

# Waltowa Wetland Pre-Feasibility Fact Sheet

The proposal for Waltowa wetland seeks funding to undertake feasibility investigations for the Waltowa Wetland Restoration Project.

This project proposal aims to restore a wetland of conservation significance on Lake Albert which is within The Living Murray Lower Lakes, Coorong and Murray Mouth (LLCMM) Icon Site and the Coorong and Lakes Alexandrina and Albert Ramsar site, and is subject to international migratory bird agreements. Previous environmental watering of the wetland has resulted in a rapid increase in bird abundance and diversity, largely resulting from increased invertebrate activity.

## OVERVIEW

Waltowa wetland is a large shallow wetland on the eastern shore of Lake Albert, approximately 10km north of Meningie.

## ECOLOGICAL SIGNIFICANCE AND CONDITION

### Vegetation

Waltowa wetland is dominated by samphire shrublands (*Halosarcia pergranulata*). Two species listed as rare in South Australia (SA National Parks and Wildlife Act 1972) have also been recorded – Lignum (*Muehlenbeckia horrida*) and Five-spine bindyi (*Sclerolaena muricata* var. *villosa*). *Ruppia* sp. also occurs when the wetland is inundated.

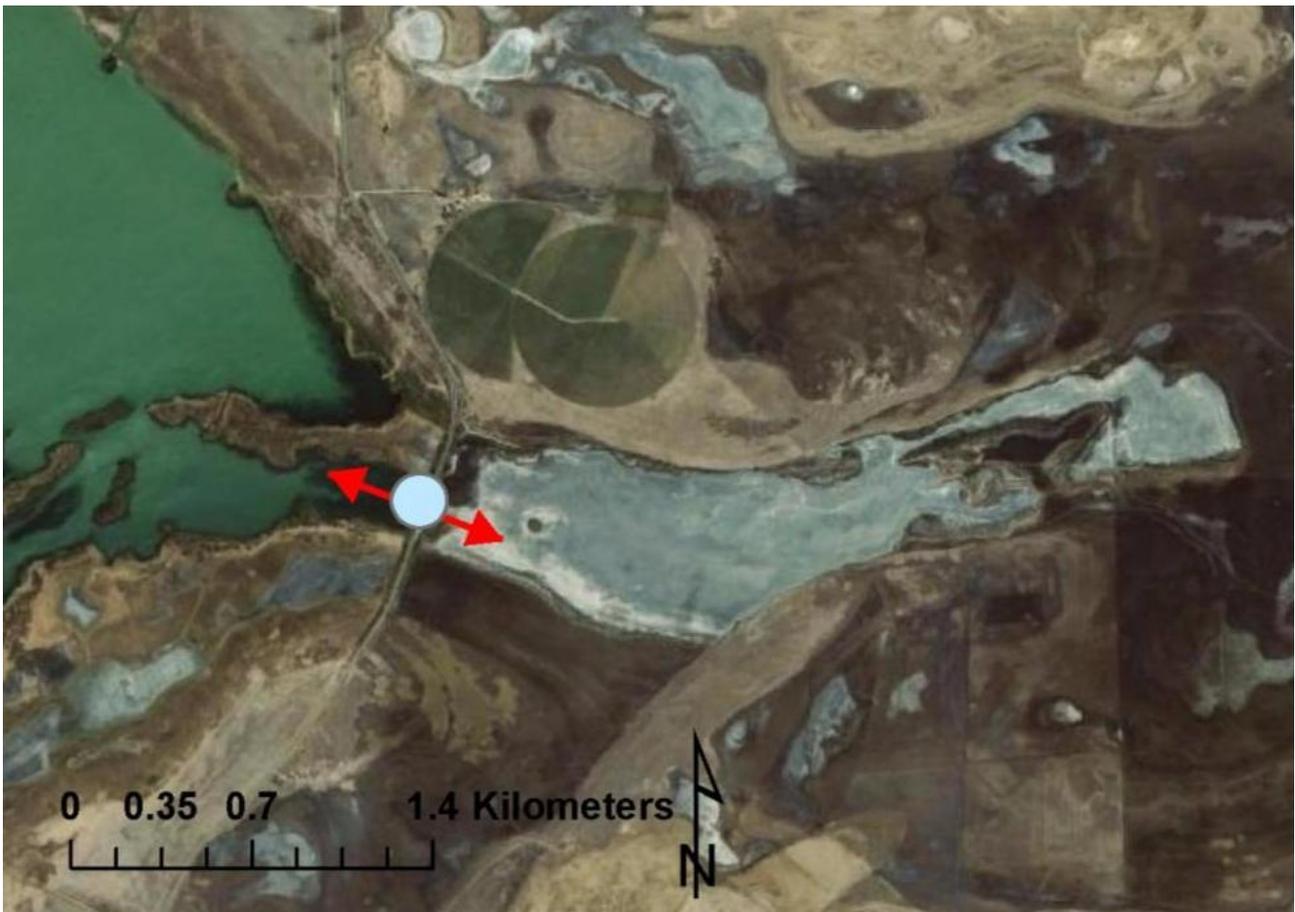


Figure 1: Waltowa Wetland Location



## Birds

A bird survey undertaken in 2006 recorded 11 species, although other birds have been observed at the wetland, including the Australian bustard (*Ardeotis australis*).

The dry nature of the wetland is believed to have limited the diversity and abundance of bird populations.

It is reported by a member of the Ngarrindjeri community that the wetland was formerly an important breeding site for the Black Swan.

## Fish

High salinity levels prevent the establishment of native fish within the wetland at present. However a Murray hardyhead (*Craterocephalus fluviatilis*) population (considered vulnerable in the EPBC Act 1999) has been recorded at the lake side of the culvert. Improving water quality conditions in the eastern portion of the wetland would significantly increase the area of available habitat for this species.

## CULTURAL AND SOCIAL VALUES

It is reported by the Ngarrindjeri community that the wetland was used for swan egg collection, turtle egg collection and other food sources. *Cyperus gymnocaulus* was also collected for traditional basket weaving until the 1960s. The wetland is also considered a nursery for native fish.

## LAND OWNERSHIP AND SITE GOVERNANCE

Waltowa wetland is largely on private freehold land with a small part on Coorong District Council land.

Waltowa is jointly managed by the Coorong Tatiara Local Action Planning Committee, Department of Environment, Water and Natural Resources (DEWNR) and private landholders. Decisions are made jointly through an informal steering committee.

## MANAGEMENT HISTORY

Until the mid 1960s, Waltowa wetland was in a healthy condition with many reeds, sedges and waterbirds and is reported to have been semi-permanent until 1983. Following a blockage of the causeway under the Princes Highway in the early 1980s the wetland condition deteriorated.

In 2005 a wetland management plan was developed. The plan was updated in 2006 following an intensive period of groundwater monitoring. The aim of the monitoring program was to determine the impact of inundating the wetland on groundwater salinity around the nearby irrigation and pastoral area. Monitoring showed that groundwater tables do respond to manipulation of wetland

surface water. However, Lake Albert is the main driving force on groundwater levels in this area. There is currently a continuous groundwater gradient towards the wetland which has contributed to the salinisation of the area in the last few decades. Improved water management at Waltowa will have an influence on local groundwater tables directly surrounding the wetland but may have a positive influence in the long-term (such as reduced salinity).

A grazing management plan, developed and implemented with surrounding landholders, involved fencing around the wetland to exclude stock.

## CURRENT CONDITION

The wetland and adjacent landscape has been significantly impacted by ongoing pastoral activities, drought and poor management practices. The wetland is separated from Lake Albert by a causeway, with connection through a single box culvert under the Princes Highway. This restricted connectivity between the wetland and Lake Albert has resulted in high levels of salinity within the wetland that has had negative impacts on biodiversity. Although the wetland is degraded, the basic vegetation structure is intact and the wetland has the potential to provide important habitat for a number of species. An aquatic seedbank is also viable for the wetland. The current watering regime at Waltowa aims to inundate mudflats to provide foraging habitat for migratory waders. Thirteen species of waders have been observed utilising recently inundated mudflats during spring and summer in 2011, 2012 and 2013 as a result of these waterings which are currently constrained by the existing infrastructure.

## THE PROJECT PROPOSAL

### Description

The proposed project involves increasing either the size of existing culverts under the Princes Highway or increasing the number of culverts in order to improve the hydrological connectivity of the wetland to Lake Albert thereby allowing for active management of Waltowa wetland.

Feasibility investigations would determine the hydrological improvements that could be achieved by installation of different structures. Should the project proposal progress to implementation, all works would be carried out in accordance with Department of Planning, Transport and Infrastructure (DPTI) design specifications and a Memorandum of Understanding between DEWNR and DPTI would outline ongoing maintenance responsibilities.



## Outcomes and Benefits

Potential outcomes include:

- improved hydrological connectivity between the wetland and Lake Albert;
- improved management of the water regime to include wetting and drying cycles;
- enhanced cultural values of a significant site and demonstration of a partnership approach to working with the Ngarrindjeri community; and
- enhanced value of previous work undertaken at the wetland.

### Potential benefits include:

- improved frequency and duration of inundation;
- reduced salinity in the wetland by allowing greater water exchange;
- improved diversity and abundance of native aquatic, fringing and other vegetation types, including *Ruppia* habitat for Murray Hardyhead and waterbirds which will assist with maintaining bird diversity of the Ramsar area;
- restoration of habitat for other species including frogs;
- establishment of a pro-active partnership with the Ngarrindjeri community; and
- increased numbers of invertebrates, an important food source for waders.

Environmental watering projects in 2005 and 2010-2013 provided a benchmark to test the potential benefits from increasing freshwater flows into the wetland. The watering resulted in a rapid response in bird populations due to increased invertebrate numbers.

Ongoing monitoring would allow for adaptive management and quantification of the benefits from restoration efforts.

## FEASIBILITY OVERVIEW

Feasibility investigations for the Waltowa Wetland Restoration Project would determine the optimal hydrological regime for managing the wetland. This information would be used to identify potential structures and the feasibility of undertaking major infrastructure works on the Princes Highway.

### Objectives of Feasibility Investigations

The objectives of the feasibility investigations and activities would be to:

- Determine an optimal water management regime for the wetland
- Identify infrastructure options and the feasibility of different options
- Develop concept designs and costs for on-ground works if feasible, including incorporating fish management requirements

- Engage with Department of Planning Transport and Infrastructure (DPTI) and other stakeholders about the feasibility of undertaking required works
- Undertake an assessment of ecological and other risks
- Undertake cultural heritage surveys to identify significant sites
- Determine ongoing operation and maintenance requirements, responsibilities and costs of proposed on-ground works
- Identify necessary approvals.

### Project Management

It is anticipated the project would be managed by DEWNR.

## ACKNOWLEDGEMENTS

The contribution of the South Australian River Murray Regional Community, including the many individuals and various local groups and organisations for their generous involvement and enthusiasm is greatly acknowledged. This partnership approach enabled the community ideas to be captured and prioritised by utilising and sharing local knowledge in the development of proposals.

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For more information

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