

SAVE THE RIVER MURRAY FUND

ANNUAL REPORT 2003-04

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

May 2005



INTRODUCTION

The Save the River Murray Levy was introduced on 1 October 2003 under the *Waterworks Act 1932* and establishes the *Save the River Murray Fund* which is held by the Minister for the River Murray. The Department of Water, Land and Biodiversity Conservation (DWLBC) is responsible for administering the Fund on behalf of the Minister for the River Murray. The levy is charged to all SA Water customers across the State (\$30 residential and \$135 non-residential), indexed annually.

The Save the River Murray Levy contributes to a program of works and measures to address the declining health of the River Murray in South Australia and increasing community demands for a high security of good quality water for urban and irrigation purposes. The program, known as the River Murray Improvement Program, is integrated within a larger program of works and measures formulated with the Murray-Darling Basin Initiative program and the South Australian River Murray Salinity Strategy.

The program 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; and
- high security of water quality for urban water supplies.

The program also contributes to a range of targets identified in South Australia's Strategic Plan including:

- Exceed Australia's average productivity growth within 10 years (T1.10);
- Treble the value of South Australia's export income to \$25 billion by 2013 (T1.12);
- Increase visitor expenditure in South Australia's tourism industry to \$5 billion by 2008 (T1.13);
- Increase investment in strategic areas of infrastructure to support and achieve the targets in South Australia's Strategic Plan (T1.16);
- Increase environmental flows by 500GL in the River Murray by 2008, with a longer-term target to reach 1500GL by 2018 (T3.1);
- Lose no species (T3.8);
- Reduce our ecological footprint to reduce the impact of human settlements and activities within 10 years (T3.10);
- Have based in South Australia either the headquarters or a major node of at least 40% of all Cooperative Research Centres (CRCs), Major National Research Facilities and Centres of Excellence within five years (T4.8); and
- Build and maintain infrastructure to develop and support sustainable communities in regions (T5.11).

In 2003-04 a total of \$12.773 million was received into the Fund and \$8.09 million was spent from the Fund on works and measures under the River Murray Improvement Program. The balance of \$4.7 million remaining is to fund commitments relating to irrigation efficiency and education, water quality and wetland management, and South Australia's contribution of \$65 million over five years towards the \$500 million package to return 500GL of water to the river system.

This is the first annual report for the *Save the River Murray Fund* and as the first levy payments were not received until the first half of 2004 it does not represent a full year of activity. The first one to two years is where the majority of developmental works occurs, with a subsequent accelerated rollout of on-ground action.



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

1. RETURNING WATER TO THE RIVER
2. SECURING WATER RIGHTS
3. PROTECTING THE RIVER
4. ENHANCING THE ENVIRONMENT
5. BUILDING CAPACITY

1. RETURNING WATER TO THE RIVER

South Australia's Strategic Plan sets a target of 500GL in additional environmental flows by 2008 as a first step towards improving sustainability in the Murray-Darling Basin, with a longer-term target to reach 1500 GL by 2018.

Six priority sites, including three in South Australia, have been selected to receive the first 500GL and comprise the Chowilla (Lindsay-Wallpolla) Floodplain, The Murray Mouth, Coorong and Lower Lakes, Barmah-Millewa Forest, Gunbower and Koondrook-Perricoota Forests, Hattah Lakes and the River Murray Channel.

Asset management plans for each of the priority South Australian sites to ensure that this additional water is used to achieve the best outcomes possible are currently being developed.

During 2003-04, funds provided through the *Save the River Murray Fund* have enabled the following achievements to be made in this area.

Key Achievements in 2003-04

- Watering trials commenced at Monoman Island on the Chowilla Floodplain in October 2003 to aid stressed and dying river red gums. Positive results were recorded with about 70 per cent of previously-stressed red gums developing new leaves and being classed as healthy.
- Extensive monitoring of the impacts of watering trials undertaken to determine effects on groundwater movement, salinity levels and tree recovery. This data will be used to guide future decisions on the best way to use environmental flows.
- Following the First Step decision of 14 November 2003, technical studies for the Chowilla Floodplain and the Murray Mouth, Coorong and Lower Lakes were accelerated.
- Work on a surface water flood flow model for the Chowilla Floodplain was initiated to ensure additional environmental flows achieve the best possible results.
- Investigations continued into the health decline of river red gums along the River Murray. This work has further emphasised the importance of environmental flows.



Chowilla flood plain watering trial (before)



Chowilla flood plain watering trial (after)



- The development of an environmental flows strategy for South Australia commenced. When completed this strategy will set directions and priorities for the recovery, delivery and management of flows in the River Murray in South Australia for the next five years.

Funding was directed to these projects through the Murray-Darling Basin Commission (MDBC) state contribution and the Environmental Flows and Wetland Management program.

2. SECURING WATER RIGHTS

Security of water rights relates to both the quantity and quality of water available and is equally important for irrigation, other water based industries and the environment.

On 1 July 2002, the River Murray Prescribed Watercourse Water Allocation Plan (WAP) was adopted and became the guiding policy document for the allocation of water resources of the River Murray within South Australia.

The Department of Water, Land and Biodiversity Conservation, in partnership with the River Murray Catchment Water Management Board, is establishing formal water resource management arrangements. The aim is to ensure the long-term viability of the region's water resources and provide security for all water users.

The Eastern Mount Lofty Ranges (EMLR) catchment is part of the Murray-Darling Basin system in South Australia. The catchment provides freshwater flows to the River Murray and Lower Lakes. A Notice of Intent to prescribe the water resources in the EMLR and a Notice of Prohibition (temporary moratorium) were issued on 14 October 2003.

During 2003-04, funds provided through the *Save the River Murray Fund* have enabled the following achievements to be made in this area.

Key achievements in 2003-04

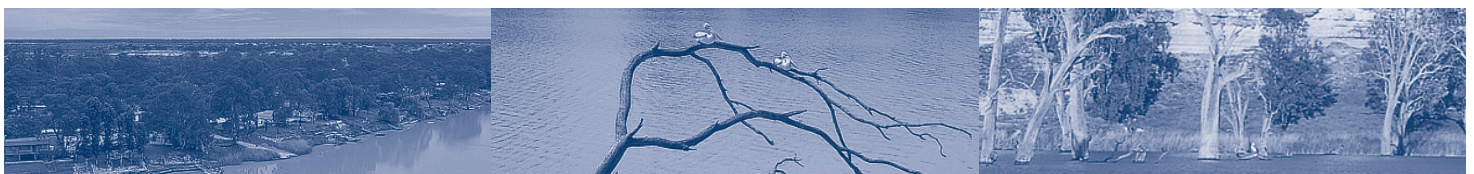
- Allocation of 67.3 GL for irrigation water use and 22.2 GL for environmental land management within the Lower Murray Reclaimed Areas Irrigation Management Zone.
- Irrigation annual reporting processes established to ensure water use efficiency levels meet 85% and comply with monitoring requirements within the WAP.
- Development of a floodplain impacts model to explore the impact of irrigation development on floodplains in addition to its salinity effects. Outcomes of this model are being used to develop policies for the protection of floodplain biodiversity and habitat values in support of the WAP principles.



3 Chowilla flood plain Werta Werta (before August 04)



Chowilla flood plain Werta Werta (after November 04)



- Development of a code and guidelines for soil assessment for intensive horticulture to help improve the efficiency of irrigation.
- Detailed hydrological, hydro-geological and ecological studies in the Eastern Mount Lofty Ranges (EMLR) to determine the capacity of the water resources, environmental water needs and support future actions. An EMLR groundwater assessment report and hydrological models of the Finnis River and Tookayerta Creek catchments have been completed. Further studies are ongoing.
- Undertook aerial photography of the region that was used to prepare detailed land and water use maps of the region. The mapping was completed in June 2004.
- Initiated a regional economic impact assessment study regarding the financial impacts of introducing stronger management controls for the water resources of the Eastern Mount Lofty Ranges.
- Commenced a Land and Water Use Survey to assess current levels of water use and support issuing of authorisations recognising landholder's current water use. The survey will be completed in October 2005. At the commencement of the project 1444 irrigation developments were identified for survey. At 30 June 2004 a total of 320 irrigation developments had been surveyed.

Specific programs that contributed to these projects were the Implementation of Water Allocation Plan and Improved Management of the Eastern Mount Lofty Ranges.

3. PROTECTING THE RIVER

While there is an urgent need to take action to improve River health, it is also important that mechanisms are put in place that protect the River from harm.

The increased activity by the Murray-Darling Basin Commission to enhance environmental flows, salinity management and integrated catchment management over the past two years has resulted in a substantial increase in the total budget commitment by the Commission. South Australia's share of the annual budget for the Commission has increased from about \$15 million to \$20 million per annum of which the *Save the River Murray Fund* contributed \$4.5 million in 2003-04.

The increased financial contributions from all partner governments to the Murray-Darling Basin Initiative in 2003-04 reflected an acceleration of works and measures to meet the new and emerging objectives of The Living Murray and the Basin Salinity Management Strategy.

The South Australian Government is responsible for the operation and maintenance of twelve waste disposal stations (WDS) along the River Murray. These stations were constructed in the 1970s to improve water quality by accepting the 'black water' waste from houseboats. These stations have had routine maintenance over the years. However, many of them are now in need of significant upgrade. A program has been developed to upgrade several stations to current requirements, starting with the Swan Reach station.

The Environment Protection Authority plays a key part in ensuring programs are implemented to identify and upgrade the quality of discharges to the River Murray.

During 2003-04, funds provided through the *Save the River Murray Fund* have contributed to the following achievements in this area.

Key Achievements in 2003-04

- Investigations, design and construction of new salt interception schemes.
- Construction of the bore field and stage 1 of pipe laying were completed for the Bookpurnong Salt Interception Scheme.
- In March 2004, the Murray-Darling Basin Ministerial Council approved the construction of the Loxton Salt Interception Scheme.



- Design and construction of critical structures to improve environmental flows.
- Work commenced on the development of a joint disposal scheme with the Mid Murray Council for the Swan Reach waste disposal station. It is expected that the upgrade will be completed in 2005-06.
- South Australia, in cooperation with the Murray-Darling Basin Commission (MDBC), has developed a scheme of salinity credits and debits which the State is accountable for. These arise from improved irrigation management (credits), irrigation district rehabilitation (credits), salt interception infrastructure (credits) and irrigation development (debits). The methodology has been assessed and endorsed through procedures established by the MDBC.
- A credit and debit assessment for the period 1988 - 2003 from South Australia was completed in preparation for review and formal transmission to the MDBC and Murray-Darling Basin Ministerial Council by November 2004.
- Maintenance of the South Australian River Murray Salinity Register, which supports the continuation of interstate water trade by accounting for potential salinity impacts.
- Progress towards the implementation of *The River Murray Act 2003*. The aim of the Act is to ensure that all reasonable and practical measures are taken to protect, restore and enhance the River Murray in recognition of its critical importance to the South Australian community.
- Development and implementation of Regulations under the Act that establish River Murray Protection Areas, and under the *Development Act 1993*, introducing the referral to the Minister for the River Murray for assessment of certain activity applications that might impact on the River.
- Development of policies to guide decision making on referred applications.
- Development of a 'River Murray Act User's First Guide', a website and a number of Fact Sheets to inform the community and all spheres of government about the Act.
- Development and trialing of Basin-wide integrated catchment policies.
- Work continued on the Stage 3 assessments for the Regional Saline Water Disposal Strategy.
- The audit of fourteen dairy milking shed effluent management systems.
- Work commenced on proposals to mandate 'grey-water' treatment systems for River craft.
- An independent study has been undertaken to compare cost recovery levels in the South Australian portion of the River Murray with New South Wales and Victoria.
- Commenced development of a new drought water allocation policy, including communication and consultation on this policy framework. In addition, an intensive program of community consultation to explain the need to apply restrictions and how they would be undertaken was implemented. A Drought Liaison Committee was established.
- Program implemented to improve the biological and physical processes at Loveday Swamps.

Specific programs that contributed to these projects were:

- * Investment in Salinity Accountability;
- * Review of the Costs Associated with Managing the River Murray in SA;
- * River Murray Act Implementation;
- * MDBC State Contribution;
- * Upgrade of Riverland Drainage Disposal System;
- * River Murray Select Committee- Drought management; and
- * Water Quality Improvement.

4. ENHANCING THE ENVIRONMENT

Economic production, tourism, the iconic scenery and a range of complex ecosystems all depend on the health of the River.

Biodiversity values are much harder to restore or replace than they are to retain. The maintenance of functioning ecosystems is a critical component of integrated resource management in the region.



There are many ecosystems in the region that are important for biodiversity conservation and warrant attention such as the Bookmark Biosphere complex and the Lower Lakes and Coorong. Wetlands feature highly as important habitats, many of which are recognised as having national and international significance.

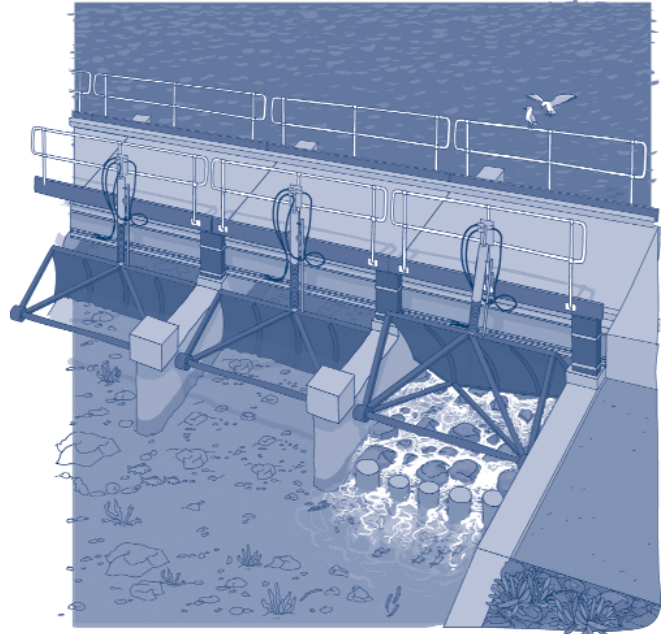
The Murray-Darling Basin Commission's plan to restore native fish passage along the River Murray between Lake Hume and the sea between 2003 and 2008 is well underway.

During 2003-04, funds provided through the *Save the River Murray Fund* have enabled the following achievements to be made in this area.

Key achievements in 2003-04

- Construction of fishways completed at Locks 7 and 8 (just over the SA border), designs completed and tenders called and assessed at Locks 9 and 10, Wentworth, NSW.
- The first of four fishways at the Tauwitchere and Goolwa barrages completed.
- Dredging of the Murray Mouth has continued throughout 2003-04 to ensure that the river mouth remains open thereby protecting the ecological health of the Coorong.
- Wetland management plans developed and monitoring programs for five managed wetlands, including Morgan Lagoon, Ngak Indau (Murray River National Park), Causeway Lagoon, Little Duck and Winding Creek.
- Review of the management plan for the Coorong National Park undertaken to better integrate it with interest group activities and priorities as well as other policies/plans. In particular, to ensure that management activities meet Ramsar guidelines and are consistent with the Coorong and Lakes Alexandrina and Albert Ramsar Management Plans.
- Undertaking a Coorong 'health check' and collating data for orange-bellied parrot monitoring, pelican and Caspian tern banding, hooded plover monitoring, Mallee fowl mound monitoring and counts of migratory wading birds.
- Establishment and implementation of water licences and water allocations specifically to provide water for River Murray wetlands within South Australia.
- The development of a sophisticated morphological computer model to describe the sand deposition process at work at the Murray Mouth.
- Increased monitoring of salinity, birds, fish, aquatic plant growth, tide and lake levels, and bathymetric surveys will continue to ensure a robust baseline set of data is maintained.
- A position as a full partner in the CRC for Freshwater Ecology has been secured. This will provide South Australia with full and direct access to the research undertaken by the CRC (including the extension programs to disseminate the knowledge generated by this research) and allows us to influence the focus of research programs towards issues of concern to the SA Government. The CRC has located a Knowledge Broker in South Australia, to facilitate and expedite this knowledge exchange and the assessment of research direction.

Specific programs that contributed to these projects were Environmental Flows and Wetland Management, Investing in River Murray Ecology and Murray-Darling Basin Commission state contribution.



Fishways



5. BUILDING CAPACITY

Capacity building will provide people with an increasing level of knowledge and control over their individual and collective social, economic and environmental futures.

The long-term management of the River Murray will be enhanced by informed decision making backed by the most up-to-date and relevant science, statistical data, economic modeling, hydrogeological information and ecosystem monitoring. This includes digital aerial images for the River Murray Corridor and key surrounding areas to determine the current state of the River and its surrounds.

South Australia's Strategic Plan (Objective 5) places a strong emphasis on building strong community networks and enhancing information transfer.

Funds with grants from other sources for the development of a River Murray targeted research program is an essential element. Improved research capability and new knowledge generated to inform water policy and strategy development will be required to strengthen the State contribution to MDBC and National Water Initiative.

Innovative management systems and technologies in areas such as environmental flows, water trade and water use efficiency must be pursued to enable irrigators and water managers to respond to challenges presented by climate change, salinity and water allocation policy.

During 2003-04, funds provided through the *Save the River Murray Fund* have enabled the following achievements to be made in this area.

Key Achievements in 2003-04

- Developing a program of aerial photography for the River Murray.
- Research into the best strategies for irrigation and crop management at times of higher water salinity levels. Prevention of a salinity build up in the root zone under highly efficient irrigation, assessing changes in crop water needs, irrigation water availability and salinity as a consequence of greater climate variability.
- SARDI recruited three new scientists (specialists in water resources, irrigation and climate variability) and participated in the newly established CRC for Irrigation Futures and the proposed CRC for Climate Risk Management and Drought.
- Purpose-built equipment was purchased for salinity tolerance testing and screening of targeted plant species undertaken at the Loxton Research Centre.
- A draft report was produced on the Stage 1 investigation of the Tri-state Salinity Project, "Salinity Impact on Lower Murray Horticulture".
- Development and field testing of a computer based system of Farm Level Water Management Modules in partnership with four case study groups in the Riverland.
- Development of advanced irrigated farm management training and extension material in line with national training standards (level 5) and pilot delivery with two industry groups.
- Preparation of the business case for establishment of a Regional Information Centre for the SA Murray-Darling Basin, involving a tender process for needs analysis, market and product development, and a prospectus, which was managed in partnership with the SA Murray-Darling Basin Integrated Natural Resources Management group.

Specific programs that contributed to these projects were Improved Information Management and Irrigation Research, Technology Diffusion and Education.



DEPARTMENT OF WATER LAND AND BIODIVERSITY CONSERVATION

SAVE THE RIVER MURRAY FUND

PROGRAM STATEMENT FOR THE PERIOD ENDED 30 JUNE 2004

	Note	2004 \$'000	\$'000
Funds held at 1 July			0
RECEIPTS			
Revenue from Government	1		
Recurrent Appropriation		12,773	
Total Receipts			12,773
PAYMENTS			
1 Implementation of Water Allocation Plan		1,496	
2 Investment in Salinity Accountability		152	
3 Review of the costs Associated with Managing the River Murray in SA		122	
4 River Murray Act		323	
5 MDBC State Contribution		4,517	
6 Environmental Flows & Wetland Management		604	
7 Improved Management of Eastern Mount Lofty Ranges		303	
8 Investing in River Murray Ecology		150	
9 Upgrade of Riverland Drainage Disposal System		12	
10 River Murray Select Committee - Drought Management & Other Recommendations		334	
11 Improved Information Management		48	
12 Irrigation Research, Technology Diffusion and Education	2	-	
13 Water Quality Improvement	2	-	
14 Rebates - Administration Cost	3	29	
Total Payments			8,090
Net Increase in Funds			4683
Funds held at 30 June			4,683

NOTES TO AND FORMING PART OF THE PROGRAM STATEMENTS

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 Commission and may be used to provide rebates (including associated administration costs) in particular cases.

Funds collected from the levy are paid into the Save the River Murray 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, DWLBC is responsible for the collection of GST on sales and payment of GST on purchases. DWLBC received and paid these monies to the Australian Tax Office.

2 Programs by Other Agencies

During 2003-04 approval was granted for Primary Industries and Resources SA, Department for Environment & Heritage and Environment Protection Authority, to proceed with programs to be funded from the Save the River Murray Fund. Acquittals of expenditure by those agencies were not completed by 30 June 2004 and consequently funds were not transferred. An amount of \$569,500 will be paid to these agencies in 2004-05.

3 Rebates - Administration Cost

The Department of Water, Land and Biodiversity Conservation engaged SA Water to administer the rebate scheme.

4 Save the River Murray Contributions Fund

A separate fund, Save the River Murray Contributions Fund, was set up to receive contributions paid where there was 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 receives revenue applicable to 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 contributions come from two sources:

- donations from individuals not obliged to pay the Save the River Murray Levy. Revenue of \$879 was received during 2003-04; and
- local Government contributions are expected to be made under the Save the River Murray Levy honour system. Contributions made under this system will be collected by the Department of Water, Land and Biodiversity Conservation and deposited into the Save the River Murray Contributions Fund. There were no Local Government contributions paid in 2003-04.

