



## **Water for Nature Environmental Watering Site Monitoring Report**

by Dr Anne Jensen

### **Terungie South Basin, adjacent to Lake Alexandrina, Lower Lakes**


July 2013 to June 2016

Nature Foundation SA is a not-for-profit nature charity that works to Save, Protect and Restore South Australia's natural biodiversity. Since 2008 one of our flagship programs, Water for Nature, has been delivering environmental water along the Murray River to help reduce the loss and stress to ecosystems and habitats caused by river regulation and drought.

Over the last three years, our Water for Nature program has worked with 200 volunteers to deliver 4.56 gegalitres of environmental water to more than 35 wetland and floodplain sites along the Murray River.

Healthy wetland and floodplain environments are important for environmental, economic, cultural and social reasons, providing an optimal environment for flora and fauna, improved water quality for human consumption and agricultural use, and opportunities for recreation and tourism.

We work with private landholders, irrigators, community groups & local government on smaller sites to deliver environmental water, complementing larger government watering projects. Nature Foundation SA also works closely with the Commonwealth Environmental Water Holder to deliver environmental water.

<b>Water For Nature Environmental Watering Site Monitoring Report</b>	
<b>Site name</b>	Teringie South Basin, adjacent to Lake Alexandrina, Lower Lakes
<b>Reporting period</b>	July 2013 to June 2016
<b>Date prepared</b>	July 2016
<b>Location</b>	 <p>The 409 ha Teringie Wetland Complex lies on the south-eastern shore of Lake Alexandrina, downstream of Narrung and the Narrows channel into Lake Albert. The 70 ha South Basin is currently disconnected from Lake Alexandrina.</p>
<b>Contact Name</b>	NFSA Water For Nature Program Manager Natalie Stalenberg Natural Resources SA Murray-Darling Basin: Ms Kate Mason; Raukkan: Mr Derek Walker
<b>Water Provider</b>	Commonwealth Environmental Water Holder allocation to NFSA
<b>Partners</b>	Aboriginal Lands Trust & Raukkan Community Council
<b>Aim of watering project</b>	This community features samphire and lignum shrubland interspersed with temporary wetlands with aquatic plant communities. It has suffered serious decline due to lack of flooding, drought, changed water regime and saline groundwater intrusion. Environmental watering can help to repair the ecosystems and provide habitat for migratory waders and shorebirds, as well as the endangered orange-bellied parrot.
<b>Planning Context</b>	The Teringie Wetland Complex of temporary and permanent shallow wetlands is one of six priority sites for rehabilitation in the Lake Alexandrina fringing wetlands. Wetland Management Plan (2006) by Coorong & Districts LAP

<b>Key objectives</b>	<p>Environmental watering at this site has the following objectives:</p> <ol style="list-style-type: none"> <li>1. improve the condition of the associated vegetation communities, including <i>Ruppia polycarpa</i> and <i>Halosarcia</i> spp. shrubland, and beds of submerged aquatic macrophytes</li> <li>2. establish more diverse and healthy habitat for both wetland and migratory bird species found in the surrounding Ramsar area</li> <li>3. establish more diverse and healthy habitat for other native species including frogs, and native water rat <i>Hydromys chrysogaster</i></li> </ol>
<b>Site Description</b>	<p>Teringie South Basin is one of several depressions on slightly elevated floodplain adjacent to Lake Alexandrina. Under current river operations, it receives water only during high river flows or from short term wind-seiching and wave splash from the lake, when water levels are high enough to over-top accumulated sediments in the inlet channel. Lake Alexandrina is held artificially full at a relatively stable level, with little fluctuation. Teringie South Basin dries out frequently and accumulates salt in the bed during dry phases.</p>
<b>Habitat</b>	<p>This shallow temporary wetland basin supports seasonal beds of aquatic plants in shallow water, shallow inundated mud flats and fringing samphire and chenopod wetlands which provide a range of food sources and shelter for small migratory waders and shorebirds which visit the Ramsar wetland site during summer months.</p>
<b>Watering History 2013-16</b>	<p>Watering commenced in November 2014 with the aim of delivering 360 ML over 3 years. Water was pumped out of Lake Alexandrina and piped to the basin assisted by gravity flows to fill the lagoon.</p> <p>125 ML was delivered in 2014-15, followed by 74 ML in 2015-16.</p> <p>The purpose is to support chenopod and samphire wetlands while encouraging growth of key aquatic food species in the lagoon, including <i>Ruppia polycarpa</i>.</p>
<b>Water Source</b>	<p>NFSA allocation from Commonwealth environmental water 2013-2016; delivered by pump and pipes operated by Raukkan Community Council</p>
<b>Event details</b>	<p><i>2013-14</i> Project not commenced</p> <p><i>2014-15</i> Watering started November 2014, delivered 125 ML</p> <p><i>2015-16</i> Watering delivered 74 ML</p> <p><i>Maximum area inundated (ha)</i> Estimated area 43 ha</p> <p><i>Duration of the environmental watering project (2013-16)</i> two seasonal waterings, in late spring through summer</p>

<b>Annual Observations against key objectives</b> <i>(including species of conservation significance (state or Commonwealth listed threatened species, or listed migratory species) observed at the site, any breeding of frogs, birds or other prominent species observed at the site and details of any observable responses in vegetation, such as improved vigour or significant new growth)</i>	<b>2013-14</b> <ul style="list-style-type: none"> <li>project not commenced</li> </ul>
	<b>2014-15</b> (observations by Kate Mason & Raukkan Community Council) <ul style="list-style-type: none"> <li>initial positive responses observed in waterbird numbers and vegetation health</li> <li>monitoring underway by Raukkan Community Council</li> </ul>
	<b>2015-16</b> (observations by Kate Mason & Raukkan Community Council) <p>A total of 15 waterbird species were recorded during the 2015/16 environmental watering:</p> <ul style="list-style-type: none"> <li>included 10 EPBC migratory species</li> <li>most common migratory species was the sharp-tailed sandpiper, constituting 60% of the total bird abundance between August 2015 and March 2016</li> <li>Whiskered tern regularly abundant</li> <li>Migratory shorebirds in greatest diversity when water levels were shallow, approximately 0.1 m in depth (March 2016)</li> <li>Water quality fluctuated between filling events, salinity ranging between 9,080 and 35,400 EC. Although high, not unexpected. Also high was pH – also not unexpected given the level of primary productivity (algae).</li> </ul>
<b>Future Watering</b>	Monitor responses to watering and assess need for further cycles of inundation

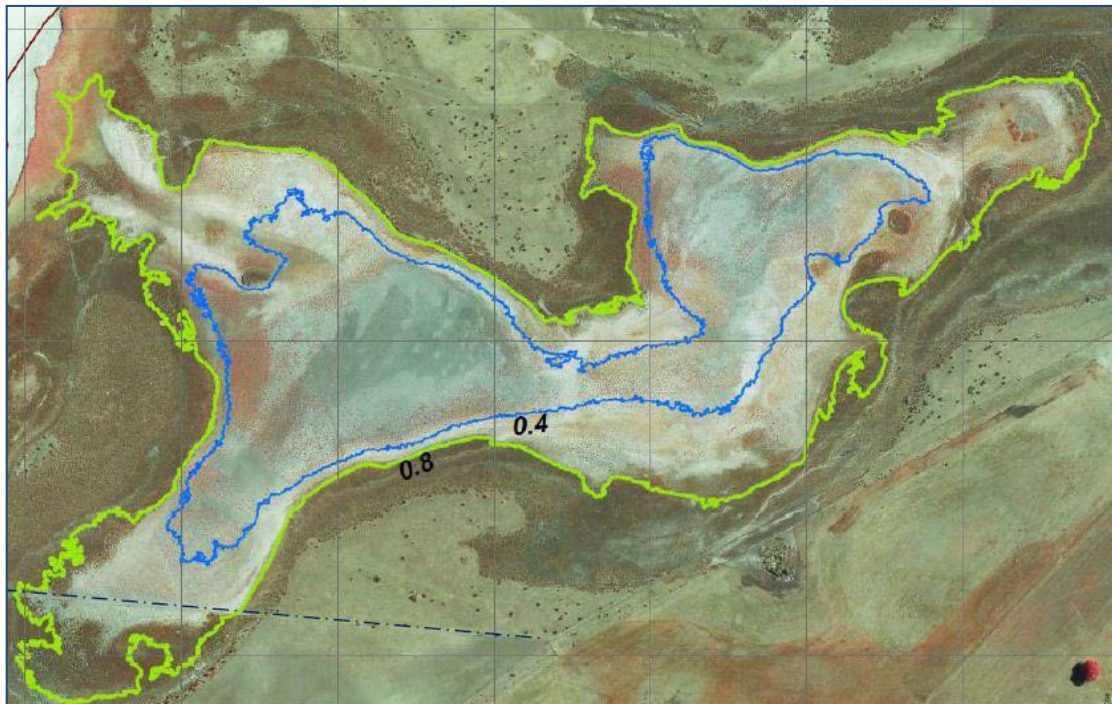


Figure 1 Contours of Teringie South Basin, showing extent of water at depths of 0.4 m and 0.8 m



Figure 2 Filling Teringie South Basin, in December 2014 (above) and January 2015 (middle); setting up the NFSA pump to start filling (below) (Photos: Ian Atkinson, NFSA)

