

Department for Environment and Heritage

# North-east Eyre Peninsula Conservation Reserves Biodiversity Asset Assessment



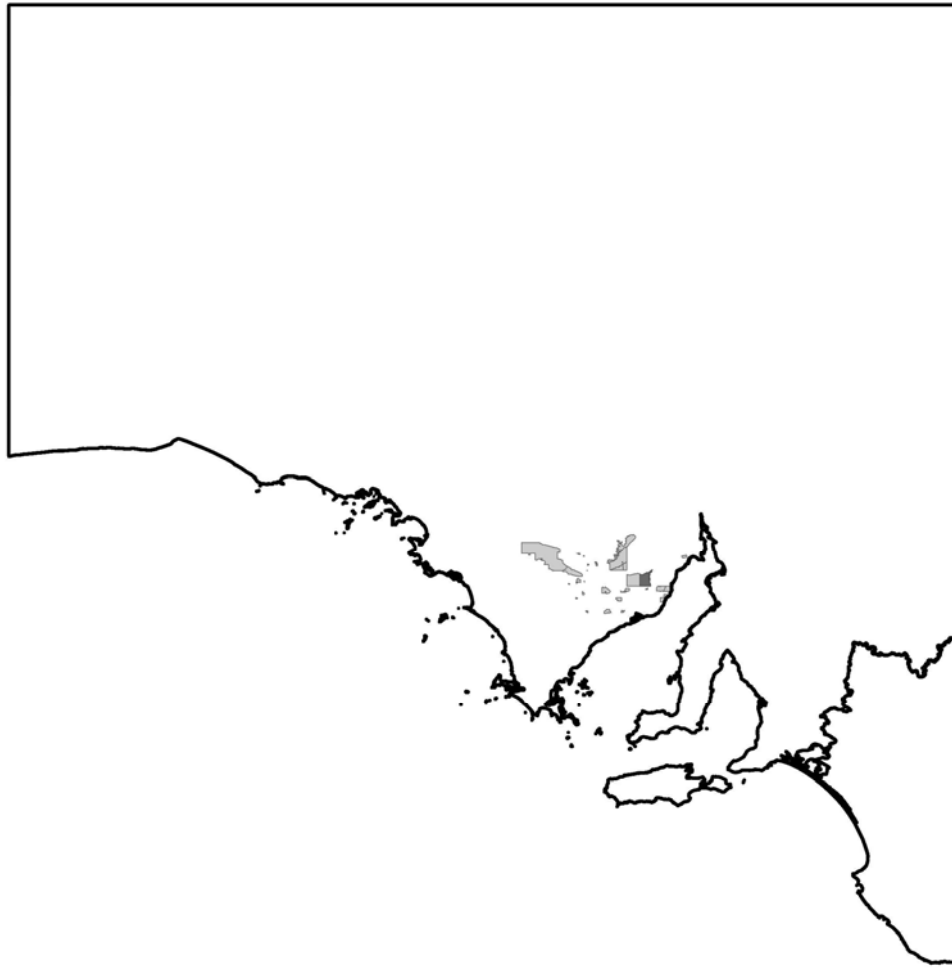
Government of South Australia

Department for Environment  
and Heritage

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# NORTH-EAST EYRE PENINSULA CONSERVATION RESERVES BIODIVERSITY ASSET ASSESSMENT 2009

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**R. Brandle, J. McDonald, K. Graham and N. Haby**

Science Resource Centre  
Information, Science and Technology Directorate  
Department for Environment and Heritage

2009

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# SCOPE

This DEH internal report was prepared by the Science Resource Centre to summarise the state of knowledge for the Shirrocoe property prior to its formal incorporation into the SA Reserves system. The information contained is an amalgam of existing information for the region, targeted survey work and expert opinion. Additional interpretation can be provided by the SRC as part of the process of developing a Reserve Management Plan.

All of the detailed information used in preparing this report is available through the SRC and the Biological Databases of SA.

# KEY POINTS

## Part 1: Regional Context

- The vegetation of the north-east Eyre Peninsula has been classified into 69 broad-scale vegetation mapping units all of which have some representation as a dominant community within the NPWSA Reserves of this region.
- A total of 774 native plant taxa and 106 introduced plant taxa have been recorded for reserves in the north-east Eyre Peninsula region. Fifty-three of these species have a State conservation rating (six Endangered, eight Vulnerable, 39 Rare).
- A number of the introduced species occurring in the region have been assessed as weeds of national significance (WONS) based on their invasiveness and potential impact on biodiversity. These include: Salvation Jane (*Echium plantagineum*), Sea Spurge (*Euphorbia paralias*), and African Boxthorn (*Lycium ferocissimum*). A number of others are declared pest plants in South Australia. These include: Salvation Jane, Boxthorn, Slender Thistle (*Carduus tenuiflorus*), Horehound (*Marrubium vulgare*), Onion Weed (*Asphodelus fistulosus*) and Aleppo Pine (*Pinus halepensis*), Three-cornered Jack (*Emex australis*) and Caltrop (*Tribulus terrestris*).
- Twenty-one native species of mammal have been recorded for the region. 71% of these have been recorded in a reserve. Mammal species, particularly bats, are considered to be under-sampled throughout the reserves in the region.
- Of the 84 reptile species recorded for the region, 73% have been recorded in a reserve. Reptiles are also considered to be under-sampled throughout the reserves in the region.
- Unsourced conservation reserves and under-sampled habitat types in each reserve need to be identified and targeted for future assessment that targets species groups for which data has been identified as being inadequate.
- The Biological Databases of SA hold records for four Nationally rated terrestrial fauna species and a further 40 State-only rated species. Of these 44 rated species in the region, 31 (70%) are known to occur in Reserves.
- A large proportion of the records for threatened species are from within Reserves, indicating the conservation importance of these areas in the region.
- Of the six introduced bird species recorded in the region, the most common was the European Starling (*Sturnus vulgaris*). This species represents a potential threat to native bird species. The risk that these species pose to native hollow nesting birds within the region should be investigated to determine if control activities are warranted.
- Ten species of introduced mammal have been recorded in the natural habitats of the north-east Eyre Peninsula. Control of goats (*Capra hircus*), foxes (*Vulpes vulpes*), cats (*Felis catus*) and rabbits (*Oryctolagus cuniculus*) in other regions has been shown to have biodiversity benefits.

## Part 2: Shirrocoe Block Biological Survey

- The decision to conduct a biological survey of Shirrocoe pastoral lease in 2008 was guided by the absence of any previous systematic survey work on the property.
- The aim of the biological survey at Shirrocoe was to sample a representative selection of sites for vascular plants and vertebrate fauna to gain information on the habitat types and species that they support.
- It is likely that additional field surveys conducted during spring would detect additional species across most of the plants and animal groups.
- The Shirrocoe Block is dominated by undulating calcareous plain with overlying dunefields. Minor features include a chain of ephemeral saline lakes and rare rock hills.
- The vegetation survey site coverage in this region was particularly sparse. A small scale ground truthing project for vegetation map was carried out during March 2008, to enable updates to the vegetation mapping for Shirrocoe and the adjoining Secret Rocks. The latter is now managed as a privately owned conservation reserve. The Native Vegetation Floristic (NVIS State-wide) mapping in the DEH Corporate Spatial database was updated where field data showed an adjustment to the mapping was needed.
- A total of 40 broadscale vegetation communities, none of which are considered threatened within South Australia, were identified within the Shirrocoe Pastoral Lease.
- The vegetation ranged from less frequent open herbfields and chenopod shrublands, to more common mallee formations. The mallee understorey included three basic forms, chenopod low shrubs, sclerophyllous shrubs and *Triodia* hummock grasslands.
- A total of 108 distinct plant taxa were recorded at the ten survey sites. Only one State-rated Rare species (*Maireana suaedifolia*, Lax Bluebush) was recorded.
- The most significant updates to the 2000 floristic mapping in the Shirrocoe and Secret Rocks area were a reduction in the amount of *Eucalyptus porosa* Mallee mapped and removal of *Maireana sedifolia* Shrubland communities.
- A total of 50 species of bird were detected within Shirrocoe, including three with a State conservation rating of Rare. When data from the adjacent Secret Rocks is included, the number of species for this area expands to 68.
- A total of 17 species of mammal were recorded at Shirrocoe during the survey, including the State (R) and Nationally (EN) listed Sandhill Dunnart (*Sminthopsis psammophila*).
- Only 14 of the 49 species of reptile known from the immediate area (Shirrocoe /Secret Rocks) were detected at Shirrocoe during the survey. The two species with a state conservation rating of Rare, Carpet Python (*Morelia spilota*) and the Bardick (*Echiopsis curta*), were not detected.

### Part 3: Assessment of Disturbance and Threats to Shirrocoe Block

- The mallee ecosystems of Shirrocoe have never been developed for agriculture, so problems of extensive clearing and habitat fragmentation are not of major concern.
- Clearing and fragmentation issues on the property include construction of the railway/utilities corridor, power line and pastoral infrastructure. Significant habitat change adjacent to these may be minimal, but they provide thoroughfares for the spread of weeds and barriers to movement of species reliant on dense undergrowth for foraging or migration. Similar barriers are made by the Kimba Road and Cowell Road on the northern and southern margins.
- An approximation of Ecosystem condition was measured with an adaptation of the Land Condition Index (LCI) used in Pastoral Condition Assessment.
- The three generalised land types which dominate Shirrocoe were assessed. Each comprised of specific plant associations:
  1. Saltbush plains and saline flats – flat to undulating plains of *Atriplex* shrublands dotted with flats and depressions of samphire shrublands
  2. Mallee calcareous plains – flat to undulating plains of mallee and open mallee on sandy calcareous earths
  3. Low mallee spinifex sands – low dunefields and thick sheets of coarse sand with low and open low mallee over spinifex understoreys
- Impact assessment was limited by accessibility to sample sites. A more representative sample of these land types could be achieved with improved access to the south-west corner of Shirrocoe.
- Shirrocoe ecosystems are in good condition relative to surrounding parcels, having not become part of the intensive agricultural or pastoral landscapes. However, herbivory and fires have influenced the range of condition with quite localised effects.
- The LCI of 2.81 is one of the highest ever recorded for a pastoral enterprise and shows that neither ungulate herbivory, nor fire, have caused any marked decline in pastoral potential. In particular, that ungulate herbivory has not initiated any problematic decline in ecosystem value.
- Macropods occur extensively across the property; however their impacts are still largely unknown.
- Exotic herbivory is mostly the legacy of commercial stocking which ceased in 2005 and current issues of feral goats. Stock impacts currently remain expressed in persistent stock pads, shrubs unrecovered from past browsing and modified landscapes. The most severe impacts were restricted to the proximity of waterpoints. Feral goats were scattered across the property.



# PART 1: REGIONAL CONTEXT

Robert Brandle and Nerissa Haby

## Introduction

Located in the north-east of Eyre Peninsula, the 22 194 ha Shirrocoe Pastoral Lease encompasses several Environmental Associations (Table 1.1). The pastoral lease has been little surveyed other than for taxa specific projects such as the Sandhill Dunnart Project (Churchill unpublished dataset BDBSA SU112) and a number of research projects conducted through the University of Adelaide Middleback Field Station. More recently a number of mining impact studies commissioned by One Steel Pty Ltd have been conducted in the area. A number of fauna records for the area have been collated by various organisations including the the SA Museum, SA Herpetology Group (SAHG) and Birds Australia and are included on the Biological Database of South Australia (BDBSA 2008) (Table 1.2). Biological survey data exists for adjacent areas, namely Cooyerdoo Pastoral Lease (including the Secret Rocks private conservation reserve) to the west and properties to the east that were surveyed during the Biological Survey of the Eyre Peninsula, North East Eyre Peninsula, Gawler Ranges, Coastal Dune and Cliff-top Survey.

**Table 1.1. IBRA subregions and Environmental Associations spanning the Shirrocoe Pastoral Lease.**

IBRA Subregion	Environmental Association	Area (ha)
Eyre Hills	Ironstone Hill	9 946.1
	Pinkawillinie	898.7
	Yalarna	602.4
Eyre Mallee	Midgee	8 896.5
Myall Plains	Middleback Range	1 850.5

**Table 1.2. Source of data used for desktop assessment of biological values of Shirrocoe Pastoral Lease.**

Survey name	# records	
	Fauna	Flora
Source : BDBSA (Opportune)		
Australasian Wader Study Group (1982, 2000)	15	
Biological Survey of Eyre Peninsula (DEH 2002-2005)	300	29
Biological Survey of Gawler (2000)	2	
Biological Survey of North Eastern Eyre Peninsula (<2001)		3
Bird Atlas (1996-2006)	895	
Eyre Peninsula Malleefowl Questionnaire (<2000)	41	
SA Museum (<2004)	692	
SAOA Parks Database (<1991)	82	
NA	117	2 052
Source : BDBSA (Photo Point)		
NA		13
Source : BDBSA (Reserves)		
NA		2 276
Source : BDBSA (Survey)		
Coastal Dune and Clifftop Survey (1996)		331
Biological Survey of Eyre Peninsula (DEH 2002-2005)	961	266
Biological Survey of Gawler (2000)		25
Biological Survey of North Eastern Eyre Peninsula (<2001)		2 946
<b>Total</b>	<b>3 105</b>	<b>7 941</b>

## Climate

Shirrococoe is situated at the edge of the transition zone between the mallee and the more arid Western Myall open woodlands over chenopod shrublands, which are neatly divided by the Middleback Ranges. The climate is characterised by hot dry summers with mild dry winters. Mean annual rainfall for the Ironstone Hill Environmental Association is reported as 275 mm with a mean annual evaporation of 2200 mm (Laut *et. al.* 1977). Rainfall statistics from the nearest weather station (Moola ~15 km east: mean rainfall 273 mm, lowest year 130 mm, wettest year 500 mm) indicate that June to September are the wettest months on average but that rainfall is highly variable. Mean monthly temperatures range from 31°C in Jan to 15.5°C in July and minima range from 16.1°C in February to 4.9°C in July.

## Soils

The following summary of soils for the region has been taken from Laut *et. al.* 1977.

- Alkaline, well drained and moderately deep Grey-brown calcareous earths on plains and undulating plains (Ironstone Hill, Pinkawillinie)
- Alkaline, well drained, shallow reddish calcareous earths with calcrete stones on plains (Midgee).
- Alkaline moderately deep, imperfectly drained, sandy and apedal mottled-yellow duplex soils on plains (Pinkawillinie).
- Neutral, well drained, deep brownish sands on dunes (Ironstone Hill, Pinkawillinie, Midgee) or whitish sands on dunes (Yalarna).
- Alkaline, well drained, shallow grey-brown calcareous earths with outcropping rock on Laterite Rises (Pinkawillinie)
- Neutral, well drained shallow dense brown loams with conglomerate rock outcrop on Hills (Ironstone Hill) and with metasediment outcrop and gravel on ridges (Middleback Range).
- Alkaline, well drained, shallow brown calcareous earths with calcrete outcrop on plains (Yalarna) and with quartzite outcrop on Hills (Yalarna)
- Alkaline, poorly drained, deep crusty red duplex soils on floodplains (Ironstone Hill).

## Vegetation Communities

A total of 40 vegetation communities have been mapped in Shirrococoe Pastoral Lease (DEH Spatial Databases). These include a variety of woodland, mallee, shrubland and grassland communities (Table 1.3). None are considered threatened within South Australia (DEH 2001).

**Table 1.3. Vegetation mapping groups present within the Shirrococoe Pastoral Lease.**

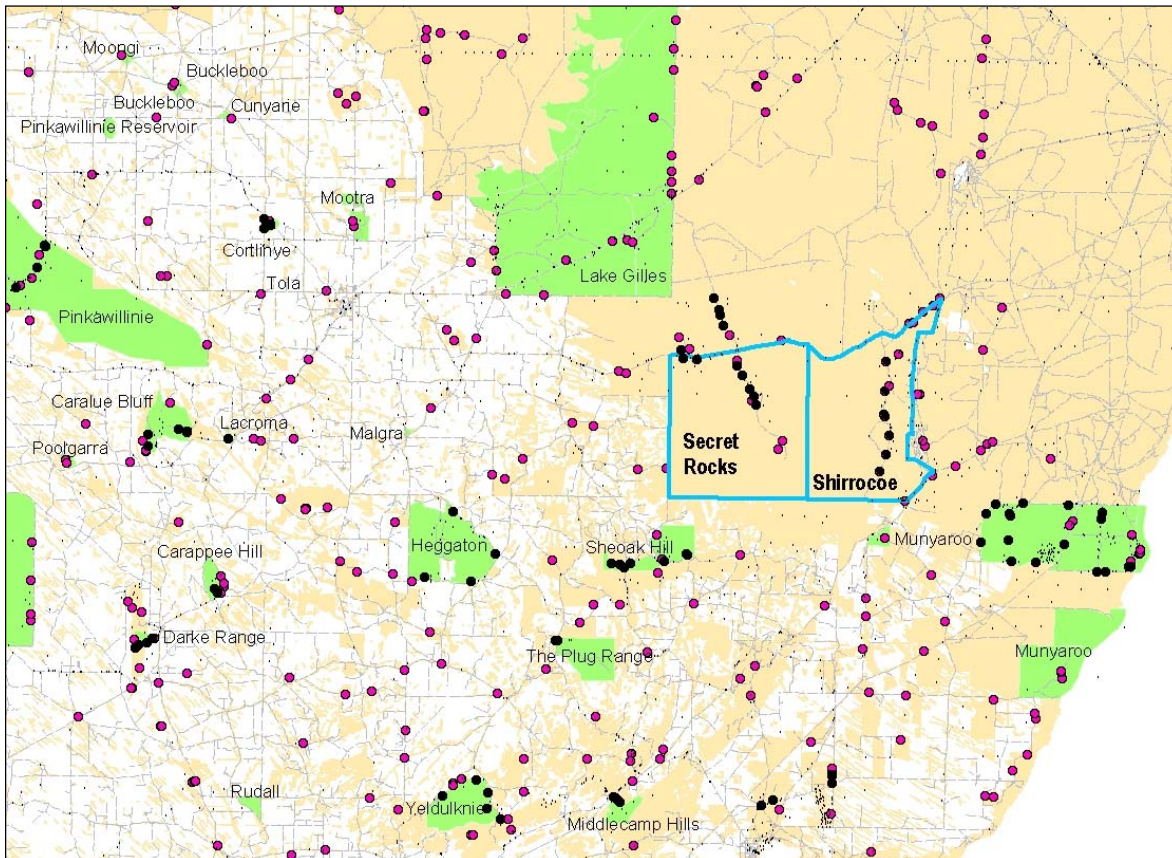
SA VEG ID 1 Code	Broad Vegetation Community Description	Dominant Species Description
EP0701	Acacia woodland	<i>Acacia papyrocarpa</i> low woodland over <i>Atriplex vesicaria</i> ssp. (mixed) low shrubs
EP0901	<i>Allocasuarina</i> forest and woodland	<i>Allocasuarina verticillata</i> low woodland over <i>Olearia axillaris</i> (mixed) tall shrubs and <i>Lasiopetalum discolor</i> low shrubs
MM0801	<i>Callitris</i> forest and woodland	<i>Callitris gracilis</i> low open woodland over <i>Austrostipa</i> sp. (mixed) tussock grasses
EP0401	<i>Callitris</i> forest and woodland	<i>Callitris gracilis</i> low woodland over <i>Alyxia buxifolia</i> tall shrubs and <i>Beyeria lechenaultii</i> low shrubs
EP1001	<i>Callitris</i> forest and woodland	<i>Callitris verrucosa</i> low woodland over <i>Leptospermum coriaceum</i> tall shrubs
EP0501	<i>Casuarina</i> woodland	<i>Casuarina pauper</i> low woodland over <i>Geijera linearifolia</i> , <i>Scaevola spinescens</i> tall shrubs and <i>Enchylaena tomentosa</i> var. <i>tomentosa</i> (mixed) low shrubs and <i>Carrichtera annua</i> low forbs
EP1201	<i>Myoporum</i> woodland	<i>Myoporum platycarpum</i> ssp. <i>platycarpum</i> low open woodland over <i>Scaevola spinescens</i> (mixed) mid shrubs and <i>Atriplex vesicaria</i> ssp. low shrubs
MN2505	<i>Eucalyptus</i> mallee forest and mallee woodland	<i>Eucalyptus gracilis</i> mid open mallee forest over <i>Geijera linearifolia</i> (mixed) shrubs and <i>Carrichtera annua</i> (mixed) shrubs
EP1602	<i>Eucalyptus</i> mallee forest and mallee woodland	<i>Eucalyptus brachycalyx</i> mid mallee woodland over <i>Eremophila scoparia</i> (mixed) tall shrubs and <i>Olearia muelleri</i> (mixed) low shrubs
EP1601	<i>Eucalyptus</i> mallee forest and mallee woodland	<i>Eucalyptus brachycalyx</i> mid mallee woodland over <i>Geijera linearifolia</i> tall shrubs and <i>Atriplex vesicaria</i> ssp. low shrubs
EP1603	<i>Eucalyptus</i> mallee forest and mallee woodland	<i>Eucalyptus brachycalyx</i> mid mallee woodland over <i>Melaleuca pauperiflora</i> ssp. <i>mutica</i> (mixed) tall shrubs and <i>Olearia muelleri</i> (mixed) low shrubs
EP2201	<i>Eucalyptus</i> mallee forest and mallee woodland	<i>Eucalyptus dumosa</i> (mixed) mid mallee woodland over <i>Melaleuca lanceolata</i> (mixed) tall shrubs and <i>Triodia irritans</i> low hummock grasses
EP2103	<i>Eucalyptus</i> mallee forest and mallee woodland	<i>Eucalyptus dumosa</i> mid mallee woodland over <i>Melaleuca lanceolata</i> (mixed) tall shrubs and <i>Triodia irritans</i> , <i>Westringia rigida</i> low hummock grasses
WM6501	<i>Eucalyptus</i> mallee forest and mallee woodland	<i>Eucalyptus gracilis</i> mid mallee woodland over <i>Maireana sedifolia</i> (mixed) shrubs

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Part 1: Regional Context

SA VEG ID 1 Code	Broad Vegetation Community Description	Dominant Species Description
EP2402	Eucalyptus mallee forest and mallee woodland	Eucalyptus incrassata (mixed) mid mallee woodland over Melaleuca uncinata (mixed) tall shrubs
MM1901	Eucalyptus mallee forest and mallee woodland	Eucalyptus incrassata mid mallee woodland over Leptospermum coriaceum (mixed) shrubs and Hibbertia australis (mixed) shrubs
EP2401	Eucalyptus mallee forest and mallee woodland	Eucalyptus incrassata mid mallee woodland over Melaleuca uncinata (mixed) mid shrubs and Calytrix involucreta low shrubs and Schoenus racemosus (mixed) low sedges
EP2404	Eucalyptus mallee forest and mallee woodland	Eucalyptus incrassata mid mallee woodland over Melaleuca uncinata tall shrubland and Thryptomene micrantha (mixed) low open shrubland and Triodia lanata low open hummock grassland
EP2202	Eucalyptus mallee forest and mallee woodland	Eucalyptus leptophylla (mixed) mid mallee woodland over Melaleuca lanceolata (mixed) tall shrubs and Triodia irritans low hummock grasses
EP2504	Eucalyptus mallee forest and mallee woodland	Eucalyptus oleosa ssp. mid mallee woodland over Melaleuca pauperiflora ssp. mutica (mixed) tall shrubs and Enchylaena tomentosa var. tomentosa (mixed) low shrubs and Sclerolaena diacantha low shrubs
MN0301	Eucalyptus mallee forest and mallee woodland	Eucalyptus porosa mid mallee woodland over Pittosporum angustifolium, Melaleuca lanceolata shrubs
MM0901	Eucalyptus mallee forest and mallee woodland	Eucalyptus porosa mid open mallee woodland over Austrostipa sp. (mixed) tussock grasses
EP2702	Eucalyptus mallee forest and mallee woodland	Eucalyptus socialis (NC) mid mallee woodland over Melaleuca uncinata tall shrubs and Triodia scariosa (mixed) low hummock grasses
EP2701	Eucalyptus mallee forest and mallee woodland	Eucalyptus socialis ssp. (mixed) mid mallee woodland over Melaleuca lanceolata mid shrubs
MN3402	Acacia shrubland > 1m	Acacia cupularis (mixed) tall sparse shrubland over Rhagodia parabolica (mixed) shrubs
EP3901	shrubland >1m	Dodonaea viscosa ssp. mid open shrubland over Zygophyllum ovatum low forbs
MN6201	shrubland >1m	Geijera linearifolia (mixed) mid open shrubland over Nitraria billardierei shrubs and Maireana sp. (mixed) shrubs
MM2801	chenopod shrubland	Maireana pyramidata mid sparse shrubland over Austrostipa sp. (mixed) tussock grasses
MM2802	chenopod shrubland	Maireana sedifolia mid sparse shrubland over Enchylaena tomentosa var. tomentosa (mixed) shrubs
SE0022	Melaleuca shrubland >1m	Melaleuca halmaturorum tall shrubland over Gahnia filum sedges and Comesperma volubile (mixed) forbs
EP3401	Melaleuca shrubland >1m	Melaleuca lanceolata tall open shrubland over Rhagodia candolleana ssp. candolleana (mixed) low shrubs
MN6001	Melaleuca shrubland >1m	Melaleuca pauperiflora ssp. mutica (mixed) tall shrubland over Enchylaena tomentosa var. tomentosa shrubs
EP3501	Melaleuca shrubland >1m	Melaleuca uncinata tall open shrubland over Babingtonia behrii (mixed) low shrubs and Triodia irritans low shrubs
MN3103	shrubland >1m	Nitraria billardierei (mixed) mid open shrubland over Threlkeldia diffusa (mixed) shrubs
MN2801	shrubland >1m	Senna artemisioides ssp. X coriacea (mixed) mid open shrubland over Sclerolaena diacantha, Zygophyllum aurantiacum ssp. shrubs
YE0003	chenopod shrubland	Atriplex vesicaria ssp. (mixed) low shrubland over Sclerolaena diacantha (mixed) low shrubs
MM3301	samphire shrubland	Halosarcia sp. low sparse shrubland over Disphyma crassifolium ssp. clavellatum forbs
MN4701	chenopod shrubland	Maireana brevifolia low open shrubland
EP4801	tussock grassland	Austrostipa sp. mid open tussock grassland over Avena barbata, Austrodracopis caespitosa low forbs
WM8801	hummock grassland	Triodia irritans low hummock grassland

## Biodiversity Assets

The focus of the remainder of this report has been expanded to include other reserves within the broader region to facilitate management planning. Biodiversity asset lists and summaries will present data across the region but will be broken down to individual reserves as shown in Figure 1.1. The exception to this is Part 3 of this report: Assessment of Disturbance and Threats, which focuses only on the Shirrocoe Pastoral Lease area.



**Figure 1.1. Conservation Reserves in the area surrounding Shirrocoe**

### Vegetation Communities

The reserves shown in Figure 1.1 contain 68 vegetation groups (DEH Biological Databases). Three reserves; Corrobinnie Hill, Tola and Darke Range, did not contribute to this analysis, however most mapping groups within these parks are likely to be covered. The mapping groups and the total area that these groups dominate within the reserves are summarized in Table 1.4. How these are distributed amongst the reserves are summarized in Table 1.5. It is important to note that areas calculated using GIS methods are only a rough estimate of true occurrence, in the same way that community descriptions are a generalized concept. Most vegetation communities will be represented as less dominant features in other polygons and rarely represent 100% of any polygon.

Mapping updates during the current project have substantially reduced the proportion of *Eucalyptus porosa* dominated map groups in the Shirrocoe and Secret Rocks area.

**Table 1.4. Descriptions for vegetation communities currently mapped across the north-eastern Eyre Peninsula reserves. The areas mapped in reserves indicates the area of polygons where the SA VEG ID 1 code was considered dominant.**

SA Veg ID 1 Code	Broad Vegetation Community Description	Dominant Species Description	Area Mapped (ha) in Reserves
EP0601	Eucalyptus forest and woodland	Eucalyptus petiolaris (mixed) low open forest	97.82

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SA Veg ID 1 Code	Broad Vegetation Community Description	Dominant Species Description	Area Mapped (ha) in Reserves
EP0101	Melaleuca forest and woodland	Melaleuca armillaris ssp. akineta low open forest over Melaleuca uncinata (mixed) mid shrubs and Calytrix involucreta low shrubs	106.22
EP0502	Acacia woodland	Acacia papyrocarpa (mixed) low woodland over Enchylaena tomentosa var. tomentosa (mixed) low shrubs	1232.55
EP0701	Acacia woodland	Acacia papyrocarpa low woodland over Atriplex vesicaria ssp. (mixed) low shrubs	24311.98
EP0801	Alectryon woodland and shrubland	Alectryon oleifolius ssp. canescens low woodland over Geijera linearifolia mid shrubs and Enchylaena tomentosa var. tomentosa (mixed) low shrubs and Carrichtera annua low forbs	7700.41
EP0901	Allocasuarina forest and woodland	Allocasuarina verticillata low woodland over Olearia axillaris (mixed) tall shrubs and Lasiopetalum discolor low shrubs	727.68
MM0801	Callitris forest and woodland	Callitris gracilis low open woodland over Austrostipa sp. (mixed) tussock grasses	1303.95
EP0401	Callitris forest and woodland	Callitris gracilis low woodland over Alyxia buxifolia tall shrubs and Beyeria lechenaultii low shrubs	1167.54
EP1001	Callitris forest and woodland	Callitris verrucosa low woodland over Leptospermum coriaceum tall shrubs	2566.70
EP0501	Casuarina woodland	Casuarina pauper low woodland over Geijera linearifolia, Scaevola spinescens tall shrubs and Enchylaena tomentosa var. tomentosa (mixed) low shrubs and Carrichtera annua low forbs	546.16
EP0503	Casuarina woodland	Casuarina pauper, Callitris gracilis low open woodland over Olearia decurrens (mixed) tall shrubs and Enchylaena tomentosa var. tomentosa low shrubs and Carrichtera annua low forbs	1397.31
EP1201	Myoporum woodland	Myoporum platycarpum ssp. platycarpum low open woodland over Scaevola spinescens (mixed) mid shrubs and Atriplex vesicaria ssp. low shrubs	838.41
MN2505	Eucalyptus mallee forest and mallee woodland	Eucalyptus gracilis mid open mallee forest over Geijera linearifolia (mixed) shrubs and Carrichtera annua (mixed) shrubs	27468.75
EP1602	Eucalyptus mallee forest and mallee woodland	Eucalyptus brachycalyx mid mallee woodland over Eremophila scoparia (mixed) tall shrubs and Olearia muelleri (mixed) low shrubs	54715.44
EP1601	Eucalyptus mallee forest and mallee woodland	Eucalyptus brachycalyx mid mallee woodland over Geijera linearifolia tall shrubs and Atriplex vesicaria ssp. low shrubs	86.81
EP1603	Eucalyptus mallee forest and mallee woodland	Eucalyptus brachycalyx mid mallee woodland over Melaleuca pauperiflora ssp. mutica (mixed) tall shrubs and Olearia muelleri (mixed) low shrubs	8481.95
EP1301	Eucalyptus mallee forest and mallee woodland	Eucalyptus calycogona ssp. (mixed) mid mallee woodland over Melaleuca uncinata tall shrubs and Triodia scariosa mid hummock grasses	3655.17
EP1302	Eucalyptus mallee forest and mallee woodland	Eucalyptus calycogona ssp. (mixed) mid mallee woodland over Melaleuca uncinata (mixed) mid shrubs and Dodonaea bursariifolia (mixed) low shrubs and Eutaxia microphylla low shrubs	889.32
EP1801	Eucalyptus mallee forest and mallee woodland	Eucalyptus cretata mid mallee woodland over Melaleuca uncinata tall shrubs and Eutaxia microphylla (mixed) low shrubs	2.25
EP2201	Eucalyptus mallee forest and mallee woodland	Eucalyptus dumosa (mixed) mid mallee woodland over Melaleuca lanceolata (mixed) tall shrubs and Triodia irritans low hummock grasses	3634.76
EP2103	Eucalyptus mallee forest and mallee woodland	Eucalyptus dumosa mid mallee woodland over Melaleuca lanceolata (mixed) tall shrubs and Triodia irritans, Westringia rigida low hummock grasses	713.80
EP2101	Eucalyptus mallee forest and mallee woodland	Eucalyptus dumosa mid mallee woodland over Melaleuca lanceolata tall shrubs and Westringia rigida (mixed) low shrubs	291.32
MN2501	Eucalyptus mallee forest and mallee woodland	Eucalyptus gracilis (mixed) mid mallee woodland over Enchylaena tomentosa var. tomentosa (mixed) shrubs	292.01
EP2503	Eucalyptus mallee forest and mallee woodland	Eucalyptus gracilis, E. oleosa, &/or E. dumosa Open Mallee over Maireana sedifolia or Cratystylis conocephala low shrubs	6807.15
EP2501	Eucalyptus mallee forest and mallee woodland	Eucalyptus gracilis mid mallee woodland over Melaleuca lanceolata (mixed) tall shrubs	322.04
EP2402	Eucalyptus mallee forest and mallee woodland	Eucalyptus incrassata (mixed) mid mallee woodland over Melaleuca uncinata (mixed) tall shrubs	2621.31
MM1901	Eucalyptus mallee forest and mallee woodland	Eucalyptus incrassata mid mallee woodland over Leptospermum coriaceum (mixed) shrubs and Hibbertia australis (mixed) shrubs	18337.18

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EP2401	Eucalyptus mallee forest and mallee woodland	Eucalyptus incrassata mid mallee woodland over Melaleuca uncinata (mixed) mid shrubs and Calytrix involucreta low shrubs and Schoenus racemosus (mixed) low sedges	10678.83
EP2404	Eucalyptus mallee forest and mallee woodland	Eucalyptus incrassata mid mallee woodland over Melaleuca uncinata tall shrubland and Thryptomene micrantha (mixed) low open shrubland and Triodia lanata low open hummock grassland	22067.81
EP2202	Eucalyptus mallee forest and mallee woodland	Eucalyptus leptophylla (mixed) mid mallee woodland over Melaleuca lanceolata (mixed) tall shrubs and Triodia irritans low hummock grasses	3093.19
EP1401	Eucalyptus mallee forest and mallee woodland	Eucalyptus odorata (mixed) mid mallee woodland over Melaleuca uncinata mid shrubs and Avena barbata (mixed) mid tussock grasses and Gonocarpus mezianus low forbs	297.49
EP2504	Eucalyptus mallee forest and mallee woodland	Eucalyptus oleosa ssp. mid mallee woodland over Melaleuca pauperiflora ssp. mutica (mixed) tall shrubs and Enchylaena tomentosa var. tomentosa (mixed) low shrubs and Sclerolaena diacantha low shrubs	9258.77
EP1501	Eucalyptus mallee forest and mallee woodland	Eucalyptus phenax ssp. mid mallee woodland over Melaleuca uncinata mid shrubs and Dodonaea bursariifolia low shrubs and Eutaxia microphylla low shrubs	44.78
MN0304	Eucalyptus mallee forest and mallee woodland	Eucalyptus porosa (mixed) mid mallee woodland over Bursaria spinosa ssp. spinosa shrubs and Dianella revoluta var. (mixed) tussock grasses	189.75
EP2603	Eucalyptus mallee forest and mallee woodland	Eucalyptus porosa mid mallee woodland over Melaleuca lanceolata tall shrubs and Avena barbata (mixed) mid tussock grasses and Austrodanthonia caespitosa low tussock grasses	51.73
MN0301	Eucalyptus mallee forest and mallee woodland	Eucalyptus porosa mid mallee woodland over Pittosporum angustifolium, Melaleuca lanceolata shrubs	786.16
MM0901	Eucalyptus mallee forest and mallee woodland	Eucalyptus porosa mid open mallee woodland over Austrostipa sp. (mixed) tussock grasses	2667.39
EP2702	Eucalyptus mallee forest and mallee woodland	Eucalyptus socialis (NC) mid mallee woodland over Melaleuca uncinata tall shrubs and Triodia scariosa (mixed) low hummock grasses	2451.66
EP2701	Eucalyptus mallee forest and mallee woodland	Eucalyptus socialis ssp. (mixed) mid mallee woodland over Melaleuca lanceolata mid shrubs	5560.86
EP3802	Acacia shrubland >1m	Acacia calamifolia (NC) mid sparse shrubland over Phebalium bullatum low shrubs	16.27
MN3402	Acacia shrubland > 1m	Acacia cupularis (mixed) tall sparse shrubland over Rhagodia parabolica (mixed) shrubs	116.00
EP4001	Acacia shrubland >1m	Acacia sp. Winged (C.R.Alcock 4936) (mixed) mid open shrubland over Triodia compacta (mixed) low shrubs	72.28
OS0001	chenopod shrubland >1m	Atriplex cinerea (mixed) mid open shrubland over Rhagodia candolleana ssp. candolleana (mixed) low shrubs and Lepidium foliosum (mixed) low forbs	96.81
KI2401	shrubland >1m	Callistemon rugulosus (mixed) tall closed shrubland	35.48
EP3902	shrubland >1m	Dodonaea lobulata (mixed) mid open shrubland over Carrichtera annua (mixed) low forbs	161.43
EP3901	shrubland >1m	Dodonaea viscosa ssp. mid open shrubland over Zygophyllum ovatum low forbs	470.15
MN6201	shrubland >1m	Geijera linearifolia (mixed) mid open shrubland over Nitraria billardierei shrubs and Maireana sp. (mixed) shrubs	452.34
MM2801	chenopod shrubland	Maireana pyramidata mid sparse shrubland over Austrostipa sp. (mixed) tussock grasses	167.89
MM2802	chenopod shrubland	Maireana sedifolia mid sparse shrubland over Enchylaena tomentosa var. tomentosa (mixed) shrubs	1470.48
EP3601	Melaleuca shrubland >1m	Melaleuca brevifolia tall shrubland over Gahnia trifida tall sedges and Baumea juncea low sedges	39.98
SE0022	Melaleuca shrubland >1m	Melaleuca halmaturorum tall shrubland over Gahnia filum sedges and Comesperma volubile (mixed) forbs	71.00
EP3401	Melaleuca shrubland >1m	Melaleuca lanceolata tall open shrubland over Rhagodia candolleana ssp. candolleana (mixed) low shrubs	1042.19
MN6001	Melaleuca shrubland >1m	Melaleuca pauperiflora ssp. mutica (mixed) tall shrubland over Enchylaena tomentosa var. tomentosa shrubs	2977.06
EP3501	Melaleuca shrubland >1m	Melaleuca uncinata tall open shrubland over Babingtonia behrii (mixed) low shrubs and Triodia irritans low shrubs	8523.13
MN3103	shrubland >1m	Nitraria billardierei (mixed) mid open shrubland over Threlkeldia diffusa (mixed) shrubs	757.45
OS0017	coastal shrubland	Olearia axillaris (mixed) tall open shrubland over Threlkeldia diffusa (mixed) low shrubs and Muehlenbeckia adpressa (mixed) low vines	1478.48
MN2801	shrubland >1m	Senna artemisioides ssp. X coriacea (mixed) mid open shrubland over Sclerolaena diacantha, Zygophyllum aurantiacum ssp. shrubs	1845.54

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EP3906	shrubland <1m	Alyxia buxifolia (mixed) low shrubland over Acrotriche patula (mixed) low shrubs	14.62
WM8001	chenopod shrubland	Atriplex stipitata (mixed) low open shrubland	5.63
YE0003	chenopod shrubland	Atriplex vesicaria ssp. (mixed) low shrubland over Sclerolaena diacantha (mixed) low shrubs	10398.00
EP4305	samphire shrubland	Halosarcia pergranulata ssp. pergranulata (mixed) low open shrubland	195.85
MM3301	samphire shrubland	Halosarcia sp. low sparse shrubland over Disphyma crassifolium ssp. clavellatum forbs	5806.19
MN4701	chenopod shrubland	Maireana brevifolia low open shrubland	61.12
KI1802	samphire shrubland	Sclerostegia arbuscula low shrubland over Suaeda australis (mixed) shrubs	43.02
EP5002	fernland/herbland	Gahnia lanigera (mixed) low sparse sedgeland	3.40
EP4801	tussock grassland	Austrostipa sp. mid open tussock grassland over Avena barbata, Austroanthonia caespitosa low forbs	379.54
MN4901	tussock grassland	Gramineae sp. (mixed) mid tussock grassland	1.27
WM8801	hummock grassland	Triodia irritans low hummock grassland	1235.38

**Table 1.5. SA vegetation mapping group code and the approx. area (km<sup>2</sup>) within the NPWSA Reserves of north-eastern Eyre Peninsula.**

SA VEG ID 1	Carapsee Hill (CP)	Cordlinsye (CR)	Cunyarie (CR)	Heggaton (CR)	Lacroma (CR)	Lake Gilles (CP)	Lake Gilles (CR)	Malgra (CR)	Middlecamp Hills (CP)	Mootra (CR)	Munyaroo (CP)	Munyaroo (CR)	Rudall (CP)	SECRET ROCKS	Sheoak Hill (CP)	Sheoak Hill (CR)	SHIRROCOE	The Plug Range (CR)	Tola (CR)	Whyalla (CP)	Yeldulknie (CP)	Total		
EP0101	0.7													0.3									1	
EP0401	0.1					1.2	0.1		0.2		0.3	0.9		5.2			3.3				0.3		11.6	
EP0501						3.7	1.6										0.1						5.4	
EP0502						2.7	9.7																12.4	
EP0503		0.3	0.3			6.4	6.4							0.3					0.3				14	
EP0601																						1.0	1	
EP0701						68.0	49.3				10.0						2.1			113.8			243.2	
EP0801						6.3	69.9				0.5	0.3											77	
EP0901	0.5								4.1					2.2							0.4		7.2	
EP1001						7.0	0.5				2.6	0.2	0.1	9.6	2.2	2.2	1.0	0.3					25.7	
EP1201						1.7	0.9				3.0	1.4		1.2			0.2						8.4	
EP1301	0.4		0.5	30.0	0.8	0.8				3.1					0.2	0.6							36.4	
EP1302				0.1							2.6				6.1								8.8	
EP1401	0.8								0.8					0.2							1.2		3	
EP1501													0.1			0.3							0.4	
EP1601											0.1	0.3					0.5						0.9	
EP1602						154.5	49.1				82.8	77.2		30.2	2.0	150.7	0.7						547.2	
EP1603		1.5				3.9	0.9			3.1				48.2			27.3						84.9	
EP1801																							0	
EP2101						2.2	0.7																2.9	
EP2103	0.1			0.5										6.2			0.3						7.1	
EP2201	0.3	0.1		0.2	0.1	0.7	0.1	0.3	0.4	0.4	0.3	2.2	0.8	5.7	2.2	20.0	2.7						36.5	
EP2202												0.2		7.1		18.5	3.4				1.7		30.9	
EP2401				0.7		2.3					14.0	22.1		53.0	2.7	6.6	5.2	0.3					106.9	
EP2402						8.5	1.3				0.5	5.2		5.1	1.5		4.1						26.2	
EP2404	1.1					29.4	1.9			0.3	19.5	39.8		58.7	5.4	7.1	53.3	4.1					220.6	
EP2501						3.2																	3.2	
EP2503						24.8	4.7				2.2	14.9					21.5						68.1	
EP2504				12.6		37.6	24.3				0.1		0.3	17.0			0.4		0.2				92.5	
EP2603														0.5									0.5	
EP2701						3.0	0.7				12.0	12.0		1.4			9.7	7.7			9.2		55.7	
EP2702						2.5				0.1	0.3	9.4		2.2			10.1						24.6	
EP3401						4.0	0.3				0.4	3.2		0.7			1.7						10.3	
EP3501	3.6	0.2		3.9		2.2	0.3		7.3	0.8	2.1	1.5		20.1	1.5	3.0	6.6	2.5			29.6		85.2	
EP3601														0.2				0.2						0.4

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SA VEG ID 1	Carapsee Hill (CP)	Cortinye (CR)	Cunyarie (CR)	Heggaton (CR)	Lacroma (CR)	Lake Gilles (CP)	Lake Gilles (CR)	Malgra (CR)	Middlecamp Hills (CP)	Mootra (CR)	Munyaroo (CP)	Munyaroo (CR)	Rudall (CP)	SECRET ROCKS	Sheoak Hill (CP)	Sheoak Hill (CR)	SHIRROCOE	The Plug Range (CR)	Tola (CR)	Whyalla (CP)	Yeldulknie (CP)	Total	
EP3802						0.1			0.1														0.2
EP3901						1.6					0.1	0.2		1.5			1.3						4.7
EP3902						1.5	0.1																1.6
EP3906						0.1																	0.1
EP4001											0.4	0.4											0.8
EP4305						1.0	1.0																2
EP4801						0.1	0.2		0.6	0.1	0.2			0.1			0.1				2.5	3.9	
EP5002																							0
KI1802						0.1	0.3																0.4
KI2401											0.2										0.1		0.3
MM0801						6.8	2.0		1.9			0.4		1.5			0.5						13.1
MM0901						5.5	0.2		0.9		0.7			12.9			2.9	2.4			1.1		26.6
MM1901				18.3	0.5	2.5		0.5			54.3	15.9	2.5	26.4	6.6	5.2	50.7						183.4
MM2801							1.6																1.6
MM2802						2.3	3.7				0.4						0.6			7.7			14.7
MM3301						16.4	30.9				1.1	8.1					1.1	0.5					58.1
MN0301				0.3		1.1			0.4		0.3			3.3			0.5	0.7			1.3		7.9
MN0304						0.4								0.2							1.3		1.9
MN2501						1.5	1.5																3
MN2505			0.2			80.9	61.8				14.5	32.7		41.8		1.8	39.3	1.7					274.7
MN2801		0.2	0.1			10.5	1.2			0.2	0.9	0.5		2.3			2.6						18.5
MN3103						1.9	1.5				0.9	1.3		0.9			0.8	0.3					7.6
MN3402	0.8												0.2	0.1			0.1						1.2
MN4701											0.3	0.3					0.1						0.7
MN4901																							0
MN6001				0.1		2.5	15.6			1.4	0.1	1.4		7.3			1.4						29.8
MN6201		0.3				2.0	0.6				0.4	0.1		0.9			0.2						4.5
OS0001												1.0											1
OS0017						1.0	6.2				1.9	5.8											14.9
SE0022												0.4					0.3						0.7
WM8001						0.1																	0.1
WM8801						2.4					0.3			6.7			2.9						12.3
YE0003						22.3	39.5				11.6	0.7					2.3			27.5			103.9
<b>No. of Types</b>	<b>13</b>	<b>7</b>	<b>5</b>	<b>11</b>	<b>3</b>	<b>50</b>	<b>36</b>	<b>3</b>	<b>10</b>	<b>10</b>	<b>36</b>	<b>31</b>	<b>6</b>	<b>37</b>	<b>9</b>	<b>10</b>	<b>40</b>	<b>17</b>	<b>3</b>	<b>3</b>	<b>12</b>	<b>68</b>	
<b>Area</b>	<b>8.4</b>	<b>2.5</b>	<b>1.2</b>	<b>67</b>	<b>1.4</b>	<b>541</b>	<b>391</b>	<b>0.8</b>	<b>17</b>	<b>10</b>	<b>242</b>	<b>260</b>	<b>4</b>	<b>381</b>	<b>28</b>	<b>29</b>	<b>444</b>	<b>27</b>	<b>1</b>	<b>149</b>	<b>50</b>	<b>2654</b>	

**Flora Summaries** (refer to Appendix 1 for species details)

Existing information from the BDBSA shows a total of 10,722 records representing 774 native plant taxa and 106 introduced plant taxa for reserves in the north-east Eyre Peninsula region (Figure 1.1). The proportion of native to introduced species within each reserve (Table 1.6) is more indicative of specific habitats that have been sampled than a comprehensive assessment of the weed problem within a particular reserve. For example the Plug Range CR has cropping land in its centre, with all the associated introduced species, but the two habitats that were sampled had relatively few introduced plants. A fair proportion of plant species data comes from sources other than biological survey sites. These include opportunistic collections and historical published surveys (e.g. Carapsee Hill). A lot of these historical datasets have only been assigned a coordinate based on the centroid of the reserve they were from therefore limiting their use for more detailed analyses. Each reserve needs to be assessed for vegetation survey effort within identifiable habitat types before conclusions about the vegetation assets can be fully assessed. The full species list can be accessed in Appendix 1.

**Table 1.6. Number of plant species recorded within each reserve, the number of records, percentage of those records collected at survey sites, and the number of survey sites in each reserve.**

	Number of native plant species	Number of introduced species	Number of records all sources	Percentage of records from survey sites	Number of survey sites
BUCKLEBOO (CR)	120	8	194	38	2
CARALUE BLUFF (CR)	279	11	849	27	8



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Native plant species	Number of native plant species	Number of introduced species	Number of records all sources	Percentage of records from survey sites	Number of survey sites
CARAPPEE HILL (CP)	363	58	1557	21	6
CORROBINNIE HILL (CP)	142	11	231	48	3
CORTLINYE (CR)	89	5	151	88	5
CUNYARIE (CR)	35	6	43	100	1
DARKE RANGE (CP)	271	44	697	28	5
HEGGATON (CR)	247	1	507	27	6
LACROMA (CR)	19	0	19	100	1
LAKE GILLES (CP)	310	13	977	40	13
LAKE GILLES (CR)	19	0	22	0	0
MALGRA (CR)	118	24	142	0	0
MIDDLECAMP HILLS (CP)	181	7	268	28	3
MOOTRA (CR)	52	4	70	100	2
MUNYAROO (CP)	350	36	1009	54	20
MUNYAROO : COAST BESIDE MUNYAROO C.P. (CR)	10	1	11	100	1
MUNYAROO : LINCOLN HIGHWAY AREA (CR)	19	0	19	100	1
MUNYAROO : PLANK POINT (CR)	57	4	86	97	3
PINKAWILLINIE (CP)	362	53	1967	44	27
POOLGARRA (CR)	62	9	90	89	2
SHEOAK HILL (CP)	62	1	91	65	4
SHEOAK HILL (CR)	182	4	331	24	3
THE PLUG RANGE (CR)	208	4	400	5	2
TOLA (CR)	83	18	137	33	1
YELDULKNIE (CP)	169	25	485	46	8
<b>Summary for all reserves</b>	<b>774</b>	<b>108</b>	<b>10722</b>	<b>37</b>	<b>127</b>

### Threatened Flora

Species have been rated as threatened under the Commonwealth of Australia's Endangered Species Protection and Biodiversity Conservation Act (AUS) and the South Australian National Parks and Wildlife Act (SA). The BDBSA holds records for seven AUS rated species (four Endangered and three Vulnerable). At present these are known from five reserves with three species being found at Carappee Hill CP. There have been 53 SA rated species recorded in the reserves of north-eastern Eyre Peninsula (six Endangered, eight Vulnerable, 39 Rare). The species and the number of records within each conservation reserve are listed in Table 1.7.

**Table 1.7. Plant species with Australian and South Australian conservation ratings. AUS: EN=Endangered, VU=Vulnerable, SA: E=Endangered, V=Vulnerable, R=Rare.**

Plant taxa with conservation status	BUCKLEBOO (CR)	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	CORROBINNIE HILL (CP)	DARKE RANGE (CP)	HEGGATON (CR)	LAKE GILLES (CP)	MALGRA (CR)	MIDDLECAMP HILLS (CP)	MUNYAROO (CP)	PINKAWILLINIE (CP)	SHEOAK HILL (CP)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	YELDULKNIE (CP)	No. of Res. with rated plants
Acacia enterocarpa (Jumping-jack Wattle) EN E									1							1
Acacia praemorsa (Senna Wattle) E															5	1
Caladenia conferta (Coast Spider-orchid) EN E			1													1
Haloragis eyreana (Prickly Raspwort) EN E									1							1
Leptomeria preissiana () E											1					1
Thysanotus nudicaulis () E						1										1
Austrostipa pilata (Prickly Spear-grass) V										1						1
Caladenia brumalis (Winter Spider-orchid) VU V			4													1
Limosella granitica (Granite Mudwort) VU V			2													1
Phyllangium sulcatum () V			1													1
Podolepis muelleri (Button Podolepis) V						1										1

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	BUCKLEBOO (CR)	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	CORROBINNIE HILL (CP)	DARKE RANGE (CP)	HEGGATON (CR)	LAKE GILLES (CP)	MALGRA (CR)	MIDDLECAMP HILLS (CP)	MUNYAROO (CP)	PINKAWILLINIE (CP)	SHEOAK HILL (CP)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	YELDULKNIE (CP)	No. of Res. with rated plants
<b>Plant taxa with conservation status</b>																
<i>Rulingia craurophylla</i> () V	1					1										2
<i>Santalum spicatum</i> (Sandalwood) V						2			1							2
<i>Stypandra glauca</i> (Nodding Grass-lily) V		14	1	1						2						4
<i>Acacia hexaneura</i> (Six-nerve Spine-bush) R					4						2	3	3			4
<i>Acacia iteaphylla</i> (Flinders Ranges Wattle) R					1				2	1						3
<i>Acacia lineata</i> (Streaked Wattle) R																0
<i>Acacia montana</i> (Mallee Wattle) R	3				1	3			1							4
<i>Acacia rhigiophylla</i> (Dagger-leaf Wattle) R									1		2		2			3
<i>Anogramma leptophylla</i> (Annual Fern) R	1				2											2
<i>Austrostipa tenuifolia</i> () R						1										1
<i>Calandrinia sphaerophylla</i> (Bead Purslane) R			1													1
<i>Centrolepis cephaliformis</i> ssp. <i>cephaliformis</i> (Cushion Centrolepis) R			1		1			1			2					4
<i>Centrolepis cephaliformis</i> ssp. <i>murrayi</i> (Cushion Centrolepis) R			1													1
<i>Ceratogyne obionoides</i> (Wingwort) R			1		1	1				3						4
<i>Crassula exserta</i> (Large-fruit Crassula) R	2	1				1				1						4
<i>Crassula peduncularis</i> (Purple Crassula) R		2														1
<i>Daviesia benthamii</i> ssp. <i>humilis</i> (Mallee Bitter-pea) R						2			1	1					3	4
<i>Daviesia pectinata</i> (Zig-zag Bitter-pea) R						3										3
<i>Elatine gratioloides</i> (Waterwort) R			1							1						2
<i>Eremophila gibbifolia</i> (Coccid Emubush) R						1									3	2
<i>Eucalyptus conglobata</i> ssp. <i>conglobata</i> (Port Lincoln Mallee) R													1			1
<i>Eucalyptus cretata</i> (Darke Peak Mallee) R	2	35			7											3
<i>Goodenia benthamiana</i> (Bentham's Goodenia) R						2							2			2
<i>Grevillea anethifolia</i> () R	2									2						2
<i>Haecckeria cassiniiformis</i> (Dogwood Haecckeria) R	2												1			2
<i>Lawrencia berthae</i> (Showy Lawrencia) R							1									1
<i>Levenhookia stipitata</i> () R			2													1
<i>Maireana rohrlachii</i> (Rohrlach's Bluebush) R					1											1
<i>Maireana suaedifolia</i> (Lax Bluebush) R						1										1
<i>Melaleuca armillaris</i> ssp. <i>akineta</i> (Needle-leaf Honey-myrtle) R	6	19	3	2	1					2						6
<i>Melaleuca oxyphylla</i> (Pointed-leaf Honey-myrtle) R			1		1					2	1	3				5
<i>Olearia adenolasia</i> (Musk Daisy-bush) R					2							1	2			3
<i>Philotheca angustifolia</i> ssp. <i>angustifolia</i> (Narrow-leaf Wax-flower) R									1						1	2
<i>Pimelea williamsonii</i> (Williamson's Riceflower) R						2										1
<i>Podolepis jaceoides</i> (Showy Copper-wire Daisy) R									1							1
<i>Prasophyllum constrictum</i> (Tawny Leek-orchid) R					2											1
<i>Scaevola myrtifolia</i> (Myrtle Fanflower) R											1	1				2
<i>Schoenus sculptus</i> (Gimlet Bog-rush) R			2		1											2
<i>Spyridium spatulatum</i> (Spoon-leaf Spyridium) R															2	1
<i>Swainsona pyrophila</i> (Yellow Swainson-pea) VU R						1				8						2
<i>Thysanotus wangariensis</i> (Eyre Peninsula Fringe-lily) R	1										1					2
<i>Wurmbea decumbens</i> (Trailing Nancy) R	2	6			2											3
<b>No. of EPBC rated species</b>			3	1		1			2	1						5
No. of Aus:EN			1	1					2							3
No. of Aus:VU			2			1				1						3
<b>No of SA rated species</b>	1	9	17	3	12	13	7	1	3	8	12	5	7	2	6	15
No. of SA: E			1			1			2		1				1	5
No. of SA: V		1	4	1	1	1	2			2	1					8
No. of SA: R	1	8	12	2	11	11	5	1	1	6	1	5	7	2	5	15

### Introduced Flora (Weeds)

The BDBSA holds 700 records for 106 introduced plant taxa from 23 reserves. More than half of these have been recorded at two or less reserves. The database records probably grossly underestimate introduced species except where

they are recorded systematically as within a biological survey, or where weeds have been target species for a survey – though not many of these latter types of surveys have been entered into the system. A list of introduced plant species by conservation reserve can be accessed in Appendix 2. A number of the weed species occurring in the region have been assessed as weeds of national significance (WONS) based on their invasiveness and potential to impact on biodiversity. These include: Salvation Jane (*Echium plantagineum*) (rank 32), Sea Spurge (*Euphorbia paralias*) (rank 49), and African Boxthorn (*Lycium ferocissimum*) (rank 24). A number of others are declared pest plants in South Australia (Natural Resources Management Act 1994). These include: Salvation Jane (controlled required), Boxthorn, Slender Thistle (*Carduus tenuiflorus*), Horehound (*Marrubium vulgare*), Onion Weed (*Asphodelus fistulosus*) and Aleppo Pine (*Pinus halepensis*), Three-cornered Jack (*Emex australis*) and Caltrop (*Tribulus terrestris*).

## Fauna Summaries

(refer to Appendices 3-6 for species details)

A total of 16 111 fauna records have been captured in BDBSA for the north-eastern Eyre Peninsula region (as defined in Figure 1.1). At least 66% of the species represented were recorded from the conservation reserves (Table 1.8). Seventy-seven biological survey sites have contributed to the data in the region, 48 of which are in DEH Reserves (Table 1.9). The survey site data provides physical, vascular plant and vertebrate fauna data in a comparative way. Bird Atlas data can be compared in a similar way to survey data as it is collected using a standard method and includes a site census of all birds observed. Opportune data is less comparable because they often only represent one or a handful of species that were detected at that time but may ignore others that were present and so do not provide a representative sample for community comparisons or even what may have been common at that time. However as a minimum it does provide evidence that a species existed at a location for a particular date. Knowing how many survey sites are in a reserve is useful for determining the adequacy of our knowledge of the biodiversity assets within that reserve. This is critical knowledge if we are serious about a no species loss strategy and monitoring the efficacy of reserve management over the long term.

**Table 1.8. Summary of vertebrate species for each taxonomic Class in NE Eyre Peninsula and conservation reserves shown in Figure 1.1.**

CLASS	# sp in region	# sp in selected reserves
Frogs	3	3
Birds (native)	189	133
Birds (exotic)	6	5
Mammals (native)	21	15
Mammals (exotic)	10	8
Reptiles	85	63

**Table 1.9. Existing survey effort in the reserves surrounding Shirrocoe. Reserves from Figure 1.1 not listed do not have any standard biological survey fauna sites within them.**

RESERVE NAME	# of sites with fauna records
CARALUE BLUFF (CR)	4
CARAPPEE HILL (CP)	2
CORTLINYE (CR)	3
DARKE RANGE (CP)	3
HEGGATON (CR)	4
LACROMA (CR)	1
MIDDLECAMP HILLS (CP)	3
MUNYAROO (CP)	14
PINKAWILLINIE (CP)	2
SHEOAK HILL (CP)	4
SHEOAK HILL (CR)	2
THE PLUG RANGE (CR)	2
YELDULKNIE (CP)	4

## Frogs

The two species of burrowing frog, *Neobatrachus* genus, are likely to be widespread and common within most reserves with deep, non-saline sandy soils. Their occurrence is under-represented due to their life cycle above ground being restricted to wet periods, however, they are likely to be amongst the most abundant vertebrates in the region. Current records indicate that both the Burrowing Frog (*Neobatrachus pictus*) and the Trilling Frog (*Neobatrachus centralis*) occur at the northern most reserve (Lake Gillies) (Table 1.10). Only *N. pictus* has been recorded at more southerly reserves. The Spotted Marsh Frog (*Limnodynastes tasmaniensis*) was only recorded at Lake Gilles CP but are likely to be found in any area that has near permanent wetlands. The record of a Common Froglet (*Crinia signifera*) from Frogwatch call data, if correct, is likely to be an introduction and unlikely to establish viable wild populations within the natural habitats of north-east Eyre Peninsula.

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**Table 1.10. Frog species records by conservation reserve.**

SPECIES	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	DARKE RANGE (CP)	HEGGATON (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST BESIDE MUNYAROO C.P.	MUNYAROO : LINCOLN HIGHWAY AREA (CR)	MUNYAROO : PLANK POINT (CR)	POOLGARRA (CR)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	YELDULKNIE (CP)	No. of records
<i>Limnodynastes tasmaniensis</i>					2											2
<i>Neobatrachus centralis</i>					1											1
<i>Neobatrachus pictus</i>		9		1	2										4	15
<b>No. of species</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>

**Birds**

From the summary at the bottom of Table 1.11 which summarises the number of species, records, and records per species, it can be observed that all parks are under sampled with respect to birds. Of the 189 species recorded for the region 70% have been recorded in a reserve and these have been recorded at the rate of 24 records per species. The highest recording rate for any individual reserve is 13 records per species at Lake Gilles CP. To gain an adequate census of the bird species utilizing a reserve, a recording rate of 10 records per species across the reserve and in each season is probably a good starting point. In several of the smaller reserves this would probably not require a great deal of effort and could easily be achieved with volunteer ornithologists, or through gathering existing records from personal records from reliable observers.

**Table 1.11. Bird species records by conservation reserve.**

SPECIES	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	DARKE RANGE (CP)	HEGGATON (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST BESIDE MUNYAROO C.P. (CR)	MUNYAROO : LINCOLN HIGHWAY AREA (CR)	MUNYAROO : PLANK POINT (CR)	POOLGARRA (CR)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	YELDULKNIE (CP)	Total records	No. of reserves
<i>Acanthagenys rufogularis</i>	9	14	5	6	38	1		23					4		8	108	9
<i>Acanthiza apicalis</i>	5	5	6	12	33	2		27					3	1	11	105	10
<i>Acanthiza chrysorrhoa</i>	1	1	3	1	13	1		8				1	1		1	31	10
<i>Acanthiza iredalei ssp. Iredalei</i>					5											5	1
<i>Acanthiza uropygialis</i>					2	2		16								20	3
<i>Accipiter cirrocephalus</i>		1	1		5	1		4							1	13	6
<i>Accipiter fasciatus</i>		2		1	3	2		1								9	5
<i>Aegotheles cristatus</i>					7	1		8								16	3
<i>Amytornis textilis ssp. myall</i>					5			2								7	2
<i>Anas gracilis</i>					2			1								3	2
<i>Anthochaera carunculata</i>		5	9	11	23	2		23		2			5		3	83	9
<i>Anthus novaeseelandiae</i>		1			9	3		2							1	16	5
<i>Aphelocephala leucopsis</i>					6			1								7	2
<i>Apus pacificus</i>					2											2	1
<i>Aquila audax</i>	1			2	8	3		5						1		20	6
<i>Ardea pacifica</i>									1							1	1
<i>Artamus cinereus</i>					4	1		3								8	3
<i>Artamus cyanopterus</i>		4	3		24	2		6				1				40	6
<i>Artamus personatus</i>			3		3	1		4								11	4

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SPECIES	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	DARKE RANGE (CP)	HEGGATON (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST BESIDE MUNYAROO C.P. (CR)	MUNYAROO : LINCOLN HIGHWAY AREA (CR)	MUNYAROO : PLANK POINT (CR)	POOLGARRA (CR)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	YELDULKNIE (CP)	Total records	No. of reserves
<i>Artamus superciliosus</i>		1			3			2								6	3
<i>Aythya australis</i>																0	0
<i>Barnardius zonarius</i>	1		1	9	42	3		17					2	1	2	78	9
<i>Cacatua sanguinea</i>					1											1	1
<i>Cacomantis flabelliformis</i>		2			10	2		1							1	16	5
<i>Cacomantis pallidus</i>					6	2		1								9	3
<i>Calamanthus campestris</i>	1															1	1
<i>Calidris ruficollis</i>								1								1	1
<i>Certhionyx variegatus</i>					1											1	1
<i>Chalcites basalis</i>	1	1	1	2	13	2		6							2	28	8
<i>Chalcites osculans</i>					1	1		1								3	3
<i>Charadrius ruficapillus</i>								2								2	1
<i>Chroicocephalus novaehollandiae</i>								3								3	1
<i>Cincloramphus cruralis</i>					1											1	1
<i>Cincloramphus mathewsi</i>		3														3	1
<i>Cinlosoma castanotum</i>		1			10	1		2					1			15	5
<i>Climacteris rufus</i>					31	2		1								34	3
<i>Colluricincla harmonica</i>	3	13	7	6	38	1		22							3	93	8
<i>Columba livia</i>					1											1	1
<i>Coracina novaehollandiae</i>	1		1		24	1		9					1		1	38	7
<i>Corcorax melanorhamphos</i>	1				16	1	1									19	4
<i>Corvus bennetti</i>					4			6								10	2
<i>Corvus coronoides</i>				1	27	2		9	2						5	46	6
<i>Corvus mellori</i>		4	8	6	8			3				1	3	1	4	38	9
<i>Coturnix pectoralis</i>					3											3	1
<i>Cracticus tibicen</i>	1	1	1	1	17	2		4					1	5	4	37	10
<i>Cracticus torquatus</i>	8	4	2	9	26	1	1	18					2		4	75	10
<i>Daphoenositta chrysoptera</i>			1		5	1		2								9	4
<i>Dicaeum hirundinaceum</i>					13	1		9								23	3
<i>Dromaius novaehollandiae</i>	4			8	22	1		11					3		8	57	7
<i>Drymodes brunneopygia</i>	1	5	6	12	3			6					2		15	50	8
<i>Egretta novaehollandiae</i>					2			1								3	2
<i>Elanus axillaris</i>						1										1	1
<i>Eolophus roseicapillus</i>	1	3	5	6	34	3		19	1			1	1	1	1	76	12
<i>Eopsaltria griseogularis</i>	2	3	4	2	24			8				1	1		1	46	9
<i>Ephianura albifrons</i>		1		3	3	1		1						1		10	6
<i>Ephianura tricolor</i>						1										1	1
<i>Eurostopodus argus</i>			1	1	2			1								5	4
<i>Falco berigora</i>		1			9	1		3						3		17	5
<i>Falco cenchroides</i>	1				9	1		6								17	4
<i>Falco longipennis</i>						1										1	1
<i>Falco subniger</i>	1															1	1
<i>Geopelia striata</i>			1													1	1
<i>Glossopsitta porphyrocephala</i>				2	12	1		8								23	4
<i>Glyciphila melanops</i>				3											5	8	2
<i>Grallina cyanoleuca</i>		1			5											6	2
<i>Haematopus fuliginosus</i>								2								2	1
<i>Haliastur sphenurus</i>					1											1	1

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SPECIES	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	DARKE RANGE (CP)	HEGGATON (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST BESIDE MUNYAROO C.P. (CR)	MUNYAROO : LINCOLN HIGHWAY AREA (CR)	MUNYAROO : PLANK POINT (CR)	POOLGARRA (CR)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	YELDULKNIE (CP)	Total records	No. of reserves
<i>Hieraaetus morphnoides</i>			1					1								2	2
<i>Hirundo neoxena</i>	2	7			8		1	3						1		22	6
<i>Hydroprogne caspia</i>								1	1							2	2
<i>Hylacola cauta</i>	2	3		10	6			2					1		5	29	7
<i>Lalage sueurii</i>			1		1											2	2
<i>Larus pacificus</i>								3								3	1
<i>Leipoa ocellata</i>	2	2		3	2	1		140					2			152	7
<i>Lichenostomus cratitius</i>			1	4	3			13							3	24	5
<i>Lichenostomus leucotis</i>	5	2	4	10	30	2		19				1	3		4	80	10
<i>Lichenostomus ornatus</i>	1		8		43	2		17					2			73	6
<i>Lichenostomus virescens</i>	4	10	3	1	25	1		17		2				2	1	66	10
<i>Malurus lamberti</i>	1				15	1	1	5					3			26	6
<i>Malurus leucopterus</i>					5	1		4						2		12	4
<i>Malurus pulcherrimus</i>	3	5	5	2	16	2		15			2			1	6	57	10
<i>Malurus splendens</i>					26	2		15								43	3
<i>Manorina flavigula</i>	3	2		8	8			9					1	6	1	38	8
<i>Melanodryas cucullata</i>				2	3	2										7	3
<i>Melithreptus brevirostris</i>	2	1	4	12	1			5		2			1		4	32	9
<i>Melopsittacus undulatus</i>					4	1										5	2
<i>Merops ornatus</i>	1	2	6		7	1		3							1	21	7
<i>Microcarbo melanoleucos</i>								1								1	1
<i>Microeca fascinans</i>			1		31	2		10								44	4
<i>Milvus migrans</i>						1										1	1
<i>Myiagra inquieta</i>					10	1		4								15	3
<i>Neophema elegans</i>					1			1								2	2
<i>Neophema splendida</i>					1			2								3	2
<i>Ninox novaeseelandiae</i>					10			3								13	2
<i>Northiella haematogaster</i>								1								1	1
<i>Nymphicus hollandicus</i>					3	1										4	2
<i>Ocyphaps lophotes</i>		1		2	6	2		1								12	5
<i>Oreoica gutturalis</i>	1	2		1	34	1		18					2		3	62	8
<i>Pachycephala inornata</i>		2		1	19	1		4								27	5
<i>Pachycephala pectoralis</i>		6	4	6	14	1		2							4	37	7
<i>Pachycephala rufiventris</i>	6	6	8	3	12	1	1	6				1			7	51	10
<i>Pardalotus punctatus</i>	2		1	11	13	1		17					2		4	51	8
<i>Pardalotus striatus</i>	1	2	7	1	43	2		17				1		1		75	9
<i>Passer domesticus</i>		1														1	1
<i>Pelecanus conspicillatus</i>								2								2	1
<i>Petrochelidon nigricans</i>					23	2		6							1	32	4
<i>Petroica goodenovii</i>			3		26	2	1	9				1			1	43	7
<i>Phalacrocorax carbo</i>								1								1	1
<i>Phalacrocorax varius</i>								1								1	1
<i>Phaps chalcoptera</i>	4	6	5	9	19	1		13			2		1		7	67	10
<i>Phaps elegans</i>	1	1		7									2			11	4
<i>Phylidonyris novaehollandiae</i>		2													6	8	2
<i>Pluvialis squatarola</i>								1								1	1
<i>Podargus strigoides</i>	1				2	2		2								7	4
<i>Pomatostomus superciliosus</i>	5	9	5	8	33	1		20				1	2		8	92	10
<i>Psephotus varius</i>					24	2		16							2	44	4

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SPECIES	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	DARKE RANGE (CP)	HEGGATON (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST BESIDE MUNYAROO C.P. (CR)	MUNYAROO : LINCOLN HIGHWAY AREA (CR)	MUNYAROO : PLANK POINT (CR)	POOLGARRA (CR)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	YELDULKNIE (CP)	Total records	No. of reserves
<i>Purnella albifrons</i>	4	2	2	21	23			38		2			4		17	113	9
<i>Pyrrholaemus brunneus</i>					3	1		1								5	3
<i>Rhipidura albiscapa</i>					1	1									1	3	3
<i>Rhipidura leucophrys</i>		10	8	1	27	1		9				1		1	2	60	9
<i>Sericornis frontalis</i>		2		1											9	12	3
<i>Smicronis brevirostris</i>	5	5	8	10	35	1		24			2		5	1	1	97	11
<i>Stagonopleura guttata</i>			2													2	1
<i>Sternula nereis</i>								1								1	1
<i>Strepera versicolor</i>	1	3	2	10	33	1		20		1			5		8	84	10
<i>Streptopelia chinensis</i>															2	2	1
<i>Sturnus vulgaris</i>		4	1	1	6	1		2						1		16	7
<i>Sugomel niger</i>						1										1	1
<i>Thalasseus bergii</i>								1								1	1
<i>Todiramphus pyrrhopygius</i>					4											4	1
<i>Todiramphus sanctus</i>					1											1	1
<i>Turdus merula</i>															1	1	1
<i>Turnix varius</i>	2				5	1		1								9	4
<i>Turnix velox</i>					1	1										2	2
<i>Vanellus miles</i>				1												1	1
<i>Zosterops lateralis</i>	4	2	1	1	8	2		12						1	10	48	9
<b>No. of species</b>	<b>41</b>	<b>50</b>	<b>44</b>	<b>48</b>	<b>101</b>	<b>76</b>	<b>6</b>	<b>98</b>	<b>1</b>	<b>8</b>	<b>3</b>	<b>10</b>	<b>30</b>	<b>18</b>	<b>47</b>	<b>136</b>	
<b>No. of records</b>	<b>104</b>	<b>178</b>	<b>157</b>	<b>243</b>	<b>1304</b>	<b>108</b>	<b>6</b>	<b>858</b>	<b>1</b>	<b>13</b>	<b>6</b>	<b>10</b>	<b>67</b>	<b>31</b>	<b>200</b>	<b>3293</b>	
<b>Records/species</b>	<b>2.5</b>	<b>3.6</b>	<b>3.6</b>	<b>5.1</b>	<b>12.9</b>	<b>1.4</b>	<b>1</b>	<b>8.8</b>	<b>1</b>	<b>1.6</b>	<b>2</b>	<b>1</b>	<b>2.2</b>	<b>1.7</b>	<b>4.3</b>	<b>24.2</b>	

### Mammals

From the summary at the bottom of Table 1.12 which summarises the number of species, records, and records per species, it can be observed that all parks are under sampled with respect to mammals. Of the 21 native species recorded for the region 71% have been recorded in a reserve and these have been recorded at the rate of 15 records per species. The highest recording rate for any individual reserve is 7.5 records per species at Lake Gilles CP for which 11 native species have been detected. This probably represents over 80% of the likely ground dwelling species to be found in the reserve, however the bat fauna is probably still significantly under represented. Unsampled conservation reserves and under-sampled habitat types in each reserve need to be identified and targeted for sampling to target species groups for which data is identified as being inadequate.



**Table 1.12. Mammal species records by conservation reserve.**

SPECIES	CARALUE BLUFF (CR)	CARRAPPEE HILL (CP)	DARKE RANGE (CP)	HEGGATON (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST BESIDE MUNYAROO C.P. (CR)	MUNYAROO : LINCOLN HIGHWAY AREA (CR)	MUNYAROO : PLANK POINT (CR)	POOLGARRA (CR)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	YELDULKNIE (CP)	Total records	No. of reserves
<i>Cercartetus concinnus</i>			4	2	1	1		14					5			27	6
<i>Chalinolobus gouldii</i>			4			9										13	2
<i>Lasiorhinus latifrons</i>					1										1	2	2
<i>Macropus fuliginosus</i>	1				33	16		17					1	1	3	72	7
<i>Macropus robustus</i>	3	4	1		2			5							1	16	6
<i>Macropus rufus</i>					7	3										10	2
<i>Ningauai yvonneae</i>					1			7								8	2
<i>Notomys mitchellii</i>	7	1		10				21					1		2	42	6
<i>Nyctophilus geoffroyi</i>		9	17		5											31	3
<i>Nyctophilus timoriensis</i>			2		6											8	2
<i>Pseudomys bolami</i>								4								4	1
<i>Sminthopsis crassicaudata</i>						1		2								3	2
<i>Sminthopsis dolichura</i>	5		2		2	1		1					5		2	18	7
<i>Tachyglossus aculeatus</i>				1												1	1
<i>Vespadelus regulus</i>			6		23											29	2
* <i>Ovis aries</i>													1			1	1
* <i>Oryctolagus cuniculus</i>	3	4	1		3			3						1	1	16	7
* <i>Mus musculus</i>	18	4		2				14					2	7	2	49	7
* <i>Felis catus</i>	1	1						1								3	3
* <i>Capra hircus</i>					6	3										9	2
* <i>Canis lupus</i>								1							1	2	2
* <i>Bos taurus</i>															1	1	1
* <i>Vulpes vulpes</i>	2	2			3			8					1		2	18	6
<b>No. of species</b>	<b>8</b>	<b>7</b>	<b>8</b>	<b>4</b>	<b>14</b>	<b>6</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>3</b>	<b>10</b>	<b>23</b>	
<b>No. of records</b>	<b>40</b>	<b>25</b>	<b>37</b>	<b>15</b>	<b>102</b>	<b>25</b>	<b>0</b>	<b>98</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>9</b>	<b>16</b>	<b>383</b>	
<b>Records/species</b>	<b>5.0</b>	<b>3.6</b>	<b>4.6</b>	<b>3.8</b>	<b>7.3</b>	<b>4.2</b>		<b>7.5</b>					<b>2.3</b>	<b>3.0</b>	<b>1.6</b>	<b>15.3</b>	

## Reptiles

From the summary at the bottom of Table 1.13, which summarises the number of species, records and records per species it can be observed that all parks are under sampled with respect to reptiles. Of the 84 native species recorded for the region 73% have been recorded in a reserve and these have been recorded at the rate of 8.5 records per species. The highest number of records per species for any individual reserve was 5.8 records per species at Carrappee Hill CP, which because of its geological distinctiveness and accessibility has been a magnet for naturalists and herpetologists. Only Munyaroo CP has more records because it was a focus for several trips by the Scientific Expedition Group in conjunction with the SA Museum, as well as the target for threatened mammal (*Sminthopsis psammophila*) surveys. The species diversity is probably much higher at Carrappee Hill CP than indicated by the records because only two pitfall trapping sites have been done in this area with most other reptile collection effort probably concentrating on the rocky hill slopes. As with the mammals, unsampled conservation reserves and under-sampled habitat types in each reserve need to be identified and targeted for sampling to target species groups for which data is identified as being inadequate.

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**Table 1.13. Reptile species records by conservation reserve.**

SPECIES	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	DARKE RANGE (CP)	HEGGATON (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST BESIDE MUNYAROO CP (CP)	MUNYAROO : LINCOLN HICHWAY AREA (CP)	MUNYAROO : PLANK POINT (CP)	POOLGARRA (CR)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	YELDULKNIE (CP)	Total records	No. of reserves
<i>Amphibolurus norrisi</i>								1								1	1
<i>Aprasia inaurita</i>	2															2	1
<i>Brachyurophis semifasciatus</i>					2			1								3	2
<i>Christinus marmoratus</i>			1													1	1
<i>Cryptoblepharus australis</i>					1											1	1
<i>Cryptoblepharus pulcher</i>								2								2	1
<i>Ctenophorus cristatus</i>					4			7								11	2
<i>Ctenophorus fionni</i>	1	19			4				6							30	4
<i>Ctenophorus fordi</i>	10				1			13					1			25	4
<i>Ctenophorus pictus</i>					4			7								11	2
<i>Ctenotus atlas</i>	1			5	6			8					1			21	5
<i>Ctenotus euclae</i>					1			3					2			6	3
<i>Ctenotus orientalis</i>															16	16	1
<i>Ctenotus regius</i>														4		4	1
<i>Ctenotus robustus</i>		2			1				2							5	3
<i>Ctenotus schomburgkii</i>					5			15					3	5		28	4
<i>Cyclodomorphus melanops</i>								2								2	1
<i>Delma australis</i>					1			2	4							7	3
<i>Delma butleri</i>				1	2								2			5	3
<i>Delma petersoni</i>	1															1	1
<i>Demansia reticulata</i>					2			3	1							6	3
<i>Diplodactylus calcicolus</i>															3	3	1
<i>Diplodactylus furcosus</i>					1	1		2								4	3
<i>Echiopsis curta</i>		3							1							4	2
<i>Eremiascincus richardsonii</i>					1	1		1								3	3
<i>Gehyra lazelli</i>	1	21	1		2			1								26	5
<i>Gehyra variegata</i>		2						1								3	2
<i>Hemiergus initialis</i>								2								2	1
<i>Hemiergus millewae</i>	7															7	1
<i>Hemiergus peronii</i>	1	5							8					2		16	4
<i>Heteronotia binoei</i>		16	2					4	12							34	4
<i>Lerista distinguenda</i>				3				1								4	2
<i>Lerista dorsalis</i>	2	4	2					3								11	4
<i>Lerista edwardsae</i>		1	3		3			22	1				7	2		39	7
<i>Lerista taeniata</i>			1		2											3	2
<i>Lialis burtonis</i>				2				3					2		1	8	4
<i>Liopholis inornata</i>					1											1	1
<i>Lucasium damaeum</i>					2			6								8	2
<i>Menetia greyii</i>	2	3	3		1			5	1				1	11	4	31	9
<i>Moloch horridus</i>					3											3	1
<i>Morethia adelaidensis</i>		1						6						2		9	3
<i>Morethia boulengeri</i>								7								7	1
<i>Morethia obscura</i>			2	5	2			4				6	2	8		29	7
<i>Nephrurus milii</i>		12														12	1
<i>Nephrurus stellatus</i>					1			2					2			5	3
<i>Parasuta spectabilis</i>															1	1	1
<i>Pogona minor</i>	1															1	1

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SPECIES	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	DARKE RANGE (CP)	HEGGATON (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST BESIDE MUNYAROO CP (CP)	MUNYAROO : LINCOLN HIGHWAY AREA (CP)	MUNYAROO : PLANK POINT (CP)	POOLGARRA (CR)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	YELDULKNIE (CP)	Total records	No. of reserves
<i>Pogona vitticeps</i>				1	2			5								8	3
<i>Pseudechis australis</i>					1											1	1
<i>Pseudonaja infracula</i>		1						1								2	2
<i>Pseudonaja nuchalis</i> (NC) 2 spp.									1							1	1
<i>Pygopus lepidopus</i>	2	1			1			2								6	4
<i>Ramphotyphlops bicolor</i>					1											1	1
<i>Ramphotyphlops bituberculatus</i>					1											1	1
<i>Simoselaps bertholdi</i>			1	2	1											4	3
<i>Strophurus assimilis</i>								3								3	1
<i>Strophurus intermedius</i>		6						2								8	2
<i>Suta suta</i>						1										1	1
<i>Tiliqua occipitalis</i>		1		1										2	1	5	4
<i>Tiliqua rugosa</i>	6	6	1	4										1	2	20	6
<i>Tympanocryptis lineata</i>					2											2	1
<i>Varanus gouldii</i>		1														1	1
<b>No. of species</b>	<b>13</b>	<b>18</b>	<b>10</b>	<b>9</b>	<b>31</b>	<b>3</b>	<b>0</b>	<b>33</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>9</b>	<b>8</b>	<b>62</b>	
<b>No. of records</b>	<b>37</b>	<b>105</b>	<b>17</b>	<b>24</b>	<b>62</b>	<b>3</b>	<b>0</b>	<b>147</b>	<b>0</b>	<b>37</b>	<b>0</b>	<b>0</b>	<b>27</b>	<b>31</b>	<b>36</b>	<b>526</b>	
<b>Records/species</b>	<b>2.8</b>	<b>5.8</b>	<b>1.7</b>	<b>2.7</b>	<b>2.0</b>	<b>1.0</b>		<b>4.5</b>		<b>3.7</b>			<b>2.7</b>	<b>3.4</b>	<b>4.5</b>	<b>8.5</b>	

### Threatened Fauna

Species have been rated as threatened under the Commonwealth of Australia's Endangered Species Protection and Biodiversity Conservation Act (AUS) and the South Australian National Parks and Wildlife Act (SA). The Biological Databases of SA hold records for 4 AUS rated terrestrial fauna species and a further 40 SA only rated species (Table 1.14). Of these 44 rated species in the region, 31 (70%) were known to occur in reserves. Full lists of rated species and the number of records in the region that are within Conservation Parks (CP), Conservation Reserves (CR), Heritage Agreements (HA) and other land (Private) are listed at the beginning of the Appendices 3 to 6. A large proportion of threatened species records are from within reserves, indicating the importance of these areas in maintaining these species.

**Table 1.14. Summary of threatened vertebrate fauna in NE Eyre Peninsula and conservation reserves as shown in Figure 1.1.**

CLASS	Status	# sp in region	# sp in selected reserves
AVES	AUS: VU SA: R	1	1
AVES	AUS: VU SA: V	1	1
AVES	AUS: VU	1	1
AVES	SA: R	29	21
AVES	SA: V	7	4
MAMMALIA	AUS: EN SA: V	1	(1)
MAMMALIA	SA: R	1*	0
REPTILIA	SA: R	3	2

( ) indicates species only recorded in the proposed Shirrocooe reserve.

\* indicates species (*Trichosurus vulpecula*) probably extinct in region with most recent records being from an introduced population near Sheoak Hill CP.

### Introduced Fauna (Ferals)

Birds and mammals are the only taxonomic groups to have feral species. Six introduced bird species have been recorded in the natural habitats of the north-east Eyre Peninsula (Appendix 3) of which five have been recorded in conservation reserves. The species are listed by reserve in Table 1.15 which indicates that for the datasets available, exotic birds do not appear to be the dominant fauna in these reserves. The most common species was the European Starling (*Sturnus vulgaris*), which is also the only species that represents a potential threat to native bird species. The risk that these species pose to native hollow nesting birds within the region should be investigated to determine if control activities are warranted.

Ten introduced mammal species have been recorded in the natural habitats of the north-east Eyre Peninsula (Appendix 4) of which eight have been recorded in conservation reserves. Two species are managed stock that have accessed reserves through inadequate fencing (e.g. fencing around Sheoak Hill CP during 2003 adjacent to one of the few examples of reserved *Eucalyptus porosa* Woodland was lying flat providing unfettered access to sheep from the adjacent paddock). Dogs are probably the least problematic introduced species to the biological assets of reserves in the region because naturalised populations (Dingoes) were previously part of the system. They are mostly a social management issue when feral, as neighbouring sheep farmers would undertake or demand control if sheep losses occurred. The effect of House Mice (*Mus musculus*) on the biodiversity assets in the region is poorly understood. In more arid parts of Australia they appear to have a negligible impact on surviving native rodent species composition. Whilst their breeding capacity does enable them to monopolise resources during exceptionally productive periods they tend to disappear from dryer, less disturbed habitats where native species can flourish. However, on Eyre Peninsula, similar sized native rodents were very scarce with only one species remaining. Any attempts to control mice in a broadscale fashion would potentially threaten native rodent populations as well as predatory reptiles and birds which are able to utilise this widespread and abundant resource.

Problem species where control has been shown to have biodiversity benefits in other regions include goats (*Capra hircus*), foxes (*Vulpes vulpes*) and cats (*Felis catus*). Of these, only the goat is unlikely to be present in every reserve having only been recorded in the Lake Gillies area. Their removal from areas with conservation rated plant species, particularly those associated with rocky hills and cliffs should be a priority. Removal of foxes and cats from arid areas have shown a recovery of small mammal populations to unprecedented levels (Arid Recovery – Moseby pers. comm.). High numbers of these species are likely to have flow on affects for native mammalian and reptilian predators as native species are able to persist at higher numbers than house mice through much drier seasons (Brandle and Moseby 1999). Despite the effectiveness of Rabbit Calici virus, rabbits remain a major threat to the long term integrity of native vegetation communities because of their ability to build numbers quickly and remove entire cohorts of perennial plant seedling as well as the ringbarking of mature shrubs.

**Table 1.15. Introduced bird and mammal records by conservation reserve.**

Species	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	DARKE RANGE (CP)	HEGGATON (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST BESIDE MUNYAROO CP (CR)	MUNYAROO : LINCOLN HIGHWAY AREA (CR)	MUNYAROO : PLANK POINT (CR)	POOLGARRA (CR)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	YELDULKIE (CP)	No. of reserves
<b>Birds</b>																
* <i>Turdus merula</i>															1	1
* <i>Sturnus vulgaris</i>		4	1	1	6	1		2						1		7
* <i>Streptopelia chinensis</i>															2	1
* <i>Passer domesticus</i>		1														1
* <i>Columba livia</i>					1											1
<b>No. of species</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>8</b>
<b>Mammals</b>																
* <i>Ovis aries</i>													1			1
* <i>Oryctolagus cuniculus</i>	3	4	1		3			3						1	1	7
* <i>Mus musculus</i>	18	4		2				14					2	7	2	7

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Species	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	DARKE RANGE (CP)	HEGGATON (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST BESIDE MUNYAROO C.P. (CR)	MUNYAROO : LINCOLN HIGHWAY AREA (CR)	MUNYAROO : PLANK POINT (CR)	POOLGARRA (CR)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	YELDULKIE (CP)	No. of reserves
<i>*Felis catus</i>	1	1						1								3
<i>*Capra hircus</i>					6	3										2
<i>*Canis lupus</i>								1							1	2
<i>*Bos taurus</i>															1	1
<i>*Vulpes vulpes</i>	2	2			3			8					1		2	6
<b>No. of species</b>	<b>4</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>5</b>	<b>10</b>

# PART 2: SHIRROCOE BLOCK BIOLOGICAL SURVEY

Robert Brandle and Kate Graham

## Introduction

The decision to conduct biological survey activity within the Shirrocoe pastoral lease was guided by the absence of existing survey site information except for three vegetation survey sites that were completed adjacent to the Kimba Road in the north-east corner of the property (Figure 2.1). Some of the habitats on Shirrocoe had been subject to specific studies through the University of South Australia (Bos and Carthew 2001, 2002) and for investigations into the nationally threatened Sandhill Dunnart (*Sminthopsis psammophila*) (Churchill 2001; Way 2008). At this stage none of this information had been incorporated into the biological survey database, apart from where specimens had been collected and placed with the SA Museum or SA Herbarium.

The aim of the biological survey at Shirrocoe was to sample a representative selection of sites for vascular plants and vertebrate fauna, particularly in areas where previous studies had not been active, to gain information on the habitat types and species that they support. Most of the earlier studies that had collected aspects of the biodiversity of Shirrocoe had been done at the south-eastern and north-eastern corners of the pastoral lease.

As the vegetation survey site coverage in this region was particularly sparse (Figure 2.1.), a small scale vegetation map ground truthing project was done to enable updates to the vegetation mapping for Shirrocoe and the adjoining Secret Rocks which was now being managed as a privately owned conservation reserve.

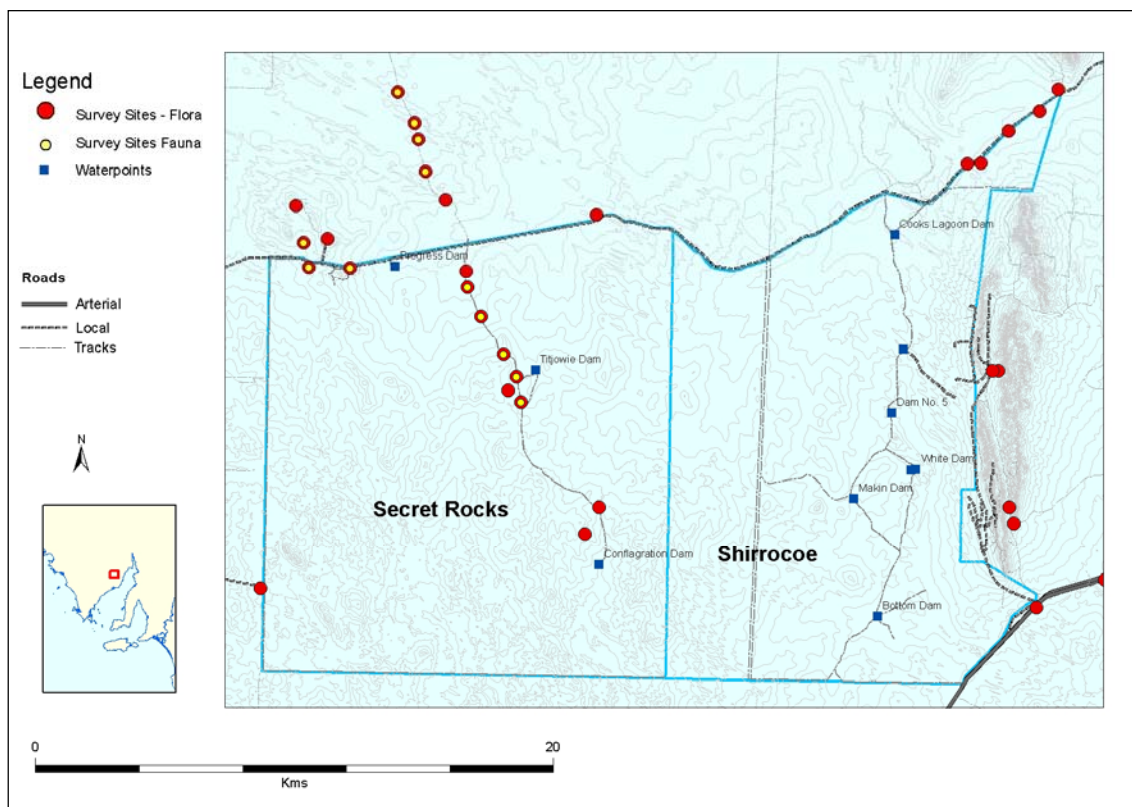


Figure 2.1. Biological survey sites existing prior to the 2008 Shirrocoe survey in the area surrounding Shirrocoe Pastoral Lease.

## Methods

### Site Selection

Sites were selected by investigation of existing mapping, including the updated information gathered for this project and satellite imagery. The number of sites was limited by the resources required, which involved one survey team being in the field for six days. The survey was assisted by the Eyre Peninsula Threatened Species Officer for three days. A total of ten sites were sampled for vegetation including three sites that had been the target for earlier fauna research (SHD3701 & SHD06901 for the Sandhill Dunnart Survey) (Figure 2.2). A number of track transects, established on deeper sandy areas with *Triodia* hummock grasses in the understorey, were also used to detect extra locations for Sandhill Dunnarts which are detailed in Way 2008.

### Timing

The survey was conducted during May 2009. This was partly to fit in with other workloads and financial year constraints. Minimum to maximum daily temperatures ranges during the survey were as follows in °C: 13<sup>th</sup> May sun - 1.7 to 28.3 and shade -0.1 to 27.3; 14<sup>th</sup> May sun -0.6 to 27.9 and shade 1.5 to 27; 15<sup>th</sup> 0.5 to 26 and shade 2.5 to 25; 16<sup>th</sup> May sun 1.5 to 19 and shade 2.8 to 18. rainfall in the months preceding the survey indicate that whilst 2006 (200.4 mm annual average 272.7 mm) had been drier than usual at Moola (site # 18117 BOM), very little rain fell in spring – the main growing season. Summer and Autumn 2007 had good rain with 71 mm in January and 53 mm in March.

### Vegetation

Vegetation was sampled using standard biological survey methodology (Heard and Channon 1997) with 30 m x 30 m quadrat size. A representative collection of all plant species sampled across the study area were collected and vouchered for lodgement with the SA Herbarium.

### Floristic Vegetation Mapping

Floristic vegetation mapping of the Shirrocoe Pastoral Lease and adjacent Secret Rocks area was initially conducted in the year 2000 following regional vegetation surveys carried out in 1998 and 1999. Data was interpreted from hard copy 1:40,000 colour aerial photography and subsequent linework digitally captured and later stored in the department's GIS Spatial Database Engine (SDE) vegetation layers. The initial SDE layer was for Eyre Peninsula only but this was later revised to fit new National Vegetation Information System structure and incorporated into the state-wide vegetation layer (VEG.SAVegetation). Since limited on-ground checking of the GIS mapping data had been done in 2000 it was desirable to conduct further on-ground checking to refine the previous broadscale mapping.

To help target areas to check during the 2008 fieldwork, two methods were used. The first method was using the GROUNDTRUTH item in the existing GIS floristic layer. During the initial floristic mapping, if the mapper was not confident of the floristic group assigned to the polygon (due to lack of information), they could flag this by coding the GROUNDTRUTH item with 'NC - Needs Checking' or 'PC - Priority Check'. Polygons coded with either of these two categories were targeted to visit in 2008. The second method was using GIS to overlay the mapped polygons and vehicle track data onto updated digital imagery and doing a visual assessment of possible areas to visit, given access constraints. As many areas as possible were visited during the mapping fieldwork conducted over four days in March 2008.

Using this information, plus the site data collected on the Biological Survey of Shirrocoe in May 2008, the floristic mapping in the VEG.SAVegetation was updated where field data showed an adjustment to the mapping was needed.

### Fauna

Fauna sampling was done at six of the ten sites (Figure 2.2.). Ground dwelling mammals and reptiles were sampled using one line of six pitfall traps, 15 Elliot traps and two cage traps as outlined in Owens 2000. All sites were searched for one to two person hours for reptiles and signs of mammals. Anabat remote detecting devices were set at each of the six sites to record bat echolocation call for one entire night per site. Harp traps to capture bats were set for four nights at three sites that had suitable habitat for setting harp nets (i.e. trees and tall shrubs). Representative samples of each mammal and reptile species detected were collected, vouchered and prepared for the SA Museum collection. Liver samples were taken and frozen in liquid nitrogen and lodged with the evolutionary biology unit of the SA Museum for future genetic research.

Birds were sampled by two one-hour searches (one morning and one evening) of each of the primary habitat type around each of the six trapping sites. No samples were collected.

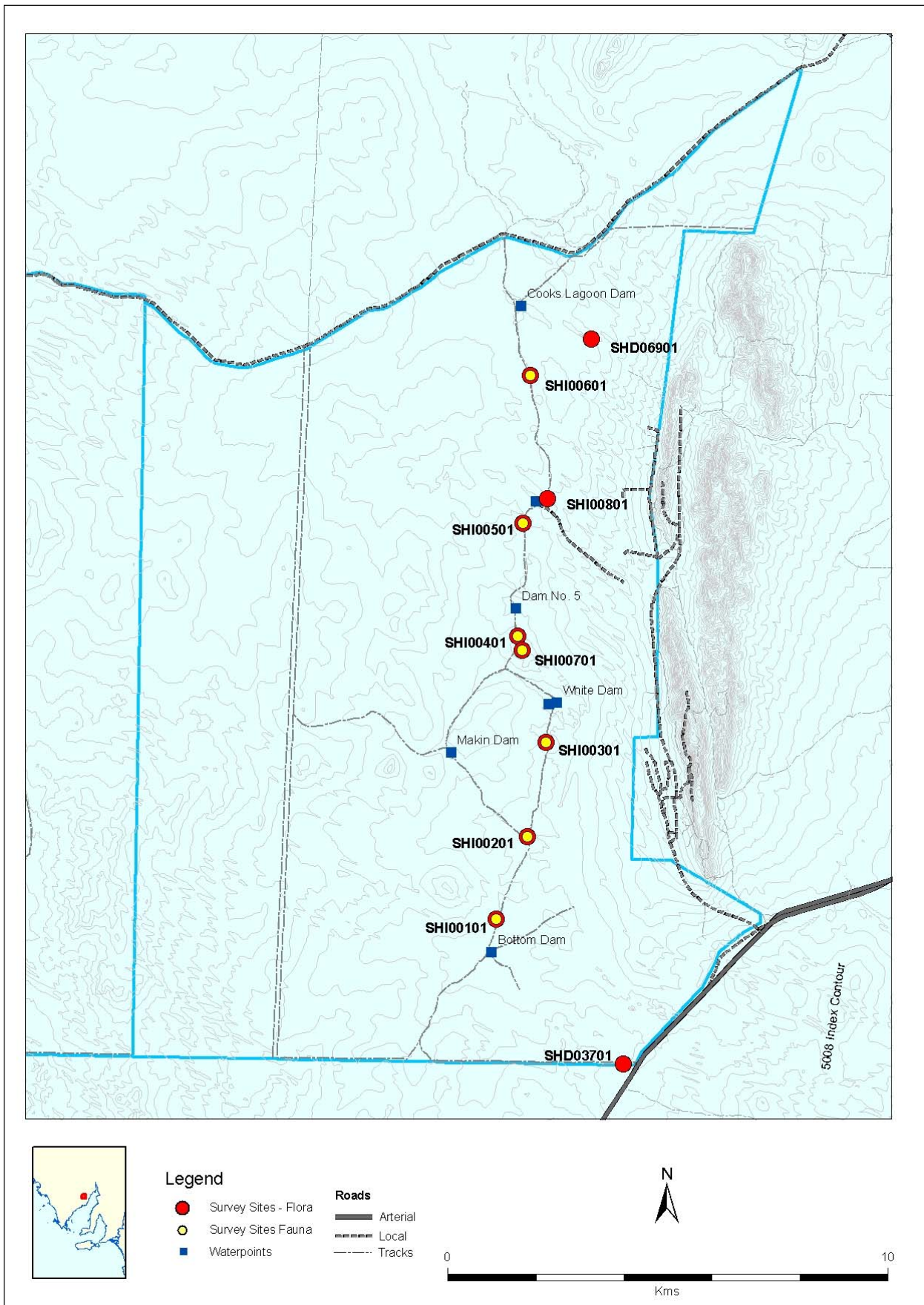


Figure 2.2. Survey Sites visited during Shirrocoe survey 2008 (SU599).



## Results

### Physical Site Descriptions

The Shirrocoe Block is dominated by undulating calcareous plain with overlying dunefields. Minor features include a chain of ephemeral saline lakes and rare rock hills. The selection of sites reflect these features with five sites situated on plains to rises on sands to sandy clay loam soils, four sites on dunes with sandy loams to loamy sands and one site on a rocky hill top (Table 2.1). The vegetation ranged from rare open herbfields and chenopod shrublands to more common mallee formations. The mallee understorey included three basic forms, chenopod low shrubs (two sites), sclerophyllous shrubs (three sites) and *Triodia* hummock grasslands (three sites) (Table 2.2, Figure 2.2).

**Table 2.1. Site Locations and physical characteristics.**

SITE ID	SHI00101	SHI00201	SHI00301	SHI00401	SHI00501
PATCH ID	36388	36389	36390	36391	36392
VISIT DATE	15/05/2008	15/05/2008	14/05/2008	14/05/2008	13/05/2008
MGA ZONE	53	53	53	53	53
EASTING	692428	693136	693558	692917	693031
NORTHING	6313889	6315773	6317926	6320340	6322913
LANDFORM PATTERN	PLA Plain	PLA Plain	RIS Rises	PLA Plain	DUN Dunefield
LANDFORM UNIT	100 plain (incl undulating plain)	100 plain (incl undulating plain)	301 hill crest	100 plain (incl undulating plain)	202 dune slope
SLOPE	0	0	2	3	2
ASPECT	0	0	70	350	160
OUTCROP COVER	9 nil	9 nil	9 nil	9 nil	9 nil
OUTCROP LITHOLOGY					
STREW SIZE	1 pebble (5-50 mm)	1 pebble (5-50 mm)	9 none apparent	9 none apparent	9 none apparent
STREW COVER	2 10-30%	3 30-70%	9 nil	9 nil	9 nil
BURNT	N	N	Y	Y	Y
BARE EARTH COVER	20	20	30	40	20
LITTER COVER	20	20	30		20
SOIL TEXTURE	sandy loam	sandy clay loam	sand	loamy sand	loamy sand
SITE ID	SHI00601	SHI00701	SHI00801	SHD06901	SHD03701
PATCH ID	36393	36394	36396	36395	36397
VISIT DATE	13/05/2008	15/05/2008	16/05/2008	16/05/2008	16/05/2008
MGA ZONE	53	53	53	53	53
EASTING	693203	693009	693595	694586	695312
NORTHING	6326288	6320017	6323480	6327109	6310594
LANDFORM PATTERN	PLA Plain	LOW Low hills	DUN Dunefield	DUN Dunefield	DUN Dunefield
LANDFORM UNIT	100 plain (incl undulating plain)	150 rock outcrop	201 dune crest	202 dune slope	202 dune slope
SLOPE %	0	>10	0	4	5
ASPECT	0	Na	0	30	40
OUTCROP COVER	9 nil	3 >50%	9 nil	9 nil	9 nil
OUTCROP LITHOLOGY		160 laterite (ironstone)			
STREW SIZE	9 none apparent	3 boulder (> 250 mm)	1 pebble (5-50 mm)	1 pebble (5-50 mm)	2 cobble (51-250 mm)
STREW COVER	9 nil	3 30-70%	1 <10%	1 <10%	1 <10%
BURNT	Y	N	N	N	N
BARE EARTH COVER	40	5	3	30	40
LITTER COVER	20	20	60	40	15
SOIL TEXTURE	loamy sand	loam	clayey sand	sandy loam	sandy loam

**Table 2.2. Site vegetation community descriptions.**

SITE ID	Formation	Vegetation Community Description
SHI00101	Herbland	* <i>Salvia verbenaca</i> , <i>Sclerolaena brevifolia</i> Herbland with emergent <i>Geijera linearifolia</i> , <i>Dodonaea viscosa</i> ssp. <i>angustissima</i> , <i>Myoporum platycarpum</i> ssp. <i>platycarpum</i>
SHI00201	Low Shrubland	<i>Atriplex stipitata</i> Low Shrubland over <i>Sclerolaena brevifolia</i> , <i>Sclerolaena holtiana</i> , <i>Chenopodium desertorum</i> ssp.
SHI00301	Open Mallee	<i>Eucalyptus oleosa</i> ssp. <i>oleosa</i> , <i>Eucalyptus gracilis</i> , <i>Eucalyptus oleosa</i> ssp. <i>ampliata</i> Open Mallee over <i>Atriplex vesicaria</i> ssp., <i>Tecticornia disarticulata</i>
SHI00401	Open Mallee	<i>Eucalyptus oleosa</i> ssp. <i>oleosa</i> , <i>Eucalyptus gracilis</i> , <i>Eucalyptus oleosa</i> ssp. <i>ampliata</i> Open Mallee over <i>Cratystylis conocephala</i> , <i>Geijera linearifolia</i> , <i>Melaleuca pauperiflora</i> ssp. <i>mutica</i>
SHI00501	Open Low Mallee	<i>Eucalyptus socialis</i> ssp., <i>Eucalyptus gracilis</i> Open Low Mallee over <i>Triodia irritans</i> , <i>Melaleuca lanceolata</i> , <i>Acacia euthycarpa</i>
SHI00601	Mallee	<i>Eucalyptus gracilis</i> , <i>Eucalyptus oleosa</i> ssp. <i>oleosa</i> Mallee over <i>Acacia ancistrophylla</i> var. <i>lissophylla</i> , <i>Beyeria opaca</i>

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SITE ID	Formation	Vegetation Community Description
SHI00701	Shrubland	Eremophila oppositifolia ssp. oppositifolia, Alyxia buxifolia Shrubland over Rhagodia ulicina, Atriplex vesicaria ssp. with emergent Eucalyptus oleosa ssp. oleosa, Eucalyptus dumosa
SHI00801	Very Open Mallee	Eucalyptus leptophylla, Eucalyptus socialis ssp. Very Open Mallee over Triodia irritans, Acacia euthycarpa, Acacia rigens, Leptospermum coriaceum, Olearia lepidophylla
SHD03701	Open Mallee	Eucalyptus socialis ssp., Eucalyptus incrassata, Eucalyptus phenax ssp. phenax Open Mallee over Triodia irritans, Eutaxia microphylla
SHD06901	Open Low Mallee	Eucalyptus socialis ssp. Open Low Mallee over Triodia irritans, Melaleuca lanceolata, Acacia euthycarpa, Goodenia varia, Daviesia benthamii ssp. acanthoclona

### Vegetation Survey

A total of 108 distinct plant taxa were recorded at the ten survey sites. Species richness varied from 13 in the Chenopod Shrubland to 30 on the rocky hill top. It is likely that if surveys were conducted in spring, many more annual and short-lived perennials would be detected at quadrats, as the timing of the Survey in May was too early for these types of species. Only one SA rare species (*Maireana suaedifolia*, Lax Bluebush) was present with not many individuals at site SHI00401. Full species by site details are presented in Table 2.3.

**Table 2.3. Plant species recorded during May 2007 at sites in Shirrocoe. Values relate to vegetation cover estimates: 0.1=not many individuals, 0.5= sparsely present with cover <5%, 1=numerous with cover <5%, 2=cover 5-25%, 3=cover 25-50%, 4=cover 50-75%, 5=cover >75%**

Species	Common Name	599SHD03701	599SHD06901	599SHI00101	599SHI00201	599SHI00301	599SHI00401	599SHI00501	599SHI00601	599SHI00701	599SHI00801	No. of sites
<i>Acacia ancistrophylla</i> var. <i>lissophylla</i>	Hook-leaf Wattle	0.1							2			2
<i>Acacia euthycarpa</i>	Wallowa	1	2					2			2	4
<i>Acacia halliana</i>	Hall's Wattle							0.5				1
<i>Acacia ligulata</i>	Umbrella Bush		0.1									1
<i>Acacia rigens</i>	Nealie										2	1
<i>Alectryon oleifolius</i> ssp. <i>canescens</i>	Bullock Bush									1		1
<i>Alyxia buxifolia</i>	Sea Box					0.1				2		2
<i>Atriplex stipitata</i>	Bitter Saltbush			0.5	3		0.5					3
<i>Atriplex vesicaria</i> ssp.	Bladder Saltbush					2				2		2
<i>Austrodanthonia</i> sp.				0.5	1							2
<i>Austrostipa elegantissima</i>	Feather Spear-grass						0.1					1
<i>Austrostipa</i> sp.	Spear-grass					0.1	0.1			0.5		3
<i>Baeckea crassifolia</i>	Desert Baeckea	0.1										1
<i>Bertya tasmanica</i> ssp. <i>vestita</i>	Mitchell's Bertya	0.1										1
<i>Beyeria opaca</i>	Dark Turpentine Bush								2			1
<i>Billardiera cymosa</i> ssp.		0.1										1
<i>Boronia coerulescens</i> ssp. <i>coerulescens</i>	Blue Boronia							0.5			0.5	2
<i>Callitris verrucosa</i>	Scrub Cypress Pine	0.5	1					1			0.1	4
<i>Cheilanthes lasiophylla</i>	Woolly Cloak-fern									0.1		1
<i>Chenopodium curvispicatum</i>	Cottony Goosefoot					0.1						1
<i>Chenopodium desertorum</i> ssp.	Desert Goosefoot				2	0.1	0.1					3
<i>Cratystylis conocephala</i>	Bluebush Daisy						2					1
<i>Dampiera rosmarinifolia</i>	Rosemary Dampiera							0.1				1
<i>Daviesia benthamii</i> ssp. <i>acanthoclona</i>	Dryland Bitter-pea	0.1	2						0.5			3

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Species	Common Name	599SHD03701	599SHD06901	599SHI00101	599SHI00201	599SHI00301	599SHI00401	599SHI00501	599SHI00601	599SHI00701	599SHI00801	No. of sites
<i>Dianella revoluta</i> var. <i>revoluta</i>	Black-anther Flax-lily	0.1	0.5					0.5		0.5		4
<i>Digitaria brownii</i>	Cotton Panic-grass									0.1		1
<i>Dillwynia uncinata</i>	Silky Parrot-pea	1										1
<i>Disphyma crassifolium</i> ssp. <i>clavellatum</i>	Round-leaf Pigface				0.1	1						2
<i>Dodonaea stenozyga</i>	Desert Hop-bush									0.5		1
<i>Dodonaea viscosa</i> ssp. <i>angustissima</i>	Narrow-leaf Hop-bush			1						0.5		2
<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	Ruby Saltbush			0.5	0.5	0.1	1			0.5		5
<i>Eremophila crassifolia</i>	Thick-leaf Emubush		1					1			1	3
<i>Eremophila deserti</i>	Turkey-bush									0.5		1
<i>Eremophila glabra</i> ssp. <i>glabra</i>	Tar Bush	0.1										1
<i>Eremophila oppositifolia</i> ssp. <i>oppositifolia</i>	Opposite-leaved Emubush									2		1
<i>Eremophila scoparia</i>	Broom Emubush						0.1		0.5	0.5		3
<i>Eriochlamys behrii</i>	Woolly Mantle				0.5							1
<i>Eucalyptus brachycalyx</i>	Gilja						1					1
<i>Eucalyptus dumosa</i>	White Mallee									0.5		1
<i>Eucalyptus gracilis</i>	Yorrell		1			2	2	2	2			5
<i>Eucalyptus incrassata</i>	Ridge-fruited Mallee	2										1
<i>Eucalyptus leptophylla</i>	Narrow-leaf Red Mallee										2	1
<i>Eucalyptus oleosa</i> ssp.								0.5				1
<i>Eucalyptus oleosa</i> ssp. <i>ampliata</i>	Red Mallee					1	2					2
<i>Eucalyptus oleosa</i> ssp. <i>oleosa</i>	Red Mallee					2	2		2	1		4
<i>Eucalyptus phenax</i> ssp.								1				1
<i>Eucalyptus phenax</i> ssp. <i>phenax</i>	White Mallee	2										1
<i>Eucalyptus socialis</i> ssp.		2	2					2			2	4
<i>Eutaxia microphylla</i>	Common Eutaxia	2	1					1				3
<i>Exocarpos aphyllus</i>	Leafless Cherry									0.1		1
<i>Exocarpos sparteus</i>	Slender Cherry									0.1	1	2
<i>Geijera linearifolia</i>	Sheep Bush			1		0.1	2		0.5	0.1		5
<i>Goodenia varia</i>	Sticky Goodenia		2					1				2
<i>Grammosolen dixonii</i>		0.1									1	2
<i>Grevillea huegelii</i>	Comb Grevillea	0.1	0.1					0.1	0.1	0.1		5
<i>Grevillea pterosperma</i>	Dune Grevillea										0.5	1
<i>Hakea francisiana</i>	Bottlebrush Hakea		0.5					0.5				2
<i>Halgania cyanea</i>	Rough Blue-flower							0.1				1
<i>Hibbertia virgata</i>	Twiggy Guinea-flower	0.1										1
<i>Leptospermum coriaceum</i>	Dune Tea-tree	0.5									2	2
<i>Leucopogon cordifolius</i>	Heart-leaf Beard-heath	0.1										1
<i>Logania nuda</i>	Leafless Logania										0.1	1
<i>Lomandra effusa</i>	Scented Mat-rush			0.1	1					0.1		3
<i>Lomandra leucocephala</i> ssp. <i>robusta</i>	Woolly Mat-rush	1	0.5					0.5			0.5	4

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Species	Common Name	599SHD03701	599SHD06901	599SHI00101	599SHI00201	599SHI00301	599SHI00401	599SHI00501	599SHI00601	599SHI00701	599SHI00801	No. of sites
<i>Maireana brevifolia</i>	Short-leaf Bluebush			1						0.5		2
<i>Maireana erioclada</i>	Rosy Bluebush					0.5	1					2
<i>Maireana radiata</i>	Radiate Bluebush						0.1		0.1			2
<i>Maireana sedifolia</i>	Bluebush									0.1		1
<i>Maireana sp.</i>	Bluebush/Fissure-plant								0.1			1
<i>Maireana suaedifolia</i> SA: R	Lax Bluebush						0.1					1
<i>Medicago minima</i> var. <i>minima</i>	Little Medic			0.5	0.1							2
<i>Melaleuca lanceolata</i>	Dryland Tea-tree	1	2					2			1	4
<i>Melaleuca pauperiflora</i> ssp. <i>mutica</i>	Boree						2					1
<i>Microcybe multiflora</i> ssp. <i>multiflora</i>	Small-leaf Microcybe								0.1			1
<i>Myoporum platycarpum</i> ssp. <i>perbellum</i>	Mallee Sandalwood		1					1				2
<i>Myoporum platycarpum</i> ssp. <i>platycarpum</i>	False Sandalwood			0.5								1
<i>Nicotiana sp.</i>	Tobacco			0.1								1
<i>Olearia decurrens</i>	Winged Daisy-bush									1		1
<i>Olearia floribunda</i> var. <i>floribunda</i>	Heath Daisy-bush							0.1				1
<i>Olearia lepidophylla</i>	Clubmoss Daisy-bush	1						0.1			2	3
<i>Olearia muelleri</i>	Mueller's Daisy-bush						0.1		0.1			2
<i>Olearia passerinoides</i> ssp. <i>passerinoides</i>	Feather Daisy-bush		0.5					0.1				2
<i>Olearia pimeleoides</i> ssp. <i>pimeleoides</i>	Pimelea Daisy-bush							0.1				1
<i>Phebalium bullatum</i>	Silvery Phebalium	1	0.5					0.1			0.1	4
<i>Pittosporum angustifolium</i>	Native Apricot									0.1		1
<i>Prostanthera aspalathoides</i>	Scarlet Mintbush	0.5	0.1					0.5			0.1	4
<i>Ptilotus obovatus</i> var. <i>obovatus</i>	Silver Mulla Mulla									1		1
<i>Rhagodia crassifolia</i>	Fleshy Saltbush					0.1	1					2
<i>Rhagodia parabolica</i>	Mealy Saltbush					0.1	0.5		0.5			3
<i>Rhagodia spinescens</i>	Spiny Saltbush				1							1
<i>Rhagodia ulicina</i>	Intricate Saltbush						1			2		2
<i>Salsola tragus</i>	Buckbush			0.1								1
<i>Salvia verbenaca</i>	Wild Sage			2								1
<i>Santalum acuminatum</i>	Quandong						0.5		1			2
<i>Sarcozona praecox</i>	Sarcozona						0.5					1
<i>Scaevola spinescens</i>	Spiny Fanflower						0.5			0.1	0.1	3
<i>Schismus barbatus</i>	Arabian Grass			0.5		0.5						2
<i>Sclerolaena brevifolia</i>	Small-leaf Bindyi			2	2	1	1	0.				4
<i>Sclerolaena diacantha</i>	Grey Bindyi			1	0.5	0.1	1		0.1			5
<i>Sclerolaena holtiana</i>	Holt's Bindyi				2							1
<i>Sclerolaena patenticuspis</i>	Spear-fruit Bindyi			0.5								1
<i>Senna artemisioides</i> ssp. <i>X artemisioides</i>	Silver Senna									1		1

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Species	Common Name	599SHD03701	599SHD06901	599SHI00101	599SHI00201	599SHI00301	599SHI00401	599SHI00501	599SHI00601	599SHI00701	599SHI00801	No. of sites
<i>Senna cardiosperma ssp. gawlerensis</i>	Gawler Ranges Senna						0. 5					1
<i>Sida sp.</i>	Sida				0. 5							1
<i>Tecticornia disarticulata</i>						2	0. 5					2
<i>Threlkeldia diffusa</i>	Coast Bonefruit					1						1
<i>Thryptomene micrantha</i>	Ribbed Thryptomene	0. 5										1
<i>Triodia irritans</i>	Spinifex	3	3					3			3	4
<i>Vittadinia dissecta var. hirta</i>	Dissected New Holland Daisy			0. 1								1
<i>Westringia rigida</i>	Stiff Westringia								0. 1			1
<i>Zygophyllum apiculatum</i>	Pointed Twinleaf						0. 5		0. 1	0. 1		3
<i>Zygophyllum aurantiacum ssp. aurantiacum</i>	Shrubby Twinleaf					0. 1	1		0. 1			3
<i>Zygophyllum glaucum</i>	Pale Twinleaf								0. 1			1
<b>No. of taxa</b>	<b>108</b>	<b>26</b>	<b>19</b>	<b>17</b>	<b>13</b>	<b>20</b>	<b>29</b>	<b>25</b>	<b>19</b>	<b>30</b>	<b>19</b>	

### Floristic Vegetation Mapping

During the March 2008 fieldwork, brief notes from over 160 points around the two areas (Shirrocoe and Secret Rocks) were recorded in a GIS shapefile. Fifty opportunistic sites (recording vegetation community and species information) were entered into the Biological Database of South Australia (including 179 species records). Fifty-four plant samples were collected and lodged with the State Herbarium.

The most significant updates to the 2000 floristic mapping in the Shirrocoe and Secret Rocks area were a reduction in the amount of *Eucalyptus porosa* Mallee mapped and removal of *Maireana sedifolia* Shrubland communities. The initial area mapped as *E. porosa* Mallee was 1 668 ha and after updates only 606 ha remained mapped as *E. porosa* Mallee. Of this remaining 606 ha, only six ha occurs in Shirrocoe, the rest is located in Secret Rocks. The mapping change was generally to a vegetation community dominated by *Eucalyptus gracilis*, *E. brachycalyx* or *E. oleosa* (or a mix of these). Because these were large, old, well spaced trees they had a spectral signature (tone and texture) on the aerial imagery similar to that displayed by *Eucalyptus porosa*. This highlights the importance of on ground checking. Also, areas previously mapped as *Maireana sedifolia* Shrubland (57 ha) in the Shirrocoe lease were updated to other shrub communities as *M. sedifolia* dominated areas were not encountered during the fieldwork in 2008.

### Birds

Native bird species richness ranged from eight to 22 species at sites during the survey. A total of 36 species were detected across all sites, with an extra 14 species being recorded opportunistically in other parts of Shirrocoe (refer to Totals at bottom of Table 2.4). As with the plants, species richness during the May 2007 sampling period was low. It is likely that more species would be detected at sites during spring. Three species with a South Australian conservation rating of Rare were recorded during the survey. Only one of these was recorded at a site, a Restless Flycatcher (*Myiagra inquieta*) at site SHI00201 in a Low Shrubland dominated by Bitter Saltbush (*Atriplex stipitata*). The Shy Heathwren (*Hylacola cauta*) were recorded in mallee occurring near site SHI00601.

As with the plants there were few records in Shirrocoe for birds prior to the survey (18 species from the Australian Bird Atlas database (Birds Australia) and four records SA Museum collection). Of these, four species were not detected during the survey. The Malleefowl (*Leipoa ocellata*) is rated as Vulnerable at both SA and National levels – it is most likely to occur in the unburnt sandy areas of Shirrocoe (i.e. the south-western quarter). The other species included the Purple-crowned Lorrikeet (*Glossopsitta porphyrocephala*) and the Common Bronzewing (*Phaps chalcoptera*). When data from the adjacent Secret Rocks is included, the number of species for this area expands to 68, many of the records coming from Eyre Peninsula survey sites (refer to Table 2.5 for details).

Whilst there were no introduced species in the area during the survey it is probable that European Starlings would occasionally utilize some of the habitats present.

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**Table 2.4. Bird taxa recorded at survey sites during May 2007. Values indicate whether a species was recorded during one of both of the one hour visits to each site. The table is sorted by Family and subfamily then species.**

Native Bird Species	Common Name	Opportune	SHI00101	SHI00201	SHI00301	SHI00401	SHI00501	SHI00601	SHI00701	No. of sites
<i>Acanthagenys rufogularis</i>	Spiny-cheeked Honeyeater	1								0
<i>Acanthiza apicalis</i>	Inland Thornbill	1				3				1
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill				1					1
<i>Acanthiza uropygialis</i>	Chestnut-rumped Thornbill	1								0
<i>Aegotheles cristatus</i>	Australian Owlet-nightjar	1								0
<i>Amytornis striatus SA: R</i>	Striated Grasswren	1								0
<i>Anthochaera carunculata</i>	Red Wattlebird	1	1		1				1	3
<i>Anthus novaeseelandiae</i>	Australasian Pipit	1		1						1
<i>Aquila audax</i>	Wedge-tailed Eagle				1					1
<i>Artamus cyanopterus</i>	Dusky Woodswallow	1	1	1	1			1		4
<i>Barnardius zonarius</i>	Australian Ringneck, (Ring-necked Parrot)	1	2	1					1	3
<i>Cincloramphus cruralis</i>	Brown Songlark		1							1
<i>Cinclosoma castanotum</i>	Chestnut Quail-thrush	2					1			1
<i>Climacteris rufus</i>	Rufous Treecreeper		3		2					2
<i>Colluricincla harmonica</i>	Grey Shrike-thrush		1		1		1		1	4
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	1								0
<i>Corvus coronoides</i>	Australian Raven	1		1				1		2
<i>Cracticus tibicen</i>	Australian Magpie		1	1						2
<i>Cracticus torquatus</i>	Grey Butcherbird	3					1	2	2	3
<i>Daphoenositta chrysoptera</i>	Varied Sittella					1				1
<i>Dromaius novaehollandiae</i>	Emu	2	1			1			1	3
<i>Eolophus roseicapillus</i>	Galah		1							1
<i>Eopsaltria griseogularis</i>	Western Yellow Robin	1								0
<i>Falco cenchroides</i>	Nankeen Kestrel			1						1
<i>Hirundo neoxena</i>	Welcome Swallow			1						1
<i>Hylacola cauta SA: R</i>	Shy Heathwren (Shy Hylacola)	3								0
<i>Lichenostomus leucotis</i>	White-eared Honeyeater	4			2	4	4	1	1	5
<i>Lichenostomus ornatus</i>	Yellow-plumed Honeyeater	2								0
<i>Lichenostomus virescens</i>	Singing Honeyeater	1	2		1	1			1	4
<i>Malurus lamberti</i>	Variegated Fairy-wren	2				2	1	1	1	4
<i>Malurus leucopterus</i>	White-winged Fairy-wren			1						1
<i>Malurus pulcherrimus</i>	Blue-breasted Fairy-wren	1								0
<i>Melithreptus brevirostris</i>	Brown-headed Honeyeater	2								0
<i>Microeca fascinans</i>	Jacky Winter	2	1		2	1				3
<i>Myiagra inquieta SA: R</i>	Restless Flycatcher			1						1
<i>Ninox novaeseelandiae</i>	Southern Boobook	1								0
<i>Oreoica gutturalis</i>	Crested Bellbird	1	1			1				2
<i>Pachycephala pectoralis</i>	Golden Whistler	1				1				1
<i>Pardalotus punctatus</i>	Spotted Pardalote					1	2		1	3
<i>Pardalotus striatus</i>	Striated Pardalote	4	1		4	6	1	1	3	6
<i>Petrochelidon nigricans</i>	Tree Martin		1		1					2
<i>Petroica goodenovii</i>	Red-capped Robin	1	4							1
<i>Pomatostomus superciliosus</i>	White-browed Babbler	1	1		1	2	1			4
<i>Psephotus varius</i>	Mulga Parrot	3	4	2	1			1		4
<i>Purnella albifrons</i>	White-fronted Honeyeater	1								0
<i>Rhipidura albiscapa</i>	Grey Fantail	1							1	1
<i>Rhipidura leucophrys</i>	Willie Wagtail	2	2		1		1		1	4
<i>Smicromnis brevirostris</i>	Weebill	4	1		1	4	2	1	1	6
<i>Strepera versicolor</i>	Grey Currawong	2								0
<i>Zosterops lateralis</i>	Silvereye	2								0
<b>No. of species recorded</b>		<b>36</b>	<b>19</b>	<b>10</b>	<b>15</b>	<b>13</b>	<b>10</b>	<b>8</b>	<b>13</b>	<b>50</b>

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**Table 2.5. Bird data from all sources for the Shirrocoe and Secret Rocks area. Values indicate number of distinct point-in-time records, and may not represent accurately the numbers observed.**

Native Bird Species	Common Name	BIRD ATLAS DATA 1996-2006	EYRE PENINSULA FAUNA	SA MUSEUM VERTEBRATE DATA	SAOA NEWSLETTERS	SHIRROCOE MANAGEMENT PLAN SURVEY
<i>Acanthagenys rufogularis</i>	Spiny-cheeked Honeyeater	3	25			1
<i>Acanthiza apicalis</i>	Inland Thornbill	3	18			4
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill	2	4			1
<i>Acanthiza uropygialis</i>	Chestnut-rumped Thornbill		2			1
<i>Aegotheles cristatus</i>	Australian Owlet-nightjar		2			1
<i>Amytornis striatus</i> SA: R	Striated Grasswren		2		1	1
<i>Anthochaera carunculata</i>	Red Wattlebird	1	4			4
<i>Anthus novaeseelandiae</i>	Australasian Pipit					2
<i>Aquila audax</i>	Wedge-tailed Eagle					1
<i>Artamus cyanopterus</i>	Dusky Woodswallow	1	3			5
<i>Aythya australis</i>	Hardhead (White-eyed Duck)		1			
<i>Barnardius zonarius</i>	Australian Ringneck, (Ring-necked Parrot)	2	11			5
<i>Chalcites basalus</i>	Horsfield's Bronze-cuckoo		2			
<i>Cincloramphus cruralis</i>	Brown Songlark					1
<i>Cinclosoma castanotum</i>	Chestnut Quail-thrush		2	2		3
<i>Climacteris rufus</i>	Rufous Treecreeper		6			5
<i>Colluricincla harmonica</i>	Grey Shrike-thrush	7	15			4
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike		3			1
<i>Corvus bennetti</i>	Little Crow		1			
<i>Corvus coronoides</i>	Australian Raven		9			3
<i>Cracticus tibicen</i>	Australian Magpie	2	2			2
<i>Cracticus torquatus</i>	Grey Butcherbird	1	9			8
<i>Daphoenositta chrysoptera</i>	Varied Sittella		4			1
<i>Dicaeum hirundinaceum</i>	Mistletoebird	1	2			
<i>Dromaius novaehollandiae</i>	Emu		16			6
<i>Drymodes brunneopygia</i>	Southern Scrub-robin		4			
<i>Eolophus roseicapillus</i>	Galah	2	6			1
<i>Eopsaltria griseogularis</i>	Western Yellow Robin		10			1
<i>Eurostopodus argus</i>	Spotted Nightjar		2			
<i>Falco berigora</i>	Brown Falcon		1			
<i>Falco cenchroides</i>	Nankeen Kestrel	1	2			1
<i>Glossopsitta porphyrocephala</i>	Purple-crowned Lorikeet			1		
<i>Hirundo neoxena</i>	Welcome Swallow		1			1
<i>Hylacola cauta</i> SA: R	Shy Heathwren (Shy Hylacola)	2	1			3
<i>Leipoa ocellata</i> AUS: VU SA: V	Malleefowl		7	1		1
<i>Lichenostomus cratitius</i> SA: R	Purple-gaped Honeyeater		1			
<i>Lichenostomus leucotis</i>	White-eared Honeyeater	8	10			16
<i>Lichenostomus ornatus</i>	Yellow-plumed Honeyeater	1	17	1		2
<i>Lichenostomus virescens</i>	Singing Honeyeater	3	11			6
<i>Malurus lamberti</i>	Variegated Fairy-wren					7
<i>Malurus leucopterus</i>	White-winged Fairy-wren					1
<i>Malurus pulcherrimus</i>	Blue-breasted Fairy-wren	4	22			1
<i>Malurus splendens</i>	Splendid Fairy-wren	3	6			
<i>Manorina flavigula</i>	Yellow-throated Miner		1			
<i>Melanodryas cucullata</i>	Hooded Robin		1			
<i>Melithreptus brevirostris</i>	Brown-headed Honeyeater		3			2
<i>Merops ornatus</i>	Rainbow Bee-eater		4			
<i>Microeca fascians</i>	Jacky Winter		3			6
<i>Myiagra inquieta</i> SA: R	Restless Flycatcher					1
<i>Ninox novaeseelandiae</i>	Southern Boobook			1		1
<i>Oreoica gutturalis</i>	Crested Bellbird	6	12			3
<i>Pachycephala inornata</i> SA: R	Gilbert's Whistler		8			
<i>Pachycephala pectoralis</i>	Golden Whistler	2	7			2
<i>Pachycephala rufiventris</i>	Rufous Whistler		7			
<i>Pardalotus punctatus</i>	Spotted Pardalote	5	6			4
<i>Pardalotus striatus</i>	Striated Pardalote	5	8			20
<i>Petrochelidon nigricans</i>	Tree Martin		2			2
<i>Petroica goodenovii</i>	Red-capped Robin	2	9			5
<i>Phaps chalcoptera</i>	Common Bronzewing	3	13			



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Native Bird Species	Common Name	BIRD ATLAS DATA 1996-2006	EYRE PENINSULA FAUNA	SA MUSEUM VERTEBRATE DATA	SAOA NEWSLETTERS	SHIRROCOE MANAGEMENT PLAN SURVEY
<i>Podargus strigoides</i>	Tawny Frogmouth		1			
<i>Pomatostomus superciliosus</i>	White-browed Babbler	3	22			6
<i>Psephotus varius</i>	Mulga Parrot		1			11
<i>Purnella albifrons</i>	White-fronted Honeyeater	1	18			1
<i>Rhipidura albiscapa</i>	Grey Fantail		1			2
<i>Rhipidura leucophrys</i>	Willie Wagtail		6			7
<i>Smicromis brevirostris</i>	Weebill	7	14			14
<i>Strepera versicolor</i>	Grey Currawong	1	11			2
<i>Zosterops lateralis</i>	Silvereye		10			2
<b>No. of species</b>	<b>68</b>	<b>28</b>	<b>60</b>	<b>5</b>	<b>1</b>	<b>51</b>

### Mammals

Native mammal species richness was relatively high for sites in mallee regions, particularly the carnivorous marsupials (Dasyurids) with four species (Table 2.6). Site records for kangaroos were all from tracks and scats which could theoretically be from three species. Only the Western Grey Kangaroo (*Macropus fuliginosus*) was observed in the area at the time of survey, however it is likely that the Red Kangaroo (*M. rufus*) and Euro (*M. robustus*) would both be present in the area. Seven species of bat were detected using echolocation of which three were confirmed with captures at three sites. As no *Mormopterus* sp. were captured it is not possible to confirm identification to species level, however they would most likely represent the Southern Freetail Bat (*Mormopterus* sp 4). The two species of *Vespadelus* detected should also not be treated as certain as no vouchers have been collected in this area. Introduced species were also found to be sparse and restricted to specific habitats. Rabbits and House Mice were in the more open herbland and low chenopod shrubland whilst sign of foxes were found on the rocky hilltop.

Records from the SA Museum and previous opportune collections recorded eight of the species listed in Table 2.6. They also recorded the Western Pygmy Possum (*Cercartetus concinnus*) which was not recorded during the Shirrocoe survey, possibly due to the cold nights. Data from the adjacent Secret Rocks add the Euro to this list. The earlier records detected four introduced species, adding goats (*Capra hircus*) and cats (*Felis catus*) to the survey list.

**Table 2.6. Mammal taxa recorded at survey sites during May 2007. Values indicate the number of records for each species at those sites from four nights trapping. Bat echolocation data is noted by an asterisk “\*”.**

SUB FAMILY NAME	SPECIES	COMMON NAME	599SHI00101	599SHI00201	599SHI00301	599SHI00401	599SHI00501	599SHI00601	599SHI00701	No. of sites
<b>Native Mammals</b>										
DASYURIDAE Planigalinae	<i>Ningauy yvonneae</i>	Southern Ningauy					1			1
DASYURIDAE Sminthopsinae	<i>Sminthopsis crassicaudata</i>	Fat-tailed Dunnart		1						1
DASYURIDAE Sminthopsinae	<i>Sminthopsis dolichura</i>	Little Long-tailed Dunnart		1	1					2
DASYURIDAE Sminthopsinae	<i>Sminthopsis psammophila</i> Aus:EN SA:V	Sandhill Dunnart					3			1
MURIDAE Hydromyinae	<i>Notomys mitchellii</i>	Mitchell's Hopping-mouse					1			1
MACROPODIDAE	<i>Macropus</i> sp.		1	1	1					3
MOLOSSIDAE	<i>Tadarida australis</i>	White-striped Freetail-bat	*	*	*	*	*			5
MOLOSSIDAE	<i>Mormopterus</i> sp.	Freetail Bat	*	*	*	*	*			
VESPERTILIONIDAE Nyctophilinae	<i>Nyctophilus geoffroyi/timoriensis</i>	Long-eared Bat	*			*				3
Nyctophilinae	<i>Nyctophilus geoffroyi</i>	Lesser Long-eared Bat			1					1
Nyctophilinae	<i>Nyctophilus timoriensis</i>	Greater Long-eared Bat					1			1
Vespertilioninae	<i>Chalinolobus gouldii</i>	Gould's Wattled Bat	*	*	1	3*	*			5
Vespertilioninae	<i>Vespadelus regulus</i>	Southern Forest Bat	*			*				1
Vespertilioninae	<i>Vespadelus baverstocki</i>	Inland Forest Bat	*							
<b>Introduced Mammals</b>										
MURIDAE Murinae	<i>Mus musculus</i>	House Mouse		2						1

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SUB FAMILY NAME	SPECIES	COMMON NAME	599SHI00101	599SHI00201	599SHI00301	599SHI00401	599SHI00501	599SHI00601	599SHI00701	No. of sites
LEPORIDAE	<i>Oryctolagus cuniculus</i>	Rabbit (European Rabbit)	1	1						2
CANIDAE	<i>Vulpes vulpes</i>	Fox (Red Fox)							2	1
		<b>Native species</b>	<b>7</b>	<b>6</b>	<b>6</b>	<b>5</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>10</b>
		<b>Introduced species</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>

## Reptiles

The return on effort for the reptile survey was low (Table 2.7). This could reflect a combination of a previously very dry spring which, as for plants and other animals, is likely to have contributed to sparse populations. Whilst day time temperatures appeared to be suitable for small reptile activity, the nights were very cold (around zero) which would have limited the effectiveness of nocturnal trapping and if soil temperatures remained cold, could also have impacted on diurnal trap effectiveness. This is reflected in the fact that only individuals of any one species were detected at sites, which combined with the search effort, suggests very sparse populations of even the normally common species. A late spring - summer sample would greatly improve on these results.

A list of species from the SA Museum collection and all other sources of opportune information indicates that at least 44 species are known to have occurred within Shirrocoe and when the 27 species recorded on the adjacent Secret Rock Reserve are included, this grows to 49 species (Table 2.8). Four of these species have only been recorded in these two reserves of those selected for this study. These were the Gidgee Skink (*Egernia stokesii*), Tree Skink (*E. striolata*), Carpet Python (*Morelia spilota*) and Mitchell's Short tailed Snake (*Parasuta nigriceps*). Two species have South Australian conservation ratings of Rare, the Carpet Python and the Bardick (*Echiopsis curta*).

**Table 2.7. Reptile taxa recorded at survey sites during May 2007. Values indicate the number of records for each species at those sites from four nights trapping, and one to two hours searching at each site.**

SUB FAMILY NAME	SPECIES	COMMON NAME	599SHI00101	599SHI00201	599SHI00301	599SHI00401	599SHI00501	599SHI00601	599SHI00701	No. of sites
AGAMIDAE	<i>Ctenophorus fionni</i>	Peninsula Dragon							1	1
CARPHODACTYLIDAE	<i>Nephurus stellatus</i>	Starred Knob-tailed Gecko					1			1
DIPLODACTYLIDAE	<i>Lucasium damaeum</i>	Beaded Gecko				1				1
GEKKONIDAE	<i>Gehyra lazelli</i>	Southern Rock Dtella	2							1
GEKKONIDAE	<i>Heteronotia binoei</i>	Bynoe's Gecko							1	1
PYGOPODIDAE	<i>Lialis burtonis</i>	Burton's Legless Lizard					1			1
SCINCIDAE	<i>Cryptoblepharus australis</i>	Desert Wall Skink				1				1
SCINCIDAE	<i>Ctenotus schomburgkii</i>	Sandplain Ctenotus	1							1
SCINCIDAE	<i>Cyclodomorphus melanops</i>	Spinifex Slender Bluetongue					1			1
SCINCIDAE	<i>Egernia</i> sp. (striolata?)	? Tree Skink	1							1
SCINCIDAE	<i>Liopholis inornata</i>	Desert Skink				1				1
SCINCIDAE	<i>Morethia boulengeri</i>	Common Snake-eye				1				1
SCINCIDAE	<i>Tiliqua occipitalis</i>	Western Bluetongue	1							1
ELAPIDAE	<i>Pseudechis australis</i>	Mulga Snake							1	1
		<b>Native species</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>13</b>

**Table 2.8. Reptile records from all sources. Numbers reflect number of individual site records (could include multiple observations). Species highlighted in bold were identified as only having been recorded in these two reserves, within the reserves listed in Table 1.6.**

SPECIES	COMMON NAME	NPW ACT	Secret Rocks	Shirrocoe
<i>Acanthophis antarcticus</i>	Common Death Adder			5
<i>Aprasia inaurita</i>	Red-tailed Worm-lizard			2
<i>Christinus marmoratus</i>	Marbled Gecko			1
<i>Cryptoblepharus australis</i>	Desert Wall skink			6
<i>Ctenophorus cristatus</i>	Crested Dragon		5	8

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SPECIES	COMMON NAME	NPW ACT	Secret Rocks	Shirrocoe
<i>Ctenophorus fionni</i>	Peninsula Dragon		19	11
<i>Ctenophorus fordi</i>	Mallee Dragon		2	6
<i>Ctenophorus pictus</i>	Painted Dragon			2
<i>Ctenotus atlas</i>	Southern Spinifex Ctenotus		4	
<i>Ctenotus euclae</i>	Bight Coast Ctenotus		2	2
<i>Ctenotus regius</i>	Eastern Desert Ctenotus		1	
<i>Ctenotus robustus</i>	Eastern Striped Skink		1	6
<i>Ctenotus schomburgkii</i>	Sandplain Ctenotus		7	2
<i>Cyclodomorphus melanops</i>	Spinifex Slender Bluetongue		2	2
<i>Delma australis</i>	Barred Snake-lizard		4	2
<i>Delma butleri</i>	Spinifex Snake-lizard		2	3
<i>Delma petersoni</i>	Snake-lizard		3	3
<i>Demansia reticulatus</i>	Desert Whipsnake			1
<i>Diplodactylus calcicolus</i>	Western Stone Gecko		3	1
<i>Diplodactylus furcosus</i>	Eastern Stone Gecko		2	2
<i>Echiopsis curta</i>	Bardick	R	2	
<i>Egernia inornata</i>	Desert Skink		2	4
<b><i>Egernia stokesii</i></b>	<b>Gidgee Skink</b>			<b>1</b>
<b><i>Egernia striolata</i></b>	<b>Eastern Tree Skink</b>			<b>8</b>
<i>Gehyra lazellii</i>	Southern Rock Dtella		7	6
<i>Gehyra variegata</i>	Tree Dtella			1
<b><i>Hemiergis initialis</i></b>	<b>Western Earless Skink</b>		<b>4</b>	<b>3</b>
<i>Hemiergis millewae</i>	Rusty Earless Skink			10
<i>Hemiergis peronii</i>	Four-toed Earless Skink		2	
<i>Heteronotia binoei</i>	Bynoe's Gecko			10
<i>Lerista dorsalis</i>	Southern Four-toed Slider		2	4
<i>Lerista edwardsae</i>	Myall Slider		14	5
<i>Lerista terdigitata</i>	Southern Three-toed Slider		2	
<i>Lialis burtonis</i>	Burton's Legless Lizard			7
<i>Lucasium damaeum</i>	Beaded Gecko		5	12
<i>Menetia greyii</i>	Dwarf Skink		4	6
<i>Moloch horridus</i>	Thorny Devil		1	3
<b><i>Morelia spilota</i></b>	<b>Carpet Python</b>	<b>R</b>		<b>1</b>
<i>Morethia boulengeri</i>	Common Snake-eye			8
<i>Morethia obscura</i>	Mallee Snake-eye		1	2
<i>Nephrurus milii</i>	Barking Gecko			6
<i>Nephrurus stellatus</i>	Starred Knob-tailed Gecko		6	2
<i>Pogona vitticeps</i>	Central Bearded Dragon			2
<i>Pseudechis australis</i>	Mulga Snake			2
<i>Ramphotyphlops bicolor</i>	Southern Blind Snake			1
<i>Simoselaps semifasciatus</i>	Half-girdled Snake			2
<i>Strophurus intermedius</i>	Southern Spiny-tailed Gecko			3
<b><i>Suta nigriceps</i></b>	<b>Mitchell's Short-tailed Snake</b>			<b>1</b>
<i>Tiliqua rugosa</i>	Sleepy Lizard			1
<b>No. of species</b>	<b>49</b>		<b>27</b>	<b>44</b>

# PART 3: ASSESSMENT OF DISTURBANCE AND THREATS TO SHIRROCOE BLOCK

John McDonald

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## Introduction

An analysis of threats and disturbances essentially outlines the extent and intensity of biodiversity liabilities and the agents promoting them. Providing a basic analysis in the short time-frame involved a regional desk-top appraisal of known pest plants and animals, a systematic survey of ecosystem condition and opportune observations during fieldwork.

### Known Disturbance History

The mallee ecosystems of Shirrocoe have never been agriculturalised, so problems of extensive clearing and habitat fragmentation are not of major concern. A partly cleared landscape is on the southern margin.

Clearing and fragmentation issues on the property include construction of the railway/utilities corridor, power line and pastoral infrastructure. Significant habitat change adjacent to these may be minimal, but they provide thoroughfares for the spread of weeds and barriers to movement of species reliant on dense undergrowth for foraging or migration. Similar barriers are made by the Kimba Road and Cowell Road on the northern and southern margins.

The varied disturbance history of Shirrocoe has changed in recent years (Source – Jacobs, former Pastoral Lessees). After a relatively long history of pastoral use, stock were removed in 2005. During its pastoral use, parts of the property were annually burnt in Autumn, to improve pasture quality, particularly the mallee-spinifex communities nearer water-points. Such practices were discontinued after 1980, but in 1990 an extensive fire burnt out much of the northern part of the property, maybe reflecting the return of a more natural fire regime.

Ongoing, extensive herbivore disturbances include kangaroos, rabbits and goats. With no controlling predators such as dingo or aborigine, kangaroos are likely to occur in greater density than they would have in a natural ecosystem, and goats and rabbits are an exotic disturbance to which natural ecosystems are also not adapted.

Foreign predators, whose impact is not easy to evaluate in a quick assessment, include the fox and cat. An index of their presence and spread may infer something of their potential impact. Though not cleared, extensively agriculturalised fields are in the district and cleared flats lie immediately south of Shirrocoe, with the ever-present threat of pest plants invading the block.

### Ecosystem Condition

Ecosystem condition was crudely measured with an adaptation of the Land Condition Index (LCI) used in Pastoral Condition Assessment. Long term ungulate herbivory induces predictable change to plant community structure, perennial species composition and soil surface appearance expressed as condition class criteria in the Gawler Ranges LCI Technical Manual (Pastoral Management Board 1992) With the current degree of grazing also factored into the evaluation, the technique was considered ideal to evaluate the impact of past (sheep) and current (feral goat) browsing.

LCI condition criteria for composition, structure and soil surface, focus on pastoral value and are at best a coarse consideration of habitat quality. In condition class criteria, the abundant presence of a favourable indicator whether as mature plants or only as seedlings, overshadows presence of any weedy shrubs, whether native or exotic. Therefore other condition indicators were included in survey procedures on a trial basis, to better document habitat quality. Such indicators included fire scars, canopy content and mallee form (as a measure of fire impacts), lichen/litter quality and extent, presence of large vertebrates and pest plant occurrence.

## Methodology

The LCI uses a random sample of sites uniformly distributed along an existing track network. The number of sites in a sample depends on the area of the property, with 80 sites being used for properties of less than 500 km<sup>2</sup> (Figure 3.1). Total track length was divided into 80 distance intervals of equal length and a site randomly chosen within each interval, measured in 0.1 km steps using vehicle trip meter. Approaching the end of the specified interval, the vehicle slows to walking speed and stops immediately when the odometer trips onto the selected distance.

From an arbitrary position on one side of the vehicle, an observer steps out ten paces into the vegetation. Except in specific circumstances, this remains unchanged throughout sampling. At the end of the ten paces, the observer stands before a “virtual” square quadrat, extending 50 m ahead, 25 m to the left and 25 m to the right.

Community structure, perennial species composition and abundance and soil surface are described within the quadrat to identify pasture component (land type) and evaluate condition as Undisturbed, Moderately Disturbed and Highly Disturbed according to criteria for the pasture component outlined in the Gawler Ranges LCI Technical Manual (Pastoral Management Board 1992).

Respectively scoring 3, 2, or 1 point for each level of disturbance, an LCI is derived from the weighted average of the sample condition scores. The LCI lies in the range of 1 to 3, with better condition at the higher end.

Standard LCI data recording includes cumulative distance (also a de facto unique site id), interval, pasture component and score (class), UTM/UPS coordinates, an image identifier and community composition and species abundance.

Plant species are recorded for the stratum in which they are most abundant at each sample site, a recording style tried here for the first time. Abundance is expressed as CSR Class (which LCI manuals use). Strata classes are Tree/Mallee, Shrubs exceeding 2 m, Shrubs 1-2 m, Shrubs less than 1m and Groundcover layers.

### Additional Habitat Quality Data

The following were recorded at each sample site:

#### *Lichen and Litter*

Depth and continuity of lichen crusts as well as extent of lichen and litter coverage are used to indicate soil surface condition. The hard ungulate hoof has substantial impact on soil crusts (refer to Table 3.3 for details).

#### *Pest Plants*

The presence of any exotic plant species is noted in two places inside the virtual quadrat and on the track where the vehicle stops, allowing some comparison of weeds encroaching native vegetation as opposed to those spreading only along the track network.

#### *Community Structure*

Structural Formation and Vegetation Structural Summary as recorded for the Vegetation Survey component of Biological Survey of SA

#### *Tree/Mallee Canopy*

Identical to the Upper Stratum Age Class as used in Vegetation Survey component of Biological Survey of SA, but for all canopy species, not just dominant species. The general height range of the canopy is recorded in metres.

#### *Mallee Form*

Somewhat of an adjunct to Tree/Mallee canopy in attempting to better elaborate age class, mallee forms were classed as predominantly single or multi-stem plants, with range of average dbh (diameter at breast height) of multi-stem Mallee clumps also indicated using ranges <50 mm, 50-100 mm, 100-200 mm, >200 mm. Single-stem trees noted as branching above or below 2 m. For multi-stem plants the general presence of central stump is also noted.

#### *Fire sign*

The presence or absence of clear fire signs, mainly a charred surface on standing trunks, or fallen branches, or loose charcoal on the soil surface.

#### *Vertebrate presence*

Signs or sightings of large vertebrates, herbivores and predators, both native and exotic are noted to provide some indication of their presence.

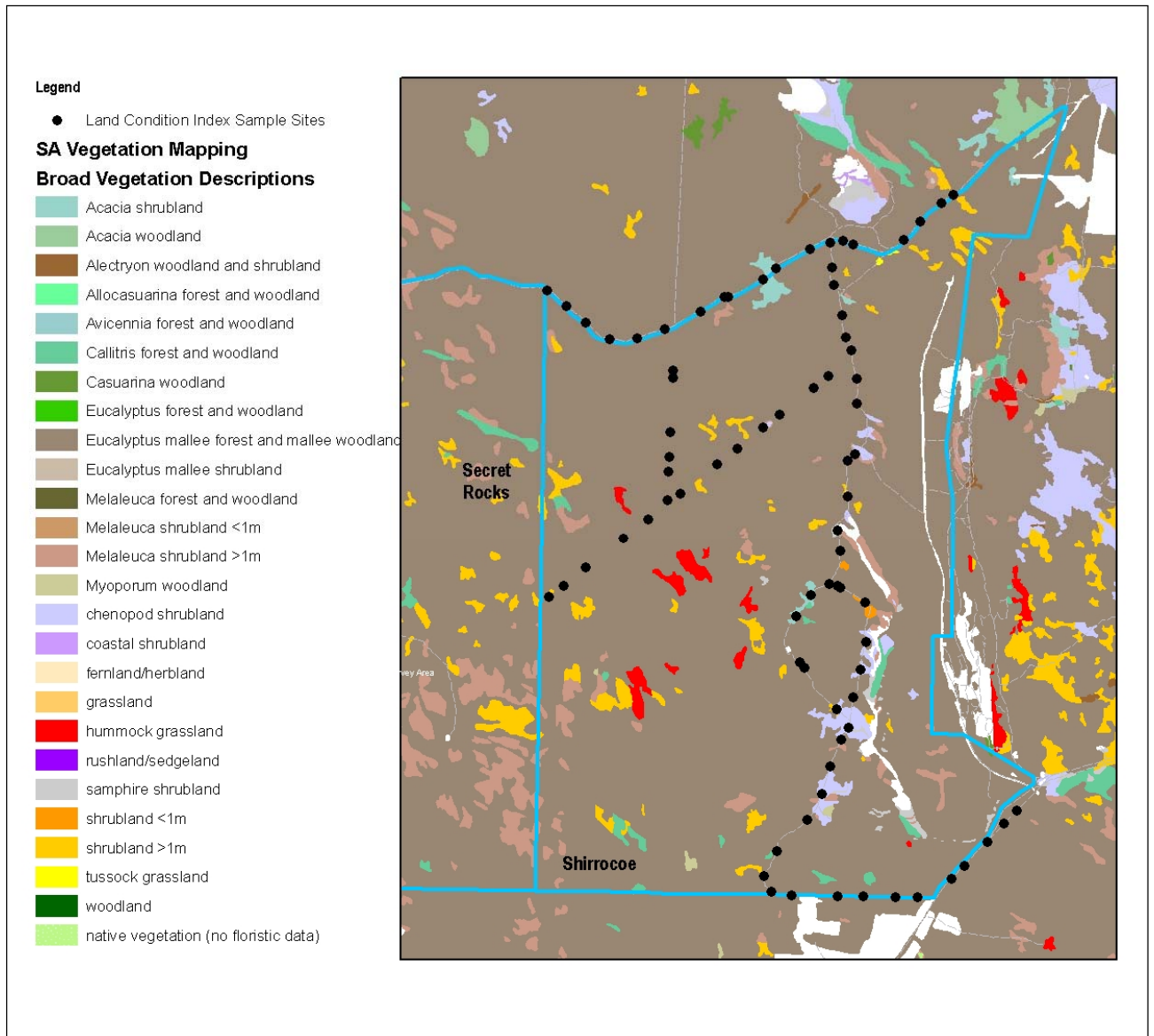


Figure 3.1 Sites visited to Assess Land Condition Index (LCI) at Shirrocoe during 2008 survey.

## Results

### General

Three generalised land types occur on Shirrocoe; each comprising a variety of specific plant associations:

- Saltbush plains and saline flats – flat to undulating plains of *Atriplex* shrublands dotted with flats and depressions of samphire shrublands
- Mallee calcareous plains – flat to undulating plains of mallee and open mallee on sandy calcareous earths
- Low mallee spinifex sands – low dunefields and thick sheets of coarse sand with low and open low mallee over spinifex understoreys

In terms of track length and sites sampled, the survey almost achieved the target distance and number (Table 3.1). The track network however, tended to slightly over-represent mallee calcareous plains in the sample, at the expense of the low mallee-spinifex sands. Limited access to the south-west corner of Shirrocoe prohibited more extensive sampling. A more representative land type sample could be achieved if either a new boundary track is developed or the old vermin-proof fence track is rehabilitated. Such access would permit condition traverses repeated at 5-7 year intervals that would adequately sample the major land types of the property proportional to their areal extent. The first traverse would be a baseline measure with subsequent repeats functioning as monitoring device. By nesting the 79 sites of 2007 within future traverses, comparisons with this year would be possible also.

**Table 3.1: General results of Shirrocoe Condition Survey.**

Feature	Planned	Actual
No. of Sample Sites	80	79
Traverse length	65.6 km	63.8 km
Land Types Sampled (%)	Areal Extent *	Traverse
Saltbush plains and saline flats	5	7.5
Mallee calcareous plains	65	71
Low Mallee spinifex sands	30	21.5

\* estimated percentage based on a coarse map of general land types for Shirrocoe

### Specific Results

#### Land Condition

Condition class scores as relative frequencies are indicated in Table 3.2.

**Table 3.2. Percentage frequency of land condition class scores.**

Pasture Component		Class 3	Class 2	Class 1	Total
		Nil to slight disturbance	Moderate disturbance	Strong disturbance	
<i>1c</i>	Saltbush plains and saline flats	5	2.5	0	<b>7.5</b>
<i>2d</i>	Mallee calcareous plains	57	14	0	<b>71</b>
<i>2f</i>	Low mallee spinifex sands	19	2.5	0	<b>21.5</b>
<b>Total</b>		<b>81</b>	<b>19</b>	<b>0</b>	<b>100</b>

Such scores translate to a Land Condition Index of 2.81, the second highest in the District. The highest recorded Index during Pastoral assessment (1992-93) was 2.91, with second and third scoring between 2.75 and 2.79. No LCI was calculated for Shirrocoe in this time, so there is no early comparison.

The high index largely derives from high incidences of Class 3 scores found in each pasture type. Essentially the palatable perennial species expected to be found at the sites, remain in sufficient abundance to be a renewable population and currently are not subject to heavy grazing. Such contributions also largely derive from the good condition of the mallee spinifex sands and calcareous plains components as too little of the Saltbush plains pasture component is sampled to indicate its spectrum of condition.

Mallee calcareous plains pasture component is the only land type showing notable disturbance, with 14% of the sample displaying either removal of the palatable species, or no recovery from heavy grazing pressure on their remnants. Nearly all sites with Class 2 scores lie on the transect from grazed areas in the NE corner through Cooks Lagoon Dam to Bottom Dam. Half of these sites were scored as 2 due to persisting strong grazing impacts induced by stock on palatable perennial species, which when recovered would score as 3, creating a potential index of 2.88.

No site recorded a Class 1 score. Characterised by the absence of palatable and moderately palatable perennials, invasion of weedy species (either native or exotic) and degree of soil disturbance exceeding moderate, the only likely candidate for such a score is the small area around Bottom Dam where *Salvia* sp Herblands and *Dodonaea* sp Tall Open Shrublands have replaced a *Myoporum platycarpum* Open Low Woodland with *Atriplex vesicaria* understorey. This may have been the only area of such woodland on Shirrocoe.

### General Condition Summary

Long term stock grazing has induced substantial habitat modification only in close proximity to the water points. While general landscape is unaffected, specific habitats of depressions in which water points are located may be modified substantially (e.g. lignum wetlands around Cooks Lagoon Dam).

### Lichen and Litter

Lichen here refers generally to the biological soil crust. On Shirrocoe it is found principally between mallee clumps being better developed in more open areas. Conversely, litter in the form of bark, leaves and twigs, is characteristic of ground-surface directly beneath mallee crowns.

**Table 3.3. Frequency of indicators used to assess factors related to the biological soil crust.**

<b>Crust Depth</b>	<b>Frequency of Quadrats (%)</b>
- Thick crust	67.1
- Thin crust	29.1
- No crust	3.8
<b>Crust Extent</b>	
- Continuous	1.3
- Spotted	17.7
- Fragmented	77.2
- None	3.8
<b>Lichen and Litter Cover Ratio</b>	
- Lichen < Litter notably	57
- Lichen and Litter approximately equal	26.6
- Lichen > Litter notably	16.4
<b>Lichen and Litter Cover Extent</b>	
- Lichen and Litter < 20%	7.6
- Lichen and Litter 20-50%	45.6
- Lichen and Litter > 50%	46.8

There are no established standards for litter and lichen coverage, but frequencies strongly suggest groundcover condition is generally very good and consistent with good vegetation condition as indicated by the LCI (Table 3.3). The high instances of thick crusts (67.1% of sites), very low instances of sites lacking crusts (3.8%) and combined cover of lichen and litter exceeding 50% (46.8% of sites) with only 7.6% of sites exhibiting combined cover below 20% are the main indicators of good surface condition. Combined with the generally abundant vegetation, the ground surface is well protected from major disturbances, as also indicated by the general lack of erosion indicators influencing poorer sample site scores.

The extent of lichen fragmentation (seen in 77.2% of sample sites) may relate to the high incidence of kangaroos, especially in the mallee spinifex sands communities because spinifex clumps induce larger animals to travel in the space between them – the space where crusts develop. Similar arguments apply to mallee plains communities where abundant shrubs form a dense understorey. In the sample sites between Cooks Lagoon and Bottom Dam, remnant stock padding is a major expression of fragmentation.

It is difficult to quantify problematic fragmentation in a rapid survey. Some sites recorded as fragmented, had crust blocks exceeding 2-3 metres on each margin and separated only by thin animal pads. In the vicinity of dams, broad stock pads had broken the crusts into irregular blocks less than half a metre on any side. The telling factor is the



prominence of thick cryptogamic crust – even where moderately fragmented, thick, dark cyano-bacterial crusts, dotted with pink, white and orange crustose forms and sprinkled with foliose and thallose forms, constantly seemed more prevalent than thin, pale cyano-bacterial crusts lacking the other forms. The spotted crusts are very likely areas of continuous crust, where digging animals (echidnas, goannas, rabbits etc) have broken the surface. If so, then 19% of sample sites record an unbroken and intact soil crust. This type of crust disturbance is important in providing recruitment opportunities for plants.

Lichen and litter cover ratio are perhaps not very telling in this instance. It may have been if Shirrocoe had been much more adversely affected by stock. In this instance it shows litter provides much greater ground cover than cryptogams and its characteristics may provide insight to habitat diversity. An analysis of type of litter (foliage off regrowing clumps, bark strips off mature mallee, twigs from incompletely burnt fallen branches, spinifex needles etc), its location (under crowns, between crowns, burnt areas, unburnt areas) and its relationship with cryptogam cover may have been more revealing about disturbance impacts.

Possibly, the major value of this data would come from complex correlations with vertebrate presence and vegetation composition.

#### Lichen and litter summary

While ensuring more than adequate ground surface protection, the variety and extent of litter types also provides greater diversity of habitat. Despite notable degree of fragmentation of cryptogamic cover, there likely remains sufficient quality and quantity of crust to have nutrient cycling maintained at optimum levels.

#### Pest Plants

Few pest plant species were encountered in quadrats/transects, 6% of sampled quadrats and 2% of side tracks (Table 3.4.)

**Table 3.4. Number of occurrences of exotic species recorded at quadrats and along tracks.**

Weed Species	Quadrat Occurrences	Trackside Occurrences
<i>Salvia verbenaca</i>	1	3
<i>Marrubium vulgare</i>	0	1
<i>Asphodelus fistulosus</i>	0	1
<b>Total Species Observations</b>	<b>1</b>	<b>5</b>
<b>Total Site Observations</b>	<b>1</b>	<b>3</b>

Each of these occurrences are associated with high disturbance areas. *Salvia verbenaca* inside the quadrat and trackside is only 300 m from Bottom Dam in the highly disturbed former *Myoporum platycarpum* Open Woodland, where the *Salvia* sp now dominates groundcovers; another trackside *Salvia* sp observation is on the northern edge of this disturbed area. Trackside occurrences of *Salvia* sp and *Marrubium* sp at same site are only 200 m from White Tank. The *Asphodelus fistulosus* is occurred on edges of Highway One.

The table suggests that most weed species will be found on the tracks, relative to bushland areas. While likely true, anecdotal evidence indicates the water points also contain a greater diversity of exotic species as indicated in Table 3.5.

**Table 3.5. Presence of exotic species at each dam in the study area.**

Weed species	Cooks Lagoon Dam	White Tank	Makin Dam	Bottom Dam
<i>Salvia verbenaca</i>				X
<i>Marrubium vulgare</i>		X	X	X
<i>Heliotropium europaeum</i>		X	X	
<i>Dittrichia graveolens</i>		X	X	
<i>Chenopodium</i> sp			X	
<i>Citrullus lanatus</i>		X	X	
<i>Cucumis myriocarpus</i>		X	X	
<i>Nicotiana</i> sp			X	
Unidentified sp 1	X			
Unidentified sp 2	X			

*Dittrichia graveolens* and *Salvia* sp also noted at very old waterpoint and adjacent tracks, 5.4 km north of White Dam.

*Asphodelus fistulosus* dominates the cleared field on the southern boundary, just east of where the track from Bottom Dam meets the old boundary fence. Continued cattle grazing in this paddock will ensure persistence of onion weed, which poses persistent risk of invasion. Similarly for the onion weed that characterizes roadside verges of Highway One farther east. Along this southern boundary, adjoining areas of Shirrocoe are deep sands not readily favoured by onion weed, which if it spreads into the park from here will likely move into the flats, particularly after fires.

### Pest Plants Summary

Areas of bushland are relatively unaffected by exotic species unless they are close to waterpoints, or near to tracks. Concentrated efforts for weed control are best applied to former waterpoints where the greatest diversity and abundance exists.

### Vertebrate presence

Distribution of vertebrate sightings through the 79 sample quadrats is shown in Table 3.6.

**Table 3.6. Distribution of vertebrate sightings across the sample sites.**

Vertebrate	Sighted	Tracks	Dung	Residence	Browse	Quads
Kangaroo	0	43	65	22	7	74
Emu	1	7	4	0	0	11
Echidna	0	4	0	0	0	4
Rabbit	0	3	4	1	0	5
Goat	0	4	9	0	4	14
Sheep	0	20	2	0	4	20
Fox	1	0	2	0	N/A	3
Cat	0	0	0	0	N/A	0
Dog	0	0	0	0	N/A	0

As expected, kangaroos, a mix of Grey Kangaroos and Euros, dominate the vertebrate sightings. None were seen, and the few incidences of browse is more likely due to unavailability of grasses because of the extended dry season. It is somewhat awkward to gauge kangaroo impacts using perennial plant species as indicators, and their actual impacts may not be established at present.

The few signs of echidnas and foxes and lack of sign of dogs and cats may be more due to observer's general lack of experience in fauna observations, and above frequencies for these should mark only a minimum estimation of occurrence.

Sheep presence is marked mainly in the persistence of heavy browsing and strong padding of the soil surface. Virtually all occurrences are at sites along track from Cooks Lagoon Dam to Bottom Dam. Seven of the 20 sites where stock impacts were noted score as Class 2 (15 sites overall score Class 2), but 13 sites with notable past stock presence still score as Class 3.

Stock signs outnumber those of goats, but goats are more current and show distinct concentration in north-west corner of Shirrocoe. This area is the most extensively affected by fires, with relatively more open understorey. Their signs were never abundant and generally seen at sites that scored Class 3, so likely are not numerous and could be explained as transient populations.

No animals were sighted on the quadrats. The skull of a fox and eggshell of emu accounted for the two sightings.

### Vertebrate presence summary

Apart from kangaroos, the good condition score combined with low instances of herbivore presence, means larger herbivores currently exert no severe impact over Shirrocoe. Stock have left severe local impacts, but affected areas are now significantly intact, enabling a natural recovery.

### Fire Impact

A more detailed analysis of fire impact is contained in canopy description below. Generally, Shirrocoe is markedly affected by fire as shown by abundance of obvious fire signs (Table 3.7) which would relate mainly to recent fires. At

six of the 79 sites, mainly in Mallee plains component, charred surfaces seemed much more weathered and probably reflect older fires.

**Table 3.7. Total fire scars recorded at the sample sites grouped by habitat type.**

Fire Sign	Total Quadrats	1c – Saltbush plains	2d – Mallee plains	2f – Mallee spinifex
No Obvious Sign	29	6	19	4
Obvious Sign	50	0	37	13

Fires in saltbush plains are only likely to occur:

- After extended dry season that succeeded heavy warm season rains which generates thick, grassy groundcovers.
- With strongly gusting winds that enable carriage of a fire through the open mallee canopy (but leave open saltbush shrubland little affected).

Saltbush has no tolerance to fire, and its return to areas from where it was removed by fire usually results from seed spread from unburnt areas. The saline flats in depressions of saltbush plains are unlikely to be affected by fires.

Frequency of quadrats affected by recent fire in the two Mallee components is 2-3 times that of those lacking obvious signs. The distribution of fire impacts is somewhat uneven, contributing to greater diversity of mallee habitat with:

- Completely burnt area extending from the northwest corner, ESE over power line track to eastern boundary.
- Burnt areas in SE corner with areas on southern boundary, west of the Highway, possibly displaying older fire impacts also.
- Tracts of unburnt plains at the western end of the power line track, in the north-east corner and south-west of Bottom Dam.
- Mosaics of burnt and unburnt patches north and south of Makin Dam.

Overwhelmingly, the most common form of fire sign was standing charred trunks (Table 3.8). Fallen charred branches and presence of soil charcoal are present in about the same proportion, but these may be different expressions of the same phenomenon. There was only one site where soil charcoal was the sole evidence of fire. Of those burnt sites where no standing charred stumps remained, both fallen branches and soil charcoal indicated the fire presence. Fire severity and time since last fire would be principal factors in the proportion of manifestation of fire sign, but in areas corresponding to 1990 fire, presence of charred stumps below heights of 2 m indicates the extensive severity of the burn.

### General Fire Summary

Fires have affected most of the Shirrocoe area and particularly the Mallee communities, but high LCI indicates it is recovering well. Affected and unaffected areas are readily identifiable and extra protection of unaffected areas is perhaps warranted.

### Canopy composition and structure

Fire impacts with their consequences for habitat type and quality are readily apparent in analysis of mallee form and Upper stratum age classing (Table 3.8). Tree hollows were recorded in 15 of 79 quadrats. Of these 15 sites:

- 13 had no obvious fire signs
- 12 possess canopies to 7 m or higher;

Closer examination of the Upper Stratum Age classing and mallee form (trunk structure) reveals some of the variation communities induced through Shirrocoe's fire history, as well as some of the general characteristics of canopies in the two major mallee communities. Assuming the 1990 fire to be the principal disturbance, the following suggestions stem from data in the table

For very mature (unburnt) Mallee calcareous plains communities:

- Canopy heights are commonly in the range 5-8 m, but can be as high as 10 m, and formations generally expressed as Open Mallee, though mallee forms also appear. Sampling also included a Low Open Forest, formed at a denser growth of low *Melaleuca* trees. A Tall Open Shrubland, comprising standard mallee understorey species with no mallee overstorey was most likely cleared of mallee.
- Contain no immature canopy species, but include 72% of occurrence of senescent specimens.

- Comprised mostly multi-stemmed clumps with dbh most commonly in the ranges 50-100 mm and 100-200 mm, but multi-stem clumps with dbh exceeding 200 mm and single stem trees were also found at 26% and 37% of these sites.
- Hollows found at 13 of 19 sites which also amounted to 72% of all hollows recorded on Shirrocoe.

For very mature (unburnt) mallee spinifex sand communities, there were too few sample sites to establish characteristics, but the four sample sites are probably not far from the mark:

- Canopy height ranges from 3-4 m. The site with 6-7 m canopy site lay among mallee plains communities but spinifex had managed to establish in the relatively thick sandy topsoil at the site. Formation ranged from Very Open Mallee to Open Mallee, with Open Mallee being the most prominent type.
- Seedlings and saplings are generally absent. Senescent eucalypts and non-eucalypt canopy species were recorded at one site.
- Clumps are multi-stemmed with dbh commonly less than 50mm. The instance of a clump with dbh 100-200 mm and possessing hollows relates to the atypical site with 6-7 m canopy.
- Data from sites showing obvious burn signs demonstrate recovering communities, and provide some indication of progress in the 18 years since the fire. However the data also suggest the burns of differing severity have been captured in the rapid survey.

For the immature (burnt) mallee plains communities, the 37 sites are sufficient to characterize structural components:

- Canopy heights ranged from 2-3 m, up to 6-7 m and commonly were between 2-7 in formations grading from Open Low Mallee to Low Mallee, Very Open Mallee to Mallee. With Open Low Mallee and Open Mallee being more prominent, suggests the burnt communities have attained something of their pre-fire form, particularly open cover. During recovery, canopy cover is restored before canopy height.
- Eucalypt saplings feature very prominently (at 28 of 37 sites) with eucalypt seedlings at seven sites indicating a later cohort. In addition, saplings of non-eucalypt canopy species (mainly *Myoporum platycarpum*) occurred at six burnt sites. The presence of senescent eucalypts is explicable in terms of fire intensity variation.
- In trunk structure (mallee form), clumps with dbh less than 50 mm have almost double the occurrence of those with dbh 50-100 mm, but there are significant though lesser contributions from clumps with larger dbh.
- There are negligible single trunk trees and hollows.

Data for burnt mallee plains are probably divisible into mild and severe burn characteristics as illustrated in Table 3.8. Differences in canopy heights, age class contributions and mallee trunk structures are readily apparent, though the six sites in the mild burn category may be too few to fully characterize them. However five of these six sites occur in a mosaic of burnt and unburnt patches on undulating plains around Makin Dam, and the sixth occurs elsewhere on a similar "edge".

Mild burn sites display:

- Canopy height ranges similar to unburnt areas.
- Include some eucalypt saplings but no seedlings.
- Include all observations of senescent trees, single stem trees and presence of hollows in burnt areas.
- Record Mallee clump dbh's in all ranges up to 200+ mm, and spread equally through range from 0-200 mm.

Whereas Severe burn sites display:

- Canopy height ranges 50-60% of those for unburnt areas.
- Include all Eucalypt seedling observations and almost all sapling observations.
- Have no senescent trees, single stem trees or hollows present.
- Record Mallee clump dbh's almost entirely in the two ranges up to 100 mm and predominantly in the 0-50 mm range.

Accepting this separation as a difference in burn severity, then in the 18 years since the last fire on the mallee plains communities:

- Areas of Shirrocoe that are mildly burned will almost recover a state of very mature Mallee in terms of canopy height, cover and stem diameters
- Areas that are severely burnt will have restored a projected foliage cover of Mallee but achieved only 50-60% of canopy height.
- Only 37.8% of areas will have attained stem diameter class of 50-100 mm. with none being larger.

Comparison to very mature mallee plains community with characteristics derived from unburnt areas almost infers the pre-burn state. From the third burnt site in the rapid survey, estimates of pre-fire canopy height were made based on

height of erect and near erect persisting burnt trunks that branched into fine twigs. At 21 of these burn sites, height ranges of 4-5 m, 5-6 m and 4-6 m were consistently recorded, with two sites having maximum of 8 and 10 m and one site 3-5 m. While it is tempting to consider the “average” should be 5-7 m rather than 5-8 m, it may be better to think that much of the Mallee plains had canopy heights 4-7 m. There are small areas where the canopy extends 8-10 m which may be those unaffected by fire for long intervals.

Similar considerations for Mallee spinifex sands suggest pre-fire canopies may have been a metre taller than indicated by the few unburnt sites encountered in the sampling ie at 4-5 m rather than 3-4 m.

Tree hollows were principally found in unburnt areas of 2d communities

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**Table 3.8. Canopy structure of Mallee communities in Shirrocoe. Mature Mallee recorded at every site, but Low Open Forest and Tall Open Shrubland below.  
O=Open, M=Mallee, L=Low, V=Very**

Mallee Type	Fire Impact		Total Sites	Canopy Height Range (m)			Structural Form		Upper Stratum Age Class					
				Min	Max	Ave	Full Range	Common Range	Seedling Euc sp	Seedling Other sp	Sapling Euc sp	Sapling Other sp	Senescent Euc	Senescent Oth sp
2d Mallee calcareous plains	Unburnt		19	4-5	7-10	5-8	OM-M *	OM	0	0	1	0	13	0
	Burnt	Total	37	2-3	6-7	2-7	OLM-LM; VOM-M	OM, OLM	7	0	28	6	4	0
		?Mild	6	4-6	6-7	4-7			0		2		4	
		?Severe	31	2-3	4-5	2-5			7		26		0	
2f Mallee spinifex sands	Unburnt		4	3-4	6-7	3-4	VOM-OM	OM	0	0	0	0	1	1
	Burnt		13	2-3	3-5	2-4	VOM-OM; OLM-LM	OLM, OM	1	3	8	5	0	0

Mallee Type	Fire Impact		Total Sites	Trunk Structure (DBH in mm) = Diameter at Breast Height						Fire Sign		
				Multistem DBH 0-50	Multistem DBH 50-100	Multistem DBH 100-200	Multistem DBH 200+	Single Stem	Hollows	Stand	Fallen	Soil Charcoal
2d Mallee calcareous plains	Unburnt		19	5	13	13	5	7	11			
	Burnt	Total	37	35	18	6	2	1	2	32	18	17
		?Mild	6	4	6	5	2	1	2			
		?Severe	31	31	12	1	0	0	0			
2f Mallee spinifex sands	Unburnt		4	3	0	1	0	2	1			
	Burnt		13	13	3	0	0	0	0	12	4	5

\* Excludes *Melaleuca* sp Low Open Forest (1 Site) and Tall Open Shrubland where mallee has likely been cleared (1 Site)

## Summary

Shirrocoe ecosystems are in good condition relative to surrounding parcels, having not become part of the intensive agricultural or pastoral landscapes. However, herbivory and fires have influenced the range of condition with quite localised effects.

The LCI of 2.81 is one of the highest ever recorded for a pastoral enterprise and shows that neither ungulate herbivory, nor fire, have caused any marked decline in pastoral value. In particular, that ungulate herbivory has not initiated any problematic decline in ecosystem value.

Macropods occur extensively across the property, however their impacts are largely still unknown.

Exotic herbivory is mostly the legacy of commercial stocking which ceased in 2005 and current issues of feral goats. Stock impacts currently remain expressed in persistent stock pads, bushes unrecovered from past browsing and modified landscapes. The most severe impacts were restricted to the proximity of waterpoints. Feral goats were more scattered across the property.

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# APPENDICES

**Appendix 1. The number of native plant species records for north-east Eyre Peninsula region and reserve types ordered by Threatened species status then alphabetically.**

(\* Full name of Reserve is Munyaroo : Coast Beside Munyaroo C.P. (CR) )

Native plant species	BUCKLEBOO (CR)	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	CORROBINNIE HILL (CP)	CORTLINEY (CR)	CUNYARIE (CR)	DARKE RANGE (CP)	HEGGATON (CR)	LACROMA (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MALGRA (CR)	MIDDLECAMP HILLS (CP)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST (CR)*	MUNYAROO : LINCOLN (CR)	MUNYAROO : PLANK (CR)	PINKAWILLINIE (CP)	POOLGARRA (CR)	SHEOAK HILL (CP)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	TOLA (CR)	YELDULKNIE (CP)	No. of records	No. of reserves
Acacia ancistrophylla var. lissophylla (Hook-leaf Wattle)	2			2				1		7		1			1			1	9	1		2		1	28	11	
Acacia beckleri (Beckler's Rock Wattle)		1	11	3															2						17	4	
Acacia brachybotrya (Grey Mulga-bush)							1																		1	1	
Acacia burkittii (Pin-bush Wattle)										1															1	1	
Acacia continua (Thorn Wattle)		5	9	3			2	3		3			4		2					3			1	3	5	43	12
Acacia cupularis (Cup Wattle)								1											1						2	2	
Acacia enterocarpa (Jumping-jack Wattle) EN E													1												1	1	
Acacia euthycarpa (Wallowa)		1	2		1								1		1					1					1	8	7
Acacia farinosa (Mealy Wattle)		1																		2					3	2	
Acacia hakeoides (Hakea Wattle)	1	2	1		2					6	1									2				1	2	18	9
Acacia halliana (Hall's Wattle)				1			5	3				1											2	3	15	6	
Acacia hexaneura (Six-nerve Spine-bush) R								4													2	3	3		12	4	
Acacia iteaphylla (Flinders Ranges Wattle) R							1						2						1						4	3	
Acacia ligulata (Umbrella Bush)		5	17	1			2	1		1			1		10				6			1	1	2	48	12	
Acacia lineata (Streaked Wattle) R																									0	0	
Acacia merrallii (Merrall's Wattle)										8	1									6					15	3	
Acacia microcarpa (Manna Wattle)		1	3				5	3	1	1		1			1				1						6	23	10
Acacia montana (Mallee Wattle) R		3					1			3					1										8	4	
Acacia notabilis (Notable Wattle)	1	3	5	1	2		6	1		3			1		3				6	1		2		1	2	38	15
Acacia nyssophylla (Spine Bush)	1				2					5	3				1				1						13	6	
Acacia oswaldii (Umbrella Wattle)					1		3			2					3				4	1				1	15	7	
Acacia papyrocarpa (Western Myall)										8					3										11	2	
Acacia praemorsa (Senna Wattle) E																									5	5	1
Acacia rhigiophylla (Dagger-leaf Wattle) R															1						2		2		5	3	
Acacia rigens (Nealie)	1	3	1	1			2	2	1	2		1			2		1		15		1	1	3		4	41	16
Acacia rupicola (Rock Wattle)		3	7				3	2																	4	19	5
Acacia sclerophylla var. sclerophylla (Hard-leaf Wattle)	1	1			1	1	1	5		4		1							3	1		2	2	1	24	13	
Acacia sp. Winged (C.R.Alcock 4936) (Angled Wattle)				1																					1	1	
Acacia spinescens (Spiny Wattle)		9	1	2			3	4	1	1		1	2		2				10		2	3	3		8	52	15
Acacia triquetra (Mallee Wreath Wattle)																						1			1	1	

Native plant species	BUCKLEBOO (CR)	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	CORROBINNE HILL (CP)	CORTLYNE (CR)	CUNYARIE (CR)	DARKE RANGE (CP)	HEGGATON (CR)	LACROMA (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MALGRA (CR)	MIDDECAMP HILLS (CP)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST (CR)*	MUNYAROO : LINCOLN HILLS AREA (CR)	MUNYAROO : PLANK POINT (CR)	PINKAWILLIE (CP)	POOLGARRA (CR)	SHEOAK HILL (CP)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	TOLA (CR)	YELDULKNE (CP)	No. of records	No. of reserves	
<i>Acacia victoriae</i> ssp. <i>victoriae</i> (Elegant Wattle)										1															1	1		
<i>Acacia wilhelmiana</i> (Dwarf Nealie)		2					1	3		3		1	4		4					1			3	2		24	10	
<i>Acianthus pusillus</i> (Mosquito Orchid)		3	1				1																		5	3		
<i>Acrotriche cordata</i> (Blunt-leaf Ground-berry)		2					3																		5	2		
<i>Acrotriche patula</i> (Prickly Ground-berry)													2		1										4	8	4	
<i>Actinobole uliginosum</i> (Flannel Cudweed)	1	4	3	2		1	3	2		1		1	1		6				9	1		3			2	40	15	
<i>Adenanthos terminalis</i> (Yellow Gland-flower)				6				2																	8	2		
<i>Alectryon oleifolius</i> ssp. <i>canescens</i> (Bullock Bush)		1	7							4			1		6											20	6	
<i>Allocasuarina helmsii</i> (Helm's Oak-bush)										2										1						4	3	
<i>Allocasuarina muelleriana</i> ssp. <i>muelleriana</i> (Common Oak-bush)		5	5	1			2	3		1		1							12		1	2				33	10	
<i>Allocasuarina pusilla</i> (Dwarf Oak-bush)		2																								2	1	
<i>Allocasuarina verticillata</i> (Drooping Sheoak)		7	12				2			1			4						2						1	2	31	8
<i>Alyogyne hakeifolia</i> (Hakea-leaf Hibiscus)				3						1																4	2	
<i>Alyogyne huegelii</i> (Native Hibiscus)		3	6				1			1			2		1				2			1	1		1	19	10	
<i>Alyxia buxifolia</i> (Sea Box)	1	4	11	2	3	1	6			4		1	1		11	1	2		12	2		1	1	2		66	18	
<i>Amphibromus nervosus</i> (Veined Swamp Wallaby-grass)																				2						2	1	
<i>Amphipogon caricinus</i> var. <i>caricinus</i> (Long Grey-beard Grass)	1	3	3	1			1	1		2		1	1		1				3						1	2	21	13
<i>Amyema melaleuca</i> (Tea-tree Mistletoe)		2							1						5								2			10	4	
<i>Amyema miquelii</i> (Box Mistletoe)				1						2																3	2	
<i>Amyema miraculosa</i> ssp. <i>boormanii</i> (Fleshy Mistletoe)		1	2	1			1			2					2									2		12	8	
<i>Amyema preissii</i> (Wire-leaf Mistletoe)					1															1						2	2	
<i>Amyema quandang</i> var. <i>quandang</i> (Grey Mistletoe)										3	1															4	2	
<i>Angianthus glabratus</i> (Smooth Angianthus)										1	1															2	2	
<i>Angianthus preissianus</i> (Salt Angianthus)								1															1		1	3	3	
<i>Angianthus tomentosus</i> (Hairy Angianthus)	1		1							3					2				3				1	1		12	7	
<i>Anogramma leptophylla</i> (Annual Fern) R		1					2																			3	2	
<i>Anthocercis anisantha</i> ssp. <i>collina</i> (Gawler Ranges Ray-flower)		7	13				4																			24	3	
<i>Aotus subspinescens</i> (Mallee Aotus)		7	9	1				3				1							13		1	4	3			42	9	
<i>Apium annuum</i> (Annual Celery)																									1	1	1	1
<i>Arabidella trisecta</i> (Shrubby Cress)										1																1	1	
<i>Argentipallium obtusifolium</i> (Blunt Everlasting)								1							1								1			3	3	
<i>Aristida behriana</i> (Brush Wire-grass)				1				1					1													3	3	
<i>Aristida contorta</i> (Curly Wire-grass)	1	1	6					1					1		1								1			14	8	

Native plant species	BUCKLEBOO (CR)	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	CORROBINNE HILL (CP)	CORTLYNE (CR)	CUNYARIE (CR)	DARKE RANGE (CP)	HEGGATON (CR)	LACROMA (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MALGRA (CR)	MIDDECAMP HILLS (CP)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST (CR)*	MUNYAROO : LINCOLN HILLS (CP)	MUNYAROO : PLANK HILLS (CP)	PINKAWILLIE (CP)	POOLGARRA (CR)	SHEOAK HILL (CP)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	TOLA (CR)	YELDULKNE (CP)	No. of records	No. of reserves	
<i>Arthropodium minus</i> (Small Vanilla-lily)							1																		1	1		
<i>Asperula conferta</i> (Common Woodruff)																									1	1		
<i>Asteridea athrixioides</i> f. <i>athrixioides</i> (Wirewort)	2	1	1				1			4										2						11	6	
<i>Astroloma conostephioides</i> (Flame Heath)		5	1	1			2	4				1	1							5		3	2		6	31	11	
<i>Astroloma humifusum</i> (Cranberry Heath)		5	10				3	2					3		1					1			2		8	35	9	
<i>Atriplex acutibractea</i> ssp. <i>acutibractea</i> (Pointed Saltbush)															1								1			2	2	
<i>Atriplex acutibractea</i> ssp. <i>karoniensis</i> (Pointed Saltbush)										1														1		4	3	
<i>Atriplex paludosa</i> ssp. <i>cordata</i> (Marsh Saltbush)															4											5	2	
<i>Atriplex semibaccata</i> (Berry Saltbush)													1													1	1	
<i>Atriplex stipitata</i> (Bitter Saltbush)	1	1			1					2				1	4							1	3	1		19	10	
<i>Atriplex vesicaria</i> ssp. (Bladder Saltbush)										7					7											20	6	
<i>Austroanthonia caespitosa</i> (Common Wallaby-grass)	3	3	5	1	1	1	4	1		5		1	2		3					11	3	2	1	2	3	52	18	
<i>Austroanthonia fulva</i> (Leafy Wallaby-grass)							1																			1	1	
<i>Austroanthonia geniculata</i> (Knead Wallaby-grass)															1											1	1	
<i>Austroanthonia setacea</i> (Small-flower Wallaby-grass)	1	1	2	2	1			3				1	1		2					3	1		1		6	25	13	
<i>Austrostipa acrociliata</i> (Graceful Spear-grass)	2	2	2		1		2	3		6		1	1				1			6			1	1	2	31	14	
<i>Austrostipa blackii</i> (Crested Spear-grass)				3			1						2													6	3	
<i>Austrostipa drummondii</i> (Cottony Spear-grass)			1				2	2		1		1	1								1	1	1	1	1	13	11	
<i>Austrostipa elegantissima</i> (Feather Spear-grass)	3	3	8	2	3	1	5	4	1	7		1	3	2	3					15	1	2	3	2	4	73	20	
<i>Austrostipa eremophila</i> (Rusty Spear-grass)	2	1	2		1	1	1			6			1	1						6	2				1	25	12	
<i>Austrostipa exilis</i> (Heath Spear-grass)	1	1	1				3	2		1		1	1							1	1	2	1	2	2	20	14	
<i>Austrostipa flavescens</i> (Coast Spear-grass)							1																			1	1	
<i>Austrostipa hemipogon</i> (Half-beard Spear-grass)		2	1				2	4	1	1			1									2	1	1	4	28	13	
<i>Austrostipa macalpinei</i> (Annual Spear-grass)								1																		2	2	
<i>Austrostipa mollis</i> (Soft Spear-grass)				1										1	1											6	4	
<i>Austrostipa mundula</i> (Neat Spear-grass)		1					1																		2	8	4	
<i>Austrostipa nitida</i> (Balcarra Spear-grass)	3	1	4		2	1	2			11		1	1	2	4					13	1	2	2	1		51	16	
<i>Austrostipa nodosa</i> (Tall Spear-grass)	1	2	2		1					2		1	1									1	1			12	9	
<i>Austrostipa pilata</i> (Prickly Spear-grass) V															1											1	1	
<i>Austrostipa platychaeta</i> (Flat-awn Spear-grass)	1	1	1		1		1			4			2		2								2	1		20	12	
<i>Austrostipa puberula</i> (Fine-hairy Spear-grass)					1		1			1																3	3	
<i>Austrostipa scabra</i> ssp. <i>falcata</i> (Slender Spear-grass)		1	3		1		2	2		2		1	2		2											3	21	11
<i>Austrostipa scabra</i> ssp. <i>scabra</i> (Rough Spear-grass)		1	1							1																	5	4

Native plant species	BUCKLEBOO (CR)	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	CORROBINNE HILL (CP)	CORTLINYE (CR)	CUNYARIE (CR)	DARKE RANGE (CP)	HEGGATON (CR)	LACROMA (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MALGRA (CR)	MIDDECAMP HILLS (CP)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST (CR)*	MUNYAROO : LINCOLN HILLS AREA (CR)	MUNYAROO : PLANK HILLS (CR)	PINKAWILLINIE (CP)	POOLGARRA (CR)	SHEOAK HILL (CP)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	TOLA (CR)	YELDULKNE (CP)	No. of records	No. of reserves
<i>Austrostipa tenuifolia</i> () R										1					1										1	1	
<i>Austrostipa trichophylla</i> ()			2	3			2								1											8	4
<i>Avicennia marina</i> ssp. <i>marina</i> (Grey Mangrove)															1										1	1	
<i>Babingtonia behrii</i> (Silver Broombush)	2	9	7	5	1		2	6		1		1			1				8		2	2	3		5	55	15
<i>Baeckea crassifolia</i> (Desert Baeckea)	2	11	4	1			4	4	1	2		1	1		4		1	1	9		2	3	3			54	17
<i>Baumea juncea</i> (Bare Twig-rush)			1																						1	2	2
<i>Bertya tasmanica</i> ssp. <i>vestita</i> (Mitchell's Bertya)		1	1					1		2									4				1			10	6
<i>Beyeria lechenaultii</i> (Pale Turpentine Bush)		5	1	1	1	1	6			6			1		8				6	1		1	2	2		42	14
<i>Beyeria opaca</i> (Dark Turpentine Bush)																			7							7	1
<i>Billardiera sericophora</i> (Silky Apple-berry)		2	5						3										1						2	14	6
<i>Billardiera</i> sp. (Apple-berry)																						1	2			3	2
<i>Billardiera versicolor</i> (Yellow-flower Apple-berry)							1						1													2	2
<i>Blennospora drummondii</i> (Dwarf Button-flower)	2	2	8			1	4	2					1						7	1			1			29	10
<i>Boronia coerulescens</i> ssp. <i>coerulescens</i> (Blue Boronia)		4	1	1				2		5			1	1	3				11			1	1		2	33	12
<i>Boronia inornata</i> ssp. <i>leptophylla</i> (Dryland Boronia)		2		1				5		3			1		3			1	13		1	1	3			34	11
<i>Brachyscome ciliaris</i> var. <i>brachyglossa</i> (Rayless Variable-daisy)							1																			1	1
<i>Brachyscome ciliaris</i> var. <i>ciliaris</i> (Variable Daisy)	1	2	4				2	1					1		3				4			1	3	1		23	11
<i>Brachyscome ciliaris</i> var. <i>lanuginosa</i> (Woolly Variable Daisy)																			1							1	1
<i>Brachyscome goniocarpa</i> (Dwarf Daisy)			1																							1	1
<i>Brachyscome lineariloba</i> (Hard-head Daisy)	2	1	2	1	1	1	4			3		1			1				9	2		1	1	2		32	15
<i>Brachyscome perpusilla</i> (Tiny Daisy)		1	3				4			1					1											10	5
<i>Brachyscome trachycarpa</i> (Smooth Daisy)										2																2	1
<i>Bromus arenarius</i> (Sand Brome)								1			1															2	2
<i>Bulbine semibarbata</i> (Small Leek-lily)		1	5	3			2	1		1			1		1				5			2			1	23	11
<i>Bursaria spinosa</i> ssp. <i>spinosa</i> (Sweet Bursaria)		1	6				3	2					2		1								2		3	20	8
<i>Caladenia brumalis</i> (Winter Spider-orchid) VU V			4																							4	1
<i>Caladenia capillata</i> (Wispy Spider-orchid)			2				2	1					1		1											7	5
<i>Caladenia cardiochila</i> (Heart-lip Spider-orchid)		2	2				1												2							7	4
<i>Caladenia carnea</i> (Pink Fingers)			2				1																			3	2
<i>Caladenia clavula</i> (Brown-club Spider Orchid)	1		3					1		1			1												3	10	6
<i>Caladenia conferta</i> (Coast Spider-orchid) EN E			1																							1	1
<i>Caladenia dilatata</i> complex (Green-comb Spider-orchid)			1	1																						2	2
<i>Caladenia fuscata</i> (Dusky Caladenia)	1																									1	1

Native plant species	BUCKLEBOO (CR)	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	CORROBINNE HILL (CP)	CORTLINYE (CR)	CUNYARIE (CR)	DARKE RANGE (CP)	HEGGATON (CR)	LACROMA (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MALGRA (CR)	MIDDECAMP HILLS (CP)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST (CR)*	MUNYAROO : LINCOLN HILLS AREA (CR)	MUNYAROO : PLANK POINT (CR)	PINKAWILLINIE (CP)	POOLGARRA (CR)	SHEOAK HILL (CP)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	TOLA (CR)	YELDULKNE (CP)	No. of records	No. of reserves	
Caladenia latifolia (Pink Caladenia)			1																							1	1	
Caladenia patersonii complex (White Spider-orchid)			1				1																				2	2
Caladenia septuosa (Eyre Peninsula Spider-orchid)			3																								3	1
Caladenia stricta (Upright Caladenia)			1				1	1							1					3							7	5
Caladenia tensa (Inland Green-comb Spider-orchid) EN				1																							1	1
Caladenia tentaculata (King Spider-orchid)			4				1																				5	2
Caladenia toxochila (Bow-lip Spider-orchid)															1				1								2	2
Caladenia verrucosa (Yellow-club Spider-orchid)		1																									1	1
Calandrinia calyptata (Pink Purslane)	2	3	4		1	1	6	1		4		1	1		1				5	1			1	2	2	36	16	
Calandrinia corrigioloides (Strap Purslane)		1	4				1	1							2				1								10	6
Calandrinia eremaea (Dryland Purslane)	1	3	5	2			3	2		5		1	1	2	5		1		16	1		3		2		53	16	
Calandrinia granulifera (Pigmy Purslane)		1	3			1	2			1	1	1		1	2		1	2	6							22	12	
Calandrinia sp. (Purslane/Parakeelya)														4				2									6	2
Calandrinia sphaerophylla (Bead Purslane) R			1																								1	1
Calandrinia volubilis (Twining Purslane)										1									1								2	2
Callitris canescens (Scrubby Cypress Pine)																			1								1	1
Callitris glaucophylla (White Cypress-pine)			1							1																	2	2
Callitris gracilis (Southern Cypress Pine)	4	7		2			3	2		3			2		3				3	1			3	2	4	39	13	
Callitris verrucosa (Scrub Cypress Pine)	8	4	1				1	2		7		1			6				18		5	2	3			58	12	
Calotis cymbacantha (Showy Burr-daisy)															2												2	1
Calotis erinacea (Tangled Burr-daisy)		5	1												4			1	1			1	1				14	7
Calotis hispidula (Hairy Burr-daisy)		1	1		1	1	3			3		1			2				4					1	1		19	11
Calytrix involucrata (Cup Fringe-myrtle)	14	13	4				3	4		3		1	1	1	2				9		3	4	3		4	69	15	
Calytrix tetragona (Common Fringe-myrtle)		6	1	2			3	3		1		1	1		2				11			3	3		2	39	13	
Carpobrotus modestus (Inland Pigface)			1					1							4			3				1	1				11	6
Cassinia arcuata (Drooping Cassinia)															1								1				2	2
Cassinia laevis (Curry Bush)							3																				3	1
Cassytha glabella f. dispar (Slender Dodder-laurel)		5	2					3				1														1	12	5
Cassytha melantha (Coarse Dodder-laurel)	1	1	2				3	3		3		1	2		6				4		1		3	1	5	36	14	
Cassytha peninsularis (Peninsula Dodder-laurel)		7	4				3	4				1	1		1				3			1	1		5	31	11	
Cassytha pubescens (Downy Dodder-laurel)		2	2																2			1	1				8	5
Casuarina pauper (Black Oak)	1				2		2			4									2					1			12	6
Centrolepis aristata (Pointed Centrolepis)			4																								4	1

Native plant species	BUCKLEBOO (CR)	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	CORROBINNE HILL (CP)	CORTLYNE (CR)	CUNYARIE (CR)	DARKE RANGE (CP)	HEGGATON (CR)	LACROMA (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MALGRA (CR)	MIDDECAMP HILLS (CP)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST (CR)*	MUNYAROO : LINCOLN HILLS AREA (CR)	MUNYAROO : PLANK HILLS (CR)	PINKAWILLIE (CP)	POOLGARRA (CR)	SHEOAK HILL (CP)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	TOLA (CR)	YELDULKNE (CP)	No. of records	No. of reserves	
<i>Centrolepis cephaliformis</i> ssp. <i>cephaliformis</i> (Cushion Centrolepis) R			1				1					1								2						5	4	
<i>Centrolepis cephaliformis</i> ssp. <i>murrayi</i> (Cushion Centrolepis) R			1																							1	1	
<i>Centrolepis polygyna</i> (Wiry Centrolepis)			4				1	1					1							3						10	5	
<i>Centrolepis strigosa</i> ssp. <i>strigosa</i> (Hairy Centrolepis)			5																							5	1	
<i>Ceratogyne obionoides</i> (Wingwort) R			1				1			1										3						6	4	
<i>Chamaesyce drummondii</i> ()															2											2	1	
<i>Cheilanthes austrotenuifolia</i> (Annual Rock-fern)		5	13	1			3			1			2		1					2			2			30	9	
<i>Cheilanthes distans</i> (Bristly Cloak-fern)			3																							3	1	
<i>Cheilanthes lasiophylla</i> (Woolly Cloak-fern)		1	7				1						1		2											12	5	
<i>Cheilanthes sieberi</i> ssp. <i>sieberi</i> (Narrow Rock-fern)			2	1			1			1			1												1	10	7	
<i>Chenopodium curvispicatum</i> (Cottony Goosefoot)	1				2					8					2					4				1		18	6	
<i>Chenopodium desertorum</i> ssp. <i>anidiophyllum</i> (Mallee Goosefoot)	1																			2						3	2	
<i>Chenopodium desertorum</i> ssp. <i>desertorum</i> (Frosted Goosefoot)						1	2	1		1				1	5					5		2	1			19	9	
<i>Chenopodium desertorum</i> ssp. <i>microphyllum</i> (Small-leaf Goosefoot)	2	1	2	1	1		4					1	2		1					1	1	1		2		20	13	
<i>Chenopodium desertorum</i> ssp. <i>rectum</i> (Erect Goosefoot)														1	3							1				5	3	
<i>Chenopodium pumilio</i> (Clammy Goosefoot)															1											1	1	
<i>Choretrum glomeratum</i> var. <i>glomeratum</i> (White Sour-bush)		2	2	1				2		1			1													5	16	8
<i>Chrysocephalum apiculatum</i> (Common Everlasting)	2	4	5					2		2	1		1		1					6	1	2	3		1	31	13	
<i>Chrysocephalum baxteri</i> (White Everlasting)			2					2																		4	2	
<i>Chrysocephalum semipapposum</i> (Clustered Everlasting)	2	2	6		1		2	1		2					2					3			2			23	10	
<i>Chthonocephalus pseudevax</i> (Ground-heads)			2				2			3			1		1											9	5	
<i>Clematis microphylla</i> var. <i>microphylla</i> (Old Man's Beard)		2	2					1				1	3		2						1		4		8	24	9	
<i>Codonocarpus cotinifolius</i> (Desert Poplar)															2											2	1	
<i>Comesperma calymega</i> (Blue-spike Milkwort)			3					1							1											1	6	4
<i>Comesperma scoparium</i> (Broom Milkwort)		9	6	1			2	2		1		1			2					16	2	1	1			44	12	
<i>Comesperma volubile</i> (Love Creeper)		2	3	1	1		5			4										6	1		1	1		25	10	
<i>Conospermum patens</i> (Slender Smoke-bush)		1						1																		2	2	
<i>Convolvulus angustissimus</i> ssp. <i>peninsularum</i> (Grassland Bindweed)			1																							1	1	
<i>Convolvulus remotus</i> (Grassy Bindweed)								1					1													1	3	3
<i>Correa backhouseana</i> var. <i>coriacea</i> (Thick-leaf Correa)		6	2				2	5				1	1											1		6	24	8
<i>Cotula australis</i> (Common Cotula)			1																							1	1	
<i>Crassula closiana</i> (Stalked Crassula)			2				1	1																		2	6	4
<i>Crassula colligata</i> ssp. <i>lamprosperma</i> (Australian Stonecrop)			1												1											2	2	

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<i>Crassula colorata</i> var. <i>acuminata</i> (Dense Crassula)	2	1	3	1	1	1	1			2	1	2	1						6			1	2		25	14	
<i>Crassula colorata</i> var. <i>colorata</i> (Dense Crassula)	1	2	1				2	1		3	1		1	3		1			15	1		2		1	2	37	15
<i>Crassula decumbens</i> var. <i>decumbens</i> (Spreading Crassula)			4				1																	2	7	3	
<i>Crassula exserta</i> (Large-fruit Crassula) R		2	1							1									1						5	4	
<i>Crassula peduncularis</i> (Purple Crassula) R			2																						2	1	
<i>Crassula tetramera</i> (Australian Stonecrop)							1																		1	1	
<i>Cratystylis conocephala</i> (Bluebush Daisy)	2				2					13			1	6			1	2			1	1	1		30	10	
<i>Cryptandra amara</i> var. ( <i>Cryptandra</i> )			1					1						1					1			2			6	5	
<i>Cryptandra hispidula</i> (Rough <i>Cryptandra</i> )																			1						1	1	
<i>Cryptandra propinqua</i> (Silky <i>Cryptandra</i> )				1	1			1		1					2				2						8	6	
<i>Cymbopogon obtectus</i> (Silky-head Lemon-grass)			2												1										3	2	
<i>Cyperus alterniflorus</i> (Umbrella Flat-sedge)																									1	1	
<i>Cyperus gymnocaulos</i> (Spiny Flat-sedge)													1												1	1	
<i>Cyphanthera myosotidea</i> (Small-leaf Ray-flower)		2						1		3				1					15			1			23	6	
<i>Cyrtostylis robusta</i> (Robust Gnat-orchid)			2				1																		3	2	
<i>Dampiera dysantha</i> (Shrubby <i>Dampiera</i> )		2																							2	1	
<i>Dampiera lanceolata</i> var. <i>lanceolata</i> (Grooved <i>Dampiera</i> )		4	5					2		1					2				7			1	1		23	8	
<i>Dampiera rosmarinifolia</i> (Rosemary <i>Dampiera</i> )	2	7	9	2	1		3	4		4	1	1	2						8			2	3	1	50	15	
<i>Darwinia salina</i> (Salt <i>Darwinia</i> )										4	1								1						6	3	
<i>Daucus glochidiatus</i> (Native Carrot)	2	2	7	3		1	4	2		2		1	1	1	5		1	9	1		2	1		3	48	18	
<i>Daviesia arenaria</i> (Sand Bitter-pea)										1									1				2		4	3	
<i>Daviesia benthamii</i> ssp. <i>acanthoclona</i> (Dryland Bitter-pea)				1						4					4				1						10	4	
<i>Daviesia benthamii</i> ssp. <i>humilis</i> (Mallee Bitter-pea) R								2							1				1						3	7	4
<i>Daviesia brevifolia</i> (Leafless Bitter-pea)		2								1															3	2	
<i>Daviesia pectinata</i> (Zig-zag Bitter-pea) R								3																	3	6	2
<i>Daviesia ulicifolia</i> ssp. <i>aridicola</i> (Gorse Bitter-pea)				1															2						3	2	
<i>Dianella brevicaulis</i> (Short-stem Flax-lily)															3			3							6	2	
<i>Dianella revoluta</i> var. <i>divaricata</i> (Broad-leaf Flax-lily)				1			2	2																	5	3	
<i>Dianella revoluta</i> var. <i>revoluta</i> (Black-anther Flax-lily)	1	7	8	1	1		6	3	1	3		1	2	2	1				16		2	3	1	6	65	18	
<i>Dichelachne crinita</i> (Long-hair Plume-grass)		1					1																		1	3	3
<i>Dichondra repens</i> (Kidney Weed)													1												1	1	
<i>Dicrasyllis verticillata</i> (Whorled Sand-sage)										3					1				6		1	1			12	5	
<i>Dillwynia hispida</i> (Red Parrot-pea)			1																						1	1	



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<i>Dillwynia sericea</i> (Showy Parrot-pea)		2																								2	1	
<i>Dillwynia uncinata</i> (Silky Parrot-pea)		5	2	1				3				1			4							2	3				35	9
<i>Disphyma crassifolium</i> ssp. <i>clavellatum</i> (Round-leaf Pigface)										3					5		1		3				4				16	5
<i>Dissocarpus biflorus</i> var. (Two-horn Saltbush)															1												1	1
<i>Dissocarpus biflorus</i> var. <i>biflorus</i> (Two-horn Saltbush)															2												2	1
<i>Diuris pardina</i> (Spotted Donkey-orchid)			1																								1	1
<i>Dodonaea baueri</i> (Crinkled Hop-bush)			8				4	1		1			3										1			7	27	8
<i>Dodonaea bursariifolia</i> (Small Hop-bush)		3	5	1			2	6	1	2		1		2	4		1			11	1	2	3	3		48	16	
<i>Dodonaea hexandra</i> (Horned Hop-bush)	1	8	13	1	1		2	3		1			4		2					7			1	3		7	54	14
<i>Dodonaea humilis</i> (Dwarf Hop-bush)				1																							1	1
<i>Dodonaea intricata</i> (Gawler Ranges Hop-bush)				2						1										2							5	3
<i>Dodonaea lobulata</i> (Lobed-leaf Hop-bush)										2	2				5												9	3
<i>Dodonaea stenozyga</i> (Desert Hop-bush)					2		4	1		6				1	3					5	2	3		1			28	10
<i>Dodonaea tepperi</i> (Streaked Hop-bush)													2													1	3	2
<i>Dodonaea viscosa</i> ssp. <i>angustissima</i> (Narrow-leaf Hop-bush)		8	14	4			4	1		4			1		4					9			1		1	51	11	
<i>Dodonaea viscosa</i> ssp. <i>spatulata</i> (Sticky Hop-bush)			2				2						1									2			1	8	5	
<i>Drosera glanduligera</i> (Scarlet Sundew)			2				2																				4	2
<i>Drosera macrantha</i> ssp. <i>planchonii</i> (Climbing Sundew)		1	10	1			2	1					1									1	1		3	21	9	
<i>Drosera peltata</i> (Pale Sundew)			6																								6	1
<i>Einadia nutans</i> ssp. <i>nutans</i> (Climbing Saltbush)	1	1	5		1		1						1		1					3	1		1	2	1	3	22	13
<i>Elatine gratioloides</i> (Waterwort) R			1																	1							2	2
<i>Enchylaena tomentosa</i> var. <i>tomentosa</i> (Ruby Saltbush)	2	3	7		4	1	6	2	1	8		1	2	1	6				2	9	2		3	4	2		66	19
<i>Enneapogon nigricans</i> (Black-head Grass)			2										2		1												5	3
<i>Epilobium billardierianum</i> ssp. <i>billardierianum</i> (Robust Willow-herb)																										1	1	1
<i>Eragrostis dielsii</i> var. <i>dielsii</i> (Mulka)			2							2					1					2							7	4
<i>Eremophila alternifolia</i> (Narrow-leaf Emubush)				1						4					2			1									9	5
<i>Eremophila behriana</i> (Rough Emubush)		1	2				2	3							1						1					3	13	7
<i>Eremophila crassifolia</i> (Thick-leaf Emubush)		3		1			1	1		6				1	4					11		1	1	2			32	11
<i>Eremophila deserti</i> (Turkey-bush)			1					1		7	1			1	2				1	2	1		1				18	10
<i>Eremophila gibbifolia</i> (Coccid Emubush) R								1																		3	4	2
<i>Eremophila glabra</i> ssp. <i>glabra</i> (Tar Bush)	1	2	1	2	1		4	4		10		1	1	1	7					14	1	2	2	1	2	1	58	19
<i>Eremophila longifolia</i> (Weeping Emubush)			4		1										1					1							7	4
<i>Eremophila oppositifolia</i> ssp. <i>oppositifolia</i> (Opposite-leaved Emubush)										2					1												3	2

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<i>Eremophila scoparia</i> (Broom Emubush)	1	1		1						15					7					9						34	6	
<i>Eremophila subfloccosa</i> ssp. <i>Lanata</i> (R.Bates 33587) (Woolly Emubush)										1			1							1		1				4	4	
<i>Eremophila weldii</i> (Purple Emubush)							2											1	5							8	3	
<i>Eriochilus cucullatus</i> (Parson's Bands)			1				1																			2	2	
<i>Eriochiton sclerolaenoides</i> (Woolly-fruit Bluebush)	2	1			2		1	1		5		1			1					4		1	2	1		21	11	
<i>Erodium crinitum</i> (Blue Heron's-bill)			3	1			2								2					2						10	5	
<i>Eucalyptus brachycalyx</i> (Gilja)	2	2			2		2	2		11		1			4			2	20	1		4	2	1		56	14	
<i>Eucalyptus calcareana</i> (Nundroo Mallee)			2		3					1										9						15	4	
<i>Eucalyptus calycogona</i> ssp. (Square-fruit Mallee)							1	1													1					3	3	
<i>Eucalyptus concinna</i> (Victoria Desert Mallee)																										1	1	
<i>Eucalyptus conglobata</i> ssp. <i>conglobata</i> (Port Lincoln Mallee) R*																						1				1	1	
<i>Eucalyptus cretata</i> (Darke Peak Mallee) R		2	35				7																			44	3	
<i>Eucalyptus dumosa</i> (White Mallee)	1	4		1	2	1		1				1	1	1	1		1			9		2	3	1		30	15	
<i>Eucalyptus dumosa</i> complex -- <i>Eucalyptus phenax</i> ssp. (White Mallee)																										2	2	
<i>Eucalyptus dumosa</i> complex (White Mallee)					2		2																			1	5	
<i>Eucalyptus gracilis</i> (Yorrell)	2	2	2	2			5	1		14					6		2		17	2	3	3				61	13	
<i>Eucalyptus incrassata</i> (Ridge-fruited Mallee)		9	7	2				4		3				1	5		1	2	16	1	3	2				56	13	
<i>Eucalyptus leptophylla</i> (Narrow-leaf Red Mallee)		6	5	1			3	5	1	3		1	1		3				13		2	3			3	50	14	
<i>Eucalyptus odorata</i> (Peppermint Box)		1	6				3							5												6	21	
<i>Eucalyptus oleosa</i> ssp. ()							2								3											5	2	
<i>Eucalyptus peninsularis</i> (Merrit)			1																							2	4	
<i>Eucalyptus peninsularis</i> X <i>Eucalyptus socialis</i> ssp. (Merrit Intergrade)																					1					1	1	
<i>Eucalyptus petiolaris</i> (Eyre Peninsula Blue Gum)			8				1																			1	10	
<i>Eucalyptus phenax</i> ssp. <i>phenax</i> (White Mallee)		2	1				2	2	1	1																9	6	
<i>Eucalyptus porosa</i> (Mallee Box)	1	4	8		1			2		2				5	3					3	1		4			34	11	
<i>Eucalyptus socialis</i> ssp. ()		1							1						3											5	3	
<i>Eucalyptus yumbarrana</i> ssp. <i>yumbarrana</i> (Yumbarra Mallee)																					1					1	1	
<i>Euchiton sphaericus</i> (Annual Cudweed)	2	1	1				1	1		1				1	2							1	1		1	13	11	
<i>Euphorbia tannensis</i> ssp. <i>eremophila</i> (Desert Spurge)			6	1																1						1	10	
<i>Euphrasia collina</i> ssp. <i>tetragona</i> (Coast Eyebright)							1																			1	1	
<i>Eutaxia diffusa</i> (Large-leaf Eutaxia)																										1	1	
<i>Eutaxia microphylla</i> (Common Eutaxia)	2	4	6	1	1		5	5		2		1	3	1	1					8	2	3	3		9	57	17	
<i>Exocarpos aphyllus</i> (Leafless Cherry)	1	5	2		4		2	5		10			1		11					2	9	2	2	2		3	61	15

Native plant species	BUCKLEBOO (CR)	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	CORROBINNE HILL (CP)	CORTLINYE (CR)	CUNYARIE (CR)	DARKE RANGE (CP)	HEGGATON (CR)	LACROMA (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MALGRA (CR)	MIDDECAMP HILLS (CP)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST (CR)*	MUNYAROO : LINCOLN HILLS AREA (CR)	MUNYAROO : PLANK HILLS (CR)	PINKAWILLINIE (CP)	POOLGARRA (CR)	SHEOAK HILL (CP)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	TOLA (CR)	YELDULKNE (CP)	No. of records	No. of reserves
<i>Exocarpos cupressiformis</i> (Native Cherry)			1							1															2	2	
<i>Exocarpos sparteus</i> (Slender Cherry)		3	8	1				2		2			1		2					7	1	2			2	31	11
<i>Frankenia pauciflora</i> var. <i>fruticulosa</i> (Southern Sea-heath)										1									1						2	2	
<i>Frankenia pauciflora</i> var. <i>gunnii</i> (Southern Sea-heath)										1					1	1		1					1		5	5	
<i>Frankenia sessilis</i> (Small-leaf Sea-heath)										1															1	1	
<i>Gahnia deusta</i> (Limestone Saw-sedge)							1	2															2		1	6	4
<i>Gahnia lanigera</i> (Black Grass Saw-sedge)		2	3		1		3						1		2					9			3			24	8
<i>Galium gaudichaudii</i> (Rough Bedstraw)				3			1			2					2										2	10	5
<i>Galium migrans</i> (Loose Bedstraw)							1																		1	1	
<i>Geijera linearifolia</i> (Sheep Bush)	2	1			4					16					14			2	11				3	2	55	9	
<i>Genoplesium nigricans</i> (Black Midge-orchid)		1	1				2																		4	3	
<i>Geranium solanderi</i> var. <i>solanderi</i> (Austral Geranium)		1	1																						2	2	
<i>Glischrocaryon aureum</i> var. <i>angustifolium</i> (Golden Pennants)		2	3				1			1	1				2				4						14	7	
<i>Glischrocaryon behrii</i> (Golden Pennants)		5	4	1				2				1			1				12			2	1		29	9	
<i>Glischrocaryon flavescens</i> (Yellow Pennants)		3	4				1						1		1				1			2			1	14	8
<i>Glossostigma diandrum</i> (Two-anther Mud-mat)				1																					1	1	
<i>Glossostigma drummondii</i> (Desert Mud-mat)				1																					1	1	
<i>Glossostigma</i> sp. (Mud-mat)				1																					1	1	
<i>Glycine rubiginosa</i> (Twining Glycine)			3							1					2										6	3	
<i>Gnephosis drummondii</i> (Slender Golden-tip)															1										1	1	
<i>Gnephosis tenuissima</i> (Dwarf Golden-tip)															3										3	1	
<i>Gonocarpus elatus</i> (Hill Raspwort)				3									2		1				2				1		1	10	6
<i>Gonocarpus mezianus</i> (Broad-leaf Raspwort)		3	6				3	3					2												6	25	7
<i>Goodenia benthamiana</i> (Bentham's Goodenia) R								2														2			4	2	
<i>Goodenia blackiana</i> (Native Primrose)				1															2						3	2	
<i>Goodenia calcarata</i> (Streaked Goodenia)										1														1		2	2
<i>Goodenia glabra</i> (Smooth Goodenia)	2																								2	1	
<i>Goodenia havilandii</i> (Hill Goodenia)			4												2				3						9	3	
<i>Goodenia lobata</i> ()		1													2				2						5	3	
<i>Goodenia ovata</i> (Hop Goodenia)										1															1	1	
<i>Goodenia pinatifida</i> (Cut-leaf Goodenia)	2	1				1				6					2				7		1				20	7	
<i>Goodenia pusilliflora</i> (Small-flower Goodenia)	1		5	2	1		2			3			1		1				1	1			2		20	11	
<i>Goodenia quasilibera</i> ()																			2				2		4	2	

Native plant species	BUCKLEBOO (CR)	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	CORROBINNE HILL (CP)	CORTLINYE (CR)	CUNYARIE (CR)	DARKE RANGE (CP)	HEGGATON (CR)	LACROMA (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MALGRA (CR)	MIDDECAMP HILLS (CP)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST (CR)*	MUNYAROO : LINCOLN (CR)	MUNYAROO : PLANK (CR)	PINKAWILLINIE (CP)	POOLGARRA (CR)	SHEOAK HILL (CP)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	TOLA (CR)	YELDULKNIE (CP)	No. of records	No. of reserves	
<i>Goodenia robusta</i> (Woolly Goodenia)		4	10				3	4		1		1	1		1										1	29	11	
<i>Goodenia varia</i> (Sticky Goodenia)		3		1				4		2			1	1	4			1	10						2	32	12	
<i>Goodenia willisiana</i> (Silver Goodenia)		2	9	1			2	2		2		1	1		2			1	7					2	36	14		
<i>Goodia medicaginea</i> (Western Golden-tip)			4																							4	1	
<i>Grammosolen dixonii</i> ()										6					6											12	2	
<i>Grammosolen truncatus</i> (Shrubby Ray-flower)										1																1	1	
<i>Grevillea anethifolia</i> () R	2																			2						4	2	
<i>Grevillea aspera</i> (Rough Grevillea)		11	21				4																			36	3	
<i>Grevillea huegelii</i> (Comb Grevillea)	1	2	7	1			4		1	9				1	5					8			1	3		43	12	
<i>Grevillea ilicifolia</i> complex (Holly-leaf Grevillea)		1																								3	4	2
<i>Grevillea juncifolia</i> ssp. <i>juncifolia</i> (Honeysuckle Grevillea)										1										4							5	2
<i>Grevillea nematophylla</i> ssp. <i>nematophylla</i> (Water Bush)										1																	1	1
<i>Grevillea pauciflora</i> ssp. <i>pauciflora</i> (Few-flower Grevillea)			1																								1	1
<i>Grevillea pterosperma</i> (Dune Grevillea)		5	5					3		3		1			2					11	1	4				35	9	
<i>Gyrostemon australasicus</i> (Buckbush Wheel-fruit)		1	3					1							2										1	9	6	
<i>Gyrostemon ramulosus</i> (Bushy Wheel-fruit)		6	6	1				2							1					6	1	4				27	8	
<i>Gyrostemon thesioides</i> (Broom Wheel-fruit)								1																		1	1	
<i>Haecckeria cassiniiformis</i> (Dogwood Haecckeria) R		2																							1	3	2	
<i>Hakea cycloptera</i> (Elm-seed Hakea)		11	10	1			2	4				1	2							6	1	4	2		7	51	12	
<i>Hakea francisiana</i> (Bottlebrush Hakea)		2	3	1						6					2					14		3	1			32	8	
<i>Hakea leucoptera</i> ssp. <i>leucoptera</i> (Silver Needlewood)	1	1	5		3		1			2					1									2		16	8	
<i>Hakea mitchellii</i> (Heath Needlebush)		9	5	1				2				1								12						30	6	
<i>Hakea rugosa</i> (Dwarf Hakea)		1																								1	1	
<i>Hakea vittata</i> (Limestone Needlebush)			1																							1	1	
<i>Halgania andromedifolia</i> (Scented Blue-flower)	1	1						2		3										3	1	3	2			16	8	
<i>Halgania cyanea</i> (Rough Blue-flower)	2	6	6		1		5	3		4		1	1		3					7		1	2			42	13	
<i>Haloragis acutangula</i> f. (Smooth Raspwort)										1					1					1						3	3	
<i>Haloragis acutangula</i> f. <i>acutangula</i> (Smooth Raspwort)																						1				1	1	
<i>Haloragis eyreana</i> (Prickly Raspwort) EN E													1													1	1	
<i>Helichrysum leucopsidium</i> (Satin Everlasting)		3	8				3	2		4		1	1	2	4					16	1	1	2	3		3	54	15
<i>Heliotropium asperrimum</i> (Rough Heliotrope)															1											1	1	
<i>Heliotropium europaeum</i> (Common Heliotrope)							1																			1	1	
<i>Hemichroa diandra</i> (Mallee Hemichroa)										2										2						4	2	

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<i>Hibbertia cinerea</i> (Port Lincoln Guinea-flower)			1																						3	2	
<i>Hibbertia crinita</i> ()	2																								2	1	
<i>Hibbertia paeninsularis</i> (Peninsula Guinea-flower)																									5	5	
<i>Hibbertia</i> sp. <i>Glabriuscula</i> (D.J.Whibley 9012) (Smooth Guinea-flower)		3					1	2											8	1	1				4	20	
<i>Hibbertia virgata</i> (Twiggy Guinea-flower)		2	2	1				2		4		1			2				13	1	2	2			32	11	
<i>Homoranthus wilhelmii</i> (Wilhelm's Homoranthus)		4	2	1				3				1			1				13	3	3				31	9	
<i>Hyalosperma demissum</i> (Dwarf Sunray)	2		7	1			2	1		2		1	1		1				2						2	22	
<i>Hyalosperma glutinosum</i> ssp. <i>glutinosum</i> (Golden Sunray)	1		6		1		2			4			2		1				1	1			1	1		21	
<i>Hyalosperma semisterile</i> (Orange Sunray)															1											2	
<i>Hybanthus floribundus</i> ssp. <i>floribundus</i> (Shrub Violet)		1	4					2		2		1			3				7	1	1	1				23	
<i>Hybanthus monopetalus</i> (Slender Violet)													2												1	12	
<i>Hydrocotyle callicarpa</i> (Tiny Pennywort)			2				2																		2	6	
<i>Hydrocotyle foveolata</i> (Yellow Pennywort)				1																						1	
<i>Hydrocotyle medicaginoidea</i> (Medic Pennywort)											1															1	
<i>Hydrocotyle pilifera</i> var. <i>glabrata</i> (Buttercup Pennywort)	1	8				1	5			2									1				1			19	
<i>Hydrocotyle rugulosa</i> (Mallee Pennywort)	1	2					3																			6	
<i>Hypoxis glabella</i> var. <i>glabella</i> (Tiny Star)			3				2								1											6	
<i>Indigofera australis</i> var. <i>australis</i> (Austral Indigo)			1																							1	
<i>Indigofera helmsii</i> (Helm's Indigo)			4										1													5	
<i>Isoetes drummondii</i> ssp. (Plain Quillwort)			1																							1	
<i>Isoetes muelleri</i> (Mueller's Quillwort)			1																							1	
<i>Isoetopsis graminifolia</i> (Grass Cushion)	2		2				1			1			1		1				1							9	
<i>Isolepis australiensis</i> (Southern Club-rush)			1																							1	
<i>Isolepis cernua</i> (Nodding Club-rush)			2																							2	
<i>Isolepis congrua</i> (Slender Club-rush)			1				1												1							3	
<i>Isolepis marginata</i> (Little Club-rush)			3					1							1											5	
<i>Isolepis nodosa</i> (Knobby Club-rush)															1											1	
<i>Isolepis platycarpa</i> (Flat-fruit Club-rush)							1																		1	2	
<i>Isotoma petraea</i> (Rock Isotome)			2	1						1			1						1							6	
<i>Juncus bufonius</i> (Toad Rush)			1				1																		1	3	
<i>Juncus kraussii</i> (Sea Rush)																									2	2	
<i>Juncus subsecundus</i> (Finger Rush)			6										1												2	9	
<i>Kennedia prostrata</i> (Scarlet Runner)	2		1																							3	

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Kippistia suaedifolia (Fleshy Kippistia)										2															2	1	
Lachnagrostis aemula (Blown-grass)													1						1				1		2	5	4
Lagenophora huegelii (Coarse Bottle-daisy)			1										1												2	2	
Lasiopetalum baueri (Slender Velvet-bush)		7	12				2	2		1			1									1	1		5	32	9
Lasiopetalum behrii (Pink Velvet-bush)		4	3	1			8	5		2		1	2		3			1	3		1	4			4	42	14
Lawrenzia berthae (Showy Lawrenzia) R										1																1	1
Lawrenzia glomerata (Clustered Lawrenzia)	1									2									1			1	1		6	5	
Lawrenzia spicata (Salt Lawrenzia)															1											1	1
Lawrenzia squamata (Thorny Lawrenzia)										4					3							1				8	3
Leiocarpa websteri (Narrow Plover-daisy)															1											1	1
Lemooria burkittii (Wires-and-wool)					2																					2	1
Lepidium leptopetalum (Shrubby Peppergrass)										1																1	1
Lepidium papillosum (Warty Peppergrass)										2																2	1
Lepidium rotundum (Veined Peppergrass)																			1							1	1
Lepidosperma carphoides (Black Rapier-sedge)		1						1																		2	2
Lepidosperma concavum (Spreading Sword-sedge)															1											2	2
Lepidosperma sp. Narrow leaf (R.L.Taplin 709) ()								1																		2	2
Lepidosperma viscidum (Sticky Sword-sedge)	2	11	10	2	2		5	6	1	1		1	4		1					10	3	3	3		5	70	17
Leptomeria aphylla (Leafless Currant-bush)																				2						2	1
Leptomeria preissiana () E																				1						1	1
Leptorhynchus tetrachaetus (Little Buttons)																				2	2					4	2
Leptorhynchus waitzia (Button Immortelle)					1															1						2	2
Leptospermum coriaceum (Dune Tea-tree)		9	8	1				3		4		1			6					14	1	3	3			53	11
Leptospermum myrsinoides (Heath Tea-tree)																										0	0
Leucopogon cordifolius (Heart-leaf Beard-heath)		10	4	3			2	2		3		1			2					11	1	3				42	11
Leucopogon rufus (Ruddy Beard-heath)				1				2				1								4						8	4
Leucopogon sp. (Beard-heath)			1																							1	1
Levenhookia dubia (Hairy Stylewort)			4				2			1			1												2	10	5
Levenhookia stipitata () R			2																							2	1
Limosella australis (Australian Mudwort)			1																							1	1
Limosella curdieana var. curdieana (Large Mudwort)			1							1																2	2
Limosella granitica (Granite Mudwort) VU V			2																							2	1
Linum marginale (Native Flax)			1				1															1			1	4	4

Native plant species	BUCKLEBOO (CR)	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	CORROBINNE HILL (CP)	CORTLINYE (CR)	CUNYARIE (CR)	DARKE RANGE (CP)	HEGGATON (CR)	LACROMA (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MALGRA (CR)	MIDDECAMP HILLS (CP)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST (CR)*	MUNYAROO : LINCOLN HILLS AREA (CR)	MUNYAROO : PLANK POINT (CR)	PINKAWILLINIE (CP)	POOLGARRA (CR)	SHEOAK HILL (CP)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	TOLA (CR)	YELDULKNIE (CP)	No. of records	No. of reserves
<i>Lobelia gibbosa</i> (Tall Lobelia)		2		1			1	1					1												2	8	6
<i>Logania crassifolia</i> (Coast Logania)			1																							1	1
<i>Logania linifolia</i> (Flax-leaf Logania)										1		1							1			1				4	4
<i>Logania nuda</i> (Leafless Logania)								1		3					3				7				3			17	5
<i>Logania ovata</i> (Oval-leaf Logania)		2	2				1	2														1			1	9	6
<i>Lomandra collina</i> (Sand Mat-rush)		3	2	1			2	3		3		1	1		1				10		1	1	2			31	13
<i>Lomandra effusa</i> (Scented Mat-rush)	1	2	6				4	2		6		1	3		8		1	1	8	2	1	3	2		2	53	17
<i>Lomandra juncea</i> (Desert Mat-rush)		1								1									1							3	3
<i>Lomandra leucocephala</i> ssp. <i>robusta</i> (Woolly Mat-rush)		4	4	1				3		3		1		1	1		1		13			3	3			38	12
<i>Lomandra micrantha</i> ssp. <i>micrantha</i> (Small-flower Mat-rush)		1	1																							2	2
<i>Lotus cruentus</i> (Red-flower Lotus)			2												4											6	2
<i>Lycium australe</i> (Australian Boxthorn)										5					4		1	2					3			15	5
<i>Lysiana exocarpi</i> ssp. <i>exocarpi</i> (Harlequin Mistletoe)			1							1					2									1	2	7	5
<i>Lysiana murrayi</i> (Mulga Mistletoe)																			1							1	1
<i>Lythrum hyssopifolia</i> (Lesser Loosestrife)								1																		1	1
<i>Maireana aphylla</i> (Cotton-bush)										1																1	1
<i>Maireana appressa</i> (Pale-fruit Bluebush)															3											3	1
<i>Maireana astrotricha</i> (Low Bluebush)										1					1											2	2
<i>Maireana brevifolia</i> (Short-leaf Bluebush)							3	1				1	1	1	1							1	3	1		13	9
<i>Maireana enchylaenoides</i> (Wingless Fissure-plant)		2	2		1	4	1					1	1						2	1		1	1			17	11
<i>Maireana erioclada</i> (Rosy Bluebush)	2			2	1			1		12	1			1	3		1	7					3	1		35	12
<i>Maireana georgei</i> (Satiny Bluebush)															2											2	1
<i>Maireana lobiflora</i> (Lobed Bluebush)	2																									2	1
<i>Maireana microcarpa</i> (Swamp Bluebush)																			2							2	1
<i>Maireana oppositifolia</i> (Salt Bluebush)										2					3				4							9	3
<i>Maireana pentatropis</i> (Erect Mallee Bluebush)	2									8				1	3				10	1		1				26	7
<i>Maireana pyramidata</i> (Black Bluebush)															2											2	1
<i>Maireana radiata</i> (Radiate Bluebush)										7					2				8			1				18	4
<i>Maireana rohrlachii</i> (Rohrlach's Bluebush) R							1																			1	1
<i>Maireana sedifolia</i> (Bluebush)										5					6						1					12	3
<i>Maireana suaedifolia</i> (Lax Bluebush) R								1																		1	1
<i>Maireana trichoptera</i> (Hairy-fruit Bluebush)	2			3						6				1	5				7				1			25	7
<i>Maireana turbinata</i> (Top-fruit Bluebush)										1					5											6	2

Native plant species	BUCKLEBOO (CR)	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	CORROBINNE HILL (CP)	CORTLINYE (CR)	CUNYARIE (CR)	DARKE RANGE (CP)	HEGGATON (CR)	LACROMA (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MALGRA (CR)	MIDDLECAMP HILLS (CP)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST (CR)*	MUNYAROO : LINCOLN HILLS (CP)	MUNYAROO : PLANK HILLS (CP)	PINKAWILLINIE (CP)	POOLGARRA (CR)	SHEOAK HILL (CP)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	TOLA (CR)	YELDULKNE (CP)	No. of records	No. of reserves
Melaleuca acuminata ssp. acuminata (Mallee Honey-myrtle)		4		1			2	5				1		1					4			2	2	1	1	24	11
Melaleuca armillaris ssp. akineta (Needle-leaf Honey-myrtle) R		6	19	3			2	1											2							33	6
Melaleuca brevifolia (Short-leaf Honey-myrtle)													1										2		1	4	3
Melaleuca decussata (Totem-poles)				1				1											3						2	7	4
Melaleuca eleuterostachya (Hummock Honey-myrtle)				2															1							3	2
Melaleuca gibbosa (Slender Honey-myrtle)																			3							3	1
Melaleuca halmaturorum (Swamp Paper-bark)																			2							2	1
Melaleuca lanceolata (Dryland Tea-tree)							1								4											5	2
Melaleuca oxyphylla (Pointed-leaf Honey-myrtle) R				1				1											2	1	3					8	5
Melaleuca pauperiflora ssp. mutica (Boree)	1	1			2		1	2		8									7	1	2			1		26	10
Melaleuca uncinata (Broombush)		1	1				1								3											6	4
Menkea australis (Fairy Spectacles)		1					1																			2	2
Microcybe multiflora ssp. multiflora (Small-leaf Microcybe)	1			2		1	1			2				1	2				4	1	2	1				18	11
Microcybe pauciflora ssp. pauciflora (Yellow Microcybe)		2													1				2							5	3
Microseris lanceolata (Yam Daisy)	2	1	2				2			1									2							10	6
Microtis arenaria (Notched Onion-orchid)			5	1			1						1						1							9	5
Microtis frutetorum ()			1																							1	1
Millotia muelleri (Common Bow-flower)	1	1	3				2			1					1							1			3	13	8
Millotia mysotidifolia (Broad-leaf Millotia)		1	12			1	4			3		1	1		1				3	2			1	1		31	12
Millotia perpusilla (Tiny Bow-flower)	2											1			1				2							7	5
Millotia tenuifolia var. tenuifolia (Soft Millotia)		2	4				2	1		2			1		2				2			2			3	22	11
Minuria cunninghamii (Bush Minuria)															1											1	1
Minuria leptophylla (Minnie Daisy)	2	1	1		2		2			2			2						2				1			15	9
Muehlenbeckia adpressa (Climbing Lignum)		3	6										1						1							11	4
Muehlenbeckia diclina ssp. diclina (Twiggy Lignum)															1				2		1					4	3
Myoporum brevipes (Warty Boobiella)																			1							1	1
Myoporum insulare (Common Boobiella)																1										1	1
Myoporum montanum (Native Myrtle)															1											1	1
Myoporum platycarpum ssp. perbellum (Mallee Sandalwood)															1											1	1
Myoporum platycarpum ssp. platycarpum (False Sandalwood)					1					5					2				2	2	2	2	2			16	7
Neurachne alopecuroidea (Fox-tail Mulga-grass)		1	4				2	3				1	2						1				2		5	21	9
Nicotiana goodspeedii (Small-flower Tobacco)		2	1	2			1								1											7	5
Nicotiana maritima (Coast Tobacco)		2	7												2				1							12	4



Native plant species	BUCKLEBOO (CR)	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	CORROBINNE HILL (CP)	CORTLINYE (CR)	CUNYARIE (CR)	DARKE RANGE (CP)	HEGGATON (CR)	LACROMA (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MALGRA (CR)	MIDDECAMP HILLS (CP)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST (CR)*	MUNYAROO : LINCOLN HILLS (CP)	MUNYAROO : PLANK HILLS (CP)	PINKAWILLINE (CP)	POOLGARRA (CR)	SHEOAK HILL (CP)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	TOLA (CR)	YELDULKNE (CP)	No. of records	No. of reserves
<i>Nicotiana rosulata</i> ssp. ()			1												1											2	2
<i>Nicotiana velutina</i> (Velvet Tobacco)			2																							2	1
<i>Nitraria billardierei</i> (Nitre-bush)										4					2	1							5			12	4
<i>Olearia adenolasia</i> (Musk Daisy-bush) R								2												1	2					5	3
<i>Olearia axillaris</i> (Coast Daisy-bush)															2	1										3	2
<i>Olearia brachyphylla</i> (Short-leaf Daisy-bush)		1																				1	1			3	3
<i>Olearia calcarea</i> (Crinkle-leaf Daisy-bush)										7					1											8	2
<i>Olearia ciliata</i> var. <i>ciliata</i> (Fringed Daisy-bush)		3	1	1				2		1		1							2		1					12	8
<i>Olearia decurrens</i> (Winged Daisy-bush)		4	1	1	2		3	3		4			1		4				2	1	3	1	2	4		36	15
<i>Olearia floribunda</i> var. <i>floribunda</i> (Heath Daisy-bush)		3	1	1			2	1		1				1	1				2		2	2			1	18	12
<i>Olearia lanuginosa</i> (Woolly Daisy-bush)																			1							3	2
<i>Olearia lepidophylla</i> (Clubmoss Daisy-bush)									1	2	1				2				4	1	2	2				17	9
<i>Olearia magniflora</i> (Splendid Daisy-bush)					1														2							3	2
<i>Olearia minor</i> (Heath Daisy-bush)																			3							3	1
<i>Olearia muelleri</i> (Mueller's Daisy-bush)	2	2	1	1	2		4	2		12				1	8		1	11			3	2	1			53	15
<i>Olearia passerinoides</i> ssp. <i>passerinoides</i> (Feather Daisy-bush)					1				1	1					2											5	4
<i>Olearia pimeleoides</i> ssp. <i>pimeleoides</i> (Pimelea Daisy-bush)					1					3					5				3				2			14	5
<i>Olearia ramulosa</i> (Twiggy Daisy-bush)		6	3				2	1														2		2		16	6
<i>Olearia rudis</i> (Azure Daisy-bush)										1												1				2	2
<i>Olearia subspicata</i> (Spiked Daisy-bush)															1											1	1
<i>Olearia tubuliflora</i> (Rayless Daisy-bush)			1																							1	1
<i>Omphalolappula concava</i> (Burr Stickseed)															1											1	1
<i>Opercularia scabrada</i> (Stalked Stinkweed)		1	2					1					1						1			1		2		9	7
<i>Opercularia turpis</i> (Twiggy Stinkweed)		2	2					1		1			1						1			1			1	10	8
<i>Opercularia varia</i> (Variable Stinkweed)																						1				1	1
<i>Ophioglossum lusitanicum</i> (Austral Adder's-tongue)			6	1											2											9	3
<i>Orthoceras strictum</i> (Horned Orchid)							1																			1	1
<i>Orthrosanthus multiflorus</i> (Morning Flag)											1															1	1
<i>Osteocarpum salsuginosum</i> (Inland Bonefruit)																			3							3	1
<i>Oxalis perennans</i> (Native Sorrel)															1											1	1
<i>Ozothamnus decurrens</i> (Ridged Bush-everlasting)		3		1			1	5	1	1		1		1	1	1	1		12	1	3	2		1		35	15
<i>Ozothamnus retusus</i> (Notched Bush-everlasting)			4				2	3		1			1	1	2				4			1	1			20	10
<i>Panicum effusum</i> var. <i>effusum</i> (Hairy Panic)																		1								1	1

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<i>Parietaria cardiostegia</i> (Mallee Smooth-nettle)			1												3											5	3	
<i>Pelargonium australe</i> (Australian Pelargonium)								1							1							1				3	3	
<i>Pelargonium littorale</i> (Native Pelargonium)			1												2				1							4	3	
<i>Phebalium bullatum</i> (Silvery Phebalium)	10	7	1					5		6		1	1		4				1		21	2	3	3		65	13	
<i>Pheladenia deformis</i> (Bluebeard Orchid)			2				1																			3	2	
<i>Philotheca angustifolia</i> ssp. <i>angustifolia</i> (Narrow-leaf Wax-flower) R															1										1	2	2	
<i>Philotheca linearis</i> (Narrow-leaf Wax-flower)										1																1	1	
<i>Phyllangium divergens</i> (Wiry Mitrewort)	2	4					4													1					2	13	5	
<i>Phyllangium sulcatum</i> () V			1																							1	1	
<i>Phyllanthus saxosus</i> (Rock Spurge)															1											1	1	
<i>Phyllota remota</i> (Slender Phyllota)	2							2												1	1					6	4	
<i>Pimelea flava</i> ssp. <i>dichotoma</i> (Diosma Riceflower)	5	13					3	2																		6	29	5
<i>Pimelea glauca</i> (Smooth Riceflower)	1						1						1							4						1	8	5
<i>Pimelea imbricata</i> var. <i>petraea</i> (Rock Woolly Riceflower)			1																	3							4	2
<i>Pimelea micrantha</i> (Silky Riceflower)										1			1		2												5	4
<i>Pimelea microcephala</i> ssp. <i>microcephala</i> (Shrubby Riceflower)	1									3			2		7			1		2				2	1	19	8	
<i>Pimelea octophylla</i> (Woolly Riceflower)	4	4						2												4	1						15	5
<i>Pimelea serpyllifolia</i> ssp. <i>serpyllifolia</i> (Thyme Riceflower)	1																			6							7	2
<i>Pimelea simplex</i> ssp. (Desert Riceflower)										2	1				1					3							7	4
<i>Pimelea stricta</i> (Erect Riceflower)	1	2					4	2					1		2					2							14	7
<i>Pimelea subvillifera</i> (Silky Riceflower)								1												4		1					6	3
<i>Pimelea trichostachya</i> (Spiked Riceflower)										1					1												2	2
<i>Pimelea williamsonii</i> (Williamson's Riceflower) R								2																			2	1
<i>Pittosporum angustifolium</i> (Native Apricot)	1	4	12	1			5	2		2			2		10	1		2	4	1			1	2	1	51	16	
<i>Plantago drummondii</i> (Dark Plantain)			4	2		1		1		2		1	1	1						3							18	10
<i>Plantago hispida</i> (Hairy Plantain)							1																				1	1
<i>Plantago</i> sp. B (R.Bates 44765) (Little Plantain)	1		2	1	1		5			1			1		1				6	1				1		21	11	
<i>Plantago varia</i> (Variable Plantain)															1												1	1
<i>Platysace heterophylla</i> var. <i>heterophylla</i> (Slender Platysace)		3					2	4												1							10	4
<i>Pleurosorus rutifolius</i> (Blanket Fern)			4																								4	1
<i>Poa crassicaudex</i> (Thick-stem Tussock-grass)			2				1						1													1	5	4
<i>Poa labillardieri</i> var. <i>labillardieri</i> (Common Tussock-grass)			2										1														3	2
<i>Poa</i> sp. (Meadow-grass/Tussock-grass)	1																										1	1

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<i>Podolepis canescens</i> (Grey Copper-wire Daisy)																				3					3	1		
<i>Podolepis capillaris</i> (Wiry Podolepis)	2	9	8	4	3	1	2	2		3		1	2	2	10								1	3	2	1	75	19
<i>Podolepis jaceoides</i> (Showy Copper-wire Daisy) R															1											1	1	
<i>Podolepis muelleri</i> (Button Podolepis) V								1																		1	1	
<i>Podolepis rugata</i> var. (Pleated Copper-wire Daisy)																				1						1	1	
<i>Podolepis rugata</i> var. <i>rugata</i> (Pleated Copper-wire Daisy)																				6						6	1	
<i>Podolepis tepperi</i> (Delicate Copper-wire Daisy)	1	3	5		1		3			2		1	1		1			1		3			1	2		25	13	
<i>Podotheca angustifolia</i> (Sticky Long-heads)		4	3	3			3	2				1			4		1			13		2	1			37	11	
<i>Pogonolepis muelleriana</i> (Stiff Cup-flower)	1		6		1		1	1		1		1	1							6		1	2	1		23	12	
<i>Pomaderris flabellaris</i> (Fan Pomaderris)													2													1	3	2
<i>Pomaderris obcordata</i> (Wedge-leaf Pomaderris)			1				2															1			4	8	4	
<i>Pomaderris paniculosa</i> ssp. <i>paniculosa</i> (Mallee Pomaderris)		3	3				3						1		1							2				13	6	
<i>Pomax umbellata</i> (Pomax)																				1						1	1	
<i>Poranthera triandra</i> (Three-petal Poranthera)							1	1																		2	2	
<i>Posidonia australis</i> (Southern Tapeweed)															1											1	1	
<i>Prasophyllum constrictum</i> (Tawny Leek-orchid) R							2																			2	1	
<i>Prasophyllum elatum</i> (Tall Leek-orchid)								1																		1	1	
<i>Prasophyllum occidentale</i> (Plains Leek-orchid)			5																	1	1					7	3	
<i>Prostanthera ammophila</i> (Sand Mintbush)				1																		2				3	2	
<i>Prostanthera aspalathoides</i> (Scarlet Mintbush)		1					4			1					3							2	2			14	7	
<i>Prostanthera florifera</i> (Gawler Ranges Mintbush)										2																2	1	
<i>Prostanthera serpyllifolia</i> ssp. (Thyme Mintbush)																							1			1	1	
<i>Prostanthera serpyllifolia</i> ssp. <i>microphylla</i> (purplish-green flowers) (Small-leaf Mintbush)								1				1					1									5	5	
<i>Prostanthera serpyllifolia</i> ssp. <i>microphylla</i> (Small-leaf Mintbush)		1	1				2	1	2				1	1												2	11	8
<i>Prostanthera serpyllifolia</i> ssp. <i>serpyllifolia</i> (purplish-green flowers) (Thyme Mintbush)									1																		1	1
<i>Prostanthera serpyllifolia</i> ssp. <i>serpyllifolia</i> (red flowers) (Thyme Mintbush)										1																2	2	1
<i>Pseudognaphalium luteoalbum</i> (Jersey Cudweed)			1				1		1						1											4	4	
<i>Pterostylis boormanii</i> (Boorman's Greenhood)			4				1		1											3						9	4	
<i>Pterostylis cyncocephala</i> (Swan-head Greenhood)			1																							1	1	
<i>Pterostylis mutica</i> (Midget Greenhood)	1	2	3			1	4	2	2			1			1			2	6	1		1		1		28	14	
<i>Pterostylis nana</i> (Dwarf Greenhood)			2				3								1											2	8	4
<i>Pterostylis plumosa</i> (Bearded Greenhood)			2				2																			4	2	
<i>Pterostylis pusilla</i> (Small Rusty-hood)		2	3		1			1																		2	9	5

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<i>Pterostylis sanguinea</i> (Blood Greenhood)			2				2								1										4	2	
<i>Ptilotus exaltatus</i> var. (Pink Mulla Mulla)															1										1	1	
<i>Ptilotus exaltatus</i> var. <i>exaltatus</i> (Pink Mulla Mulla)										1					1		1					2			6	5	
<i>Ptilotus nobilis</i> var. <i>nobilis</i> (Yellow-tails)															1				1						2	2	
<i>Ptilotus obovatus</i> var. <i>obovatus</i> (Silver Mulla Mulla)		1								5					3					1					1	11	5
<i>Ptilotus seminudus</i> (Rabbit-tails)	2	1	1		1	1	3	2		10	1			1	2		1		12	1		3	1	1	44	17	
<i>Ptilotus spathulatus</i> f. <i>spathulatus</i> (Pussy-tails)			2		1	1	1	2		2		1	2		2				1				2	1	18	12	
<i>Pultenaea acerosa</i> (Bristly Bush-pea)		1																							1	1	
<i>Pultenaea elachista</i> (Limestone Bush-pea)		1																							1	1	
<i>Pultenaea tenuifolia</i> (Narrow-leaf Bush-pea)		6							3												2	1			1	13	5
<i>Pultenaea teretifolia</i> var. <i>teretifolia</i> (Terete-leaf Bush-pea)		3																							4	7	2
<i>Pultenaea trinervis</i> (Three-nerve Bush-pea)								3																		3	1
<i>Pyrorchis nigricans</i> (Black Fire-orchid)			1					1																	2	2	
<i>Quinetia urvillei</i> (Quinetia)			4				1																		5	2	
<i>Ranunculus sessiliflorus</i> var. <i>sessiliflorus</i> (Annual Buttercup)							1																		1	1	
<i>Rhagodia candolleana</i> ssp. (Sea-berry Saltbush)									1																1	1	
<i>Rhagodia candolleana</i> ssp. <i>candolleana</i> (Sea-berry Saltbush)		1								1					5		2	3		1					13	6	
<i>Rhagodia crassifolia</i> (Fleshy Saltbush)		2		1	3		1	3		9				2	6				8		1	1			37	11	
<i>Rhagodia parabolica</i> (Mealy Saltbush)			1		2	1				5			3		8					1	2	1	2		26	10	
<i>Rhagodia preissii</i> ssp. <i>preissii</i> (Mallee Saltbush)	1	4	11	1			6	2		2		1		1	12	1	2	11	1		3	2	2	1	64	18	
<i>Rhagodia spinescens</i> (Spiny Saltbush)				1	2		1			3					5		1	2							17	9	
<i>Rhagodia ulicina</i> (Intricate Saltbush)										7					2							2				11	3
<i>Rhodanthe corymbiflora</i> (Paper Everlasting)	1																								1	1	
<i>Rhodanthe haigii</i> (Haig's Everlasting)															1										1	1	
<i>Rhodanthe laevis</i> (Smooth Daisy)	1						3			2			1		1				2						2	12	7
<i>Rhodanthe moschata</i> (Musk Daisy)		1								1									3						5	3	
<i>Rhodanthe polygalifolia</i> (Milkwort Everlasting)	1	2	7		1		2			6									7	1					27	8	
<i>Rhodanthe pygmaea</i> (Pigmy Daisy)		1	2		1	1	3			2		1	1		1				1	1				1	16	12	
<i>Rhodanthe stricta</i> (Slender Everlasting)										1					1										2	2	
<i>Rhodanthe stuartiana</i> (Clay Everlasting)	1				1					3					1				2	1					9	6	
<i>Rulingia crauophylla</i> () V		1								1															2	2	
<i>Rumex brownii</i> (Slender Dock)													1												1	2	2
<i>Salsola tragus</i> (Buckbush)			1										1		1										3	3	

Native plant species	BUCKLEBOO (CR)	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	CORROBINNE HILL (CP)	CORTLYNE (CR)	CUNYARIE (CR)	DARKE RANGE (CP)	HEGGATON (CR)	LACROMA (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MALGRA (CR)	MIDDLECAMP HILLS (CP)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST (CR)*	MUNYAROO : LINCOLN HILLS AREA (CR)	MUNYAROO : PLANK HILLS (CR)	PINKAWILLINE (CP)	POOLGARRA (CR)	SHEOAK HILL (CP)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	TOLA (CR)	YELDULKNE (CP)	No. of records	No. of reserves
<i>Santalum acuminatum</i> (Quandong)	1	4	7	2	2		6	4	1	8		1	1	1	9			1	11			3	3	2	1	68	19
<i>Santalum lanceolatum</i> (Plumbush)										1					1											2	2
<i>Santalum murrayanum</i> (Bitter Quandong)		2		1				1		2									3		2	3				14	7
<i>Santalum spicatum</i> (Sandalwood) V										2					1											3	2
<i>Sarcocornia blackiana</i> (Thick-head Samphire)															2											2	1
<i>Sarcocornia quinqueflora</i> (Beaded Samphire)																							1			2	2
<i>Sarcostemma viminalis</i> ssp. <i>australe</i> (Caustic Bush)										1																1	1
<i>Sarcozona praecox</i> (Sarcozona)		2	8				2	1		1					2				1			1	1			20	10
<i>Scaevola aemula</i> (Fairy Fanflower)			4					1		1					1				1							9	6
<i>Scaevola bursariifolia</i> (Bursaria Fanflower)																										0	0
<i>Scaevola humilis</i> (Inland Fanflower)	2							1					2		1				2						1	9	6
<i>Scaevola linearis</i> ssp. <i>linearis</i> (Rough Fanflower)			9												1										1	11	3
<i>Scaevola myrtifolia</i> (Myrtle Fanflower) R																				1	1					2	2
<i>Scaevola spinescens</i> (Spiny Fanflower)	1	2		1			4			9		1			8		1	9	2				2			40	11
<i>Scambopus curvipes</i> ()																			2							2	1
<i>Schenkia australis</i> (Spike Centaury)		1																								1	1
<i>Schoenia ramosissima</i> (Dainty Everlasting)															3											3	1
<i>Schoenus apogon</i> (Common Bog-rush)																									2	2	1
<i>Schoenus breviculmis</i> (Matted Bog-rush)		4	1				3	2				1	1						1			1	1	4		19	10
<i>Schoenus nanus</i> (Little Bog-rush)			1				1												1							3	3
<i>Schoenus nitens</i> (Shiny Bog-rush)															1											1	1
<i>Schoenus racemosus</i> (Sandhill Bog-rush)		5	4	1				4				1					1	11		1			2			30	9
<i>Schoenus sculptus</i> (Gimlet Bog-rush) R			2				1																			3	2
<i>Schoenus subaphyllus</i> (Desert Bog-rush)		3	1	1				1		1		1			2				6				1			17	9
<i>Scleranthus minusculus</i> (Cushion Knawel)															3											3	1
<i>Scleranthus pungens</i> (Prickly Knawel)			2				2																			4	2
<i>Sclerolaena brevifolia</i> (Small-leaf Bindyi)										1					1											2	2
<i>Sclerolaena diacantha</i> (Grey Bindyi)	2	1	1	2	3	1	3	2		9		1		1	7				13	1		3	4	1		55	17
<i>Sclerolaena divaricata</i> (Tangled Bindyi)															1											1	1
<i>Sclerolaena obliquispis</i> (Oblique-spined Bindyi)	1				1					6					5				5				1			19	6
<i>Sclerolaena parviflora</i> (Small-flower Bindyi)										1					3				11			1				16	4
<i>Sclerolaena patentispis</i> (Spear-fruit Bindyi)										1																1	1
<i>Sclerolaena uniflora</i> (Small-spine Bindyi)															2				1							3	2

Native plant species	BUCKLEBOO (CR)	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	CORROBINNE HILL (CP)	CORTLINYE (CR)	CUNYARIE (CR)	DARKE RANGE (CP)	HEGGATON (CR)	LACROMA (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MALGRA (CR)	MIDDECAMP HILLS (CP)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST (CR)*	MUNYAROO : LINCOLN HILLS AREA (CR)	MUNYAROO : PLANK HILLS (CR)	PINKAWILLINIE (CP)	POOLGARRA (CR)	SHEOAK HILL (CP)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	TOLA (CR)	YELDULKNE (CP)	No. of records	No. of reserves
<i>Senecio gawlerensis</i> (Gawler Ranges Groundsel)		2	14				1								2									1	18	4	
<i>Senecio glossanthus</i> (Annual Groundsel)															2											2	1
<i>Senecio gregorii</i> (Fleshy Groundsel)										1															1	1	
<i>Senecio picridioides</i> (Purple-leaf Groundsel)		1																							2	3	2
<i>Senecio pinnatifolius</i> (Variable Groundsel)	2	3	4				2	2		2			1		6	1		1	6			2	3	2	37	14	
<i>Senecio quadridentatus</i> (Cotton Groundsel)		2	3				2	2		1		1			2				6			2	1	3	26	12	
<i>Senna artemisioides</i> ssp. (Desert Senna)										1					3											4	2
<i>Senna artemisioides</i> ssp. <i>filifolia</i> (Fine-leaf Desert Senna)			1	1				1					1		2							1			1	8	7
<i>Senna artemisioides</i> ssp. <i>petiolaris</i> ()							1			1					2											4	3
<i>Senna artemisioides</i> ssp. <i>X artemisioides</i> (Silver Senna)																										0	0
<i>Senna artemisioides</i> ssp. <i>X coriacea</i> (Broad-leaf Desert Senna)	1	2	6		2		2	1		8			1		5			1	6	2		2	2	2	43	15	
<i>Senna artemisioides</i> ssp. <i>X sturtii</i> (Grey Senna)							1								1											2	2
<i>Senna cardiosperma</i> ssp. <i>gawlerensis</i> (Gawler Ranges Senna)										5									1							6	2
<i>Setaria constricta</i> (Knotty-butt Paspalidium)			1										1													2	2
<i>Sida corrugata</i> var. (Corrugated Sida)													1		1											2	2
<i>Sida corrugata</i> var. <i>angustifolia</i> (Grassland Sida)													1		1											2	2
<i>Sida petrophila</i> (Rock Sida)			1							1					1											3	3
<i>Sigesbeckia australiensis</i> (Australian Sigesbeckia)															2											2	1
<i>Siloxerus multiflorus</i> (Small Wrinklewort)			2				1																			3	2
<i>Solanum capsiciforme</i> (Capsicum Kangaroo-apple)															2				1							3	2
<i>Solanum coactiliferum</i> (Tomato-bush)		4	3							3			1		2				4	1	1	2		1	22	10	
<i>Solanum hystrix</i> (Afghan Thistle)										2																2	1
<i>Solanum petrophilum</i> (Rock Nightshade)															6											6	1
<i>Solanum simile</i> (Kangaroo Apple)		1	2					1							2				2							8	5
<i>Spyridium bifidum</i> var. ()															1											1	1
<i>Spyridium bifidum</i> var. <i>bifidum</i> (Forked Spyridium)		8	3	1			3	2		2		1	2		2				2			2	2		2	32	13
<i>Spyridium eriocephalum</i> var. <i>eriocephalum</i> (Heath Spyridium)		2																								2	1
<i>Spyridium spathulatum</i> (Spoon-leaf Spyridium) R																									2	2	1
<i>Stackhousia aspericocca</i> ssp. (Bushy Candles)																			1			1				7	5
<i>Stackhousia aspericocca</i> ssp. One-sided inflorescence (W.R.Barker 697) (One-sided Candles)			2				2	1																		7	5
<i>Stackhousia monogyna</i> (Creamy Candles)		1	6				2			1			1												2	13	6
<i>Stackhousia muricata</i> ssp. Perennial (W.R.Barker 3641) (Yellow Candles)	1		9				2			1																13	4
<i>Stellaria filiformis</i> (Thread Starwort)							2							1					1							4	3

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<i>Stenanthemum leucophractum</i> (White Cryptandra)	2	4	3	1				2		1		1								6			1			21	9
<i>Stenanthemum notiale</i> ssp. <i>notiale</i> (Trident Spyridium)		1	1	1				1				1								3		1				9	7
<i>Stenopetalum lineare</i> (Narrow Thread-petal)		1						1		5					5					6		1	1			20	7
<i>Stenopetalum sphaerocarpum</i> (Round-fruit Thread-petal)		1	4			1				1		1		1	1		1			8	1	1	1			22	12
<i>Stuartina muelleri</i> (Spoon Cudweed)			1												1											2	2
<i>Stylidium calcaratum</i> (Spurred Trigger-plant)			2	1																						3	2
<i>Stypandra glauca</i> (Nodding Grass-lily) V			14	1			1													2						18	4
<i>Suaeda australis</i> (Austral Seablite)															1											1	1
<i>Swainsona microphylla</i> (Small-leaf Swainson-pea)															1					1						2	2
<i>Swainsona pyrophila</i> (Yellow Swainson-pea) VU R								1							8											9	2
<i>Tecticornia arbuscula</i> (Shrubby Samphire)										1					1					1						3	3
<i>Tecticornia disarticulata</i> ()										1																1	1
<i>Tecticornia halocnemoides</i> ssp. (Grey Samphire)										1																1	1
<i>Tecticornia halocnemoides</i> ssp. <i>halocnemoides</i> (Grey Samphire)										1																1	1
<i>Tecticornia indica</i> ssp. <i>leiostachya</i> (Brown-head Samphire)										1										1			2			4	3
<i>Tecticornia lylei</i> (Wiry Samphire)										4	1									1						6	3
<i>Tecticornia pergranulata</i> ssp. <i>pergranulata</i> (Black-seed Samphire)										1					1					1			2			5	4
<i>Templetonia egena</i> (Broombush Templetonia)										4					2											6	2
<i>Templetonia sulcata</i> (Flat Mallee-pea)							2																			2	1
<i>Tetragonia eremaea</i> (Desert Spinach)															1											1	1
<i>Tetragonia implexicoma</i> (Bower Spinach)															6	1	2									9	3
<i>Teucrium sessiliflorum</i> (Mallee Germander)	1		1		1		2			2					2					5	1		1			16	9
<i>Thelymitra antennifera</i> (Lemon Sun-orchid)			2					1																		3	2
<i>Thelymitra chasmogama</i> (Globe-hood Sun-orchid)			1																							1	1
<i>Thelymitra luteocilium</i> (Yellow-tuft Sun Orchid)			8				1																			9	2
<i>Thelymitra nuda</i> (Scented Sun-orchid)			1				1																			2	2
<i>Thelymitra pauciflora</i> complex ()			1																							1	1
<i>Thelymitra rubra</i> (Salmon Sun-orchid)			1																							1	1
<i>Themeda triandra</i> (Kangaroo Grass)			3																							3	1
<i>Threlkeldia diffusa</i> (Coast Bonefruit)								2		2					5	1	2		1							13	6
<i>Thryptomene ericaea</i> (Heath Thryptomene)			1																				1			2	2
<i>Thryptomene micrantha</i> (Ribbed Thryptomene)		5	10				2	5		1		1	1	1	8		1	1	6	1		3	4			49	14
<i>Thysanotus baueri</i> (Mallee Fringe-lily)		1				1	2	2		2		1	1	2	6		1		10	1			1	1		32	14

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<i>Thysanotus juncifolius</i> (Rush Fringe-lily)								1											1						1	1		
<i>Thysanotus nudicaulis</i> () E								1																	1	1		
<i>Thysanotus patersonii</i> (Twining Fringe-lily)	1	7	11	4			5	2		3		1	2		1				8	1		3	1	1	3	54	16	
<i>Thysanotus wangariensis</i> (Eyre Peninsula Fringe-lily) R		1																	1							2	2	
<i>Trachymene cyanopetala</i> (Purple Trachymene)	2	2	5	1			2	1		1		1			1				6						3	25	11	
<i>Trachymene pilosa</i> (Dwarf Trachymene)		3	8	4		1	3	1				1		1	1			1	11			1			2	38	13	
<i>Trichanthodium skirrophorum</i> (Woolly Yellow-heads)	1									3									2	1						7	4	
<i>Tricoryne elatior</i> (Yellow Rush-lily)																										0	0	
<i>Tricoryne tenella</i> (Tufted Yellow Rush-lily)		3	2					1				1							6			1				14	6	
<i>Triglochin mucronatum</i> (Prickly Arrowgrass)																			2							2	1	
<i>Triodia bunicola</i> (Flinders Ranges Spinifex)	2	5	1		1			2	1			1										1				14	8	
<i>Triodia compacta</i> (Spinifex)													2													2	1	
<i>Triodia irritans</i> (Spinifex)		8	6				5	1		3			2		5				9			1	1		1	42	11	
<i>Triodia irritans complex</i> (Spinifex)			1	1																						2	2	
<i>Triodia lanata</i> (Woolly Spinifex)		3		1				1											16							21	4	
<i>Triodia scariosa</i> (Spinifex)	1			1			1	3		4		1	1	2	4							1	3		2	24	12	
<i>Triptilodiscus pygmaeus</i> (Small Yellow-heads)													1		1											2	4	3
<i>Velleia arguta</i> (Toothed Velleia)	2		1				2	1		3									4							13	6	
<i>Velleia connata</i> (Cup Velleia)	2	3					1	1							2				2							11	6	
<i>Vittadinia australasica</i> var. (Sticky New Holland Daisy)																			1							1	1	
<i>Vittadinia australasica</i> var. <i>australasica</i> (Sticky New Holland Daisy)		1								1									3							5	3	
<i>Vittadinia cervicularis</i> var. <i>cervicularis</i> (Waisted New Holland Daisy)	3	2	1									1	2		2				1		1	1		1	1	15	10	
<i>Vittadinia cuneata</i> var. <i>cuneata</i> f. <i>cuneata</i> (Fuzzy New Holland Daisy)	1				1			1					3						1						1	8	6	
<i>Vittadinia dissecta</i> var. <i>hirta</i> (Dissected New Holland Daisy)	1	4	4				2	2		1		1	1		4				9			1	3	1	1	35	14	
<i>Vittadinia gracilis</i> (Woolly New Holland Daisy)	1	1	4		1		2	1				1	1		1				2					1	3	19	12	
<i>Vittadinia megacephala</i> (Giant New Holland Daisy)							1													1						2	2	
<i>Wahlenbergia communis</i> (Tufted Bluebell)	2						1	1																		4	3	
<i>Wahlenbergia gracilentia</i> (Annual Bluebell)		1	3	2			2	1		2		1	1		1										3	17	10	
<i>Wahlenbergia littoricola</i> (Coast Bluebell)																						1				1	2	2
<i>Wahlenbergia luteola</i> (Yellow-wash Bluebell)		2											1													3	2	
<i>Wahlenbergia preissii</i> ()							2	1		2			1												2	10	6	
<i>Wahlenbergia queenslandica</i> ()																										1	1	
<i>Wahlenbergia stricta</i> ssp. <i>stricta</i> (Tall Bluebell)			4				1						2		1							1			2	11	6	



	BUCKLEBOO (CR)	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	CORROBINNE HILL (CP)	CORTLYNE (CR)	CUNYARIE (CR)	DARKE RANGE (CP)	HEGGATON (CR)	LACROMA (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MALGRA (CR)	MIDDECAMP HILLS (CP)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST (CR)*	MUNYAROO : LINCORN HILLS AREA (CR)	MUNYAROO : PLANK HILLS (CR)	PINKAWILLIE (CP)	POOLGARRA (CR)	SHEOAK HILL (CP)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	TOLA (CR)	YELDULKNE (CP)	No. of records	No. of reserves
<b>Native plant species</b>																											
<i>Wahlenbergia tumidifruca</i> (Swollen-fruit Bluebell)															2											2	1
<i>Waitzia acuminata</i> var. <i>acuminata</i> (Orange Immortelle)				1						1					1				13	1						17	5
<i>Westringia eremicola</i> (Slender Westringia)								2																		2	1
<i>Westringia rigida</i> (Stiff Westringia)	2	1		2	3		6	3		9		1			4				13		1	1	3			49	13
<i>Wilsonia backhousei</i> (Narrow-leaf <i>Wilsonia</i> )																							2			2	1
<i>Wilsonia humilis</i> (Silky <i>Wilsonia</i> )																							3			3	1
<i>Wurmbea decumbens</i> (Trailing Nancy) R		2	6				2																			10	3
<i>Xanthosia huegelii</i> (Hairy <i>Xanthosia</i> )		1																								1	1
<i>Xerochrysum bracteatum</i> (Golden Everlasting)			2					1															1			4	3
<i>Zygophyllum ammophilum</i> (Sand Twinleaf)															1											1	1
<i>Zygophyllum angustifolium</i> (Scrambling Twinleaf)		2								3					1		1									7	4
<i>Zygophyllum apiculatum</i> (Pointed Twinleaf)				2	1			1		7					6				4			3				24	7
<i>Zygophyllum aurantiacum</i> ssp. (Shrubby Twinleaf)							1	1		1	1				5				1			1	1			12	8
<i>Zygophyllum billardiarei</i> (Coast Twinleaf)															1											1	1
<i>Zygophyllum eremaicum</i> ()															1											1	1
<i>Zygophyllum glaucum</i> (Pale Twinleaf)	2			1	2		1	1		3					4				1			1	2	1		19	11
<i>Zygophyllum ovatum</i> (Dwarf Twinleaf)	2	1			1		2			10					3				7	1			1	1		29	10
<i>Zygophyllum simile</i> (White Twinleaf)			1												1			1								3	3
<b>No. of native plant species</b>	<b>120</b>	<b>279</b>	<b>363</b>	<b>142</b>	<b>89</b>	<b>35</b>	<b>271</b>	<b>247</b>	<b>19</b>	<b>310</b>	<b>19</b>	<b>118</b>	<b>181</b>	<b>52</b>	<b>350</b>	<b>10</b>	<b>19</b>	<b>57</b>	<b>362</b>	<b>62</b>	<b>62</b>	<b>182</b>	<b>208</b>	<b>83</b>	<b>169</b>	<b>774</b>	
<b>No. of introduced species</b>	<b>8</b>	<b>11</b>	<b>58</b>	<b>11</b>	<b>5</b>	<b>6</b>	<b>44</b>	<b>1</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>24</b>	<b>7</b>	<b>4</b>	<b>36</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>53</b>	<b>9</b>	<b>1</b>	<b>4</b>	<b>4</b>	<b>18</b>	<b>25</b>	<b>108</b>	
<b>% introduced species</b>	<b>6.7</b>	<b>3.9</b>	<b>16.0</b>	<b>7.7</b>	<b>5.6</b>	<b>17.1</b>	<b>16.2</b>	<b>0.4</b>	<b>0.0</b>	<b>4.2</b>	<b>0.0</b>	<b>20.3</b>	<b>3.9</b>	<b>7.7</b>	<b>10.3</b>	<b>10.0</b>	<b>0.0</b>	<b>7.0</b>	<b>14.6</b>	<b>14.5</b>	<b>1.6</b>	<b>2.2</b>	<b>1.9</b>	<b>21.7</b>	<b>14.8</b>	<b>14.0</b>	

**Appendix 2. The number of introduced plant species records for north-east Eyre Peninsula region and reserve types ordered by Threatened species status then alphabetically.**

	BUCKLEBOO (CR)	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	CORROBINNIE HILL (CP)	CORTLYNE (CR)	CUNYARIE (CR)	DARKE RANGE (CP)	HEGGATON (CR)	LACROMA (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MALGRA (CR)	MIDDLECAMP HILLS (CP)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST BESIDE MUNYAROO C.P. (CR)	MUNYAROO : LINCOLN HIGHWAY AREA (CR)	MUNYAROO : PLANK POINT (CR)	PINKAWILLINIE (CP)	POOLGARRA (CR)	SHEOAK HILL (CP)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	TOLA (CR)	YELDULKNIE (CP)	Total records	No. of reserves
<b>Introduced plant species</b>																											
Aira cupaniana (Small Hair-grass)		1	3				1								1										2	8	5
Alyssum linifolium (Flax-leaf Alyssum)										4					1				1							6	3
Anagallis arvensis (Pimpernel)	2		12	3			3	1							1				3						3	28	8
Arctotheca calendula (Cape Weed)			4				2					1	1						5							13	5
Argyranthemum frutescens ssp. frutescens (Marguerite Daisy)																								1	1	1	1
Asphodelus fistulosus (Onion Weed)			2									1							3			1	1			8	5
Avellinia michelii (Avellinia)	2	1	4	1		1	3			2		1							12	1		1		3	32	12	
Avena barbata (Bearded Oat)	1	1	5		1	1	3					1	2						1	1			1	2	20	12	
Avena fatua (Wild Oat)			3																3							6	2
Brassica tournefortii (Wild Turnip)		1	3	1			2			1		1		1	3				12	2		1	1	1		30	13
Briza minor (Lesser Quaking-grass)			2																						3	5	2
Bromus diandrus (Great Brome)			1				1					1														3	3
Bromus madritensis (Compact Brome)			4																							4	1
Bromus rubens (Red Brome)	1	1	10	2	1	1	5			2		1		1	1				11	2			2	2	43	15	
Buglossoides arvensis (Sheepweed)			1																2							3	2
Bupleurum semicompositum (Hare's Ear)			1		1		3												5	1			2			13	6
Carduus tenuiflorus (Slender Thistle)			1												1				3							5	3
Carrichtera annua (Ward's Weed)	2				2		2			6					6		1		3				2			24	8
Carthamus lanatus (Saffron Thistle)							1								3				6							10	3
Centaurea melitensis (Malta Thistle)							1					1			2				2					1		7	5
Centaurium erythraea (Common Centaury)							1																			1	1
Cerastium glomeratum (Common Mouse-ear Chickweed)			1																							1	1
Chenopodium murale (Nettle-leaf Goosefoot)	1																									1	1
Cirsium vulgare (Spear Thistle)							2																			2	1
Citrullus colocynthis (Colocynthis)																			1							1	1
Citrullus lanatus (Bitter Melon)																			3							3	1
Cucumis myriocarpus (Paddy Melon)																			3							3	1
Dittrichia graveolens (Stinkweed)			2				1					1			2				5							11	5
Echium plantagineum (Salvation Jane)			2									1							2							5	3

	BUCKLEBOO (CR)	CARALUE BLUFF (CR)	CARAPPE HILL (CP)	CORROBINNIE HILL (CP)	CORTLINEY (CR)	CUNYARIE (CR)	DARKE RANGE (CP)	HEGGATON (CR)	LACROMA (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MALGRA (CR)	MIDDLECAMP HILLS (CP)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST BESIDE MUNYAROO C.P. (CR)	MUNYAROO : LINCOLN HIGHWAY AREA (CR)	MUNYAROO : PLANK POINT (CR)	PINKAWILLINIE (CP)	POOLGARRA (CR)	SHEOAK HILL (CP)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	TOLA (CR)	YELDULKIE (CP)	Total records	No. of reserves
<b>Introduced plant species</b>																											
<i>Ehrharta calycina</i> (Perennial Veldt Grass)												1													1	1	
<i>Ehrharta longiflora</i> (Annual Veldt Grass)			1										1											1	3	3	
<i>Emex australis</i> (Three-corner Jack)			1																						1	1	
<i>Erodium botrys</i> (Long Heron's-bill)												1													1	1	
<i>Erodium cicutarium</i> (Cut-leaf Heron's-bill)		1	3				2								1		1							8	5		
<i>Euphorbia paralias</i> (Sea Spurge)															1										1	1	
<i>Galenia pubescens</i> var. <i>pubescens</i> (Coastal Galenia)													1												1	1	
<i>Galium murale</i> (Small Bedstraw)			1				2												2						5	3	
<i>Hordeum glaucum</i> (Blue Barley-grass)						1								1					7				2		11	4	
<i>Hordeum leporinum</i> (Wall Barley-grass)			1				1												1						3	3	
<i>Hypochaeris glabra</i> (Smooth Cat's Ear)	3	8	3		1	3			3		1			1	2				12					3	40	11	
<i>Hypochaeris radicata</i> (Rough Cat's Ear)															1										1	1	
<i>Isolepis trachysperma</i> (Grassy Club-rush)			1																						1	1	
<i>Lactuca saligna</i> (Willow-leaf Lettuce)																			1						1	1	
<i>Lepidium africanum</i> (Common Peppergrass)																								1	1	1	
<i>Lessertia frutescens</i> (Bladder Senna)	1																								1	1	
<i>Limonium lobatum</i> (Winged Sea-lavender)															1										1	1	
<i>Linum strictum</i> ssp. <i>strictum</i> (Upright Yellow Flax)							1																		1	1	
<i>Lolium perenne</i> (Perennial Ryegrass)																			1						1	1	
<i>Lolium rigidum</i> (Wimmera Ryegrass)			3				1					1							6				1		12	5	
<i>Lycium ferocissimum</i> (African Boxthorn)													2					1				2		1	6	4	
<i>Marrubium vulgare</i> (Horehound)			4				1								1				2						8	4	
<i>Medicago minima</i> var. <i>minima</i> (Little Medic)							1								1				1	1				1	5	5	
<i>Medicago polymorpha</i> var. <i>polymorpha</i> (Burr-medic)			1												1										2	2	
<i>Medicago truncatula</i> (Barrel Medic)			1									1							5						7	3	
<i>Mesembryanthemum crystallinum</i> (Common Iceplant)							1								1								1		3	3	
<i>Mesembryanthemum nodiflorum</i> (Slender Iceplant)									3		1				2				1				1		8	5	
<i>Moraea setifolia</i> (Thread Iris)			1																						1	1	
<i>Nicotiana glauca</i> (Tree Tobacco)															1										1	1	
<i>Oenothera stricta</i> ssp. <i>stricta</i> (Common Evening Primrose)			1												1										2	2	
<i>Oligocarpus calendulaceus</i> ()			1																						1	1	
<i>Onopordum acanthium</i> (Scotch Thistle)															1										1	1	
<i>Oxalis pes-caprae</i> (Soursob)																			1						1	1	

	BUCKLEBOO (CR)	CARALUE BLUFF (CR)	CARAPPE HILL (CP)	CORROBINNIE HILL (CP)	CORTLINEY (CR)	CUNYARIE (CR)	DARKE RANGE (CP)	HEGGATON (CR)	LACROMA (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MALGRA (CR)	MIDDLECAMP HILLS (CP)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST BESIDE MUNYAROO C.P. (CR)	MUNYAROO : LINCOLN HIGHWAY AREA (CR)	MUNYAROO : PLANK POINT (CR)	PINKAWILLINIE (CP)	POOLGARRA (CR)	SHEOAK HILL (CP)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	TOLA (CR)	YELDULKIE (CP)	Total records	No. of reserves
<b>Introduced plant species</b>																											
Papaver hybridum (Rough Poppy)																										3	1
Parapholis incurva (Curly Ryegrass)			1				1					1														7	4
Parentucellia latifolia (Red Bartsia)			3				1					1														5	3
Pentaschistis airoides (False Hair-grass)	1		9	3			1			1		1	1		5					8	1	1			4	36	12
Petrorhagia dubia (Velvet Pink)			4																						1	5	2
Phalaris minor (Lesser Canary-grass)							1																			1	1
Pinus halepensis (Aleppo Pine)															1									1		2	2
Plantago bellardii (Hairy Plantain)															1											2	2
Plantago coronopus ssp. (Bucks-horn Plantain)			1																							1	1
Polycarpon tetraphyllum (Four-leaf Allseed)			1												1											2	2
Polypogon monspeliensis (Annual Beard-grass)																									1	2	2
Raphanus raphanistrum (Wild Radish)						1																				1	1
Rapistrum rugosum ssp. rugosum (Turnip Weed)							1					1														2	2
Reichardia tingitana (False Sowthistle)												1			2											3	2
Rostraria cristata (Annual Cat's-tail)			2				1					1			1					5					2	12	6
Rostraria pumila (Tiny Bristle-grass)																				3						3	1
Sagina apetala (Annual Pearlwort)			2																	3						5	2
Salvia verbenaca (Wild Sage)															1											1	1
Salvia verbenaca var. vernalis (Wild Sage)							1			1																2	2
Schismus barbatus (Arabian Grass)			1				1			2		1			2					7				1	1	16	8
Senecio pterophorus (African Daisy)																									1	1	1
Silene gallica var. gallica (French Catchfly)			3				1													1					1	6	4
Silene nocturna (Mediterranean Catchfly)		1	5	1			2													3	1			1		14	7
Silene tridentata ()		1	1				1													5	1					9	5
Sisymbrium erysimoides (Smooth Mustard)			2				1			1					3	1				4				1		13	7
Sisymbrium irio (London Mustard)							2													3						5	2
Sisymbrium orientale (Indian Hedge Mustard)															1					3				1		5	3
Solanum nigrum (Black Nightshade)			4												1					2					1	8	4
Sonchus asper ssp. glaucescens (Rough Sow-thistle)			1																							1	1
Sonchus oleraceus (Common Sow-thistle)															3											3	1
Spartium junceum (Spanish Broom)			1																							1	1
Stellaria media (Chickweed)			1				2					1														4	3
Trifolium angustifolium (Narrow-leaf Clover)			1																							1	1

	BUCKLEBOO (CR)	CARALUE BLUFF (CR)	CARAPPEE HILL (CP)	CORROBINNIE HILL (CP)	CORTLYNE (CR)	CUNYARIE (CR)	DARKE RANGE (CP)	HEGGATON (CR)	LACROMA (CR)	LAKE GILLES (CP)	LAKE GILLES (CR)	MALGRA (CR)	MIDDLECAMP HILLS (CP)	MOOTRA (CR)	MUNYAROO (CP)	MUNYAROO : COAST BESIDE MUNYAROO C.P. (CR)	MUNYAROO : LINCOLN HIGHWAY AREA (CR)	MUNYAROO : PLANK POINT (CR)	PINKAWILLINIE (CP)	POOLGARRA (CR)	SHEOAK HILL (CP)	SHEOAK HILL (CR)	THE PLUG RANGE (CR)	TOLA (CR)	YELDULKNIE (CP)	Total records	No. of reserves
<b>Introduced plant species</b>																											
Trifolium arvense var. arvense (Hare's-foot Clover)			1				2												1							4	3
Trifolium campestre (Hop Clover)			1																						1	2	2
Trifolium glomeratum (Cluster Clover)																									1	1	1
Trifolium tomentosum (Woolly Clover)			1																							1	1
Tripteris clandestina (Tripteris)			5				1												1							7	3
Urospermum picroides (False Hawkbit)			6	1			1								1				3						1	13	6
Vicia monantha (Spurred Vetch)										1																1	1
Vulpia bromoides (Squirrel-tail Fescue)			1																							1	1
Vulpia muralis (Wall Fescue)				1			1			2									7					1	3	15	6
Vulpia myuros f. myuros (Rat's-tail Fescue)		2	2	3	1		1						1						8	1		1	2	2	3	27	12
Zaluzianskya divaricata (Spreading Night-phlox)	1		2	1			2												1							7	5
<b>No. of introduced species</b>	<b>8</b>	<b>11</b>	<b>58</b>	<b>11</b>	<b>5</b>	<b>6</b>	<b>44</b>	<b>1</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>24</b>	<b>7</b>	<b>4</b>	<b>36</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>53</b>	<b>9</b>	<b>1</b>	<b>4</b>	<b>4</b>	<b>18</b>	<b>25</b>	<b>699</b>	<b>106</b>

**Appendix 3. The number of bird species records for north-east Eyre Peninsula region and reserve types ordered by Threatened species status then alphabetically (includes data from Shirrocoe Survey).**

Species & Conservation status	Common Name	Private	CP	CR	HA
<i>Leipoa ocellata</i> AUS: VU SA: V	Malleefowl	115	144	8	509
<i>Acanthiza iredalei</i> ssp. <i>iredalei</i> AUS: VU SA: R	Slender-billed Thornbill	18	5		
<i>Amytornis textilis myall</i> AUS: VU	Thick-billed Grasswren	62	7		
<i>Neophema chrysostoma</i> SA: V	Blue-winged Parrot		1		
<i>Stagonopleura guttata</i> SA: V	Diamond Firetail	1	3		
<i>Stictonetta naevosa</i> SA: V	Freckled Duck	2			
<i>Lichenostomus crattitius</i> SA: R	Purple-gaped Honeyeater	12	23	4	1
<i>Actitis hypoleucos</i> SA: R	Common Sandpiper	24			
<i>Amytornis striatus</i> SA: R	Striated Grasswren	13	1		
<i>Arenaria interpres</i> SA: R	Ruddy Turnstone	1			
<i>Biziura lobata</i> SA: R	Musk Duck	2			
<i>Calidris melanotos</i> SA: R	Pectoral Sandpiper	1			
<i>Cereopsis novaehollandiae</i> SA: R	Cape Barren Goose	1			
<i>Corcorax melanorhamphos</i> SA: R	White-winged Chough	49	16	4	1
<i>Egretta garzetta</i> SA: R	Little Egret	4			
<i>Egretta sacra</i> SA: R	Eastern Reef Egret	4			
<i>Elanus scriptus</i> SA: R	Letter-winged Kite	1			
<i>Emblema pictum</i> SA: R	Painted Finch	1			
<i>Falco hypoleucos</i> SA: R	Grey Falcon		1		
<i>Falco peregrinus</i> SA: R	Peregrine Falcon	3			
<i>Haematopus fuliginosus</i> SA: R	Sooty Oystercatcher	9	2		
<i>Haematopus longirostris</i> SA: R	Australian Pied Oystercatcher	25			
<i>Hylacola cauta</i> SA: R	Shy Heathwren (Shy Hylacola, "s")	26	19	13	
<i>Lophocroa leadbeateri</i> SA: R	Major Mitchell's Cockatoo	5			
<i>Myiagra inquieta</i> SA: R	Restless Flycatcher	8	14	1	
<i>Neophema elegans</i> SA: R	Elegant Parrot	2	2		
<i>Neophema splendida</i> SA: R	Scarlet-chested Parrot		8		
<i>Oxyura australis</i> SA: R	Blue-billed Duck	1			
<i>Pachycephala inornata</i> SA: R	Gilbert's Whistler	24	28	2	
<i>Plegadis falcinellus</i> SA: R	Glossy Ibis	1			
<i>Tringa brevipes</i> SA: R	Grey-tailed Tattler	1			
<i>Tringa glareola</i> SA: R	Wood Sandpiper	1			
<i>Turnix varius</i> SA: R	Painted Button-quail	8	6	3	
<i>Xenus cinereus</i> SA: R	Terek Sandpiper	1			
<i>Acanthagenys rufogularis</i>	Spiny-cheeked Honeyeater	269	101	28	7
<i>Acanthiza apicalis</i>	Inland Thornbill	146	102	27	3
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill	133	32	10	1
<i>Acanthiza uropygialis</i>	Chestnut-rumped Thornbill	35	19	2	
<i>Accipiter cirrocephalus</i>	Collared Sparrowhawk	30	12	1	
<i>Accipiter fasciatus</i>	Brown Goshawk	11	6	3	
<i>Aegotheles cristatus</i>	Australian Owlet-nightjar	22	15	1	3
<i>Anas castanea</i>	Chestnut Teal	20			
<i>Anas gracilis</i>	Grey Teal	38	3		
<i>Anas superciliosa</i>	Pacific Black Duck	12			
<i>Anthochaera carunculata</i>	Red Wattlebird	189	78	20	11
<i>Anthus novaeseelandiae</i>	Australasian Pipit	75	13	3	1
<i>Aphelocephala leucopsis</i>	Southern Whiteface	42	7		
<i>Apus pacificus</i>	Fork-tailed Swift	4	2		1
<i>Aquila audax</i>	Wedge-tailed Eagle	30	15	7	1
<i>Ardea modesta</i>	Eastern Great Egret	6			
<i>Ardea pacifica</i>	White-necked Heron	10		1	
<i>Artamus cinereus</i>	Black-faced Woodswallow	51	7	1	
<i>Artamus cyanopterus</i>	Dusky Woodswallow	57	37	4	1
<i>Artamus minor</i>	Little Woodswallow	2			
<i>Artamus personatus</i>	Masked Woodswallow	12	11	1	
<i>Artamus superciliosus</i>	White-browed Woodswallow	6	7		
<i>Aythya australis</i>	Hardhead (White-eyed Duck, "s")	5			
<i>Barnardius zonarius</i>	Australian Ringneck, (Ring-necked Parrot, "s")	113	77	21	4
<i>Cacatua sanguinea</i>	Little Corella	3	1		
<i>Cacomantis flabelliformis</i>	Fan-tailed Cuckoo	4	15	2	
<i>Cacomantis pallidus</i>	Pallid Cuckoo	38	7	2	
<i>Calamanthus campestris</i>	Rufous Fieldwren	10		1	
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	6			
<i>Calidris canutus</i>	Red Knot	1			
<i>Calidris ferruginea</i>	Curllew Sandpiper	1			
<i>Calidris ruficollis</i>	Red-necked Stint	2	1		
<i>Certhionyx variegatus</i>	Pied Honeyeater	4	1		
<i>Chalcites basalis</i>	Horsfield's Bronze-cuckoo	47	24	7	1
<i>Chalcites lucidus</i>	Shining Bronze-Cuckoo	1			

Species & Conservation status	Common Name	Private	CP	CR	HA
<i>Chalcites osculans</i>	Black-eared Cuckoo	15	2	1	
<i>Charadrius australis</i>	Inland Dotterel	4			
<i>Charadrius ruficapillus</i>	Red-capped Plover	8	2		
<i>Chenonetta jubata</i>	Australian Wood Duck, (Maned Duck, "B")	6			
<i>Cheramoeca leucosterna</i>	White-backed Swallow	2			
<i>Chlidonias hybrida</i>	Whiskered Tern	4			
<i>Chroicocephalus novaehollandiae</i>	Silver Gull	106	3		
<i>Cincloramphus cruralis</i>	Brown Songlark	49	3		
<i>Cincloramphus mathewsi</i>	Rufous Songlark	13	3		
<i>Cinclosoma castanotum</i>	Chestnut Quail-thrush	35	13	2	1
<i>Cinclosoma cinnamomeum</i>	Cinnamon Quail-thrush	2			
<i>Circus approximans</i>	Swamp Harrier	3			
<i>Circus assimilis</i>	Spotted Harrier	12			
<i>Climacteris rufus</i>	Rufous Treecreeper	36	32	2	1
<i>Colluricincla harmonica</i>	Grey Shrike-thrush	153	93	12	6
<i>Coracina maxima</i>	Ground Cuckoo-shrike	3			
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	102	40	6	3
<i>Corvus bennetti</i>	Little Crow	4	12	1	
<i>Corvus coronoides</i>	Australian Raven	129	45	9	5
<i>Corvus mellori</i>	Little Raven	95	30	11	3
<i>Coturnix pectoralis</i>	Stubble Quail	7	4		
<i>Cracticus tibicen</i>	Australian Magpie	183	32	10	5
<i>Cracticus torquatus</i>	Grey Butcherbird	195	72	26	9
<i>Cygnus atratus</i>	Black Swan	9			
<i>Daphoenositta chrysoptera</i>	Varied Sittella	18	9	2	
<i>Dicaeum hirundinaceum</i>	Mistletoebird	23	22	2	
<i>Dromaius novaehollandiae</i>	Emu	98	50	16	3
<i>Drymodes brunneopygia</i>	Southern Scrub-robin	36	40	15	1
<i>Egretta novaehollandiae</i>	White-faced Heron	69	3		
<i>Elanus axillaris</i>	Black-shouldered Kite	11		1	
<i>Eseyornis melanops</i>	Black-fronted Dotterel	7			
<i>Eolophus roseicapillus</i>	Galah	195	80	20	5
<i>Eopsaltria griseogularis</i>	Western Yellow Robin	52	43	10	1
<i>Epthianura albifrons</i>	White-fronted Chat	40	5	5	
<i>Epthianura aurifrons</i>	Orange Chat	5			
<i>Epthianura tricolor</i>	Crimson Chat	9		1	
<i>Erythrogonys cinctus</i>	Red-kneed Dotterel	1			
<i>Eurostopodus argus</i>	Spotted Nightjar	8	4	1	
<i>Falco berigora</i>	Brown Falcon	28	14	4	
<i>Falco cenchroides</i>	Nankeen Kestrel	98	16	2	
<i>Falco longipennis</i>	Australian Hobby	30		1	
<i>Falco subniger</i>	Black Falcon	6		2	
<i>Fulica atra</i>	Eurasian Coot	4			
<i>Geopelia striata</i>	Peaceful Dove	8	2		
<i>Glossopsitta concinna</i>	Musk Lorikeet	2			
<i>Glossopsitta porphyrocephala</i>	Purple-crowned Lorikeet	23	21	4	
<i>Glyciphila melanops</i>	Tawny-crowned Honeyeater	6	5	3	
<i>Grallina cyanoleuca</i>	Magpie-lark	111	6	1	
<i>Haliastur sphenurus</i>	Whistling Kite	4	1		
<i>Hieraaetus morphnoides</i>	Little Eagle	5	2		
<i>Himantopus himantopus</i>	Black-winged Stilt	2			
<i>Hirundo neoxena</i>	Welcome Swallow	166	19	5	
<i>Hydroprogne caspia</i>	Caspian Tern	32	1	1	
<i>Lalage sueurii</i>	White-winged Triller	12	2		
<i>Larus pacificus</i>	Pacific Gull	59	3		
<i>Lichenostomus leucotis</i>	White-eared Honeyeater	125	69	23	8
<i>Lichenostomus ornatus</i>	Yellow-plumed Honeyeater	116	72	9	2
<i>Lichenostomus plumulus</i>	Grey-fronted Honeyeater	3			
<i>Lichenostomus virescens</i>	Singing Honeyeater	298	64	15	2
<i>Malacorhynchus membranaceus</i>	Pink-eared Duck	3			
<i>Malurus lamberti</i>	Variegated Fairy-wren	44	21	7	
<i>Malurus leucopterus</i>	White-winged Fairy-wren	49	9	3	
<i>Malurus pulcherrimus</i>	Blue-breasted Fairy-wren	83	52	12	
<i>Malurus splendens</i>	Splendid Fairy-wren	61	45	2	1
<i>Manorina flavigula</i>	Yellow-throated Miner	149	24	20	9
<i>Melanodryas cucullata</i>	Hooded Robin	18	3	4	
<i>Melithreptus brevirostris</i>	Brown-headed Honeyeater	36	29	8	5
<i>Melopsittacus undulatus</i>	Budgerigar	19	6	1	
<i>Merops ornatus</i>	Rainbow Bee-eater	17	20	5	
<i>Microcarbo melanoleucos</i>	Little Pied Cormorant	62	1		
<i>Microeca fascinans</i>	Jacky Winter	50	45	4	2
<i>Milvus migrans</i>	Black Kite	1		1	
<i>Mirafra javanica</i>	Horsfield's Bushlark	4			
<i>Neopsephotus bourkii</i>	Bourke's Parrot	1			

Species & Conservation status	Common Name	Private	CP	CR	HA
<i>Ninox novaeseelandiae</i>	Southern Boobook	10	13		
<i>Northiella haematogaster</i>	Blue Bonnet	11	1		
<i>Nycticorax caledonicus</i>	Nankeen Night Heron	1			
<i>Nymphicus hollandicus</i>	Cockatiel	9	3	1	1
<i>Ocyphaps lophotes</i>	Crested Pigeon	160	11	5	1
<i>Oreoica gutturalis</i>	Crested Bellbird	87	65	5	4
<i>Pachycephala pectoralis</i>	Golden Whistler	51	36	7	1
<i>Pachycephala rufiventris</i>	Rufous Whistler	53	51	17	1
<i>Pardalotus punctatus</i>	Spotted Pardalote	69	44	16	6
<i>Pardalotus striatus</i>	Striated Pardalote	150	74	7	4
<i>Pelecanus conspicillatus</i>	Australian Pelican	34	2		
<i>Petrochelidon ariel</i>	Fairy Martin	5			
<i>Petrochelidon nigricans</i>	Tree Martin	22	31	5	
<i>Petroica goodenovii</i>	Red-capped Robin	67	46	7	1
<i>Petroica rosea</i>	Rose Robin	2			
<i>Phalacrocorax carbo</i>	Great Cormorant	6	1		
<i>Phalacrocorax fuscescens</i>	Black-faced Cormorant	2			
<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant	39			
<i>Phalacrocorax varius</i>	Pied Cormorant	51	1		
<i>Phaps chalcoptera</i>	Common Bronzewing	82	57	20	6
<i>Phaps elegans</i>	Brush Bronzewing	4	3	10	
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater	25	8		
<i>Pluvialis squatarola</i>	Grey Plover	2	1		
<i>Podargus strigoides</i>	Tawny Frogmouth	10	4	3	
<i>Poliocephalus poliocephalus</i>	Hoary-headed Grebe	27			
<i>Pomatostomus superciliosus</i>	White-browed Babbler	226	93	22	5
<i>Psephotus haematotus</i>	Red-rumped Parrot	1			
<i>Psephotus varius</i>	Mulga Parrot	79	46	5	6
<i>Purnella albifrons</i>	White-fronted Honeyeater	82	100	34	15
<i>Pyrrholaemus brunneus</i>	Redthroat	41	4	1	
<i>Recurvirostra novaehollandiae</i>	Red-necked Avocet	2			
<i>Rhipidura albiscapa</i>	Grey Fantail	14	4	1	
<i>Rhipidura leucophrys</i>	Willie Wagtail	198	57	8	1
<i>Sericornis frontalis</i>	White-browed Scrubwren	15	17	2	
<i>Smicromnis brevirostris</i>	Weebill	154	92	31	9
<i>Strepera versicolor</i>	Grey Currawong	95	76	22	6
<i>Sugomel niger</i>	Black Honeyeater			1	
<i>Tachybaptus novaehollandiae</i>	Australasian Grebe, (Little Grebe, "**")	7			
<i>Taeniopygia guttata</i>	Zebra Finch	8			
<i>Thalasseus bergii</i>	Crested Tern	28	1		
<i>Todiramphus pyrrhopygius</i>	Red-backed Kingfisher	3	4		
<i>Todiramphus sanctus</i>	Sacred Kingfisher	26	1		
<i>Tribonyx ventralis</i>	Black-tailed Native-hen	5			
<i>Trichoglossus haematodus</i>	Rainbow Lorikeet	2			
<i>Tringa nebularia</i>	Common Greenshank	47			
<i>Tringa stagnatilis</i>	Marsh Sandpiper	2			
<i>Turnix velox</i>	Little Button-quail	3	4	1	
<i>Tyto javanica</i>	Eastern Barn Owl	6	3		
<i>Vanellus miles</i>	Masked Lapwing	64		1	1
<i>Vanellus tricolor</i>	Banded Lapwing	19			
<i>Zosterops lateralis</i>	Silvereye	68	40	8	
* <i>Alauda arvensis</i>	Eurasian Skylark	1			
* <i>Columba livia</i>	Rock Dove	68	1		
* <i>Passer domesticus</i>	House Sparrow	91	2		
* <i>Streptopelia chinensis</i>	Spotted Dove	39	2		
* <i>Sturnus vulgaris</i>	Common Starling	145	14	3	2
* <i>Turdus merula</i>	Common Blackbird	26	1		



**Appendix 4. The number of mammal species records for north-east Eyre Peninsula region and reserve types ordered by Threatened species status then alphabetically (includes data from Shirrocoe Survey).**

Species & Conservation status	Common Name	Private	CP	CR	HA	
<i>Sminthopsis psammophila</i> AUS: EN SA: V	Sandhill Dunnart	4				
<i>Trichosurus vulpecula</i> SA: R	Common Brushtail Possum	3				
<i>Cercartetus concinnus</i>	Western Pygmy-possum	21	20	8	2	
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat	15	15			
<i>Hydromys chrysogaster</i>	Water-rat	1				
<i>Lasiorhinus latifrons</i>	Southern Hairy-nosed Wombat	6	2			
<i>Macropus fuliginosus</i>	Western Grey Kangaroo	434	58	28	2	
<i>Macropus robustus</i>	Euro	28	14	3		
<i>Macropus rufus</i>	Red Kangaroo	122	7	5		
<i>Mormopterus</i> sp. 4	Southern Freetail-bats	2				
<i>Ningauai yvonneae</i>	Southern Ningauai	25	9		1	
<i>Notomys mitchellii</i>	Mitchell's Hopping-mouse	38	31	18	2	
<i>Nyctophilus geoffroyi</i>	Lesser Long-eared Bat	11	37			
<i>Nyctophilus timoriensis</i>	Greater Long-eared Bat	1	9			
<i>Pseudomys bolami</i>	Bolam's Mouse	6	4			
<i>Sminthopsis crassicaudata</i>	Fat-tailed Dunnart	4	2	1		
<i>Sminthopsis dolichura</i>	Little Long-tailed Dunnart	26	10	11	1	
<i>Tachyglossus aculeatus</i>	Short-beaked Echidna	2	3	2		
<i>Tadarida australis</i>	White-striped Freetail-bat	4				
<i>Vespadelus baverstocki</i>	Inland Forest Bat	1				
<i>Vespadelus regulus</i>	Southern Forest Bat	2	29			
* <i>Bos taurus</i>	Cattle (European Cattle)		2			
* <i>Camelus dromedarius</i>	One-humped Camel (Dromedary, Arabian Camel)	1				
* <i>Canis lupus</i> (NC)	Wolf (Dog, Dingo)		1			
* <i>Capra hircus</i>	Goat (Feral Goat)	27	7	3		
* <i>Felis catus</i>	Cat (Feral Cat)	7	2	1		
* <i>Mus musculus</i>	House Mouse	44	34	43	1	
* <i>Oryctolagus cuniculus</i>	Rabbit (European Rabbit)	38	14	9		
* <i>Ovis aries</i>	Sheep (Feral Sheep)		2	2		
* <i>Rattus rattus</i>	Black Rat (Ship Rat, Roof Rat)	1				
* <i>Vulpes vulpes</i>	Fox (Red Fox)	36	22	10		
<b>No. of species</b>		<b>31</b>	<b>28</b>	<b>23</b>	<b>14</b>	<b>6</b>
<b>No. of EPBC Act rated speceis</b>		<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>No. of NPW Act rated species</b>		<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>No. of alien exotics</b>		<b>10</b>	<b>7</b>	<b>8</b>	<b>6</b>	<b>1</b>

**Appendix 5. The number of reptile species records for north-east Eyre Peninsula region and reserve types ordered by Threatened species status then alphabetically (includes data from Shirrocoe Survey).**

Species & Conservation status	Common Name	Private	CP	CR	HA
<i>Echiopsis curta</i> SA: R	Bardick	8	3	1	
<i>Lerista distinguenda</i> SA: R	Dwarf Four-toed Slider	3	3	3	
<i>Morelia spilota</i> SA: R	Carpet Python	5			
<i>Acanthophis antarcticus</i>	Common Death Adder	13			1
<i>Amphibolurus norrisi</i>	Mallee Tree-dragon	3	1		
<i>Antaresia stimsoni</i>	Stimson's Python	1			
<i>Aprasia inaurita</i>	Red-tailed Worm-lizard	4		2	
<i>Brachyurophis fasciolatus</i>	Narrow-banded Snake	1			
<i>Brachyurophis semifasciatus</i>	Half-girdled Snake	10	3		
<i>Christinus marmoratus</i>	Marbled Gecko	4	1		
<i>Cryptoblepharus australis</i>	Desert Wall Skink	13	1		
<i>Cryptoblepharus pulcher</i>	Striped Wall Skink		2		
<i>Ctenophorus cristatus</i>	Crested Dragon	29	14	3	
<i>Ctenophorus fionni</i>	Peninsula Dragon	176	31	7	
<i>Ctenophorus fordi</i>	Mallee Dragon	64	34	11	1
<i>Ctenophorus pictus</i>	Painted Dragon	9	11		
<i>Ctenotus atlas</i>	Southern Spinifex Ctenotus	27	20	7	2
<i>Ctenotus euclae</i>	Bight Coast Ctenotus	5	4	2	
<i>Ctenotus leae</i>	Centralian Coppertail	1			
<i>Ctenotus olympicus</i>	Saltbush Ctenotus	3			
<i>Ctenotus orientalis</i>	Spotted Ctenotus	5	16		1
<i>Ctenotus pantherinus</i>	Leopard Skink	3			
<i>Ctenotus regius</i>	Eastern Desert Ctenotus	2		4	
<i>Ctenotus robustus</i>	Eastern Striped Skink	26	9	2	
<i>Ctenotus schomburgkii</i>	Sandplain Ctenotus	31	23	11	1
<i>Cyclodomorphus melanops</i>	Spinifex Slender Bluetongue	28	2		
<i>Delma australis</i>	Barred Snake-lizard	24	8	6	1
<i>Delma butleri</i>	Spinifex Snake-lizard	25	2	5	
<i>Delma petersoni</i>	Painted Snake-lizard	11	4	1	1
<i>Demansia psammophis</i>	Yellow-faced Whipsnake	1			
<i>Demansia reticulata</i>	Desert Whipsnake	7	5	1	
<i>Diplodactylus calcicolus</i>	South Coast Gecko	2	2		1
<i>Diplodactylus furcosus</i>	Ranges Stone Gecko	21	4	2	
<i>Diplodactylus tessellatus</i>	Tessellated Gecko	1			
<i>Diplodactylus vittatus complex (NC)</i>	Stone Geckos	2	4	1	
<i>Drysdalia mastersii</i>	Master's Snake	1			
<i>Egernia richardi</i>	Western Tree Skink	1			
<i>Egernia stokesii</i>	Gidgee Skink	4			
<i>Egernia striolata</i>	Eastern Tree Skink	24			
<i>Eremiascincus richardsonii</i>	Broad-banded Sandswimmer	2	2	1	
<i>Gehyra lazelli</i>	Southern Rock Dtella	69	36	6	
<i>Gehyra variegata complex</i>	Dtellas	16	3	1	
<i>Hemiergis initialis</i>	Western Earless Skink	10	2		
<i>Hemiergis millewae</i>	Rusty Earless Skink	19	2	15	
<i>Hemiergis peronii</i>	Four-toed Earless Skink	16	10	12	
<i>Heteronotia binoei</i>	Bynoe's Gecko	48	29	12	
<i>Lerista dorsalis</i>	Southern Four-toed Slider	19	13	3	1
<i>Lerista edwardsae</i>	Myall Slider	40	36	17	5
<i>Lerista taeniata</i>	Ribbon Slider	5	3		1
<i>Lerista terdigitata</i>	Southern Three-toed Slider	5			
<i>Lerista timida</i>	Dwarf Three-toed Slider	6			
<i>Lialis burtonis</i>	Burton's Legless Lizard	21	5	4	
<i>Liopholis inornata</i>	Desert Skink	21	1		
<i>Lucasium damaeum</i>	Beaded Gecko	33	8		
<i>Menetia greyii</i>	Dwarf Skink	36	29	23	4
<i>Moloch horridus</i>	Thorny Devil	15	4		
<i>Morethia adelaidensis</i>	Adelaide Snake-eye		7	2	
<i>Morethia boulengeri</i>	Common Snake-eye	19	7		
<i>Morethia obscura</i>	Mallee Snake-eye	16	28	18	11
<i>Nephrurus milii</i>	Barking Gecko	13	12		
<i>Nephrurus stellatus</i>	Starred Knob-tailed Gecko	36	6	2	
<i>Parasuta nigriceps</i>	Mitchell's Short-tailed Snake	3			
<i>Parasuta spectabilis</i>	Mallee Black-headed Snake	7	1		
<i>Pogona minor</i>	Dwarf Bearded Dragon	6	1	1	
<i>Pogona vitticeps</i>	Central Bearded Dragon	36	7	1	
<i>Pseudechis australis</i>	Mulga Snake	7	1		
<i>Pseudonaja affinis</i>	Dugite	9			

Species & Conservation status	Common Name	Private	CP	CR	HA	
<i>Pseudonaja aspidorhyncha</i>	Patch-nosed Brown Snake	5				
<i>Pseudonaja infracula</i>	Peninsula Brown Snake	9	2			
<i>Pseudonaja nuchalis</i> (NC) potentially 2 spp.	Western Brown Snakes	6		1	1	
<i>Pygopus lepidopodus</i>	Common Scaly-foot	10	4	2		
<i>Pygopus schraderi</i>	Hooded Scaly-foot	1				
<i>Ramphotyphlops bicolor</i>	Southern Blind Snake	7	1			
<i>Ramphotyphlops bituberculatus</i>	Rough-nosed Blind Snake	4	1			
<i>Rhynchoedura ornata</i>	Beaked Gecko	3				
<i>Simoselaps bertholdi</i>	Desert Banded Snake	3	3	2		
<i>Strophurus assimilis</i>	Thorn-tailed Gecko	2	3			
<i>Strophurus elderi</i>	Jewelled Gecko	18				
<i>Strophurus intermedius</i>	Southern Spiny-tailed Gecko	19	8			
<i>Suta suta</i>	Curl Snake	1		1		
<i>Tiliqua occipitalis</i>	Western Bluetongue	9	4	3	1	
<i>Tiliqua rugosa</i>	Sleepy Lizard	87	12	18	1	
<i>Tiliqua scincoides</i>	Eastern Bluetongue	9				
<i>Tympanocryptis lineata</i>	Five-lined Earless Dragon	7	2	1		
<i>Varanus gouldii</i>	Sand Goanna	8	1			
<b>No. of species</b>		<b>85</b>	<b>83</b>	<b>59</b>	<b>39</b>	<b>16</b>
<b>No. of EPBC Act rated species</b>		<b>0</b>				
<b>No. of NPW Act rated species</b>		<b>3</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>0</b>

**Appendix 6. The number of frog species records for north-east Eyre Peninsula region and reserve types ordered by Threatened species status then alphabetically.**

Species & Conservation status	Common Name	Private	CP	CR	HA
<i>Crinia signifera</i>	Common Froglet	2			
<i>Limnodynastes tasmaniensis</i>	Spotted Marsh Frog	11	2		
<i>Neobatrachus centralis</i>	Trilling Frog	4	1		
<i>Neobatrachus pictus</i>	Burrowing frog	28	15	1	7
	<b>No. of species</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>1</b>

