



Government
of South Australia

Department of Water,
Land and Biodiversity
Conservation

River Murray Act 2003

Referral Assessment Policy – Special Provision: Wetlands & Floodplains

River Murray Act 2003

Referral Assessment Policy –
Special Provision: Wetlands & Floodplains**Purpose**

This Special Provision – Wetlands and Floodplains is designed to help guide the decision-making process for the Minister for the River Murray and the Minister's delegates when assessing referred statutory instruments and applications for authorisations received under the *River Murray Act 2003* that affect wetlands and floodplains.

It is not intended to duplicate or replace policies administered by other authorities. An assessment made by the Minister for the River Murray will build

on assessments made by other authorities to protect and enhance the river and ensure that the objects and objectives of the River Murray Act are taken into account.

Background

The River Murray Referral Assessment Policy ensures that decisions meet the Minister's obligations under the River Murray Act and seek to further the objects and the Objectives for a Healthy River Murray contained in the Act. The policy includes general, special and activity provisions, as shown in figure 1.

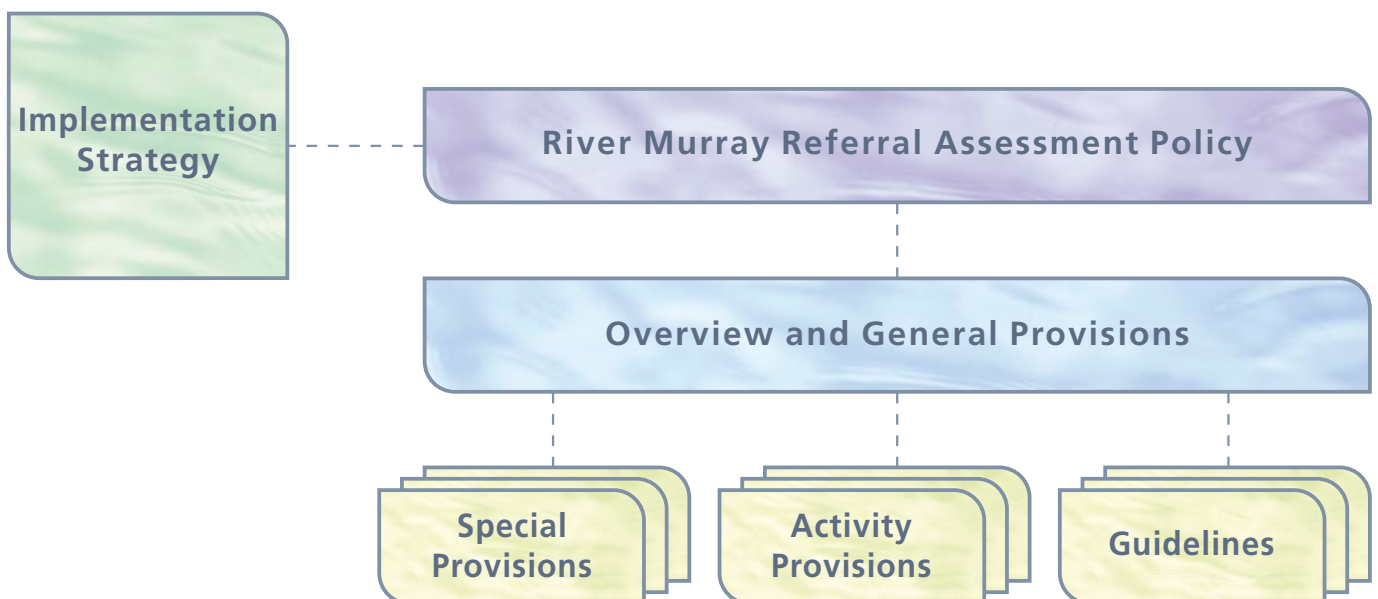


Figure 1: River Murray Referral Assessment Framework

The general provisions apply to all statutory instruments and applications referred to the Minister pursuant to a related operational Act. Special and activity provisions are to be applied in conjunction with the general provisions where relevant.



Expert advice should be sought to facilitate high quality responses to referred instruments and applications, and carefully considered to ensure it fulfils the Minister's obligations under the River Murray Act.

The decision-making process does not negate the requirements of any other relevant legislation, in particular for a person to:

- obtain the approval of the Native Vegetation Council to clear native vegetation in accordance with the *Native Vegetation Act 1991* or the *Native Vegetation Regulations 2003*
- ensure that there is no disturbance, damage or interference with Aboriginal sites, objects or remains without an authorisation from the Minister for Aboriginal Affairs and Reconciliation in keeping with the *Aboriginal Heritage Act 1988*
- comply with the requirements of the *Coast Protection Act 1972*, *Environment Protection Act 1993*, *Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)*, *National Parks and Wildlife Act 1972*, *Heritage Places Act 1993*, *Harbours and Navigation Act 1993* and the *Historic Shipwrecks Act 1981*

- ensure that a right to occupy waterfront Crown land is obtained under the *Crown Lands Act 1929* for minor structures to be sited on Crown land or the bed of the River Murray, and that procedures under the *Native Title Act 1993 (Cwlth)* are complied with, and



- ensure design work and documentation of structures is in accordance with Australian Standards and Codes, SA Water Standards, and applicable South Australian and Australian Government Acts and Regulations. Designs should also conform to contemporary scientific literature and current thinking.

Provisions

On receipt of a referred application the Minister:

- will require a proponent to demonstrate that each potential impact of a proposed activity will have a neutral or beneficial effect on the River Murray
- may impose conditions to ensure that the activity will have a neutral effect, and
- may impose conditions so that the activity has a beneficial effect, where it is reasonable and practicable to do so.

What is a neutral or beneficial effect?

An activity has a neutral or beneficial effect on the River Murray when the impacts of the activity are known and understood, and the activity:

- (1) has no potential for adverse impact, or

¹ The powers of the Minister are set out in section 22 of the River Murray Act and also in relevant provisions of the related operational Act under which an application is referred to the Minister.

² The concept of 'Neutral or Beneficial Effect' is established in the River Murray Referral Assessment Policy – Overview and General Provisions (DWLBC, 2007) and addressed in detail in the River Murray Neutral or Beneficial Effect Guidelines (DWLBC, 2007).

- (2) will lead to an improvement consistent with the objects and objectives for a healthy River Murray, or
- (3) has potential for an adverse impact that would be inconsistent with one or more of the objectives for a healthy River Murray, however:

(A) the activity would avoid the adverse impact or risk of impact because of the way it would be undertaken

or

(B) it is impossible to avoid the adverse impact or potential impact, and

- (i) the adverse impact is not very high (refer to the River Murray Neutral or Beneficial Effect Guidelines³), and
- (ii) the adverse effects of the activity can be offset by specific cost effective actions that will benefit the river and can be secured by the imposition of conditions, and
- (iii) the proponent can sufficiently demonstrate (e.g. via the results of an economic viability study and/or business case) that the activity provides:

- (a) significant social or economic benefit to the people of the state, and/or
- (b) a net improvement to the river. For example, where a net improvement would be gained by replacing an existing activity, that is having an adverse impact, with an activity with a lesser impact.

Related Provisions

Other provisions (some are yet to be developed) that address wetlands and floodplains issues are the:

- Dwellings Activity Provision which addresses the impacts of residential development, and
- Vegetation Special Provision which addresses the protection of vegetation connected with the River Murray.

Definitions

The following definitions apply to the Special Provision – Wetlands and Floodplains:

activity includes:

- (a) an act carried out on a single occasion; and
- (b) a series of acts; and
- (c) the storage or possession of anything (including something in liquid or gaseous form) 4

flood-level means:

- i. For the River Murray, is the 1956 flood-level.
- ii. For the River Murray tributaries in the Eastern Mount Lofty Ranges, is the 100-year Average Recurrence Interval (ARI) flood-level.

floodplain means land within the flood-levels as defined above, and includes relatively flat land beside a river that is inundated when the river overflows its banks during a flood.⁵

native is vegetation or animals indigenous to South Australia

³ The River Murray Neutral or Beneficial Effect Guidelines (DWLBC 2007).

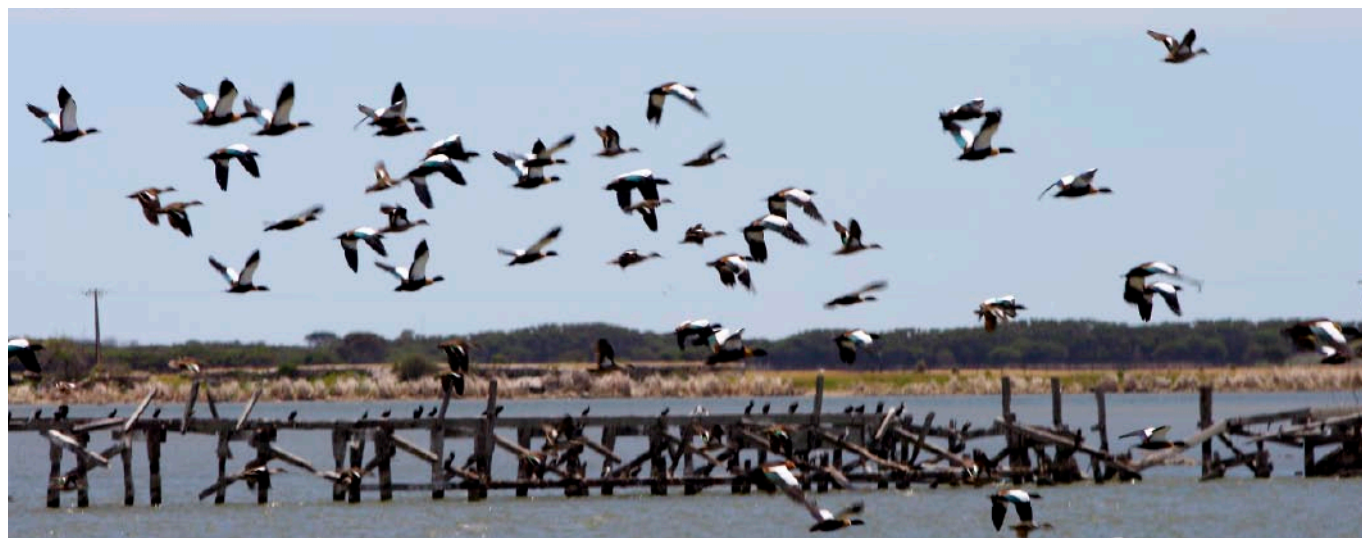


River Murray means:

- the River Murray system – the main stem and all anabranches, tributaries, floodplains, wetlands and estuaries that are in any way connected or associated with the river, and related beds, banks and shores³ and;

Wetlands and floodplains play an essential role by:

- supporting ecosystems and providing habitat for flora and fauna
- providing a natural filtration system to improve water quality



- the natural resources of the River Murray, being:
 - soil, ground water and surface water, air, vegetation, animals and ecosystems connected or associated with the River Murray system; and
 - cultural heritage and natural heritage, and amenity and geological values, connected or associated with the River Murray system; and
 - minerals and other substances, and facilities, that are subject to the operation of a Mining Act and are such that activities undertaken in relation to them may have an impact on the River Murray.⁴
- offering a water supply (irrigation, urban, stock & domestic)
- contributing to economic activity as a result of using the resource
- playing a role in our cultural heritage, and
- buffering communities from potential flood risks.

Key threats to wetlands and floodplains include:

- river regulation and water extractions resulting in a reduced frequency of flooding
- river regulation maintaining artificially static and high surface and groundwater levels resulting in floodplain salinisation
- increased saline groundwater inflows to the River Murray and its wetlands and floodplains due to irrigation and dryland agriculture
- inappropriate development and land use practices
- grazing by stock, feral and native animals
- loss of habitat, particularly as a result of human activities
- cumulative impacts of activities
- changes in hydrology, including the use of backwaters for diversions and water extractions and the blockage of non-mainstream and floodplain flows

vegetation includes any plant organisms

wetland means land inundated with temporary or permanent water that is usually slow moving or stationary, shallow, and either fresh, brackish or saline; and includes but is not limited to the wetlands listed in Appendix A.

Value of Wetlands and Floodplains

Wetlands and floodplains are often described as the kidneys of the Murray Darling Basin playing a very important role in ecological processes that result in improved water quality. The restoration, protection and enhancement of wetlands and floodplains is essential to the sustainable management of the River Murray environs.

⁴ River Murray Act 2003

⁵ Environmental Flows for the River Murray (DWLBC 2005)

- storage and/or disposal of polluting substances (e.g. septic tank/sewage effluent, fuel, stormwater) on floodplains and/or into wetlands
- riverbank and lakeshore erosion caused by actions including development, grazing and boating
- aquatic ecosystem disturbance through activities such as motorboats, dredging, introduced fish species, weeds and de-snagging, and
- river structures such as jetties, erosion barriers and pumps.
- erosion
- rising groundwater and dryland salinity
- adverse interruption of physical and ecological processes
- decline in water quality
- degraded landscape or amenity values, and
- damage to, disturbance of or interference with Aboriginal sites, objects or remains without authorisation of the Minister for Aboriginal Affairs and Reconciliation.

Provisions and Principles

The provisions below have been designed to result in a neutral impact on the natural and cultural resources of the River Murray. They represent the minimum standards required to achieve the objectives of the River Murray Act. Proponents are strongly encouraged to undertake actions above and beyond these principles to achieve a beneficial effect for the River Murray environs.

Provision 1 (General duty of care)

An activity involving wetlands and floodplains must take all reasonable measures to prevent or minimise any harm to the River Murray⁶, including any one of the following:

- loss/decline of protected, threatened and endangered species⁷
- loss/decline of ecologically valuable habitat
- loss/decline of key vegetation associations
- incursions of exotic plants and animals (including aquatic pests)

Principles (Summarised in Figure 2)

- 1.1 Activities involving wetlands and floodplains that may lead to actual or likely Very High Adverse Impact⁸ on the River Murray should be avoided and may be refused.
- 1.2 Activities involving wetlands and floodplains that may lead to actual or likely Low-High Adverse Impact⁸ on the River Murray should be avoided through negotiation and modification of the proposal and the imposition of relevant conditions.
- 1.3 Activities involving wetlands and floodplains that may lead to actual or likely Adverse Impact on the River Murray that is unavoidable should only proceed where:
 - a. the activity will not lead to actual or likely Very High Adverse Impact on the River Murray; and
 - b. the adverse effects of the activity can be offset⁹ by specific cost effective actions that will benefit the river and can be secured by the imposition of conditions; and

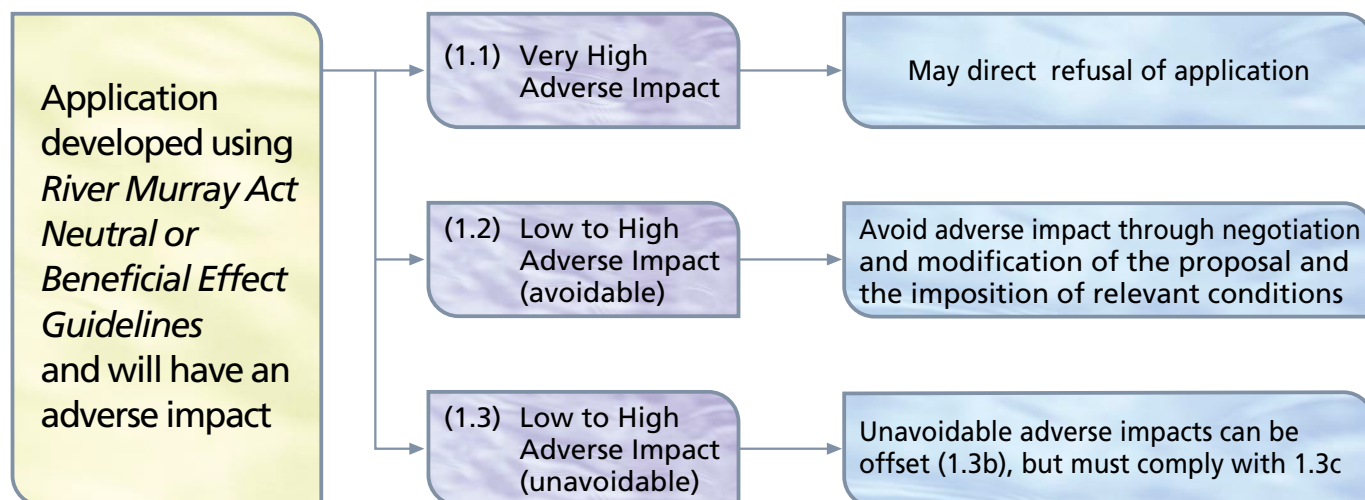


Figure 2: Principles 1.1-1.3 flow diagram

⁶ s23, River Murray Act 2003

⁷ Listed under the National Parks and Wildlife Act 1972

⁸ Refer to the River Murray Act Neutral-Beneficial Effect Guidelines

⁹ Refer to the River Murray Offsets Framework (Refer to the General Provisions until the Offsets Framework is available)

- c. the proponent can sufficiently demonstrate (e.g. via the results of an economic viability study and/or business case) that the activity provides:
 - i. significant social or economic benefit to the people of the State; and/or



- b. a change in the hydrological regime of a wetland or floodplain - for example, a substantial change to the volume, timing, duration and frequency of ground and surface water flows to and within a wetland or floodplain, which causes adverse environmental outcomes on a wetland or floodplain



- ii. a net improvement to the River Murray. (For example, where a net improvement will be gained by replacing an existing activity that is having an adverse impact, with an activity of lesser impact).

Provision 2 (Wetland and Floodplain Protection)

Wetland and floodplain ecosystems and their ecological processes should be protected, restored and enhanced.

Principles

- 2.1 The precautionary principle applies to avoiding activities that might cause harm to the river.
- 2.2 Individual and cumulative impacts of an activity should be considered when assessing a statutory instrument or application for authorisation that involves wetlands and floodplains.
- 2.3 Management Agreements (under the River Murray Act) should be used where appropriate to protect, conserve, manage or enhance the River Murray.
- 2.4 Activities should not take place if they will have or are likely to have an adverse impact on the ecological health of wetlands or floodplains. This includes activities which are likely to result in:
 - a. areas of wetland or floodplain being destroyed or substantially adversely modified

- c. a change in the physico-chemical status of a wetland or floodplain - for example, a substantial change in the level of salinity, soil acidity, pollutants, or nutrients in a wetland, or water temperature which may adversely impact on biodiversity, ecological integrity, amenity or human health, and
- d. the habitat or lifecycle of native or protected migratory species dependant upon a wetland or floodplain being detrimentally affected.

- 2.5 Activities must be planned and undertaken such that pollutants (e.g. nutrients, sediment) are prevented from reaching the River Murray, tributaries or wetlands. This includes:
 - a. eliminating all point source discharges of pollutants
 - b. where possible avoid storage of potential pollutants (e.g. fuel) on the floodplain. Where this is unavoidable, pollutant stores must meet relevant Australian Standards for flood-resistance and spill-containment/bunding and contingency measures documented.
 - c. no on-site treatment of wastes, or spreading/ discharge of treated or untreated waste within a floodplain, without approval from the Environment Protection Authority, Department of Health and the Minister for the River Murray
 - d. minimising pollutant (e.g. sediment) runoff from individual allotments to the River Murray or tributaries

- e. directing any runoff from roads, parking areas and other polluted surfaces to treatment filters capable of removing litter, sediment, grease and oil, (refer to Water Sensitive Urban Design principles and guidelines where available) and
 - f. designing transport routes and roads to minimise the risk of pollution reaching the River Murray, tributaries and wetlands.
- 2.6 Activities should not lead to an increase in motorboat activity in areas where there is likely to be significant detrimental impacts from erosion, damage to aquatic vegetation, or collision with, or disturbance to, native animals.
- 2.7 Clean fill taken from anywhere (including a floodplain or a watercourse) should not be deposited on the floodplain, except where it can be demonstrated that there will not be any environmental, cultural or public harm caused.
- 2.8 Fill of unknown origin or composition should not be deposited on the floodplain.
- 2.9 Disturbance to the shape of wetlands, excavation or modification of landform closer than 50 meters to a bank of the River Murray or its tributaries, should not occur unless carried out for an ecological purpose that is supported by a suitable management plan with clear ecological objectives.

Provision 3 (Wetland and Floodplain Integrity)

Activities should not threaten the integrity and diversity of wetland and floodplain habitats, biota, ecosystems or natural functions. The individual value of a wetland or floodplain and potential cumulative impacts must be taken into account.

¹⁰ as determined by the principles of 'ecologically sustainable development' in the Fisheries Management Act 2007

Principles

- 3.1 Activities should maintain and enhance aquatic, riparian and other native vegetation within wetlands and floodplains.
- 3.2 Activities should not result in removal of snags and dead vegetation within a wetland unless the removal is known to facilitate improved wetland ecological health.
- 3.3 Activities should not restrict natural movement of native species within and between wetlands, floodplains and river channels. Fragmentation of habitat and corridors should be avoided.
- 3.4 Activities should not have a negative impact on natural soil structure, drainage or erosion processes in floodplains, wetlands or river channels. This includes:
 - a. minimising additional soil erosion and inflow of sediment into wetlands, tributaries and the River Murray
 - b. dissipating the energy from runoff before it leaves an allotment and before it enters a water body
 - c. preventing direct stock access to natural water bodies and minimising grazing on the floodplain, and wetland beds and banks, and
 - d. siting and designing activities to prevent disturbance or exposure of acid sulphate soils, or acid and heavy metal discharge to surrounding soils, groundwater or surface waters.
- 3.5 Activities that involve or facilitate commercial fishing or hunting within wetlands or floodplains should not occur if they will potentially increase harvest of a species beyond a sustainable limit¹⁰, or otherwise have a detrimental impact on biodiversity.



3.6 Activities should not adversely alter the salinity status of the soil, floodplains, wetlands or River Murray, and should seek to improve existing impacts of salinity on the ecology of these systems¹¹. This includes:

- a. irrigation for any purpose, should not occur within the floodplain, where it will detrimentally affect, either directly or indirectly, the health of the floodplain.
- b. irrigation for any purpose that is not on the floodplain should not occur within 50m of a wetland.

Provision 4 (Wetland and Floodplain Management)

Suitable planning and management mechanisms should be identified, established and implemented to facilitate protection, conservation and enhancement of wetlands and floodplains.

Principles

- 4.1 Activities should make provision for the needs of both current and future management of floodplain and wetland resources. This includes accommodating the necessary environmental flows and management actions required to maintain or enhance the system.
- 4.2 Activities within or near wetlands should include, or be undertaken in accordance with, an appropriate management plan (which includes ongoing monitoring and adaptive management) with clear ecological objectives to protect, restore and enhance the ecological values of wetlands.

Provision 5 (Flow of Water)

The appropriate wetting and drying requirements of wetlands and floodplains should be able to continue in order to maintain their ecological health.

Principles

- 5.1 Activities should not restrict water movement, including floodwaters and groundwater, within and between the floodplain, river channel and wetlands, unless justified by an appropriate management plan with clear ecological objectives.
- 5.2 New or increased extractions of water from wetlands or backwaters should not occur unless it's for an ecological purpose that has been approved by the Minister for the River Murray.
- 5.3 New or replacement pumps should not be built on any backwater or wetland for irrigation, stock or domestic use unless the capacity remains the same or less than that of the pump being replaced. Existing pumps should be relocated to the main channel where practicable.
- 5.4 The alteration of hydrological regimes around long-lived native vegetation should be avoided unless justified by an appropriate management plan with clear ecological objectives.
- 5.5 Alteration of the hydrological regime of a wetland may require an authorisation under the *Natural Resources Management Act 2004*.
- 5.6 Artificial flushing activities must be carefully managed and monitored to minimise any potential negative impact on the water quality of the River Murray. Key stakeholders, including the EPA and SA Water, should be consulted prior to engagement in activities where there may be potential water quality impacts.

¹¹ Basin Salinity Management Strategy 2001 -2015

¹² Water Allocation Plan for the River Murray Prescribed Water Course



Appendix A

Guide to River Murray wetlands

NO	NAME	STATUS	LOCATION Mapsheet & AMG
Lakes Alexandrina and Albert to Wellington			
1	The Coorong, Lakes Alexandrina and Albert Wetland of International Importance	Wetland of International Importance ¹³ National Significance/High Conservation ¹⁴	Alexandrina 6727-3 Milang 6627-2 Goolwa 6626-1 Narrung 6726-4 Wellington 6727-2 Meningie 6726-1
2	Wellington	High Conservation ¹⁴	Wellington 6727-2 (353125 E) (6088456 N)
3	Wellington South	High Conservation ¹⁴	Wellington 6727-2 (353593 E) (6087104 N)
4	Wellington Marina	Low Conservation ¹⁴	Wellington 6727-2 (353407 E) (6090752 N)
5	East Wellington	High Conservation ¹⁴	Wellington 6727-2 (353259 E) (6089301 N)
6	Wellington North	High Conservation ¹⁴	Wellington 6727-2 (352488 E) (6090650 N)
7	Freds Landing	High Conservation ¹⁴	Wellington 6727-2 (357060 E) (6092702 N)
Mobilong to Blanchetown			
8	Tailem Bend	High Conservation ¹⁴	Mobilong 6727-1 (357064 E) (6099368 N)
9	Mason Rock	National Significance/High Conservation ¹⁴	Mobilong 6727-1 (351374 E) (6103449 N)
10	Tobalong	High Conservation ¹⁴	Mobilong 6727-1 (349136 E) (6103969 N)
11	Swanport Wetland	National Significance/High Conservation ¹⁴	Mobilong 6727-1 (346268 E) (6109024 N)
12	Mobilong Swamp	Conservation value should be assessed ¹⁴	Mobilong 6727-1 (342012 E) (6114103 N)
13	Riverglades	National Significance/High Conservation ¹⁴	Mobilong 6727-1 (344707 E) (6114745 N)
14	Jury Swamp (Jaenschs Beach)	High Conservation ¹⁴	Mobilong 6727-1 (346436 E) (6119628 N)
15	Toora Levee	High/Moderate Conservation ¹⁴	Mobilong 6727-1 (347486 E) (6120037 N)
16	Mypolonga Levee	High Conservation ¹⁴	Mobilong 6727-1 (349751 E) (6121537 N)
17	Sunnyside Conservation Park & Paiwalla Swamp	National Significance/High Conservation ¹⁴	Mobilong 6727-1 (350969 E) (6121786 N)

¹³ Ramsar

¹⁴ Wetlands Atlas of the South Australian Murray Valley (DENR 1996)

18	Paiwalla Gully	High Conservation ¹⁴	Mobilong 6727-1 (349771 E) (6124777 N)
19	Mypolonga North	High Conservation ¹⁴	Mobilong 6727-1 (349765 E) (6124188 N)
20	Wood Lane	High/Moderate Conservation ¹⁴	Mannum 6728-2 (347238 E) (6126788 N)
21	Pompoota	High Conservation ¹⁴	Mannum 6728-2 (347408 E) (6127770 N)
22	Wall Levee	High Conservation ¹⁴	Mannum 6728-2 (347069 E) (6129629 N)
23	Wall Swamp	High Conservation ¹⁴	Mannum 6728-2 (344911 E) (6129314 N)
24	Neeta Flat Depressions	Conservation value should be assessed ¹⁴	Mannum 6728-2 (342934 E) (6129906 N)
25	Reedy Creek	Basin Significance/High Conservation ¹⁴	Mannum 6728-2 (341197 E) (6130141 N)
26	Baseby Levee	High/Moderate Conservation ¹⁴	Mannum 6728-2 (343933 E) (6132238 N)
27	Cowirra Landing	Conservation value should be assessed ¹⁴	Mannum 6728-2 (348370 E) (6136723 N)
28	Mannum Swamps	Basin Significance/High Conservation ¹⁴	Mannum 6728-2 (348949 E) (6137914 N)
29	Taworri Wetland	Moderate Conservation/Should be reassessed ¹⁴	Mannum 6728-2 (350342 E) (6138076 N)
30	Kia Wetland	High/Moderate Conservation/ Should be reassessed ¹⁴	Mannum 6728-2 (351198 E) (6139030 N)
31	Younghusband West	High Conservation ¹⁴	Mannum 6728-2 (355870 E) (6140963 N)
32	Pellaring Flat	Moderate Conservation/Should be reassessed ¹⁴	Mannum 6728-2 (355118 E) (6141523 N)
33	Lake Carlet	Basin Significance/High/Moderate/ Low Conservation/Should be reassessed ¹⁴	Carnamont 6828-3 (361637 E) (6140695 N)
34	Younghusband	High Conservation ¹⁴	Carnamont 6828-3 (365719 E) (6139465 N)
35	Younghusband Point	High Conservation ¹⁴	Carnamont 6828-3 (367046 E) (6139675 N)
36	Teal Flat Hut	Moderate Conservation ¹⁴	Carnamont 6828-3 (367431 E) (6140048 N)
37	Teal Flat	Low Conservation/Should be reassessed ¹⁴	Carnamont 6828-3 (368213 E) (6138610 N)
38	Coolcha Lagoon	High/Moderate Conservation ¹⁴	Carnamont 6828-3 (369029 E) (6136974 N)
39	Maidment Lagoon	Moderate Conservation/Should be reassessed ¹⁴	Carnamont 6828-3 (371197 E) (6137205 N)
40	Bow Hill	High Conservation ¹⁴	Carnamont 6828-3 (372802 E) (6137558 N)
41	Craigook	High/Moderate Conservation/ Should be reassessed ¹⁴	Carnamont 6828-3 (374055 E) (6138899 N)

42	Saltbush Flat	Moderate Conservation/Should be reassessed ¹⁴	Cairnamont 6828-3 (375199 E) (6140322 N)
43	Cairnamont	High/Moderate Conservation ¹⁴	Cairnamont 6828-3 (372798 E) (6142075 N)
44	North Purnong	Moderate/Low Conservation/ Should be reassessed ¹⁴	Cairnamont 6828-3 (370452 E) (6144217 N)
45	North Cairnamont	High/Moderate Conservation/ Should be reassessed ¹⁴	Cairnamont 6828-3 (368246 E) (6145606 N)
46	Scrubby Flat	High Conservation ¹⁴	Cairnamont 6828-3 (367577 E) (6148017 N)
47	Scrubby Flat Creek	Low Conservation/Should be reassessed ¹⁴	Cairnamont 6828-3 (367662 E) (6149464 N)
48	Walker Flat South Lagoon	Low Conservation/Should be reassessed ¹⁴	Cairnamont 6828-3 (367892 E) (6150645 N)
49	Lake Bywaters	Moderate/Low Conservation/ Should be reassessed ¹⁴	Cairnamont 6828-3 (368480 E) (6152814 N)
50	Forster Lagoon	Moderate Conservation/Should be reassessed ¹⁴	Swan Reach 6828-4 (367684 E) (6154529 N)
51	Wongulla Lagoon	High Conservation ¹⁴	Swan Reach 6828-4 (367632 E) (6156735 N)
52	Kroehns Landing	Moderate/Low Conservation/ Should be reassessed ¹⁴	Swan Reach 6828-4 (370080 E) (6158700 N)
53	Marne River Mouth	National Significance/High Conservation Wetland of National Importance ¹⁵	Swan Reach 6828-4 (368707 E) (6159258 N)
54	Devon Downs Swamp	High Conservation ¹⁴	Swan Reach 6828-4 (371081 E) (6160598 N)
55	Devon Downs South	Moderate/Low Conservation/ Should be reassessed ¹⁴	Swan Reach 6828-4 (372013 E) (6161130 N)
56	McCauley Swamp	Moderate Conservation/Should be reassessed ¹⁴	Swan Reach 6828-4 (371910 E) (6174999 N)
57	Swan Reach Complex	National Significance/High Conservation ¹³ Wetland of National Importance ¹⁵	Swan Reach 6828-4 (371015 E) (6178303 N)
58	Yarramundi	Basin Significance/High Conservation ¹⁴	Blanchetown 6829-3 (370044 E) (6183434 N)
59	Yarramundi North	Basin Significance/High/Moderate Conservation/ Should be reassessed ¹⁴	Blanchetown 6829-3 (371169 E) (6184388 N)
60	South Portee	Basin Significance/Moderate/Low Conservation/ Should be reassessed ¹⁴	Blanchetown 6829-3 (371553 E) (6186405 N)
61	Portee Creek	Basin Significance/Low Conservation/ Should be reassessed ¹⁴	Blanchetown 6829-3 (371592 E) (6188640 N)
62	Portee	Basin Significance/High/Moderate Conservation/ Should be reassessed ¹⁴	Blanchetown 6829-3 (371865 E) (6188682 N)
63	Moorundie	Basin Significance/High Conservation ¹⁴	Blanchetown 6829-3 (372254 E) (6192220 N)
64	Moorundie Creek	Basin Significance/Moderate/Low Conservation/ Should be reassessed ¹⁴	Blanchetown 6829-3 (372511 E) (6192193 N)
65	Blanchetown Flat	Basin Significance/High/Moderate Conservation/ Should be reassessed ¹⁴	Blanchetown 6829-3 (373238 E) (6196106 N)

¹⁵ Wetlands Strategy for South Australia (DEH & DWLBC 2003)

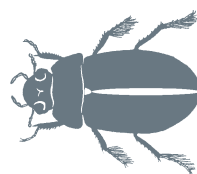
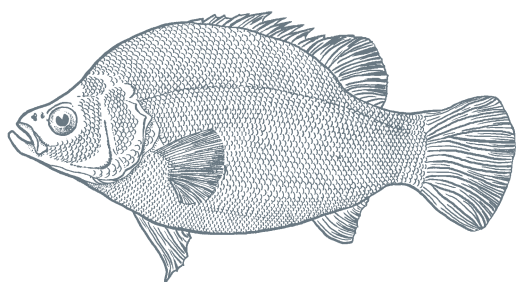
66	Edsons Flat	Basin Significance/High Conservation ¹⁴	Blanchetown 6829-3 (373369 E) (6198022 N)
67	Blanchetown Caravan Park	High Conservation ¹⁴	Blanchetown 6829-3 (373069 E) (6199183 N)
68	Arlunga	High/Moderate Conservation/ Should be reassessed ¹⁴	Blanchetown 6829-3 (372784 E) (6200333 N)
69	Roonka	High Conservation ¹⁴	Blanchetown 6829-3 (374435 E) (6203429 N)
70	Reedy Island Flat	High Conservation ¹⁴	Blanchetown 6829-3 (374814 E) (6204641 N)
71	McBean Pound South	High/Moderate Conservation/ Should be reassessed ¹⁴	Blanchetown 6829-3 (374213 E) (6205127 N)
72	McBean Pound North	High Conservation/Should be reassessed ¹⁴	Blanchetown 6829-3 (373841 E) (6205700 N)
73	Sinclair Flat	Moderate/Low Conservation/ Should be reassessed ¹⁴	Blanchetown 6829-3 (374022 E) (6207050 N)
Morgan to Chowilla			
74	Donald Flat Lagoon	High/Low Conservation/Should be reassessed ¹⁴	Morgan 6829-4 (373667 E) (6209556 N)
75	Irwin Flat	National Significance/High Conservation ¹⁴ Wetland of National Importance ¹⁵	Morgan 6829-4 (374786 E) (6212305 N)
76	Murbpook Lagoon Complex	Moderate Conservation/Should be reassessed ¹⁴	Morgan 6829-4 (374491 E) (6214686 N)
77	Murbko South	Moderate/Low Conservation/ Should be reassessed ¹⁴	Morgan 6829-4 (375973 E) (6216376 N)
78	Murbko Flat Complex	High/Moderate/Low Conservation/ Should be reassessed ¹⁴	Morgan 6829-4 (376279 E) (6220520 N)
79	Glen-Lee	Moderate/Low Conservation/ Should be reassessed ¹⁴	Morgan 6829-4 (378414 E) (6223638 N)
80	Wombat Rest Backwater (377034 E) (6224939 N)	Basin Significance/High Conservation ¹⁴	Morgan 6829-4
81	Wombat Rest Swamp	Basin Significance/High Conservation ¹⁴	Morgan 6829-4 (377360 E) (6224779 N)
82	Scott Creek	Basin Significance/Moderate Conservation/ Should be reassessed ¹⁴	Morgan 6829-4 (377218 E) (6226366 N)
83	Scott Creek Lagoons	Basin Significance/High Conservation ¹⁴	Morgan 6829-4 (377633 E) (6226446 N)
84	Brenda Park	Basin Significance/High Conservation ¹⁴	Morgan 6829-4 (377881 E) (6227990 N)
85	Penfolds Lagoon	Basin Significance/Low Conservation/ Should be reassessed ¹⁴	Morgan 6829-4 (377629 E) (6229665 N)
86	Morphett Flat	Basin Significance/High Conservation ¹⁴	Morgan 6829-4 (377412 E) (6231225 N)
87	Morgan Conservation Park	High Conservation ¹⁴	Morgan 6829-4 (378674 E) (6232984 N)
88	Morgan East	Moderate Conservation/Should be reassessed ¹⁴	Morgan 6829-4 (380614 E) (6233624 N)

89	Burra Creek	High/Moderate Conservation/ Should be reassessed ¹⁴	Morgan 6829-4 (379699 E) (6234634 N)
90	North West Bend	Moderate Conservation/Should be reassessed ¹⁴	Morgan 6829-4 (382156 E) (6234266 N)
91	Cadell Training Centre	Low Conservation/Should be reassessed ¹⁴	Cadell 6829-1 (384537 E) (6231913 N)
92	Cadell Basin	High Conservation/Should be reassessed ¹⁴	Cadell 6829-1 (385066 E) (6233037 N)
93	Cadell Creek	High/Moderate Conservation ¹⁴	Cadell 6829-1 (386188 E) (6233365 N)
94	Nikalapko West	Moderate Conservation/Should be reassessed ¹⁴	Cadell 6829-1 (386948 E) (6233846 N)
95	Emu Gully	High/Moderate Conservation/Should be assessed ¹⁴	Cadell 6829-1 (387881 E) (6234704 N)
96	Nikalapko	Moderate/Low Conservation/Should be reassessed ¹⁴	Cadell 6829-1 (388721 E) (6231642 N)
97	Molo Flat	High Conservation ¹⁴	Cadell 6829-1 (390393 E) (6231041 N)
98	Weston Flat Lagoon	High Conservation ¹⁴	Cadell 6829-1 (391301 E) (6233150 N)
99	Hogwash Bend	High Conservation ¹⁴	Cadell 6829-1 (393318 E) (6228905 N)
100	Markaranka	Moderate/Low Conservation/ Should be reassessed ¹⁴	Cadell 6829-1 (394663 E) (6228607 N)
101	Markaranka South	High/Moderate Conservation/ Should be reassessed ¹⁴	Cadell 6829-1 (395302 E) (6227151 N)
102	Markaranka East	Moderate Conservation/ Should be reassessed ¹⁴	Cadell 6829-1 (395240 E) (6227591 N)
103	Markaranka Depression	Should be assessed ¹⁴	Cadell 6829-1 (396783 E) (6225981 N)
104	Qualco Swamp	Moderate/Low Conservation/ Should be reassessed ¹⁴	Cadell 6829-1 (398366 E) (6226632 N)
105	Qualco North	High/Moderate Conservation/ Should be reassessed ¹⁴	Cadell 6829-1 (397918 E) (6226641 N)
106	Reid Flat	High Conservation ¹⁴	Cadell 6829-1 (399329 E) (6228957 N)
107	Boggy Flat	High/Moderate Conservation/ Should be reassessed ¹⁴	Cadell 6829-1 (402280 E) (6228156 N)
108	Schillers Lagoon	Basin Significance/High Conservation/ Should be reassessed ¹⁴	Cadell 6829-1 (401120 E) (6227597 N)
109	Nigra Lagoon	Basin Significance/High Conservation ¹⁴	Cadell 6829-1 (402737 E) (6227445 N)
110	Nigra Creek	Basin Significance/High/Moderate Conservation/ Should be reassessed ¹⁴	Cadell 6829-1 (402724 E) (6225541 N)
111	Smiths Swamp	Moderate Conservation/Should be reassessed ¹⁴	Cadell 6829-1 (403335 E) (6226984 N)
112	Penns Inlet	Should be assessed ¹⁴	Cadell 6829-1 (401312 E) (6222632 N)

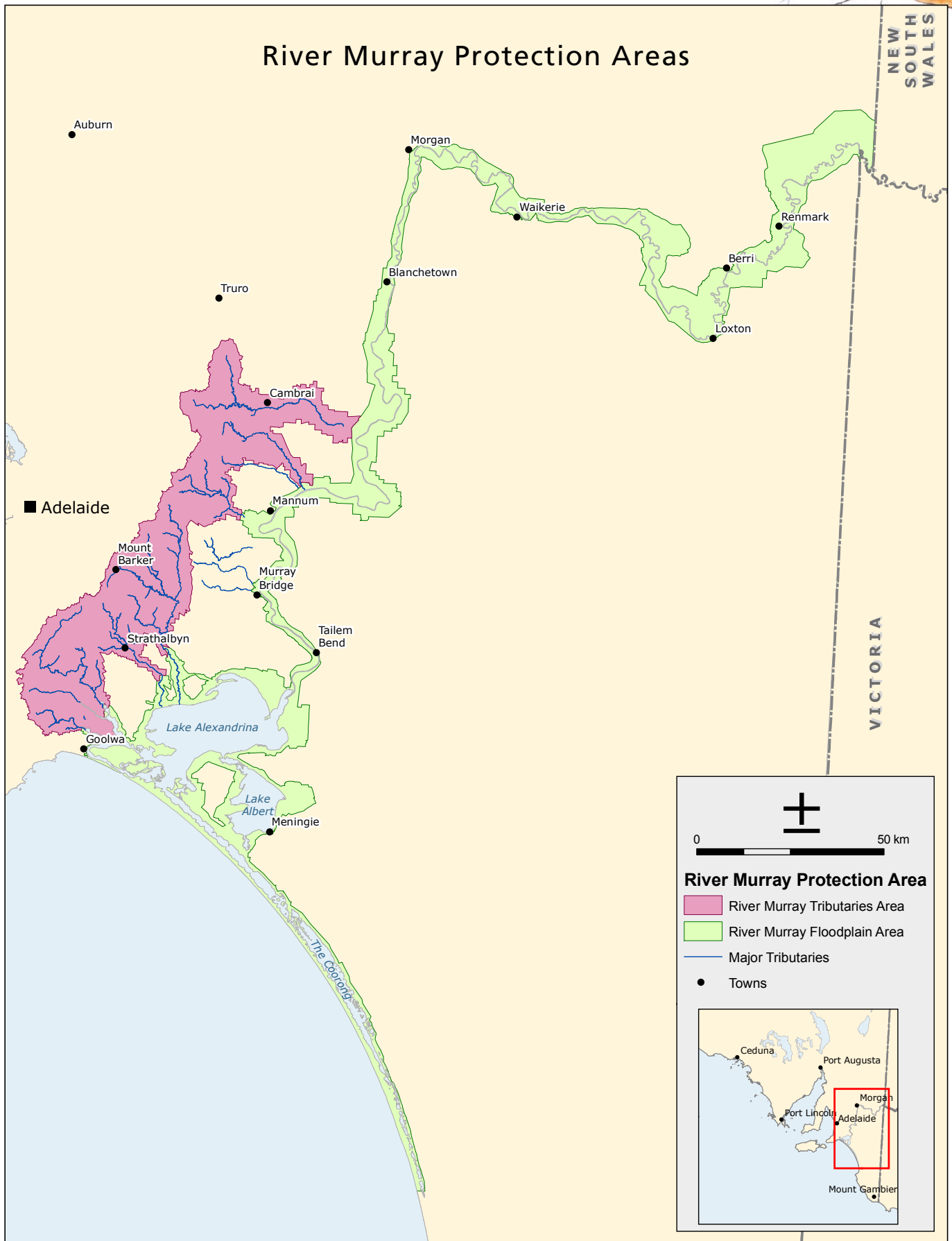
113	Little Toolunka Flat	High Conservation ¹⁴	Cadell 6829-1 (402353 E) (6222899 N)
114	Big Toolunka Flat	Moderate Conservation/Should be reassessed ¹⁴	Cadell 6829-1 (401662 E) (6220172 N)
115	Ramco Outlet	Basin Significance/High/Moderate Conservation/ Should be reassessed ¹⁴	Cadell 6829-1 (399759 E) (6220179 N)
116	Ramco Lagoon	Basin Significance/Low Conservation/ Should be reassessed ¹⁴	Cadell 6829-1 (400386 E) (6219100 N)
117	Hart Lagoon	Basin Significance/High Conservation/ Should be reassessed ¹⁴	Cadell 6829-1 (404302 E) (6218482 N)
118	Ross Lagoon	Moderate/Low Conservation/ Should be reassessed ¹⁴	Cadell 6829-1 (405814 E) (6219332 N)
119	Jaeschke Lagoon	Moderate/Low Conservation/ Should be reassessed ¹⁴	Cadell 6829-1 (407150 E) (6217569 N)
120	Jaeschke Lagoon South	High/Moderate Conservation/ Should be reassessed ¹⁴	Cadell 6829-1 (407474 E) (6217106 N)
121	Holder Bend	Should be assessed ¹⁴	Pooginook 6929-4 (408542 E) (6216910 N)
122	Maize Island Complex	High/Moderate Conservation/ Should be reassessed ¹⁴	Pooginook 6929-4 (409352 E) (6218384 N)
123	Island Reach	High/Moderate Conservation/ Should be reassessed ¹⁴	Pooginook 6929-4 (411244 E) (6219245 N)
124	Paschkes Flat	Moderate Conservation/Should be reassessed ¹⁴	Pooginook 6929-4 (412091 E) (6217553 N)
125	Yarra Complex	High Conservation ¹⁴	Pooginook 6929-4 (417035 E) (6218344 N)
126	Complex Opposite Yarra Glen	High/Moderate Conservation/ Should be reassessed ¹⁴	Pooginook 6929-4 (423185 E) (6219328 N)
127	Devilins Pound	Moderate/Low Conservation/ Should be reassessed ¹⁴	Pooginook 6929-4 (424193 E) (6220134 N)
128	Woolpunda	High/Moderate Conservation/ Should be reassessed ¹⁴	Pooginook 6929-4 (425934 E) (6219121 N)
129	Glen Devlin Complex	High Conservation ¹⁴	Pooginook 6929-4 (428140 E) (6218461 N)
130	Wigley Flat	Moderate/Low Conservation/ Should be reassessed ¹⁴	Overland Corner 6929-1 (430913 E) (6218076 N)
131	Wigley Flat East	Moderate Conservation/Should be reassessed ¹⁴	Overland Corner 6929-1 (431712 E) (6217967 N)
132	Parcoola West	Moderate Conservation/Should be reassessed ¹⁴	Overland Corner 6929-1 (432781 E) (6218336 N)
133	Lara Inlet	High/Moderate Conservation/ Should be reassessed ¹⁴	Overland Corner 6929-1 (436357 E) (6218761 N)
134	Wigley Reach	High Conservation ¹⁴	Overland Corner 6929-1 (436280 E) (6218007 N)
135	Overland Corner Complex	Basin Significance/High/Moderate Conservation/ Should be reassessed ¹⁴	Overland Corner 6929-1 (440025 E) (6218758 N)
136	Banrock Station Wetland Complex	Wetland of International Importance National Significance/High Conservation ¹⁴	Overland Corner 6929-1 (440376 E) (6215975 N)

137	Loch Luna Wetland Complex	National Significance/High Conservation ¹⁴ Wetland of National Importance ¹⁵	Overland Corner 6929-1 (442141 E) (6213239 N)
138	Chambers Creek	Basin Significance/High Conservation ¹⁴	Overland Corner 6929-1 (445439 E) (6214405 N)
139	McIntosh Canal	High Conservation ¹⁴	Overland Corner 6929-1 (445835 E) (6216501 N)
140	Lake Bonney	High/Moderate Conservation ¹⁴	Overland Corner 6929-1 (448949 E) (6212934 N)
141	Cobdogla Basin	Basin Significance/Low Conservation Should be assessed ¹⁴	Overland Corner 6929-1 (444847 E) (6211669 N)
142	Kingston Common	Basin Significance/High Conservation ¹⁴	Overland Corner 6929-1 (440760 E) (6213110 N)
143	Wachtels Lagoon	Basin Significance/High/Moderate Conservation/ Should be reassessed ¹⁴	Overland Corner 6929-1 (441949 E) (6210176 N)
144	Loveday Swamps Complex	National Significance/High Conservation ¹⁴ Wetland of National Importance ¹⁵	Overland Corner 6929-1 (444437 E) (6207699 N)
145	Yatco Lagoon	Moderate/Low Conservation/ Should be reassessed ¹⁴	Moorook 6929-2 (442014 E) (6202357 N)
146	Spectacle Lakes Complex	National Significance/High Conservation ¹⁴ Wetland of National Importance ¹⁵	Moorook 6929-2 (444452 E) (6200065 N)
147	Pyap Lagoon	Moderate/Low Conservation/ Should be reassessed ¹⁴	Moorook 6929-2 (448878 E) (6192583 N)
148	Pyap Horseshoe	High/Moderate Conservation/ Should be reassessed ¹⁴	Moorook 6929-2 (450155 E) (6192737 N)
149	Pyap Swamps	High Conservation ¹⁴	Moorook 6929-2 (451157 E) (6193363 N)
150	Gerard Swamps	Should be assessed ¹⁴	Loxton 7029-3 (453764 E) (6192889 N)
151	Loxton Floodplain	High Conservation ¹⁴	Loxton 7029-3 (459024 E) (6187622 N)
152	Thiele Flat	Low Conservation/Should be reassessed ¹⁴	Loxton 7029-3 (461097 E) (6188768 N)
153	Katarapko Basin	Basin Significance/High/Moderate Conservation ¹⁴	Loxton 7029-3 (459301 E) (6189864 N)
154	Katarapko Creek and Island	Basin Significance/High Conservation ¹⁴	Loxton 7029-3 (458572 E) (6193221 N)
155	Eckert Creek & The Splash	Basin Significance/High Conservation ¹⁴	Loxton 7029-3 (459103 E) (6200356 N)
156	Rilli Lagoons	High Conservation ¹⁴	Loxton 7029-3 (460923 E) (6192957 N)
157	Rilli Reach	Moderate/Low Conservation/ Should be reassessed ¹⁴	Loxton 7029-3 (462847 E) (6195517 N)
158	Perres Floodplain	Moderate Conservation/Should be reassessed ¹⁴	Loxton 7029-3 (461669 E) (6197800 N)
159	Ajax Achilles Lake	High Conservation ¹⁴	Loxton 7029-3 (461089 E) (6200529 N)
160	Berri Disposal Basin Complex	Basin Significance/Low Conservation Should be assessed ¹⁴	Loxton 7029-3 (460826 E) (6204358 N)

161	Gurra Lakes Wetland Complex	National Significance/High Conservation ¹⁴ Wetland of National Importance ¹⁵	Loxton 7029-3 (466506 E) (6203751 N)
162	Martin Bend Complex	High Conservation ¹⁴	Loxton 7029-3 (464587 E) (6205636 N)
163	Lyrup Causeway Complex	Basin Significance/High Conservation ¹⁴	Renmark 7029-4 (467250 E) (6210559 N)
164	Lyrup East	Basin Significance/High Conservation ¹⁴	Renmark 7029-4 (468697 E) (6209844 N)
165	Disher Creek	Basin Significance/Low Conservation Should be reassessed ¹⁴	Renmark 7029-4 (470809 E) (6210389 N)
166	Pike-Mundic Wetland Complex	National Significance/High Conservation ¹⁴ Wetland of National Importance ¹⁵	Paringa 7029-1 (476737 E) (6212118 N)
167	Nelwart Swamp	Should be assessed ⁷⁷	Paringa 7029-1 (476924 E) (6213907 N)
168	Bookmark Creek	Basin Significance/Low Conservation Should be reassessed ¹⁴	Renmark 7029-4 (475189 E) (6216597 N)
169	Goat Island & Paringa Paddock	High Conservation ¹⁴	Paringa 7029-1 (477273 E) (6216604 N)
170	Paringa Island	High/Moderate Conservation/ Should be reassessed ¹⁴	Paringa 7029-1 (478414 E) (6219167 N)
171	Riverland Wetland Complex	Wetland of International Importance National Significance/High Conservation ¹⁴	Paringa 7029-1 Renmark 7029-4 Chowilla 7030-2



APPENDIX B

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