Asset Environmental Management Plan Overview

THE

LOWER LAKES, COORONG AND MURRAY MOUTH

significant ecological asset
The Lower Lakes, Coorong and Murray Mouth
significant ecological asset

The Lower Lakes, Coorong and Murray Mouth are located in South Australia, where the River Murray flows into the Southern Ocean. They are recognised both nationally and internationally for their importance as a breeding and feeding area for many species of waterbirds and fish. Relevant agreements that guide the management of the area include the Ramsar Convention on Wetlands, the China-Australia Migratory Bird Agreement and the Japan-Australia Migratory Bird Agreement. The Coorong National Park is protected under National Park legislation.

The Murray Mouth is the key to a healthy Coorong ecosystem, allowing varying tides to maintain mudflat habitat for wading birds and providing cool, oxygenated flows. It provides appropriate salinity and water levels for healthy populations of aquatic plants, fish breeding, water birds and macroinvertebrates (bugs and grubs).

A system of barrages was installed on the Lower Lakes from 1935, however, these effectively isolate the lakes from the Murray Mouth and Coorong. When the barrages are open, fresh water flows from the Lower Lakes and mixes with the saltier water of the Coorong, creating estuarine or brackish conditions. This area of medium salinity water is critical for some fish species.

The large populations of migratory wading birds require a natural wetting and drying cycle for the mudflats on which they forage in the Lower Lakes and Coorong. Unsuitable changes in water levels can also affect populations of macroinvertebrates and Ruppia, which are key food resources for these birds.

The Lower Lakes, Coorong and Murray Mouth area also has important social, cultural and economic values for local and state communities including the Ngarrindjeri, the traditional owners of the region, for whom the lands and waters (or Ruwe), are a living body.

These values are under threat, primarily due to diminished and altered flows reaching the area. Extensive river regulation and excessive water extraction have degraded habitats, reduced water quality and constricted the Murray Mouth.
Living Murray

Ecological Objectives

The Living Murray objective for the asset is to achieve a healthier Lower Lakes and Coorong environment through:

- an open Murray Mouth
- enhanced migratory water bird habitat in the Lower Lakes and Coorong
- more frequent estuarine fish spawning and recruitment.

These are interim objectives, which will be assessed and refined, with scope for additional objectives to be identified in the future.

The Asset Environmental Management Plan

The Lower Lakes, Coorong and Murray Mouth Asset Environmental Management Plan (the Asset Plan) contains a more ecologically and culturally sensitive approach to the management of the asset. The Asset Plan identifies the environmental flow needs of the area, including how these flows can be delivered for the best ecological outcomes with the water available. The plan will consider management of groundwater and land resources and salinity remediation works. It will have regard to the options and limitations that result from changes in water availability and quality, seasonal conditions and competing priorities. It is a document that will be continually revised as our understanding of the asset increases. The Asset Plan links to other planning processes. These include:

- the Ramsar Management Plan
- the Coorong National Park Management Plan
- the Lakes and Coorong Fishery Management Plan.

Key Areas of the Asset Plan

The Asset Plan identifies the environmental flow needs of the area, and how these flows can best be delivered and managed within the asset. The Asset Plan includes:

- ecological targets, which identify actions needed to achieve the objectives
- conceptual models that show how changes in one part of the asset can affect others
- management options
- a process to develop a barrage operating strategy
- a process for prioritising competing actions, including consideration of potential risks
- a framework for monitoring and evaluation.

Management Options

Any increased environmental water allocations through the Living Murray will be used to improve the flows to the significant ecological assets, complemented by actions under the Environmental Works and Measures Program, to maximise environmental outcomes.

Achieving the targets for the Lower Lakes, Coorong and Murray Mouth will require an integrated approach to the management of surface water, groundwater and land resources. Management options discussed in the Asset Plan include:

- more seasonally appropriate water delivery to the asset by better timing of flows from the River Murray, the Eastern Mount Lofty Ranges and the Upper South East Drainage Scheme
- maintaining more natural water levels/regimes within the asset by manipulating lake levels to mimic more natural conditions. This will enable fringing wetlands to be flooded, improve wetting and drying of mudflats for wading birds, and minimise lake erosion and salinity. Barrages can be opened and closed when water is available to freshen the Coorong and provide flows to the Murray Mouth

‘Achieving the targets will require an integrated approach to the management of surface water, groundwater and land resources.’
Murray Mouth dredging
- enhanced fisheries management including installation of fishways in the barrages to allow fish to move between the Lower Lakes and Murray Mouth for feeding and breeding
- other land management options such as erosion control, stock management and revegetation.

Community Involvement
Support from the community at all levels is essential to achieve our common goal—a healthy Lower Lakes, Coorong and Murray Mouth. A targeted consultation process will seek community input into the Asset Plan in relation to traditional and contemporary community knowledge and experience, and guide objectives and management options for the asset.

The interests of specific groups, such as traditional owners, irrigators, national parks, tourism, boating and fishing groups have been incorporated into the Asset Plan. A Community Reference Group will ensure these interests continue to be incorporated into future versions.

The Asset Plan will take into account Indigenous social, spiritual and customary objectives, through a parallel process that involves Indigenous communities in a manner appropriate to Indigenous discussion and decision-making processes.

Continued community consultation is fundamental to the ongoing development, implementation and monitoring of the Asset Plan.

Environmental flows are essential to keep the Murray Mouth open. Sand dredging is required during low flow periods.

‘Support from the community at all levels is essential to achieve our common goal—a healthy Lower Lakes, Coorong and Murray Mouth.’
The Living Murray

The Living Murray aims to address the decline in the health of the River Murray system that threatens the Basin’s industries, communities, and natural and cultural values.

The Australian, NSW, Victorian, SA and ACT Governments have committed $500 million to achieve the environmental objectives agreed under the Living Murray, through recovered water being built up over a period of five years to an estimated requirement of an average 500 gigalitres* per year.

Water recovery projects will address overallocation of water resources, with the recovered ‘environmental water’ to be used to achieve environmental benefits at the six significant ecological assets.

The ecological assets were chosen because of their importance as breeding sites for waterbirds, habitat for threatened species, and for their social, cultural and heritage significance.

Each asset has an Environmental Management Plan that explores the ecological objectives for the asset and identifies the volume and timing of environmental water and structural works needed to achieve those objectives.

The Living Murray is a partnership of the Australian, NSW, Victorian, SA and ACT Governments.

All Living Murray activities are guided by the Living Murray Business Plan and the Intergovernmental Agreement on Addressing Water Overallocation and Achieving Environmental Objectives in the Murray-Darling Basin.

A Living Murray Environmental Watering Plan provides the framework for making decisions on the volume, timing and frequency of water to be provided to each of the significant ecological assets.

Each asset has an Asset Environmental Management Plan to identify the water required to meet the Living Murray objectives for the asset and to guide the management process.

Overall management of each asset remains the responsibility of the jurisdictions through their land management agencies. The Asset Manager for the Lower Lakes, Coorong and Murray Mouth Significant Ecological Asset is the Department of Water, Land and Biodiversity Conservation, South Australia.

*One gigalitre of water is equal to one billion litres, or approximately the same volume of water as 1000 Olympic size swimming pools.
Copies of the *Lower Lakes, Coorong and Murray Mouth Asset Environmental Management Plan* are available for download from www.thelivingmurray.mdbc.gov.au

For more information please contact:
Murray-Darling Basin Commission
GPO Box 409 Canberra ACT 2601
Telephone (02) 6279 0100