12 the review documented agreed river operations objectives and outcomes to be achieved by the MDBA, as well as all existing river operations rules and 'prior practice' to:

1. Serve as a common baseline of information from which the MDBA and Basin governments can assess future proposed changes.
2. Better understand constraints to the effective delivery of environmental water in the River Murray system and to identify options and opportunities for addressing those constraints.





The Department of Environment, Water and Natural Resources will lead the state's input to the review of the agreement in 2012–13. A primary focus will be to negotiate new river operations arrangements that optimise the efficient and effective delivery of water for environmental, economic and social needs and a series of statutory reviews to ensure consistency with the Basin Plan.

#### Intergovernmental relations

A key focus is South Australia's effective participation in the Legislative and Governance Forum on the Murray-Darling Basin, Basin Officials Committee and MDBA high-level committees, ensuring it identifies and addresses key management issues and requirements emerging from the Murray-Darling Basin governance and planning arrangements.

Significant activities (excluding work on the Basin Plan) in 2011–2012 included:

- The listing of an additional 0.9 gegalitres from South Australia on The Living Murray environmental water register. The recovery of this water and the associated investment was over and above the state's commitment under the Living Murray Initiative.

- Finalisation and approval of environmental water management plans for the Barmah-Millewa Forest, Gunbower Forest, Koondrook-Perricoota, Hattah Lakes, Lindsay-Wallpolla Islands and the Chowilla floodplain icon sites in The Living Murray program.
- Continuation of construction of the Chowilla Creek environmental regulator.

#### MDBA State Contribution

The sharing of River Murray waters is set out in the Murray-Darling Basin Agreement 2008. As part of the requirements all states must contribute to the construction, operation and maintenance of the four major storages (Dartmouth, Hume, Menindee Lakes and Lake Victoria), a large number of river control structures (locks and barrages) and salinity mitigations works over 2500 kilometres along the length of the river. South Australia contributed \$25.646 million to the MDBA in 2011–12, of which \$7.012 million was sourced from the Save the River Murray Fund.

#### Key achievements

- Continued assessment of the environmental water requirements for the South Australian River Murray floodplain, including a hydro-ecological analysis under the proposed Basin Plan water recovery scenarios.
- Delivery of the South Australian Government's submission to the Murray-Darling Basin Authority's proposed Basin Plan. The submission made 71 recommendations and addressed environmental water requirements, key environmental assets, catchment risks, socio-economic issues, water quality and salinity issues, critical human water needs and state water resource plan requirements.
- Establishment of the Premier's Murray-Darling Basin Plan Taskforce to lead the state's response to the proposed Basin Plan.
- Comprehensive engagement with the communities, irrigators and Aboriginal Traditional owners through community leaders meetings and numerous presentations and meetings with key stakeholders.



# SECURING THE WATER RIGHTS OF THE RIVER MURRAY AND MURRAY-DARLING BASIN IS IMPORTANT FOR LICENSED WATER USERS AND THE WIDER SOUTH AUSTRALIAN COMMUNITY IN ECONOMIC, SOCIAL AND CULTURAL TERMS.

Improved inflow in the Murray system resulted in South Australia receiving its full entitlement flow of 1850 gigalitres in 2011–12. As a consequence all River Murray Prescribed Watercourse entitlement holders received an allocation equivalent to 100 per cent of their entitlement.

### Water Planning Policy

In 2011–12 a draft policy for the implementation of unbundling water rights was developed and consulted on with the Natural Resources Management (NRM) Council and regional NRM boards. The policy provides for a 'fit for purpose' approach where the extent of unbundling will depend on the outcome of a 'feasibility and benefit' assessment for each water allocation plan to be developed or reviewed. In all cases, the water rights will be expressed as a right to a share of the water available, to improve adaptability to short-term and long-term variability in water resources.

### Implementation of MDB Water Allocation Plans

(River Murray Prescribed Watercourse/ Eastern Mount Lofty Ranges/Angas Bremer/Mallee/ Noora/Marne Saunders/ Peake Roby Sherlock)

Implementation of the existing water allocation plans within the Murray-Darling Basin in South Australia and the management of the Natural Resource Management Act 2004 and the River Murray Act 2003 continued to be significant South Australia Government programs in 2011–12. The primary focus was on the provision of efficient water licensing and trade administration, water use monitoring and reporting, and the provision of support to the SA Murray-Darling Basin (SA MDB) Natural Resources Management Board in its amendment and preparation of water allocation plans.

The Water Allocation Plan for the River Murray Prescribed Watercourse is operational and licences and allocations have been provided to water users. Administration of the River Murray salinity zoning policy supported South Australia's Murray-Darling Basin salinity reporting obligations.

Work continued on the finalisation of the Eastern Mount Lofty Ranges Water Allocation Plan in 2011–12. The Angas Bremer Prescribed Wells Area is located within the Eastern Mount Lofty Ranges Prescribed Water Resources Area and the draft Eastern Mount Lofty Ranges Water Allocation Plan has been prepared to cover both areas; once adopted it will replace the current plan for the Angas Bremer Prescribed Wells Area.

In May 2012 the Minister for Water and the River Murray adopted the Water Allocation Plan for the Mallee Prescribed Wells Area. The plan was developed by the SA MDB NRM Board, in consultation with the local community and industry, to guide the sustainable management of the region's underground water resources. In its development, consideration was given to the likely risks to the resource and consequences of managing these risks through the policies in the plan. Current risks to the resource are dealt with through the allocations, transfer, permits and monitoring provisions within the plan, while future risks and consequences will be managed through regular monitoring of the resource.

The Water Allocation Plan for the Noora Prescribed Wells Area is operational. The prescribed area covers the Noora Salt Interception Scheme, with the sole licence holder being the Minister for Water and the River Murray. The plan has been reviewed and the SA MDB NRM Board is considering the options for community consultation on a draft water allocation plan that incorporates provisions for unbundling of entitlements and allocations.

The Water Allocation Plan for the Marne Saunders Prescribed Water Resources Area is operational and licences and allocations have been provided to water users. The Water Allocation Plan for the Peake, Roby and Sherlock Prescribed Wells Area is also operational.

## 02 SECURING WATER RIGHTS

### Water Planning Policy – Water Trade

The River Murray water market experienced large volumes of trade in both entitlements and allocations. A total of 936 water trade applications were lodged with the Department for Water in 2011–12. Commonwealth Environmental Water has now purchased more than 80 gigalitres in South Australia. The allocation trade sector of the market exceeded 500 gigalitres into South Australia. Of this, nearly 380 gigalitres was allocation transfers associated with environmental water.

A summary of water allocation transfer activity is detailed in the table below:

	2009–10		2010–11		2011–12	
	No.	Volume (GL)	No.	Volume (GL)	No.	Volume (GL)
<b>Trade into SA</b>						
NSW	434	210.2	75	210.2	14	173.0
VIC	478	64.4	38	64.4	113	332.7
<b>Trade from SA</b>						
NSW	24	4.2	27	4.2	27	76.5
VIC	71	17.8	214	17.8	125	152.3
<b>Trade within SA</b>						
Temporary	491	223.7	359	223.7	356	205.8

*These allocation trade figures were achieved even though the allocation market was disrupted by closures triggered by upstream jurisdictions. In April 2012, Victoria ceased the trade of water from New South Wales to Victoria and from the Goulburn, Campaspe and Loddon systems. This led New South Wales to close its pathway into South Australia. In order to avoid South Australia becoming a clearing house for New South Wales trades into Victoria to take advantage of the Victorian carryover, South Australia was left with no option but to close the New South Wales/South Australia pathway eight days before the New South Wales closure took effect. The South Australian closure was to protect this state's entitlement flow for the next water year, which could have been compromised by excessive trades from South Australia to Victoria.*

*In 2011–12, permanent water entitlement transfers remained similar to the 2010–11 figures and down from the peak in 2009–10 that resulted from the Australian Government program of purchasing water under the Irrigator's Exit Grant Package.*

A summary of water allocation transfer activity is detailed in the table below:

	2009–10		2010–11		2011–11	
	No.	Volume (GL)	No.	Unit Shares	No.	Unit Shares
<b>Entitlement Trade</b>						
Permanent	472	84,182,012	278	30,439,635	290	35,537,317
* Temporary	21	1,020,880	12	1,831,340	24	2,599,570

*\* Temporary entitlement trade describes entitlement that is leased to another user for a specified period.*

As the impact of transfers on the storage operation, different jurisdictional carryover provisions, and the overarching requirements of the Murray-Darling Basin Agreement has required a number of new policy considerations. These include the better handling of market closures, maintaining confidence in the water market, and improving the transparency of decisions which impede market operation.

The trade rules of the Basin Plan, developed in the two previous years through consultation led by the Australian Competition and Consumer Commission, were released as part of the overall draft proposed Basin Plan. Further revisions and considerations as to the adjustments that may be required in the water trade rules in water allocation plans within the Basin are continuing. There has been considerable emphasis placed on broker regulation and price transparency at a national level which will directly affect South Australia. Updates to transfer forms and investigations of trust accounts and a range of regulatory options are under investigation to increase market confidence in water brokers and therefore the overall operation of the water market.

#### **MDB Cap on Diversions**

In June 1995, in response to an audit of water use in the Murray-Darling Basin, the Murray-Darling Basin Ministerial Council agreed to cap surface water diversions in the Basin. The Independent Audit group (IAG) reviews cap compliance in each state as required under Schedule E (Cap on Diversions) of the Murray-Darling Basin Agreement 2008.

The 2010–11 independent audit conducted in September 2011 determined that all diversions in South Australia remained within cap targets. The 2011–12 independent audit will be undertaken in September 2012.

South Australia's Storage Right and a New Private Carryover Policy for South Australia. In December 2011 the South Australian Government adopted a River Murray private carryover policy that will become operational for the 2012–13 water year. This was made possible by the incorporation of Schedule G (Accounting for South Australia's Storage Right) and Schedule H (Water Sharing During Tiers 2 and 3) into the Murray-Darling Basin Agreement 2008 in September 2011.

Schedule G provides SA with a formal right, for the first time, to store entitlement water for Critical Human Water Needs (CHWN) and private carryover in the major upstream storages for delivery at a later time. Schedule H mandates a three-tier system of water sharing, a new 'reserves policy' and formalises the process for addressing periods of severe water shortages. Together, the schedules are of great significance to the state because they will provide greater flexibility in managing the timing of the delivery of its water entitlements and will ensure that South Australia's CHWN from the River Murray will be met in all years.

Carryover of unused allocation in 2011–12 for use in 2012–13 did not occur due to a high likelihood of water stored for private carryover spilling in 2012–13.

#### **Establishing an Environmental Water Reserve**

The Department for Water developed an options paper in 2011–12 for consideration by the Minister for Water and the River Murray outlining various means of establishing an Environmental Water Reserve for South Australia.

The paper considered the models for water 'holders' operated by the Commonwealth and other jurisdictions, comparing the benefits and drawbacks of these different approaches and proposing a model suited to the needs of South Australia. The Department of Environment, Water and Natural Resources will develop a detailed proposal on the role and functions of the Environmental Water Reserve. The reserve is expected to eventually manage at least 6 gigalitres of water entitlements and potentially an additional volume of up to 24 gigalitres if South Australia receives its 1850 gigalitres entitlement flow.

#### **Water Acquisition for Environmental Flows**

Funds from the Save the River Murray Levy allowed the state to acquire water for environmental flows. In 2011–12 \$9.272 million was allocated to acquire water to meet some of South Australia's key environmental water requirements and to support drought recovery, particularly at Lakes Alexandrina and Albert.

#### **Key achievements**

- Adoption of the Water Allocation Plan for the Mallee Prescribed Wells Area.
- Final stages of development of the draft water allocation plan for the Eastern Mount Lofty Ranges Prescribed Water Resources Area.
- Negotiation and commencement of South Australia's new rights in the Murray-Darling Basin Agreement to carry over and store water for Critical Human Water Needs, as well as for private carry-over.
- Acquired water for environmental flows.

# THE RIVER MURRAY AND THE ACTIVITIES IT SUPPORTS ARE CRITICAL TO THE SOCIO-ECONOMIC AND BIO-PHYSICAL WELLBEING OF SOUTH AUSTRALIA. THE RIVER IS THE PRINCIPAL SOURCE OF WATER FOR SUPPLIERS IN GREATER ADELAIDE AND REGIONAL SOUTH AUSTRALIA. IT UNDERPINS SUBSTANTIAL IRRIGATION DEVELOPMENT ALONG THE RIVER CORRIDOR AND IN OTHER AREAS. IT PROVIDES ESSENTIAL ENVIRONMENTAL SERVICES TO THE HEALTH OF THE RIVER SYSTEM, THE LOWER LAKES AND THE COORONG, AND IT IS USED EXTENSIVELY FOR TOURISM AND RECREATIONAL ACTIVITIES.

### River Murray Act 2003

Following the review of the River Murray Act 2003, the RMIP continues to provide an important coordinating mechanism to ensure the health of the river is considered in plans and approvals under other legislation and programs. In 2011–2012, 479 referrals of statutory authorisations and nine statutory instruments were received. Most were development applications including buildings (for example dwellings or sheds), river structures (for example jetties, pontoons, mooring posts, and boat ramps), earthworks within the floodplain, activities requiring River Murray water (for example irrigation, feedlots, or aquaculture) and land divisions. Of these, buildings comprised more than half of the referrals whilst river structures and land divisions comprised 15 per cent and 12 per cent respectively. All referrals were assessed against the objects of the River Murray Act 2003.

High flows and water levels in 2011–12 appear to have reduced the number of non-compliant development activities such as vegetation removal, sand dumping and other interference with the river bank. Government officers continued to work with local councils and NRM board staff along the River Murray, with mutual information exchange helping to resolve compliance matters.

The proactive approach with other agencies, councils and community leaders has been complemented by field staff undertaking more focused and targeted efforts with proponents and landowners.

The 2010–2011 River Murray Act annual report was tabled in Parliament on 10 November 2011, together with the triennial review of the Act. The findings from the review, together with the review of the River Murray Act Implementation Strategy in 2010–11, provide an excellent basis for development of a new River Murray Act Implementation Strategy.

### River Murray Operations

During 2011–12, the Department for Water undertook ongoing operations to manage the River Murray in accordance with the 2011–12 River Murray Operating Plan. Regular South Australian inter-agency meetings were held during the year to coordinate river operation decisions. In addition, a major component of the work involved inter-jurisdictional liaison on water resource management and accounting. River flow forecasts and advice were delivered in the form of Weekly Flow Reports throughout the year.

During early 2012, high flows were experienced in the South Australian reaches of the River Murray and the Department for Water coordinated the provision of hazard management information in the form of High Flows Advice and advised of a period of heightened preparedness under a declared 'Flood Watch'.

The department also coordinated other initiatives, such as the implementation of the Private Carryover Policy and the re-introduction of a River Murray Water Allocation Decision Framework.

### State Water Resource Monitoring in the Murray-Darling Basin

Monitoring of the river continued during the year, providing the following information on water quality:

- Black water: water quality in the South Australian reaches of the River Murray was affected in early 2012.
- Cyanobacteria: target cell count trigger values for cyanobacteria species were not exceeded.
- Alkalinity and pH: the lowest alkalinity recorded was 30 mg/L at Cadell and Morgan on 25 August 2011 (> 40 mg/L is preferred); the lowest pH was 6.1 at Lock 3 on 20 October 2011.
- Dissolved oxygen: the lowest level was 4.1 mg/L at Mypolonga on 30 November 2011 as a result of a black water event.

- Turbidity: the highest level was 320 NTU (nephelometric turbidity units) at Lock 6 on 24 January 2012 as a result of substantial “murky” inflows from the Darling system.
- Dissolved organic carbon: highest level was 14.8 mg/L at Morgan on 27 April 2012 (below 10 is preferred).

Water quality monitoring was undertaken in the Lower Lakes in 2011–12 as part of a monitoring program to guide adaptive management responses and better prepare for future periods of low inflows and rewetting events. In 2011–12 water quality monitoring continued to show that higher water levels from Murray-Darling floodwaters have diluted previously acidic hotspots so that pH levels are within Australia and New Zealand Environment and Conservation Council water quality guidelines (pH between 6.5 and 9). Despite this, surface waters in some localised areas are still showing very high levels of acidity and these continue to be monitored. Salinity has reduced to less than 550 EC in Lake Alexandrina as a result of continued inflows; however, it still remains high in Lake Albert (close to 4,000 EC) due to difficulties in cycling water through the Narrung Narrows into Lake Albert. Water levels and barrage releases are being managed to draw salinity out of Lake Albert.

#### Acid Soil Investigation

Along with water quality, acid sulphate soil monitoring was undertaken in the Lower Lakes during 2011–12. The monitoring has indicated that, following inundation, the neutralisation rate of acidic soil is highly variable. At some sites sulphuric conditions have prevailed for less than five months, whereas other sites have remained sulphuric for 16 months.

#### Water Quality Improvement

The Environment Protection Authority (EPA) undertook a number of projects in 2011–12 to improve water quality in and around the South Australian reaches of the River Murray.

Work included on-site meetings with developers, residents and local councils to discuss proposed plans, written advice to councils and the Department of Planning and Local Government, development of a response matrix for development applications to simplify and maintain consistency in the response process and the assessment of 26 development applications.

The EPA also worked with industry bodies and private and commercial vessel owners operating on the River Murray to ensure a commitment to a new code of practice for grey water systems.

An audit program of wastewater discharge from private river craft continued during 2011–12. The audit addressed black-water and grey-water discharge from vessels located on the River Murray and tributaries and can result in the requirement for boat facilities to be upgraded.

The EPA routinely undertakes random audits and inspections on a range of industries that have the potential to impact on water quality. Compliance is enforced through a range of instruments including letters, fines, environment protection orders, clean up orders and prosecution. Major issues requiring enforcement in 2011–12 included sand dumping, illegal development (affecting water quality of the river), riparian grazing, pesticide mismanagement and clean-up, abandoned vessels, sewage spills and diesel spills into the river. All of these issues were dealt with using a range of approaches, including verbal advice, letters, environment protection orders and emergency response.

## 03 PROTECTING THE RIVER

### Salinity Policy and Salt Interception Schemes (SIS) – Operations and Maintenance

Salinity is a significant issue for South Australia due to:

- South Australia's location on the lower reach of the River Murray.
- The natural geological structure of the Murray-Darling Basin, where the River Murray acts as a drain for salt out of the landscape.
- The influence of human development in mobilising salt to the river.
- The ultimate implications in terms of water quality for all uses (irrigation, environmental, critical human needs), including metropolitan Adelaide.

South Australia is committed to managing salinity under the MDBA's Basin Salinity Management Strategy and recognises the importance of salinity management through actions and targets in key state-level strategies and plans, including the Water for Good Plan (Action 56) and South Australia's Strategic Plan Target 77.

In 2011–12 there was continued progress in salinity management, including ensuring that South Australia's balance on the Basin Salinity Management Strategy Registers remained in positive credit and that the state's other obligations to manage Murray-Darling Basin salinity were delivered.

Salt interception schemes comprise a field of bores, pipes and pumps that intercept saline groundwater that would otherwise flow into the river and pump it away to inland evaporation basins. Approximately 280,000 tonnes of salt is intercepted each year. They are constructed as part of a program coordinated by the MDBA with infrastructure investment shared by the Basin states. The operational costs are also contributed under a shared program on the basis of groundwater models and assessments of whether the salt is a legacy of history or a state development action.

South Australia contributes to the operations of five joint SIS works constructed and operated through these arrangements at Woolpunda, Waikerie, Loxton and Bookpurnong. The Murtho SIS is under construction and due for completion in September 2012, while the first stage of the Pike SIS construction was completed in June 2011 and commissioned in September 2011. South Australia also has an additional scheme in the Qualco-Sunlands irrigation area which operates outside of the MDBA sharing arrangements.

Work for 2012–13 includes finalising the five-year review of the Waikerie to Morgan and Woolpunda groundwater models, development of salinity provisions for inclusion in the revised Water Allocation Plan for the River Murray and updates to the South Australian River Murray Salinity Zoning Policy.

### Riverine Recovery Project – Operations & Maintenance

South Australia is responsible for the operation and maintenance of certain environmental flow regulating structures in the South Australian reaches of the River Murray. The Riverine Recovery Program is in the process of designing and constructing additional structures that will be operated to mimic historically natural cycles of wetting and drying to improve wetland health while fulfilling the contractual requirements to provide 15 gigalitres in annual water savings to be returned to the Commonwealth Government.

This project funds the planning and implementation of the operation and maintenance of these structures and the ongoing accounting and reporting on water savings to be returned.



### Drainage Disposal Basins Management

The Department of Environment, Water and Natural Resources operates and maintains 17 drainage disposal basins in the Riverland. Tasks such as weed and rabbit control continued, with major remedial works undertaken between April and June 2012 at Noora, where extensive native tree buffer plantings are thriving. New fences and gates were also installed at Noora and a new fire break was created around the property.

At Renmark substantial works were carried out on two drainage caissons, with previously unfenced or inadequately fenced perimeters fitted with new industry standard safety handrails and security fences, making these sites much safer to the general public and staff.

### Upgrade of River Murray Waste Disposal Stations

There are 13 river vessel waste disposal stations along the River Murray in South Australia, which accept black water, grey water and solid waste free of charge. A station upgrade program continued during 2011–12 to meet the demands of increased houseboat traffic, to adhere to recent legislative changes requiring the acceptance of grey water and solid waste and to modernise ageing facilities nearing the end of their useful life.

Refurbishment of the Morgan station was completed in June 2012. This included the installation of new mooring piles, a new floating pontoon and aluminium walkway and the provision of ancillary equipment (such as fencing and signage). The portable toilet waste disposal facility at Blanchetown was also completely overhauled.

The Walker Flat Waste Disposal Station remained out of service during 2011–12 due to a high risk of riverbank collapse. Remedial investigations to determine whether the station can be reopened will be concluded in early 2012–13.

### Riverbank Collapse

Riverbank collapse in the Lower Murray (between Blanchetown and Wellington) continues to present a risk to public safety, infrastructure, the economy and the environment. While the number of reported riverbank collapse incidents has declined from previous years, some sites continue to show instability and are at high risk of collapse. Geotechnical engineers have advised that the sites damaged by riverbank collapse will not naturally repair to their pre-damaged state and will likely require ongoing management or significant intervention.

Mitigation activities continued to focus on the prevention of accidents, injuries or losses using site closure, fencing and signage techniques. Several sites remained closed, including parts of Caloote Landing, Riverfront Road at Murray Bridge and East Front Road at Mannum, because of risks to the public. East Front Road continued to deteriorate, and collapses along this road supported the decision to close it in April 2010.

Some sites were re-opened in 2011–12 following reappraisal of the risks, notably the boat ramp and picnic area at Caloote Landing, the closed sections of Mannum Caravan Park and Dickson Reserve at Tailern Bend.

The water level below Lock 1 was managed to minimise the risk of riverbank collapse by maintaining the pool water level within a target range to prevent activating triggers. No significant riverbank collapse incidents occurred. The high flow peak and rate of recession was also managed to minimise any impacts on riverbank stability. This management action also assisted in minimising return flow of saline groundwater to the main river channel.

The focus of the Riverbank Collapse Hazard Program has recently changed from a short-term focus of closing sites to keep the public out, to focusing on further site specific investigations at the highest risk sites to identify a long-term sustainable management plan. This work will continue in 2012–13.

## 03 PROTECTING THE RIVER

The first State Risk Assessment was completed for Riverbank Collapse Hazard as required under the State Emergency Management Arrangements for all State Hazards. The State Risk Assessment identified significant knowledge gaps in the understanding of the hazard to be able to confidently complete the risk assessment. These knowledge gaps are being addressed through undertaking further investigations and research with university academics and private consultants. A Zone Risk Assessment has also been undertaken for the Murray and Mallee Emergency Management Zone and the outcomes will be included in the Zone Emergency Management Plan.

### Lower Murray Embankments

The South Australian Government owns, maintains and operates 67 kilometres of levees along the lower River Murray between Mannum and Wellington. These structures define the river channel and, where infrastructure exists, enable gravity fed irrigation of floodplain agriculture. A program of maintenance continued during 2011–12 involving weed control, pest animal control and regular inspections. Remedial bank reinforcement and crest height raising work was conducted in an ongoing program of works at Jervois (northern section) and Burdett. This will continue during 2012–13.

### Key achievements

- Continued progress in salinity management ensured that South Australia's balance on the Basin Salinity Management Strategy Registers remained in positive credit, delivering the state's obligations to manage Murray-Darling Basin salinity.
- Ongoing operation and maintenance of the disposal basins in the Riverland.
- Refurbishment of the River Murray waste disposal stations at Morgan and Blanchetown.
- Addressing the risks of riverbank collapse to public safety, infrastructure and the environment. On-ground mitigation activities focused on the prevention of accidents and injuries through site closure and installation of fencing and signage.

### THE PAST 18 MONTHS HAVE SEEN A DRAMATIC CHANGE IN THE AVAILABILITY AND DELIVERY OF ENVIRONMENTAL WATER IN THE MURRAY-DARLING BASIN. THERE HAVE BEEN TWO YEARS OF GOOD FLOWS IN THE RIVER MURRAY AND AS A RESULT THE CATCHMENT IS WET AND MANY WETLANDS ARE FULL.

#### Environmental Water Management

Delivery of environmental water plays a vital role in supporting the future health of South Australia's River Murray and its floodplains and wetlands. In the drought years, environmental watering ensured the maintenance of drought refuges, prevented the loss of species and habitat and enabled re-colonisation and re-establishment of species and ecosystem functions when higher flows returned.

The ecological assets of the River Murray in South Australia have access to two main sources of environmental water – The Living Murray (TLM) and Commonwealth Environmental Water. Each year environmental assets that meet the criteria for receiving water from these sources are identified.

During 2011–12 South Australia received 468 gigalitres of environmental water for River Murray wetlands, floodplains and the Lower Lakes and Coorong. This included water received from the following sources:

- The TLM Program (138.8 gigalitres) which consisted of 3 gigalitres delivered to a wetland within the Chowilla floodplain and 135.8 gigalitres delivered to the Lower Lakes and Coorong.
- Commonwealth Environmental Water (328.8 gigalitres) which consisted of 0.6 gigalitres for Berri Evaporation Basin on the Katarapko floodplain and the remainder delivered to the Lower Lakes.
- Nature Foundation SA (0.3 gigalitres) provided for the threatened Murray hardyhead fish population in the Berri Evaporation Basin.

Higher-than-predicted flows into South Australia meant that unregulated flows were received for most of 2011–12. This changed the environmental watering priorities at a Basin and state level, and proposals were revised as flow conditions unfolded. This information was fed into cross-jurisdictional discussions on a multi-site watering action. The multi-site watering proposal raised significant policy and operational constraints but continued in a modified format.

Four wetland watering events on the Chowilla floodplain were planned for the 2011–12 summer/autumn period. Due to the unregulated flow during that period, three of these projects were no longer required as the wetlands were inundated naturally during high flows. Coombool Swamp received 3 gigalitres of environmental water through pumping, which provided benefits to understorey vegetation, tree health and native wildlife. Bird surveys identified more than 1500 birds of 23 different species using the wetland.

## 04 ENHANCING THE ENVIRONMENT

Environmental water and unregulated flows provided a positive impact on water levels in the Lower Lakes. Flows peaked in South Australia at 59.7 gigalitres/day in early April 2012, with flows above 50 gigalitres/day continuing until mid-May 2012. The resulting good flows lowered salinity levels in the Lower Lakes and Coorong, improved fish passage and maintained an open Murray Mouth. There was sufficient volume to meet the 1000 gigalitres/year barrage release target. There has been a continuous flow over the barrages to the Coorong since September 2010.

Ecological monitoring at key sites in South Australia has indicated some improvement in ecological condition following the high flows of 2011 and 2012. However, considerable improvement is still required for long-term ecological objectives to be met.

Further planning and the development of watering proposals for 2012–13 occurred to ensure that the benefits of the 2011–12 high flows were consolidated by follow-up watering. The benefits of multiple environmental watering include:

- Improved health of floodplain vegetation, particularly River Red Gum and Black Box.
- Increased abundance of invertebrates.
- Seed germination and dispersal of important species including River Red Gums.
- Reproduction and seed bank replenishment for *Ruppia tuberosa*.
- Breeding cues for native fish such as Murray Cod and Congolli.
- Feeding and breeding habitat for many species of water birds.

The watering proposals for the South Australian River Murray for 2012–13 were outlined in the Annual Environmental Watering Plan for the SA River Murray, which is available on the Water for Good website.

### Chowilla Floodplain Icon Site

The Chowilla floodplain contains a high diversity of terrestrial and aquatic habitats, supporting populations of rare, endangered and nationally threatened species, and has many sites of cultural significance. A program of environmental watering was undertaken at 28 priority wetlands on the Chowilla floodplain to maintain priority refuges for flora and fauna during the drought. During 2010–11 all wetlands were watered during the high river flows and many were subsequently inundated during the high flows of 2011–12. Surveys following the high flow events have indicated an increase in bird and frog numbers and positive vegetation responses.

Construction of the Chowilla Creek environmental regulator temporarily ceased in October 2010 due to high flow conditions. Work recommenced in early 2012 but was again halted by high flows in autumn 2012. Work recommenced during May 2012, with a further 18 months of construction activity remaining at Chowilla to complete the regulator and ancillary works. Operation of the environmental regulator will enable up to 50 per cent of the floodplain to be regularly inundated.

A range of other activities and investigations are in progress at Chowilla. Numerous ecological investigations have been undertaken to inform the operation of the Chowilla Creek regulator and to ensure comprehensive monitoring and risk management plans are developed. Community engagement and communication activities also continued throughout 2011–12.

The following programs were implemented through condition and intervention monitoring:

- Tree condition assessment.
- Fish condition assessment.
- Waterbirds and bush birds surveys.
- Understorey and aquatic vegetation assessment.
- Murray Cod movement survey.
- Lignum monitoring.
- Groundwater and surface water monitoring.
- Soil salinity and moisture monitoring.
- Assessment of the impacts on river and anabranch salinity.
- Studying the response of understorey vegetation to environmental watering.

The Chowilla Floodplain Environmental Water Management Plan was updated in 2011–12. This plan provides direction on environmental water delivery, ecological monitoring, governance, reporting and engagement.

### Lower Lakes, Coorong and Murray Mouth icon site

Continuous barrage releases have occurred since September 2010, resulting in connectivity between Lake Alexandrina and the estuary, reductions in salinity in the Lower Lakes and the Coorong and an open Murray Mouth.

Environmental water delivery in the Lower Lakes and Coorong is guided by the Lower Lakes, Coorong and Murray Mouth Icon Site Environmental Water Management Plan, which was completed in 2011–12. Along with providing a framework for the environmental water requirements and ecological monitoring needs of the site, it also gives direction on engagement with the Ngarrindjeri Regional Authority (traditional custodians of the Lower Lakes and Coorong region), the general community and the scientific community.



Monitoring undertaken as part of The Living Murray program focused on the native fish, bird, invertebrate and plant communities of the region. The program tracks ecological condition through time and determines the effects of environmental water delivery.

The following programs were implemented through condition and intervention monitoring:

- Aquatic vegetation monitoring.
- Threatened fish monitoring.
- Summer waterbird census.
- Monthly waterbird site surveys.
- Benthic invertebrate and mudflat monitoring.
- Commercial fish and small mouthed hardyhead monitoring.
- Barrage fishways monitoring.

While there have been definite signs of recovery for many species, including diadromous fish, aquatic vegetation and certain waterbirds, many species are still yet to re-establish. Monitoring has determined that of all species in the icon site, small-bodied threatened freshwater fish (including Murray hardyhead, Yarra pygmy perch and southern pygmy perch) and *Ruppia tuberosa* (a submerged aquatic plant found in the Coorong) were the hardest hit by the drought, and are showing little sign of recovery despite the improved conditions.

The Department for Water (now the Department of Environment, Water and Natural Resources) has reviewed this year's monitoring results to determine environmental watering priorities for the Lower Lakes and Coorong in 2012–13. In order to continue the drought recovery process, barrage releases need to be maintained and enhanced through the use of environmental water, particularly

through summer. This will enable target water levels and salinity regimes to be achieved, providing key flora and fauna with the greatest chance of recovery.

### Wetland Management

The Water Allocation Plan for the River Murray sets aside 200 gigalitres of water in acknowledgement that wetlands connected to the River Murray at pool level need water to maintain the biodiversity of associated flora and fauna. Thirty-one wetland complexes have regulators installed to allow active management through the introduction of a more natural wetting and drying regime.

In 2011–12 ecological monitoring and hydrological management was undertaken across the following nine wetland complexes: Morgan lagoons, Ngak Indau Wetlands, Causeway Wetland Complex, Pilby Wetland Complex, Pipeclay Billabong, Slaney Billabong, Werta Wert Lagoons, Lake Limbra and Lake Littra.



All monitoring data collected at the Riverland Ramsar site from various organisations, including the SAMDB NRM Board, Department for Water and Australian Landscape Trust, was uploaded into the state's wetland database. This information will provide a detailed understanding of the ecological character of the site for future research, invention measures and management.

Fish monitoring and evaluation in Katfish Reach was undertaken to assess changes in fish assemblage structure and recruitment, habitat and fish-habitat associations in response to increased connectivity and flow within the Eckert Creek anabranch system. This data will be used for future ecological and hydrological management decisions.

The Katfish Reach Riverine Recovery Project aims to improve the ecological outcome for the area by the installation of a fish passage and increased flow through 56 km of waterway and associated wetlands. A total of six structures will be modified or replaced as part of the project.

In 2011–12 the Department for Water commenced detailed project planning, an ecological assessment of the benefits and risks associated with the proposed management actions and feasibility and investigations for the development of the Katfish Reach Operational Strategy and Katfish Reach Monitoring Plan. Detailed design of the hydrological structures is expected to begin in 2012–13.

The Katfish Reach Steering Committee, which comprises community, business and Government representatives, continued to take an active and vital role in the Katfish Reach riverine project, undertaking consultation with the community, preparation of project management plans and delivery of community awareness activities.

Due to numerous threats, the Murray hardyhead has suffered a decline in distribution on both a state and Basin-wide scale. Captive Murray hardyhead populations for the Berri Evaporation Basin and Disher Creek have been maintained by the Murray-Darling Freshwater Research Centre throughout 2011–12.

The populations will be released back into the Berri Evaporation Basin and Disher Creek when conditions are favourable. The overall objective for recovery of the Murray hardyhead is to minimise the prospect of extinction of wild populations, and to increase the chances of significant populations becoming self-sustaining in the long term.

#### Key achievements

- Successful negotiation for the allocation and delivery of 468 gigalitres of environmental water, the vast majority of which was used to enhance barrage releases and reduce salinity in the Coorong.
- Significant ecological monitoring was undertaken at the Chowilla and Lower Lakes, Coorong and Murray Mouth icon sites and nine wetland complexes in 2011–12.
- The Chowilla Icon Site Environmental Water Management Plan and the Lower Lakes, Coorong and Murray Mouth Icon Site Environmental Water Management Plan were updated.





## SOUTH AUSTRALIA'S STRATEGIC PLAN PLACES A STRONG EMPHASIS ON BUILDING STRONG COMMUNITY NETWORKS AND ENHANCING INFORMATION TRANSFER. CAPACITY-BUILDING GENERATES KNOWLEDGE AND SKILLS THAT WILL BETTER EQUIP SOUTH AUSTRALIANS TO RESPONSIBLY MANAGE OUR NATURAL RESOURCES. THIS WILL ALLOW SOUTH AUSTRALIANS TO SHARE IN MAKING DECISIONS FOR THEIR SOCIAL, ECONOMIC AND ENVIRONMENTAL FUTURES.

### Irrigation Research, Technology Diffusion and Education

A research group consisting of staff from Primary Industries and Regions SA (PIRSA) and the South Australian Research and Development Institute (SARDI) was active in three industry-supported research projects on sustainable irrigation under the constraints of a changing climate and reduced water availability. Research findings were presented at the national Irrigation Australia Conference in Adelaide in June 2012.

During 2011–12, the group prepared 10 scientific and technical brochures and provided regional presentations to help Riverland industries (including viticulture, almond and citrus) maximise water uptake and minimise nutrient losses. Specific research for the viticulture industry has shown how growers can maximise the potential benefits of sub-surface irrigation to achieve improved water use efficiency and better manage root zone salinity. Research for the almond industry has shown that the current recommended grower application rates of fertiliser results in some of the fertiliser not being used, and therefore able to be leached out of the root zone and potentially contaminate the water resource. Computer models have been used to simulate how and when these losses occur and assisted in the development of management guidelines for the industry.

Research into the impacts of reduced water allocation (due to several years of drought) on Riverland crops shifted from assessing crop survival to crop recovery (plant health, increased productivity and quality) on returning to full water allocation. Research has shown that when protracted reductions in irrigation allocations are next forecast, a rotational system of water reduction across the entire vineyard, rather than significant reductions contained to specific varieties, would be the best strategy to minimise long-term impacts on vines. Packages of irrigation management and crop husbandry strategies were prepared with the aim of helping growers minimise damage to permanent horticulture under circumstances of extreme water restrictions.

The group worked with regional river communities on an Irrigated Business Innovation Network (IBIN) project. The project aimed to develop innovative and sustainable businesses using business benchmarking and key management strategies to improve long term business profitability and NRM outcomes.



The project found that while the region has been able to adapt to periods of natural variability like drought, or to the threats posed by rising salinity in irrigation districts in years gone by, responding to the warming and drying trend that climate change will bring requires greater resilience and attention to adopting longer term adaptive measures. Key recommendations from this project included the need to:

- Develop strategies to support and facilitate private sector investment in land use change in response to carbon farming opportunities, through leadership training and provision of information to farmers and their support networks.
- Invest in clearer communication of how local government planning guidelines will be applied to new energy projects or changes in land use.
- Build strong, continued collaboration, coordination and leadership across the region to create a positive climate for investment.

There are now 26 participants in four commodity-based groups (citrus, vines, almonds and young farmers/citrus) that provide for sharing of information within each group and beyond. Participants are using a number of diagnostic tools and models to develop a set of business indicators to focus discussions on reviewing performance indices for each participant and review of developed gross margin; and discussion of business development ideas which need further investigation.

A paper on the IBIN engagement process and outcomes from the project to date was presented at the national Irrigation Australia conference in June 2012. A number of industry sector groups have received presentations on the project and are interested in taking up the initiative with their membership.

### **Investing in River Murray Ecology**

Management of water systems has become increasingly complex due to rapid socio-economic growth and environmental changes in river basins over recent decades. There is a need to link science, policy and management to help policy makers and operators consider future scenarios and alternative water management options for catchments, urban environments and river systems across the nation.

This project provides access to new nationally consistent water modelling products and techniques for managing the River Murray surface water resources and for assessing ecological responses to environmental water provisions. Building capacity within South Australia to integrate the modelling of the economic and environmental uses of water to better assist how we plan and deliver water for cities, irrigation, industry, mining, wetlands and waterways.

### **Ngarrindjeri Funding Agreement**

The Ngarrindjeri people are descendents of the original inhabitants of the lands and waters of the Murray River, Lower Lakes and Coorong. The Ngarrindjeri Funding Agreement provides support and resources to enable the Kungun Ngarrindjeri Yunnan (KNY) Agreement for the future management of the Coorong National Park.

The South Australian Government and the Ngarrindjeri Regional Authority entered into the KNY (listening to Ngarrindjeri people speaking) Agreement on 6 July 2009. It sets out arrangements for the Crown, represented by the Ministers for Environment and Conservation, Aboriginal Affairs and Reconciliation, the River Murray and Agriculture, Food and Fisheries, to engage with the Ngarrindjeri through the Ngarrindjeri Regional Authority.

### **Key achievements**

- Consultation with regional river communities through the Irrigated Business Innovation Network project.
- Creation of four commodity-based groups (citrus, vines, almonds and young farmers/citrus) with 26 participants that provide information sharing.
- Building capacity within South Australia to integrate the modelling of the economic and environmental uses of water to better assist how we plan and deliver water.

# PROGRAM STATEMENT FOR THE PERIOD ENDED 30 JUNE 2012

	Note	2012	2011
		\$'000	\$'000
Funds held at 1 July		4,808	6,266
<b>Receipts</b>	<b>1</b>		
Recurrent Appropriation		26,200	25,000
<b>Total Receipts</b>		<b>26,200</b>	<b>25,000</b>
<b>Expenditure</b>			
Implementation of River Murray Prescribed Watercourse Water Allocation Plan		1,830	2,065
Salinity Implementation and Accountability		0	416
River Murray Act- Review, policy development and administration		522	576
MDBA State Contribution		7,012	4,055
Environmental Water Management Program		419	629
Murray- Darling Basin Hydrological Modelling		460	262
Improvement Management of Eastern Mount Lofty Ranges		537	564
Investing in River Murray Ecology		226	167
Drainage Disposal Basins Management		234	13
Upgrade of River Murray Waste Disposal Stations		815	1,043
Salinity Policy		694	303
Water Acquisition for Environmental Flows	<b>2</b>		
– Lower Lakes		4,500	10,536
– Environmental Water Provision		4,772	0
Lower Murray Embankments		244	260
Murray – Darling Basin Reform		946	1,660
Murray – Darling Basin Agreement		552	0
MDB Intergovernmental Relations		388	311
SA River Murray Operations System Review and Decision System		0	74
Riverbank Collapse		654	0
Implementation of MDB WAP Angas Bremer/Mallee/Noora/Marne Saunders/Peake Roby Sherlock		449	751
River Murray Operations		659	262
Levee Bank Remediation Works		0	580
Water Planning Policy		360	334
Salt Interception Schemes - Operations and Maintenance		285	225
Riverine Recovery Project - Operations and Maintenance		142	0
State Water Resource Monitoring in the Murray Darling Basin		451	0
Ngarrindjeri Funding Agreement		23	0
Acid Soil Investigation		211	0
Communication and legal costs associated with the MDB Plan		394	0
Wetland Management		165	173
Irrigation Research, Technology Diffusion and Education		826	890
Water Quality Improvement		289	309
<b>Total Payments</b>		<b>29,059</b>	<b>26,458</b>
<b>Net Increase in Funds</b>		<b>(2,859)</b>	<b>(1,458)</b>
<b>Funds held at 30 June</b>		<b>1,949</b>	<b>4,808</b>

# NOTES FORMING PART OF THE PROGRAM STATEMENT

## 1 Fund Purpose and Funding

The “Save the River Murray Fund” (The Fund) is established under Section 100 of the *Waterworks Act, 1932*. The major purpose of The Fund is to provide funds for programs and measures to improve and promote the environmental health of the River Murray or ensure the adequacy, security and quality of the State’s water supply from the River Murray. The Fund contributes to the excess of the State’s contribution to the Murray-Darling Basin Authority and may be used to provide rebates (including administration costs) in particular cases.

Revenue collected from the Save the River Murray Levy is paid into the Fund through the provision of appropriation from the Consolidated Account. The fund is not interest bearing.

### (a) Goods and Services Tax (GST)

Generally transactions through The Fund are included under the grouping provisions of the GST Legislation. Under grouping provisions, the Department for Water is responsible for the collection of GST on sales and payment of GST on purchases. The Department for Water received and paid these monies to the Australian Tax Office.

## 2 Water Acquisition for Environmental Flows

\$4.5 million was to recognise a repayment to the Department of Treasury and Finance for 50 gigalitres of environmental water secured for the Lower Lakes in 2011–12.

## Save the River Murray Contributions Fund

A separate fund, Save the River Murray Contributions Fund, has been established to receive contributions where there is no obligation to pay the Save the River Murray Levy. The separate fund was created because the legislation that established the Save the River Murray Fund only provided for revenue to be received from the Save the River Murray Levy.

The funds received in the Save the River Murray Contributions Fund will be applied for the same purpose as the Save the River Murray Fund. The balance of funds held in the Save the River Murray Contributions Fund at 30 June 2012 was \$4,415.









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