

Infrastructure improvements to recover water

The Living Murray program was established in 2002 in response to evidence that the health of the River Murray system was in decline. The Living Murray's first stage focuses on improving the environment at six 'icon sites' along the River.

The sites were chosen for their high ecological value—most are listed as internationally significant wetlands under the Ramsar¹ convention—and also their cultural significance to Indigenous people and the broader community.

Increasing water flow in the River Murray is critical to restoring the habitat of animal, bird, fish and plant species. One way to achieve increased flows is to recover water currently used for other purposes, or from water lost by seepage and leakage from the channel system.

Through The Living Murray, a commitment has been made to permanently recover up to 500 gigalitres of water for the River. Options for recovering this water include:

- infrastructure improvements and rationalisation, such as installing pipelines, channel lining and metering systems
- on-farm initiatives
- efficiency gains
- market-based measures, involving purchasing water from willing sellers.

This fact sheet covers some of the infrastructure improvement measures being considered. More detail can be found at www.thelivingmurray.mdbc.gov.au and following the water recovery link.

Initial water recovery projects

The Murray-Darling Basin Ministerial Council has agreed to implement three infrastructure water-recovery projects. These include two projects from Victoria and one from New South Wales that will collectively recover approximately 231 gigalitres² of water at a cost of \$170 million.

The projects will lead to benefits including:

- improved irrigation efficiencies for agricultural purposes in some areas
- the creation of a new separate tradeable water entitlement in northern Victoria
- reliable access to stock and domestic water for landowners in the Darling Anabranch region.

Project	Amount	Cost
Goulburn-Murray Water Recovery Package	145 GL	\$93 million
Lake Mokoan Water Recovery Package	24 GL	\$13.7 million
NSW Water Recovery Proposal B	62 GL	\$63.25 million

On-farm and infrastructure water recovery projects

The following feasibility assessments of on-farm and infrastructure projects are currently underway. These assessments will determine the potential cost of the project and the amount of water that is likely to be recovered.

The estimated cost of water recovery through infrastructure projects typically exceeds \$2000 per megalitre², which is generally more expensive than market-based measures.

New South Wales

On-farm Water Efficiency Project

This project will investigate on-farm water recovery by providing further information to irrigators on possibilities for more efficient irrigation systems. If on-farm works are subsequently implemented, in return for funding, some water would be made available for the environment through a transfer of water entitlement, or by a long-term contract.

Coobool System Savings

This project will investigate the management of the Coobool system in NSW and identify water recovery alternatives including new infrastructure and buy-back options.

Lake Moira Stage 3

This will build on earlier work completed at the Lake and investigate potential water recovery volumes and construction costs of a channel running from Lake Moira back to the River Murray. This will allow the Lake to be drained upon the recession of the River in order to reduce evaporation.

Seepage and leakage savings

This will involve a review of all group licences and irrigation trusts in the Murray and Murrumbidgee system. It aims to identify the potential for water recovery through channel sealing and lining of pipes.

Feasibility assessments

The following feasibility assessments are now complete or nearing completion. Following the completion of the assessments, if the proponent chooses to progress the project, the Murray-Darling Basin Commission decides whether the project should be implemented.

Many of these projects aim to reduce water loss due to seepage and leakage of water from the channel system and evaporation from wetlands by introducing a wetting and drying cycle.

Scoping study

Scoping study of operational changes to reduce river and storage losses along the River Murray system

- This will identify opportunities to reduce losses of water from the River Murray and storages

New South Wales

Moirra Private Irrigation District

- Assessment of causes of water loss within the Moira irrigation system, such as farm usage and channel seepage
- Initial analysis of potential solutions to water loss

Wetland sites along the NSW River Murray

- Assessment of natural characteristics of 11 wetlands and their potential for water recovery

The Drop, Mulwala Canal

- Assessment of the potential to recover water by constructing a 30 gigalitres en-route storage facility in the Murray Irrigation Ltd operating region

West Corrgan Private Irrigation District

- Water use efficiency study undertaken to measure leakage and seepage and evaluate options for water recovery
- Accuracy of metering equipment assessed

Coleambally Main Canal

- Seepage and leakage savings project
- Thermal imaging undertaken to assess extent of seepage in preparation for business case for funding to Coleambally Irrigation Co-operative Ltd

Victoria

Shepparton Irrigation District Total Channel Control Project

- Assessment of water losses and potential areas where water can be saved through channel automation within the Shepparton irrigation district



Regulators provide important infrastructure to manage environmental water.
Photo: Leanne Wilkinson

South Australia

River Murray Wetlands

- Assessment of feasibility to generate water savings by introducing wetting and drying cycles for managed wetlands

Alternative water supply to regional South Australia

- Current and projected demands for water in the Eyre Peninsula region identified
- Feasibility of developing a desalination plant near Whyalla to replace the need to pipe River Murray water to the region

More beneficial use of in-valley water bodies

- Investigation of the potential use of in-valley water bodies for joint water recovery and salinity management outcomes
- Case study to test the feasibility of the concept.

A description of these projects and progress reports are available on The Living Murray website at: http://www.thelivingmurray.mdbc.gov.au/implementing/water_recovery.

Other fact sheets in this series

- Our unique icon sites
- Protecting and improving the icon sites
- Communities and The Living Murray
- Market-based water recovery
- Construction and other activities
- Local government and The Living Murray.

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¹ *Ramsar* is an international treaty that focuses on the conservation of internationally important wetlands. The convention was signed in 1971 at a meeting in the town of Ramsar, in Iran.

² One gigalitre (GL) of water is equal to one billion litres, or approximately the same volume of water as 1000 Olympic-size swimming pools. One megalitre (ML) is equal to one million litres. 1000 megalitres amount to a gigalitre.

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