13. KANGAROO ISLAND REGIONAL OILED WILDLIFE RESPONSE PLAN

Government of South Australia
Department for Environment and Water

AMOSC
Australian Marine Oil Spill Centre Pty Ltd

History of this Document

This regional plan was developed by the Department for Environment and Water (DEW) and the Australian Marine Oil Spill Centre (AMOSC) to be consistent with the Western Australia (WA) Pilbara Regional Oiled Wildlife Response Plan which was produced jointly by the Western Australia Department of Parks and Wildlife (Parks and Wildlife) and AMOSC on behalf of the Petroleum Industry to set out the minimum standard for an OWR in state waters. The South Australian Oiled Wildlife Response Plan contains the general arrangements which apply across the state and seven chapters which comprise the local plans for each of the coastal regions. This chapter describe those local arrangements in the Kangaroo Island Region.

The Kangaroo Island Regional Oiled Wildlife Response Plan was developed in consultation with Kangaroo Island Regional Staff**.** The contribution and assistance of AMOSC and the Western Australian Government is both acknowledged and appreciated. The Plan was approved by the Kangaroo Island Regional Director and adopted on 28 October 2018.

Exercise and Review periods

Exercising

This plan will be exercised at least annually in accordance with South Australian Marine Oil Pollution Plans and petroleum titleholder oil pollution emergency plans, as required.

Review

This plan will be reviewed and updated by the Director, Kangaroo Island Region, DEW and AMOSC initially within twelve months of release. Thereafter it will be reviewed following an incident or at least once every two years. The table below will be updated as future revisions of the Kangaroo Island regional plan are reviewed.

Version	Date	Reviewed by	Approved by
V1.1	28/9/2018	Robert Ellis and Mike Greig	Damian Miley, Regional Director

13.1 INTRODUCTION

13.1.1 Purpose of this plan

The purpose of the *Kangaroo Island Oiled Wildlife Response Plan* is to provide guidance to operational staff who respond to wildlife which have been injured or oiled by a marine based spill in the Kangaroo Island region. This plan sits beneath the South Australian Oiled Wildlife Response plan and provides regional context to it. Each region within South Australia has, or is developing, a similar regional operational plan. This plan forms an addendum to the State plan in the form of a 'Chapter' and both should be activated if an oil spill impacts wildlife in the region. The method of activation is detailed in section 2 of the State Plan.

13.1.2 Scope

The major land uses are primary production (~50% of the Island's area) and conservation (~50%). Agriculture is the largest sector of the Island's economy. It is based predominately on livestock and increasingly on field crops, with some viticulture and horticultural developments, particularly seed potatoes. Plantation forestry areas are established in the western end of the island. Tourism is the second largest section of the economy and is largely nature-based, with one-third of visitors being international. Conservation areas, notably national parks, play a significant role in that nature-based tourism. Other smaller land uses include inland aquaculture and food-related farm tourism.

Status and trends

Kangaroo Island land use remains dominated by dryland agriculture and conservation, with plantation forestry the next largest in terms of area. Land use was mapped in March 2008 (Table 13.1) and previously in 2000.The most significant trend in land use change in the period, 2000–08, has been the conversion of approximately 17,000 Ha of land from agriculture to plantation forestry.

*Table 13.1: Major land uses, March 2008**

Land use	Area (ha)
Conservation and natural environments	215,970
Hardwood forestry production	18,637
Softwood forestry production	5,257
Dryland agriculture	183,363
Irrigated agriculture	611
Intensive uses (includes urban and commercial)	8,805
Wetlands – marshes	2,019
Wetlands – open water	5,175
TOTAL	439,836

Source: DWLBC Land use survey, March 2008

Inland aquaculture

Inland aquaculture using yabbies and marron developed in the 1990s as farmers sought to diversify away from traditional enterprises. In recent years this trend has reversed and there are only a small number of commercial growers although opportunities to expand exist.

Marine aquaculture

Marine and land-based farming of oysters, and green-lip and black-lip abalone, is currently undertaken on the Island.

Commercial fishing

The gross value of commercial fisheries catch within 10km of Kangaroo Island's waters was estimated to be $22.2 million in 2015/16. A large proportion of the value of the catch was within 5km of kangaroo Island, valued at $19.6 million. Rock lobster and Sardines are the most noteable catch, both accounting for 93 per cent of the value of catch within 5km, at $10.3 million and $8 million, respectively.

Tourism

According to the Kangaroo Island Economic Development Outlook report (2016) there are more than 300 tourism related businesses operating on the island offering a variety of experiences for approximatly 200,000 annual visitors. In 2013-14, the tourism industry contributed an estimated $139 million to the Kangaroo Island regional economy and directly employed 500 people, representing 23% of regional employment. Tourism is the second largest contributor to the Island's economy after primary industries.

Threats

All of Kangaroo Island's key industries rely on natural resources. Any of the threats to natural resources documented elsewhere in the Plan can have impacts on, and economic consequences for, these industries.Apart from natural resources threats, other threats to natural resources-based industries are largely outside the scope of the influence of NRM Boards, for example: loss of highly productive agricultural land to other uses, rising international and national travel costs, currency and commodity price fluctuations, and loss of rural populations. These threats need to be monitored for their potential impacts on Kangaroo Island's natural resources and natural resources-based industries.

Figure 13.1: Map of Kangaroo Island Region

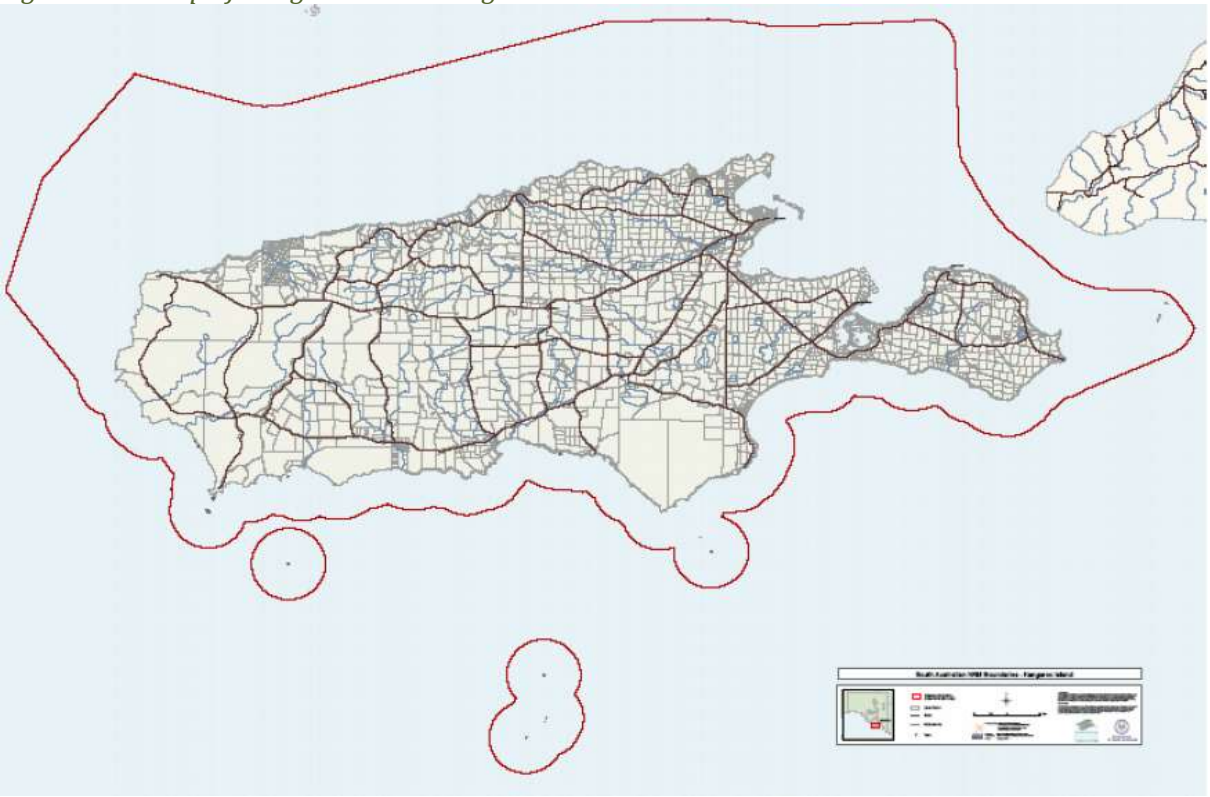
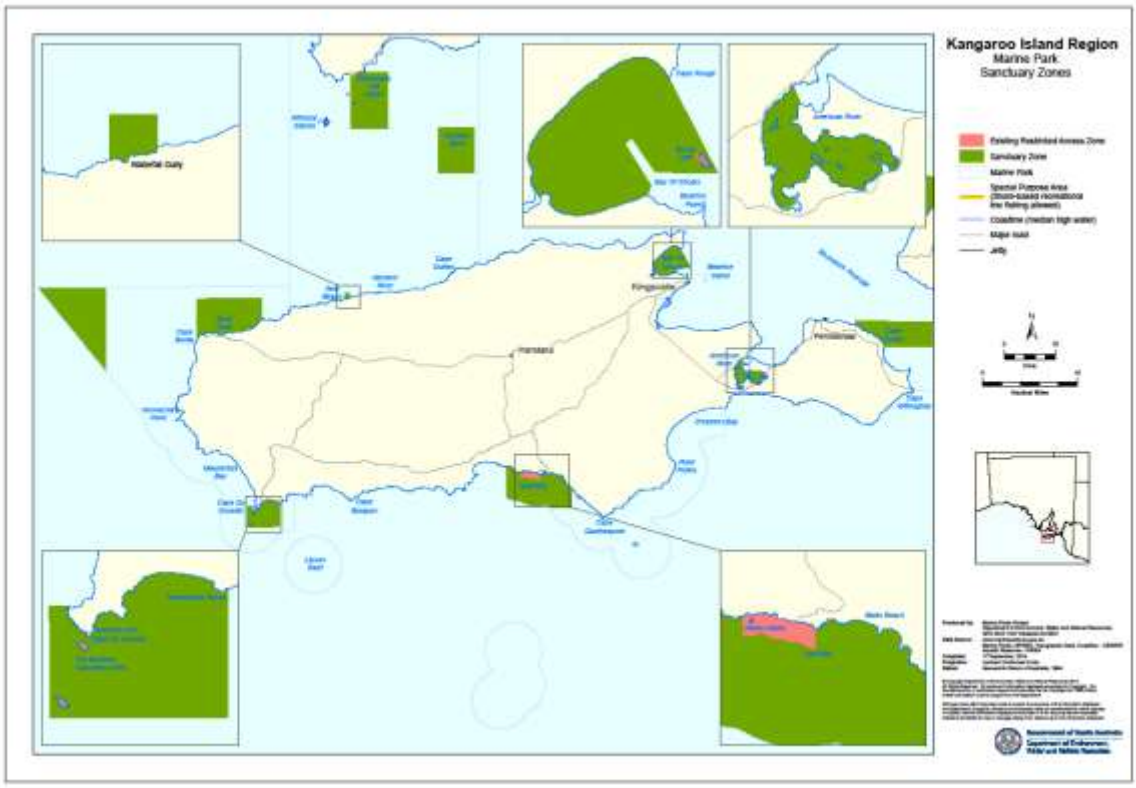


Figure 13.2: Map of Kangaroo Island Marine Park Sanctuary and Restricted Access Zones



13.1.3 Management Objectives and Outcomes

Specific objectives include:

- Safe and efficient operational responses to oiled wildlife incidents by response teams
- Control and consistency of capturing, handling and treating oiled wildlife
- Ethical and total regard for the welfare of injured or oiled wildlife resulting from a marine oil pollution incident
- Guidance for decisions by the Incident Management Team on prioritising habitats on DEW managed reserves and wildlife aggregation areas
- Development of skills and knowledge within the Kangaroo Island region across government and industry to ensure oiled wildlife response can be undertaken safety, effectively and efficiently
- Knowledge and guidelines to facilitate the rapid rescue, stabilisation and rehabilitation of susceptible wildlife found in the Kangaroo Island region
- Detail existing resources in the Kangaroo Island region to respond to oiled wildlife response.

13.1.4 Geographical and Cultural Settings

The Kangaroo Island resident population of 4,446 (ABS 2006) is forecast to be 4,662 by 2016. The bulk of the population is concentrated around the eastern end of the Island at Kingscote, American River and Penneshaw, with the remaining scattered throughout the rural areas and in the centre of the Island at Parndana. Off-Island ownership of land is a significant characteristic of the Island's real estate; approximately 40% of ratepayers living off the Island.

Kangaroo Island's population is characterised by an 'hour-glass' configuration, with28.4% in the 0–24 age group, 9.7% in the 25–34 age group, and 62% in the 35 and over age group (ABS 2006). At 30 June 2006, 44.9% of the population over 15 years had post-school qualifications. According to the 2006 ABS Census, 2206 residents aged 15 years and over were in the labour force. Of these, 52.9% were employed full-time, 35.3% were employed part-time, 5.4% were employed but away from work, 2.1% were employed but did not state their hours worked and 4.2% were unemployed. There were 1007 usual residents aged 15 years and over not in the labour force. Table 13.2 shows the distribution of employment across occupations (ABS 2006).

Table 13.2: Employment occupations on Kangaroo Island

Occupation	% of total employed persons
Managers	28.2
Professionals	10.1
Technicians and trades workers	10.5
Community and personal service workers	11.0
Clerical and administrative workers	9.1
Sales workers	8.4
Machinery operators and drivers	5.4
Labourers	15.8
Inadequately described/not stated	1.5

Incomes on the Island are on average lower than across Australia. The 2006 ABS Census identified the median weekly individual income for persons aged 15 years and over who were usual Kangaroo Island residents as $414 compared with $466 across all of Australia. The median weekly household income was $749 ($1,027 across Australia). The median weekly family income was $1,002 ($1,171 across Australia).

The Island's economy is predominately based on natural resources with primary industries and tourism together accounting for around 90% of the gross regional product. Agriculture, fisheries and forestry are the largest employing industries on Kangaroo Island, accounting for 29% (or 542 jobs). Retail and hospitality industries account for a further 25% (472) of jobs, providing a broad indication of the significance of tourism to the Kangaroo Island economy (Econsearch 2005). Kangaroo Island hosts in the order of 165,000 visitors annually: around 35,000 from overseas, with the remainder from interstate and mainland South Australia (SATC 2008).A 2002 report assessing the economic impacts of protected areas on Kangaroo Island estimated that tourism created 650 jobs on the Island (Hudson Howells 2002).

Major industry developments on Kangaroo Island over the past 10 years include:

- growth in the tourism industry from visitation of an estimated 85,000 in 1991–94 (PPK 1991) to 165,000 in 2007 (SATC 2008)
- growth in the cropping industry, from around 8000 ha in 1990 to over 23,000 ha in 2003 – the most significant land use change on the Island over this time period –producing around 60,000 tonnes per annum
- decline in the sheep flock from around 864,441 in 1996–97 to 805,443 in 2002 (Econsearch 2005) although the sheep meat and wool industries remain the largest contributors to the Island's agricultural sector
- increase in cattle production
- some small–medium scale farm diversification into viticulture, seed potatoes, dairying, chickens (meat and eggs), apiary, marron
- a small number of large scale land-based aquaculture developments
- growth in the plantation forestry industry from 3,200 Ha in 2000 to 20,300 Ha in 2008.

13.2. REGIONAL OILED WILDLIFE RESPONSE PREPAREDNESS

Although pre-planning and organisation are important for successful management of an incident, assessment of the unique conditions and determination of specific strategies pertinent to an event is critical. There are numerous examples of effective wildlife rescue and rehabilitation in spill events, however there are few examples of successful operations in remote areas during periods of extreme heat. A large scale marine oil pollution incident requiring capture and remediation of birds, marine mammals, or shoreline foraging mammals and reptiles would be unprecedented in Australia and is likely to present many challenges.

Environmental information pertaining to the region should be available in readiness for an oil spill. This should include maps of species distribution and seasonality, population information, and critical habitat data showing breeding, feeding, and roosting areas. Surveys provide detailed information but there can be variability in wildlife populations from year to year and hence, if possible, a survey should be conducted immediately on advice that an incident has occurred. This may be critically important to the success of oiled wildlife response.

13.2.1 Regional Values

The Kangaroo Island Region Priorities for Protection are summarised in Table 13.3. These are based on published information and scored against the consequence of an oil spill outlined in Table 13.2 Factors used to assess the consequence of a spill event on wildlife include the following:

- Conservation status of wildlife on a local, Regional, State, National, or international context is a prime consideration
- Marine and terrestrial conservation reserves. These areas are identified as important for maintaining species and ecosystem function and are a priority for protection
- The importance of the all-natural habitats for flora, fauna, species and ecosystem function including those outside of the DEW managed reserves
- The long term consequence of oiling or wildlife deaths in the area.

Priorities can be determined based on species, ecological communities, across all lands and waters and on social values for the area. Priorities may also be determined as a combination of these factors. However priorities for protection will differ with differing circumstances that may manifest in an incident.

Table 13.3 is a summary of the more detailed information provided in the Operational Sectors section in this document. The priority scores have been allocated using the information outlined in Table 13.4 in tandem with published literature and DEW field data supplemented with input from the Petroleum Industry. The scores are for guidance and will be reviewed as part of the plan's twelve month review process.

Table 13.3: Kangaroo Island Region Priorities for Protection Summary

PRIORITY	SECTOR	LOCATION	REASON	PRIORITY SCORE
1	21 (see Figure 13.2)	All marine park sanctuary zones and restricted access zones	Pinnipeds: ASL and LNFS breeding site (>1000 count (122-260 pups). Birds: Fairy Wren,, Pacific Gull, little penguins, Hooded Plovers and Crested Tern.	Very High

PRIORITY	SECTOR	LOCATION	REASON	PRIORITY SCORE
2	21	e.g. Cape Gantheaume, Cape Kersaint	Other breeding colonies of marine mammals. Pinnipeds: ASL and LNFS (breeding site).	Very High
3	21		EPBC-listed coastal saltmarsh communities	High
4	21		Other important shorebird habitat, e.g. hooded plover breeding sites	High
5	21		Known little penguin rookeries	Significant
6	21		Aquaculture leases and Smith Bay (abalone farm)	Significant
7	21	e.g. D'Estrees Bay, Cygnet River Estuary, Chapman River	Estuaries and other areas listed as Nationally Important Wetlands. Birds: Declared Seabird site supporting Caspian Terns (<10) Wetland: Declared Wetland of National Importance (criteria 3, 5) supporting a diversity of shorebirds and seabirds.	Significant

Table 13.4: Allocation of Priority Based on the Consequences of Spill in Identified Location

POSSIBLE CONSEQUENCE OF SPILL	Priority from protection and response
Localised and short term (<1 year) effects on common wildlife or habitats outside of conservation reserves. Some oiled wildlife but no wildlife deaths.	**Low**
Localised and short term effects on habitats within conservation reserves. Some deaths <5% of a common species population outside of conservation reserves. Oiling of some common species inside conservation reserves.	**Medium**
Localised moderate term (<2 years) effects or widespread short term habitat effects (<6 months). On habitats Oiling of common species within a conservation reserve, or <10% of a local species population, oiling of >5% of local population of threatened species or detectable change in breeding capacity. Oiling or loss of any wildlife protected by treaty. Short term detectable loss of breeding capacity of any species.	**Significant**
Widespread significant regional habitat loss or moderate to long term (2-5 years) ecological effects (multiple species) of habitats or over 50% of shoreline or islands in a conservation reserve. Oiling of up to 10-50% of a Regional common species or deaths of <20% of regional or conservation reserve species population. Oiling of >10% or, deaths of <10% of WA threatened species population. Minor (5%) moderate term (<2 years) loss of breeding capacity for any species.	**High**
Significant long term ecological effects >5years (affecting many species) on ecosystem function on a bioregional or conservation land unit scale. Deaths of >20% of a regional or conservation reserve population. Oiling of over 20% of a WA threatened, species or deaths of >10% threatened species population. Loss of breeding capacity of a regional threatened species population. Significant >5% Moderate term (2-5 years) loss of breeding capacity.	**Very High**

A current list of South Australian Endangered Species can be found in the South Australian Oiled Wildlife Response Plan or in Schedule 7 of the *National Parks and Wildlife Act 1972.*

Petroleum industry companies must have an approved Oil Pollution Environment Plan (OPEP) and Environmental Plan (EP). Sensitive areas within the potential spill area are identified in this documentation. These plans should be used in conjunction with this oiled wildlife response plan and the SAOWRP to determine values and priorities for protection.

13.2.2 Prioritised Ecological Values

Coastline, vegetation and habitat data in the SA Oil Spill Response Atlas Web Mapping Application are generally well populated and do not change quickly. Data on species at risk of oiling or impact to species habitat sites are however insufficient and currently being improved in the OSRA system. This plan provides a brief description of the landforms and coastal marine environment, and the broad environmental values for each of the predetermined sectors. Each sector is described including details of important wildlife populations.

13.2.3 Zone of Confidence (ZoC)

To populate the environmental sensitivities this plan utilises data contained in:

- DEW (SA) database 'NatureMaps',
- DoE, National Conservation Values Atlas of BIAs,
- Atlas of Living Australia,
- Published surveys, reports and scientific papers.

Note: At the time of updating this plan, the SA OSRA WMA database was still in development.

The above datasets have varying degrees of confidence. In order to provide the IMT with a tool to gauge the currency and accuracy of the data we provide a Zone of Confidence (ZoC) for each of the identified Coastal Area Units. Table 13.4 below provides the ZoC scale.

Table 13.5: Zone of Confidence Scale

ZoC Scale	Confidence
1	Peer reviewed published paper < 5 years old
2	Peer reviewed published paper > 5 years old
3	Government published data (e.g. OSRA, SA NatureMaps) with no supporting meta data
4	Anecdotal data from a wildlife management agency officer (e.g. Parks and Wildlife)
5	Anecdotal data from an industry professional with local knowledge (e.g. commercial fisherman)
NOTE: Ranking of 1 is the most reliable 'ZoC' while a ranking of 5 provides least confidence	

13.3. RESOURCES - EQUIPMENT

13.3.1 Oiled Wildlife Response Equipment

A list of portable oiled wildlife response equipment in South Australia is included in the State Plan. The Australian Maritime Safety Authority (AMSA) oiled wildlife response first strike response kits contents can be found on the AMSA website. Further equipment and supplies will be required to establish facilities and rehabilitation care. Specialist and general oiled wildlife response equipment suppliers and contractors accessible to the region are listed below.

Table 13.6: Sources of oiled wildlife response equipment

Product	Purpose	Company	Location	Phone
N/A	N/A	N/A	N/A	N/A

Note: The region has limited resources other than a RV Harlequin 5.2m Zodiac RIB. SES and DPTI Marine safety would be the lead combatants to address containments.

Further oiled wildlife response equipment can be sourced nationally in other jurisdictions from AMOSC and National Plan stockpiles, see Section 7 of the South Australian Oiled Wildlife Response Plan for further information (State Wide Resources and Arrangements).

13.3.2 Communications

A Communications Support Unit forms part of the oil spill response. Within the oiled wildlife response structure, a Wildlife Communications Officer/unit role is also designated. The Communications Officer in the Logistics Unit is responsible for maintaining effective communication between the various response groups operating during the oiled wildlife response.

In accordance with the Australasian Inter-service Incident Management System (AIIMS), a communications plan for the incident will be prepared. If the field of operations for oil spill response and oiled wildlife response overlap, a single communications plan is preferred.

The oiled wildlife response operations area may differ greatly to the oil spill response field and, if so, separate communications plans may be required. If a separate oiled wildlife response communications plan is put in place it should overlap at appropriate points in the AIIMS structure with the oil spill response communications plan.

13.3.2.1 Communications when DEW is Coordinating Oiled Wildlife Response

If DEW is coordinating the oiled wildlife response, the communications plan in the South Australian Oiled Wildlife Response Plan should be followed.

DEW radio networks, satellite phones, and mobile phones are commonly used for normal DEW operations in the Kangaroo Island Region. Fixed communications are located in vehicles vessels and some offices and work centres.

13.3.2.2 Communications when Petroleum Industry is Coordinating Oiled Wildlife Response

If the Petroleum Industry is leading the oiled wildlife response, the wildlife division should integrate into the existing communications structure of the oil spill response. Further communication resources are available through DEW if required.

13.3.2.3 Ship to Ship/Ship to Shore Communication

Typically, ship to shore communication will be via VHF and secondarily through mobile phones where reception is available.

Workboats all have VHF and along with all other vessels will have a listening watch on channel 21 (American River VMR). The communication channel during the response will be specified by the Communications Officer to all functional units when developing the communications plan.

13.3.2.4 Ground to Ground Communication

In the event of shoreline wildlife capture, good communications is essential. A number of VHF and UHF units are held by the CFS / DEW GRN network, 072 VHF. These units would be used by the oiled wildlife response field teams.

DEW South Australian ***Government Radio Network Channels (SAGRN)*** for Kangaroo Island Region ***(Zone C) is C07-NR-KI***

DEW Statewide Marine & Heritage Channel: C20-NR-COAST

13.3.2.5 Outside Communications

A log should be kept of all calls and emails/fax messages as is consistent with command and control requirements of incident response. To assist in this task, consideration should be given to the use of voice recorders to use during emergencies when notes cannot be taken.

13.3.2.6 Communication Plan

As the oiled wildlife response is escalated, communication systems will need to meet the demands of the increasing number of responders and spatial complexities of the response effort. The Communications Officer in the logistics unit is responsible for developing and maintaining the communications plan through the response.

13.3.3 Vessels

13.3.3.1 Parks and Wildlife Vessels

The Kangaroo Island Region has a trailer-able RV Harlequin 5.2m Zodiac RIB vessels to be used for operations. For a list of available vessel resources, contact the regional parks duty officer on 0477 334 898.

13.3.3.2 Industry Vessels

Industry has no vessels in the Kangaroo Island Region but this may change if oil exploration is undertaken. These may be identified in the petroleum industry OPEPs and the logistics section of their Oil Spill Response Plans.

13.3.3.3 Other vessels available for hire

SA DPTI maintains lists of all Surveyed Passenger Vessels (SPV) and the DEW licensing system can be interrogated to find local tour operators. PIRSA Fisheries has registers of commercial fishers operating in the region which may be available if the need arises.

13.3.3.4 Vessel Launch Sites

Site Name	General Location GPS Co-ordinates	Vessel Size Estimates	Description of Launch Area and Comments
Island Beach	-35.796805, 137.797572	<5m	100m Beach launch
Strawbridge Point	-35.783574, 137.777454	<5m	20m Beach launch
Nepean Bay (Western Cove)	-35.742882, 137.584949	<5m	100m Beach launch
Snelling Beach	-35.665754, 137.073755	<5m	100m Beach launch

Site Name	General Location GPS Co-ordinates	Vessel Size Estimates	Description of Launch Area and Comments
Stokes Bay	-35.625048, 137.203705	<5m	50m Western point access, A single lane concrete ramp
Yacht Club Beach Kingscote	-35.659919, 137.630288	<10m	150m Beach launch
Castle Rock beach (Vivonne Bay)	-35.983775, 137.171671	<5m	50m Beach launch
Brownlow Beach (Kingscote)	-35.671651, 137.613752	<5m	20m Beach launch, small boats only
Hanson Bay	-36.017014, 136.852831	<5m	50m Concrete driveway, Beach launch
Nepean Bay Coastal Settlement	-35.731007, 137.744247	<5m	100m Beach launch
D'Estrees Bay	-35.929165, 137.605198	<5m	100m Beach launch
Boxing Bay	-35.570575, 137.608706	<5m	100m Beach launch
Emu Bay	-35.594432, 137.543291	<10m	A single ramp merges into three concrete launching ramps
Penneshaw (Christmas Cove)	-35.718858, 137.934252	<10m	A two lane concrete ramp with floating pontoons
Baudin Beach	-35.775696, 137.869593	<10m	A two lane beach access ramp with small jetty landing
American River	-35.787783, 137.77287	<10m	A three lane concrete ramp with floating pontoons.
Shoal Bay	-35.638809, 137.624906	<10m	A two lane concrete ramp with floating pontoon

Link:
http://kangarooisland.sa.gov.au/webdata/resources/files/By%20Laws%20Maps%20Boat%20Launching%20FINAL.pdf

13.3.4 Aerial

13.3.4.1 Aircraft Resource List

Operator	Aircraft	Capability	Availability	Key Contact for Release
Airport Services	Nil	N/A	Airport Service Coordinator (Council)	
REX	Commercial airline	N/A	N/A	13 17 13
Qantas	Commercial airline	N/A	N/A	
China Airlines	Commercial airline	N/A	N/A	

The region has no aircraft resources. Commercial airlines include QANTAS, REX, and China Airways.

13.3.4.2 Aircraft Landing Strips

Airfield name	Length (m)	Latitude South		Longitude East	
		Degs.	Dec. Mins	Degs.	Dec. Mins
Kingscote Airport	312 m	35.42.50.0S	-35.713902	137.31.15.6E	137.520996
Turkey Lane Rd Hd of Duncan (Parndana Airport) (CFS facility)	471 m	35.48.25.2S	-35.807000	137.15.50.4E	137.264000

13.4. RESOURCES – PERSONNEL

13.4.1 Trained personnel

The training required for those participating in an oiled wildlife response is explained in Section 5 of the South Australian Oiled Wildlife Response Plan (Oiled Wildlife Response Incident Types and Personnel Required). This level informs the number of oiled wildlife response personnel and the skills they require.

The State Plan also provides:

- Descriptions of each of the roles in detail can be found in Appendix A
- A description of the oiled wildlife response incident structure and how responders interact is outlined in Section 3 (Oiled Wildlife Response Incident Management Structure)
- The stages of an oiled wildlife response in Section 4 (Stages of Oiled Wildlife Response).

Through a best endeavours approach between DEW and AMOSC, a state wide capacity to respond to an oiled wildlife response event will be maintained. DEW and AMOSC maintain a list of trained personnel and resources available. Either party may request assistance from the other if their internal pool of trained personnel or expertise has been exhausted.

13.4.2 Wildlife Carers

There are few wildlife carers in the Kangaroo Island region. It is likely that wildlife would have to be relocated to Adelaide for long term rehabilitation.

Table 13.7: Kangaroo Island Region Carers Contacts

Name	Carer Group Name	Species accepted	Location	Contact Details
N/A	Kangaroo Island Wildlife Carers Network	All native terrestrial animals	Kingscote	0437 522 246

13.4.3 Veterinarians

There are few veterinarians in the Kangaroo Island region. It is likely that wildlife would also be relocated to Adelaide for long term rehabilitation.

In the event of an oiled wildlife incident, professional veterinarian advice may be provided by an Adelaide Zoo or University of Adelaide veterinarian with experience in wildlife emergencies in cooperation with a regional wildlife officer (DEW or industry) until specialist wildlife veterinarian support can be provided if necessary.

After an emergency, the South Australian Veterinary Emergency Management Inc. SAVEM can be contracted on mb: 0427 707 044 or email: info@savem.org.au for veterinary care for all animals.

Table 13.8: Kangaroo Island Region Local Specialist Contacts

Category	Business name	Contact	Oiled Wildlife Response Availability
Vet Services	Kangaroo Island Veterinary Clinic	(08) 8553 2485	24/7

13.4.4 External Agencies and Emergency Volunteer Groups

Various local government agencies could be involved in emergency response scenarios in the Kangaroo Island Region and may be required to assist in an oiled wildlife response. Some of these agencies and their contact numbers are listed below.

Table 13.9: Kangaroo Island Region Local Government Agencies and Emergency Volunteer Groups

Agency	Location	Contact Number
Police	Kingscote	(08) 8553 2018
Fisheries	N/A	1800 065 522
PIRSA	Kingscote	(08) 8553 4949
KI Council	Kingscote	(08) 8553 4500
Department for Environment and Water	Kingscote	(08) 8553 4415
Natural Resources Board KI (NRM KI)	Kingscote	(08) 8553 4500
State Emergency Service (SES)	Kingscote	(08) 8553 2631/ (08) 8553 0035 0428 300 353
Australian Volunteer Coastguard	Kingscote	0427 476 997 0407 611 255
KI Volunteer Marine Radio Group	American River	0448 331 586 8553 7301

13.5. OILED WILDLIFE FACILITY LOCATIONS AND CONTACTS

There are no dedicated oiled wildlife washing or rehabilitation centres in South Australia. Therefore existing facilities (i.e. sports clubs, showgrounds, ovals and warehouses) that are suitable for provision of a supporting role in oiled wildlife response need to be identified prior to an incident and permissions sought for their use in the event of an incident.

Washing and rehabilitation centres are usually combined or located adjacent to each other and collectively known as Oiled Wildlife Facilities. Oiled wildlife response containers are available to be transported and set up as washing facilities at suitable locations forming the nucleus of a larger Oiled Wildlife Facility.

They have air conditioning and ability to soften and temperature control washing water. They require a water source, electricity source and suitable storage / drainage system for waste water. These oiled wildlife response containers were used during the Rena incident in New Zealand in 2011.

For location and quantity of these oiled wildlife response containers please see the Section 7 of the State Plan page 41 (State Wide Resources and Arrangements).

Table 13.10: Staging Sites within the Kangaroo Island Region

Site Purpose	Location	Contact
Washing Facility: Kangaroo Island Yacht Club Inc	2 Cygnet Road, 5223 Kingscote, South Australia	0401 237 318

13.5.1 Potential facilities in the Kangaroo Island Region

Potential facilities have been identified to suit a range of situations including small response (1-5 birds per day and up to 20 birds), medium response (5-10 birds per day and up to 20-200 birds), and large or complex response (more than 10 birds per day, more than 200 total, and or terrestrial mammals, pinnipeds or other mega-fauna). The criteria to determine Resource Readiness of Proposed Treatment Facilities listed in Section 5 is provided in Table 13.11 and represented by colour coding. The current population numbers for each location are provided against the location name in the following section. This will provide the reader with an initial understanding of capacity of the location to support a level 6 OWR event or a protracted incident.

Table 13.11: Resource readiness in proposed Treatment / Holding Facilities

	Facilities have the prescribed resources in place with little or no modification necessary to make them operational.
	Facility could be equipped with prescribed resources with minor resourcing/modifications (<5 days).
	Facility could not meet prescribed resources without major modifications or expense (>5 days).

13.5.2 Land Based Oiled Wildlife Facility in Kangaroo Island Region

Due to travel times and high abundance of fauna susceptible to oiling and proximity of Kangaroo Island it will be necessary to establish a Treatment facility on KI. The locations of these proposed OWR Facility areas are provided in Table 13.12. Although there are large numbers of pinnipeds across the south of the island they will typically be treated on site if necessary.There is a high abundance of shorebirds in the wetlands on the east and northeast of KI and any Treatment Facility would be established in proximity to these areas. Alternatively, an On-Water Treatment Facility could be established and anchored off of the NE of the island. Smaller, shallow draft vessels that could access the wetlands could stage from this Facility.

Table 13.12- Identified Oiled Wildlife Facilities on Kangaroo Island

	Phone	Power	Water	Hot Water	Ventilation	A/C	Wash-down	Toilets	Change Rooms	Office Space	Lay Down Area	Security	Waste Disposal	Size	Marine Access
American River															
The sports oval adjacent to the jetty at American River is ideally located in a central position to KI wetland and marine access. There are no facilities here other than water and toilets. Ample resourcing would make this an ideal location from its proximity to abundant shorebirds/wetlands and accessibility. ***Contact Kangaroo Island Council on 8553 4500.***															
Kingscote Jetty															
The main jetty in Kingscote feature several large sheds and ample lie down area. Its proximity to marine access is excellent. It is less than 1 km from DEW Regional Office. This would be an easy area to unload and establish OWR containers. ***Contact Kangaroo Island Council on 8553 4500 or Kingscote DEW on (08) 8553 4444.***															
Seal Bay															
There is scope to establish a small scale Treatment Facility as Seal Bay Conservation Park on the south of KI. While pinnipeds will rarely be transported for treatment this would be an ideal location to stage and provide triage for the abundant shore based pinnipeds colonies across the south of KI. ***Contact (08) 8553 4463.***															

13.5.3 On-Water Oiled Wildlife Triage/Stabilisation

On islands and remote locations, where a treatment or holding/stabilisation facility cannot be located close enough to the site of collection to be acceptable in terms of wildlife welfare, an "on-water" facility may be established to enable stabilisation of oiled wildlife prior to transport to a treatment facility. In these circumstances, it is recommended that companies, who operate in these areas, consider resourcing vessels or barges that could fulfil these requirements.

13.5.3.1 Vessels

An ideal on-water wildlife triage/stabilisation vessel would:

- Accommodate a minimum of 5 oiled wildlife responders
- Have suitable deck space to house at least one oiled wildlife response Container and air-conditioned holding containers.
- Have an ability to safely load/unload wildlife to/from adjacent vessels (i.e. through rescue hatch or hiab).
- Facilitate some wash-down of animals and have the ability to store oily waste, or have an oily water separator and holding tanks for waste oil).

See Table 13.13 for indicative specifications and examples of on-water holding/stabilisation vessels.

Table 13.13: Indicative Specifications for On-Water Holding/Stabilisation Vessels

Vessel Specifications	
Length overall	38 metres
Beam	10.6 metres
Machinery	2 engines
Operating speed	10knots
Hull	Bow ramp configured to acccomodate toll-on-roll-off loading of 20ft shipping containers
Deck Area	200 m^2
Water	120,000 Litres
Accomodation	5 + crew Airconditioned
Pollution control	Oily water seperator or oily waste holding tanks

13.6. KANGAROO ISLAND REGION OPERATIONAL SECTOR

The oiled wildlife response may be a localised, contained operation, or it may extend to hundreds of islands or kilometres of coastline. The Kangaroo Island Basin coastline and island groups have been divided into predetermined coastal compartments and sectors, each with a proposed staging/coastal access point. The sectors have been determined in consideration of available, central staging points and of the distances that vessels or vehicles could travel to, engage in operations and return within one operational day (in good to moderate conditions).

The sectors are indicative only and should be adapted as conditions require. The nomenclature of the sectors and coastal compartments continue the Western Australian numbering system to ensure that the state plans are compatible and to minimise confusion in the event of an oil spill impacting both jurisdictions. The sectors are further broken down, utilizing Coastal Compartments (CC) designed by Geoscience Australia. Coastal Compartment offer a consistent framework for regional planning and coastal management by defining natural management units.

There are primary, secondary and tertiary compartments. This plan utilises the secondary (regional planning) compartments, which are based predominantly on landform associations such as extensive tracts of coast with continuous beach or dune field formations (Elliot I, 2011). Utilisation of prescribed coastal compartments and their boundaries means that this plan will align with other state OWR plans and other national marine planning documents and strategies. Each secondary compartment can be identified which its own unique Feature Identification (FID) number which corresponds to the FID from the GIS shapefile for that compartment.

13.6.1 Population centres GPS locations and postcodes

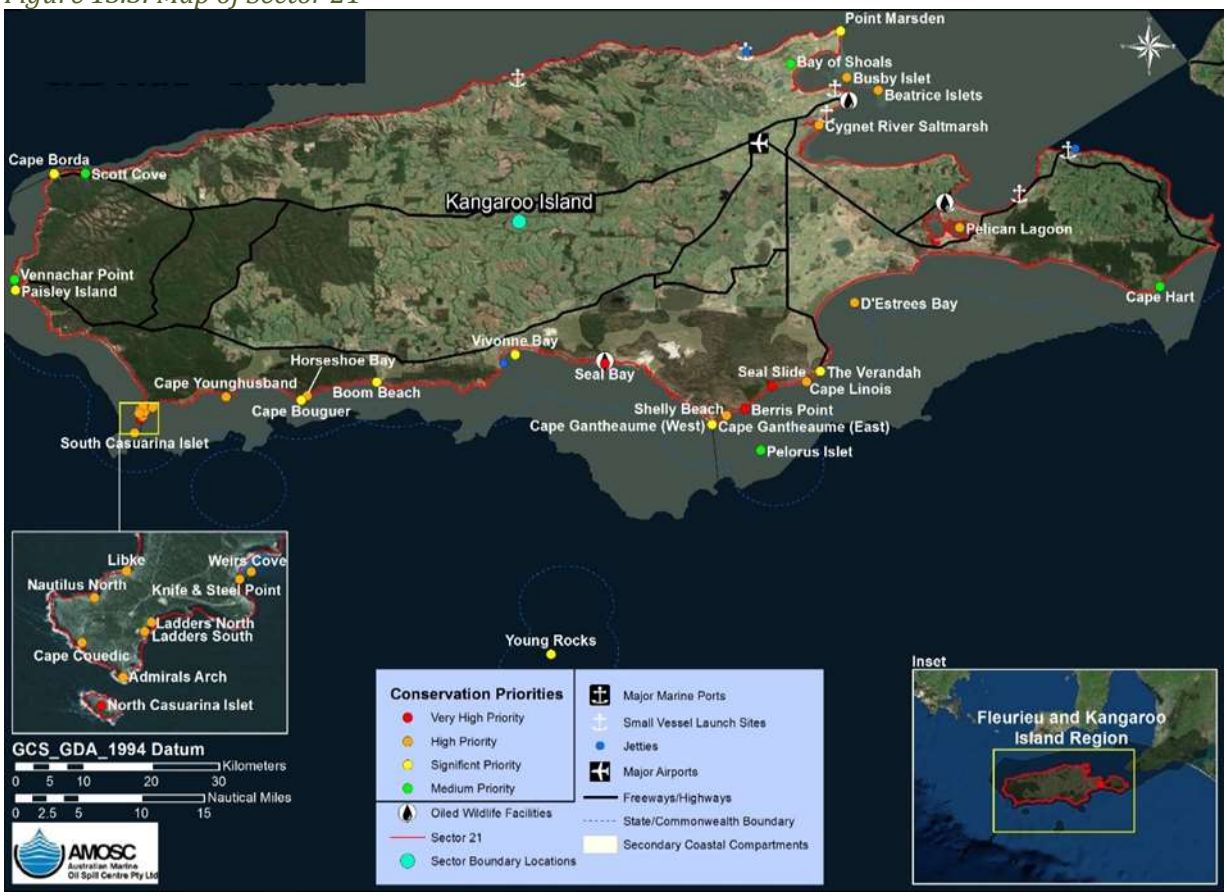
Sector	Compartment (FID#)	Location	Coordinate South (Dec. Deg.)	Coordinate East (Decimal Degrees)	Post Codes
21	184	Kangaroo Head (KI)	35°43.080'S	137°54.600'E	5222
		Point Marsden (KI)	35°33.960'S	137°37.920'E	5223
	183	Point Marsden (KI)	35°33.960'S	137°37.920'E	5223
		Cape Borda (KI)	35°45.120'S	136°35.100'E	5223
	182	Cape Borda (KI)	35°45.120'S	136°35.100'E	5223
		Cape Couedic (kI)	36°03.498'S	136°42.372'E	5223
	181	Cape Couedic (kI)	36°03.498'S	136°42.372'E	5223
		Cape Gantheaume	36°04.380'S	137°28.080'E	5223
	180	Cape Gantheaume	36°04.380'S	137°28.080'E	5223
		Cape Willoughby	35°50.880'S	138°08.100'E	5222

Each sector identifies the fauna susceptible to oiling by secondary coastal compartments within the South Australian portion of the EMBA. Where quantitative data exists regarding the abundance and seasonal nature of fauna it is provided in the column 'Species susceptible to oiling'. Response and Recovery is prioritised in accordance with the criteria in Table 13.3.

13.6.2 Sector description and contingency plans

13.6.2.1 Sector 21: Cape Borda to Cape Willoughby (CC184-180)

Figure 13.3: Map of Sector 21



13.6.2.1.1 Terrestrial overview

Kangaroo Island (KI) comprises the terrestrial portion of this sector. KI is accessible by ferry and a commercial airport in Kingscote, KI. Six (6) Conservation Parks and one (1) National Park provide a high level of protection for the unique flora and fauna, especially in the south and west of the island. The Breakneck and Rocky Rivers are listed as Wetlands of National Importance.

13.6.2.1.2 Marine Overview

KI is home to four marine parks, extensive wetlands and dense seagrass meadows. The Southern Kangaroo Island Marine Park includes the two largest colonies on Kangaroo Island at Cape Gantheaume and Berris Point (Goldsworthy, 2009). Cape du Couedic, in Western Kangaroo Island Marine Park has ten recorded breeding sites for the Long-nosed Fur Seals (LNFS) and another occurs on North Casuarina Islet. Together, these sites create the second largest concentration of LNFS on Kangaroo Island. North Casuarina Islet is also a site for Australian Sea Lions (ALS) to haul-out, and occasionally breed, as well as a significant breeding site for LNFS (Goldsworthy, 2009).

13.6.2.1.3 Environmental Values

Table 13.14: Environmental Values for Sector 21

Coastal Compartments	Coastal Area Unit	Tenure	Species susceptible to oiling	Priority	ZoC
Kangaroo Head (KI) to Point Marsden (KI) (184)	Pelican Lagoon	MP (SZ)	Wetland: Wetland of National Importance (Criteria 1, 3, 5, 6). Birds: Caspian Tern (<10), Fairy Tern, (<50), Silver Gull (<50).	High	3
	Busby and Bearice Islets	MP (SZ)	Wetland: Wetland of National Importance (Criteria 3). Birds: 3 X Declared Seabird Sites featuring Caspian Tern (<20), Fairy Tern (<20), Little Penguin (<50), Black-faced Cormorant (<600), Sooty Oyster Catcher, Red-capped Plover and more.	High	3
	Cygnet River Saltmarsh	MP	Wetland: Wetland of National Importance (Criteria 1,2,3,5) with mangrove communities supporting diversity of shorebirds. Birds: 2 x Declared Seabird Site featuring Bar-tailed Godwit, Silver Gul (<50), Fairy Tern (<50).	High	3
	Bay of Shoals	MP (SZ)	Wetland: Intertidal sand, mud mangroves numerous seashore/wading birds.	Medium	3
Point Marsden to Cape Borda (183)	Cape Borda to Point Marsden Coastal Beaches	MP	Birds: Many of the small bays provide habitats for Hooded Plover	Significant	3
	Bay of Shoals	MP (SZ)	Wetland: Intertidal sand, mud mangroves numerous seashore/wading birds.	Medium	3
	Scott Cove	MP (SZ)	Pinniped: LNFS haul out site (no data)	Medium	3
	Cape Borda	MP (SZ)	Pinniped: ASL haul out site (11-50 -2005)	Significant	2
Cape Borda to Cape de Couedic (182)	Vernachar Point	MP	Pinniped: LNFS haul out site (no data)	Medium	3
	Paisley Island (West Bay)	MP	Pinniped: ASL haul out site (<10). AFS haul out site (<10), LNFS haul out site (11-50) Birds: Fairy Wren (51-100), Pacific Gull (<10), Crested Tern (<10)	Significant	2
	Libke	MP	Pinnipeds: Opportunistic breeding site for AFS (<10), LNFS breeding site (364 pups last survey- no date available).	High	2
	Nautilus North	MP	Pinnipeds: LNFS breeding site (442 pups last count - no date). AFS and ASL haul out site (<10 each).	High	4
	North Casuarina Islet	MP (SZ)	Pinnipeds: ASL breeding site (11-50), LNFS breeding site (328 count with 11 pups), LNFS breeding site (301-600). Birds: Fairy Tern (51-100), Crested Tern (51-100), Pacific Gull (<10).	Very High	2

Coastal Compartments	Coastal Area Unit	Tenure	Species susceptible to oiling	Priority	ZoC
Cape Couedic to Cape Gantheaume (181)	South Casuarina Islet	MP (SZ)	Pinnipeds: Haul out site for AFS (69), LNFS (301-600) and ASL (<10). Birds: Fairy Tern, Crested Tern (51-100 and Pacific Gull (<10).	High	2
	Cape Couedic - Admirals Arch	MP (SZ)	Pinnipeds: AFS haul out site (86), LNFS breeding site (pup count 13).	High	3
	Ladders South	MP (SZ)	Pinnipeds: AFS haul out site (5), LNFS breeding site (21)	High	3
	Ladders North	MP (SZ)	Pinnipeds: ASL haul out site (<10), AFS haul out site (6), LNFS breeding site (301-600)	High	2
	Weirs Cove	MP (SZ)	Pinnipeds: There are two breeding colonies of LNFS. 112 in south of cover and 267 in the north of cove.	High	3
	Knife and Steel Point	MP (SZ)	Pinnipeds: LNFS breeding site (147 pups)	High	3
	Cape Young-husband	MP	Bird: Little Penguins (11-50)	High	3
	Cape Bouguer	MP	Pinnipeds: AFS, LNFS and AFS haul out site (<10 each)	Significant	3
	Horseshoe Bay	MP	Pinnipeds: LNFS breeding Site on west side of bay (3 pups), ASL haul out site on west and east side of bay (<10 each)	High	3
	Cape Boggier to Boom Beach	MP	Pinnipeds: multiple documented haul out sites for ASL and LNFS (<10 each site). There could be opportunistic breeding for NZFS in this stretch of coast.	Significant	2
	Vivonne Bay	MP	Birds: High relative abundance of Hooded Plover.	Significant	3
	Seal Bay	MP (SZ)	Pinnipeds: ASL breeding site (>1000 count (122-260 pups)	Very high	1
	Cape Gantheaume (West)	MP	Pinnipeds: NZFS breeding site (11 pups) and ASL haul out site (<10)	High	3
Cape Gantheaume to Cape Willoughby (180)	Cape Gantheaume (East)	MP	Pinnipeds: AFS haul out site (36) and ASL haul out site (<10).	Significant	3
	Pelourus Islet	MP	Pinnipeds: LNFS haul out site (no data)	Medium	3
	Shelley Beach	MP	Pinnipeds (LNFS breeding site on Unnamed Point (301-600), ASL haul out site at Shelley Beach (<10)	High	2
	Berris Point	MP	Pinnipeds: LNFS breeding site (850 pups). Largest LNFS site in the AMBA.	Very High	3
	Seal Slide	MP	Pinnipeds: ASL breeding site (51-100 count (1-16 pups))	Very High	1
	Cape Linois	MP	Pinniped: LNFS breeding site (2 pups). Wetland: Declared Wetland of National	High	3

Coastal Compartments	Coastal Area Unit	Tenure	Species susceptible to oiling	Priority	ZoC
			Importance (criteria 3,5) supporting diversity of shorebirds.		
	Young Rocks	MP	Pinnipeds: AFS and LNFS haul out site approximately 40 kms south of Kangaroo Island (part of Southern Kangaroo Island Marine Park)	Significant	3
	The Verandah	MP	Pinnipeds: ASL haul out site (<10)	Significant	2
	D'Estrees Bay	MP	Birds: Declared Seabird site supporting Caspian Terns (<10). Wetland: Declared Wetland of National Importance (criteria 3,5) supporting a diversity of shorebirds and seabirds.	High	3
	Cape Hart	MP	Pinnipeds: LNFS haul out site (<10)	Medium	3

13.6.2.1.4 Recommended Response Strategies

13.6.2.1.4.1 Prevention

- Implement the relevant Tactical Response Plans to prevent oiling of estuarine fauna
- Pre emptive capture of Little Penguins
- Various hazing techniques may also be useful for moving wildlife out of at risk areas.

13.6.2.1.4.2 Personnel Deployment

Personnel in this sector would be deployed from Kingscote, Kangaroo Island which has a commercial airport and direct flights to most major South Australian hubs.

13.6.2.1.4.3 Wildlife Reconnaissance and Wildlife Recovery

Aerial reconnaissance will help to further prioritise the response effort throughout this sector. Wildlife can be collected from the beach at opportunistic Staging Sites. Most of the identified sensitivities in KI are pinnipeds along the south coast of the island; most of which are terrestrially based and can be accessed by vehicle and walking. There are some islets off of the SW corner of KI that would require a boat to access. The offshore islands can be serviced by launching from one of the five launch ramps in the NE of the island. Reconnaissance and Recovery for the Pages Islands (sector 19) may be done from KI as well. Oiled wildlife can be returned to the Treatment Facility in Kingscote or alternatively to an On Water Treatment Facility anchored off of the NE of KI.

13.6.2.1.4.4 Logistics Options for Facility Establishment

Due to travel time to and from KI it will be necessary to establish a Treatment Facility in Kingscote for birds. There could be benefit in established on On-Water Treatment Facility (as prescribed in Table 13.13) which could anchor in the NE of KI. Oiled birds could be delivered to the On Water Treatment Facility by smaller, shallow draft vessel that can access the wetlands.

Table 13.14 - Staging Sites for Sector 21

Site Purpose	Location	Contact
Staging Sites	Kingscote	DEW - (+61 8) 8204 1910
		DEW - (+61 8) 8204 1910
Temporary Holding Facilities	NIL	N/A
Oiled Wildlife Facilities	Kingscote	See Oiled Wildlife Facilities in Section 5
	Victor Harbour	See Oiled Wildlife Facilities in Section 5
	Adelaide	See Oiled Wildlife Facilities in Section 5

13.6.2.1.4.5 Equipment

The nearest First Strike OWR Equipment stockpile for this operational area is located in Adelaide. There is a ferry that travels between Cape Jervis, Penneshar and Kingscote. Ferry time tables are available at *www.sealink.com.au/kangaroo-island-ferry/timetables/*.

13.7 EXCERPT OF "KANGAROO ISLAND INCIDENT RESPONSE PLAN":

2.4 MARINE MAMMAL RESCUE RESPONSE PLAN

2.4.1 RESPONSE OBJECTIVES

- Preserve and sustain life.
- Ensure a safe environment for emergency workers, volunteers and the public
- Ensure effective and efficient utilisation of human and equipment resources.
- Ensure clear lines of communication are maintained at all times.
- Ensure an effective reporting system is maintained to all appropriate emergency agencies, and government departments. This also includes restricted reporting to media (through DEW Animal Welfare Manager).
- Ensure activities are documented.

2.4.2 RESPONSE PLAN

On discovery or notification of an incident the District Duty Officer will:

- Immediately notify the Ranger in Charge or Senior Ranger, or in the event that both are unavailable, the District Manager.
- Immediately dispatch a DEW vehicle to the location with suitably trained staff and equipment (where possible). This vehicle is to remain at the site as the command communications vehicle.
- The Ranger In Charge or Senior Ranger will adopt the role of Operations Officer and proceed to the location of the stranding ASAP.
- Staff on site to provide the Operations Officer with a SITREP as soon as practical. This should include:
  - location and description of the situation (including on land or at sea)
  - type of animal(s)
  - equipment requirements
  - additional resources required.

- Maintain radio and telephone communications.
- Ensure all communications are logged.

On being advised of an incident:

- The Operations Officer will notify the Manager Parks and Sustainable Landscapes and Regional Director of the incident
- The Manager Parks and Sustainable Landscapes or the Regional Director will appoint a senior staff member to be the Incident Controller
- The Incident Controller is to provide a scribe/radio operator (who will commence and maintain an incident log) for the Operations Officer and other support staff as required
- The Incident Controller will notify staff on the Dolphin Rescue List (refer: R:\HB\KI\Land and Visitor Management\Operations\Wildlife Management\Wildlife Callouts\marine mammal response\Marine Mammal Stranding contact list 2016.xlsx) and respond them as needed or place them on standby
- The Operations Officer will obtain a Situation Report as soon as possible from the attending crew. Coordinate requests for additional resources and deploy as required
- Operations Officer or Incident Controller will notify KI Veterinary Clinic after the SITREP has been received. KI Veterinary Clinic requires basic information on the animals prior to responding (if required)
- Operations Officer or Incident Controller will notify DEW Animal Welfare Manager (particularly for media liaison)
- Operations Officer or Incident Controller will notify SA Museum if incident is a marine mammal stranding (dead or alive), except for common pinniped species (i.e. Australian Fur Seal, Long Nosed Fur Seal and Australian Sealion)
- Operations Officer or Incident Controller will notify the Adelaide Dolphin Sanctuary Team for information and support regarding management of water-based entanglements. If the team cannot be contacted directly contact the Northern Lofty District Duty Officer through the ***SAGRN website (refer section 1.4 of this plan for paging procedures) on pager 465281.***

Regional Director is to be notified of the incident as soon as possible with a follow up briefing as soon as practicable.

NOTE*: There is additional information regarding marine mammal rescue procedures, including stranded, compromised and entangled whales and dolphins. These can be found at: R:\HB\KI\Land and Visitor Management\Fire Management\Operations\Response\Incident Response Plan.*

13.8 Kangaroo Island Region Coastal Species by Functional Group and Location

The following list is from a South Australian State-wide coastal species search generated from the BirdLife Australia Atlas of Australian Birds database on 17 March 2016.

Conservation Acts and Agreements		Key to conservation status level		Key to Postcodes		
EPBC	Listed threatened fauna under the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth).	**CR**	Critically endangered	5221	American River Ballast Head	No records available
NPW	Status under the Threatened Species Schedules of the *National Parks and Wildlife Act 1972*	**EN**	Endangered	5222	Willoughby Antechamber Bay Cuttlefish Bay	
JAMBA	Listed under the *Japan and Australia Migratory Bird Bilateral Agreement 1974*.	**RA**	Rare		Ironstone	
CAMBA	Listed under the *China and Australia Migratory Bird Bilateral Agreement 1986*	**VU**	Vulnerable		Penneshaw	
RoKAMBA	Listed under the *Republic of Korea and Australia Migratory Bird Bilateral Agreement 2007*	**NT**	Not threatened		Kangaroo Head American Beach	
IUCN	Listed threatened species under the IUCN (International Union for Conservation of Nature) Red List.	**LC**	Least concern		Baudin Beach Brown Beach	
		UP	Unprotected		Island Beach	
		MA	Marine		Sapphiretown	
		MI	Migratory	5223	Nepean Bay	No records available

Common Name	Scientific Name	EPBC	NPW	JAMBA	CAMBA	RoKAMBA	IUCN	**5222**
Emus STRUTHIONIFORMES								

Common Name	Scientific Name	EPBC	NPW	JAMBA	CAMBA	RoKAMBA	IUCN	5222
Emu	*Dromaius novaehollandiae*	-	-	-	-	-	LC	✓
Grebes PODICIPEDIFORMES								
Hoary-headed Grebe	*Poliocephalus*	-	-	-	-	-	LC	✓
Australasian Grebe	*Tachybaptus novaehollandiae*	-	-	-	-	-	LC	✓
PenguinsSPHENISCIFORMES								
Little Penguin	*Eudyptula minor*	-	-	-	-	-	LC	✓
Tube-Nosed Seabirds PROCELLARIIFORMES								
Short-tailed Shearwater	*Ardenna tenuirostris*	-	-	Listed	-	Listed	LC	✓
Wandering Albatross	*Diomedea exulans*	VU	VU	-	-	-	VU	✓
Slender-billed Prion	*Pachyptila belcheri*	-	-	-	-	-	LC	✓
Common Diving-Petrel	*Pelecanoides urinatrix*	-	-	-	-	-	LC	✓
Fluttering Shearwater	*Puffinus gavia*	-	-	-	-	-	LC	✓
Cormorants, Gannets and PelicansPELECANIFORMES								
Little Pied Cormorant	*Microcarbo melanoleucos*	-	-	-	-	-	LC	✓
Australasian Gannet	*Morus serrator*	-	-	-	-	-	LC	✓
Australian Pelican	*Pelecanus conspicillatus*	-	-	-	-	-	LC	✓
Great Cormorant	*Phalacrocorax carbo*	-	-	-	-	-	LC	✓
Black-faced Cormorant	*Phalacrocorax fuscescens*	-	-	-	-	-	LC	✓
Little Black Cormorant	*Phalacrocorax sulcirostris*	-	-	-	-	-	LC	✓
Pied Cormorant	*Phalacrocorax varius*	-	-	-	-	-	LC	✓
Herons, Ibises and Storks ARDEIFORMES								
Eastern Great Egret	*Ardea modesta*	-	-	-	-	-	NE	✓
Little Egret	*Egretta garzetta*	-	RA	-	-	-	LC	✓
White-faced Heron	*Egretta novaehollandiae (Ardea novaehollandiae)*	-	-	-	-	-	LC	✓
Eastern Reef Egret	*Egretta sacra*	-	RA	-	Listed	-	LC	✓
Nankeen Night-Heron	*Nycticorax caledonicus*	-	-	-	-	-	LC	✓
Yellow-billed Spoonbill	*Platalea flavipes*	-	-	-	-	-	LC	✓
Royal Spoonbill	*Platalea regia*	-	-	-	-	-	LC	✓

Common Name	Scientific Name	EPBC	NPW	JAMBA	CAMBA	RoKAMBA	IUCN	5222
Glossy Ibis	*Plegadis falcinellus*	-	RA	-	Listed	-	LC	✓
Australian White Ibis	*Threskiornis molucca*	-	-	-	-	-	LC	✓
Straw-necked Ibis	*Threskiornis spinicollis*	-	-	-	-	-	LC	✓
Swans, Geese and Ducks ANSERIFORMES								
Muscovy Duck								✓
Domestic/Feral Duck								✓
Black Duck-Mallard hybrid								✓
Chestnut Teal	*Anas castanea*	-	-	-	-	-	LC	✓
Grey Teal	*Anas gracilis*	-	-	-	-	-	LC	✓
Northern Mallard	*Anas platyrhynchos*	-	-	-	-	-	LC	✓
Australasian Shoveler	*Anas rhynchotis (Spatula rhynchotis)*	-	RA	-	-	-	LC	✓
Pacific Black Duck	*Anas superciliosa*	-	-	-	-	-	LC	✓
Musk Duck	*Biziura lobata*	-	RA	-	-	-	LC	✓
Cape Barren Goose	*Cereopsis novaehollandiae*	VU	RA	-	-	-	LC	✓
Australian Wood Duck	*Chenonetta jubata*	-	-	-	-	-	LC	✓
Black Swan	*Cygnus atratus*	-	-	-	-	-	LC	✓
Pink-eared Duck	*Malacorhynchus membranaceus*	-	-	-	-	-	LC	✓
Blue-billed Duck	*Oxyura australis*	-	RA	-	-	-	NT	✓
Freckled Duck	*Stictonetta naevosa*	-	VU	-	-	-	LC	✓
Australian Shelduck	*Tadorna tadornoides*	-	-	-	-	-	LC	✓
Hardhead	*Aythya australis*	-	-	-	-	-	LC	✓
Birds of Prey ACCIPITRIFORMES								
Collared Sparrowhawk	*Accipiter cirrocephalus*	-	-	-	-	-	LC	✓
Brown Goshawk	*Accipiter fasciatus*	-	-	-	-	-	LC	✓
Wedge-tailed Eagle	*Aquila audax*	-	-	-	-	-	LC	✓
Swamp Harrier	*Circus approximans*	-	-	-	-	-	LC	✓
Spotted Harrier	*Circus assimilis*	-	-	-	-	-	LC	✓
Black-shouldered Kite	*Elanus axillaris*	-	-	-	-	-	LC	✓

Common Name	Scientific Name	EPBC	NPW	JAMBA	CAMBA	RoKAMBA	IUCN	5222
Brown Falcon	*Falco berigora*	-	-	-	-	-	LC	✓
Nankeen Kestrel	*Falco cenchroides*	-	-	-	-	-	LC	✓
Australian Hobby	*Falco longipennis*	-	-	-	-	-	LC	✓
Peregrine Falcon	*Falco peregrinus*	-	RA	-	-	-	LC	✓
Black Falcon	*Falco subniger*	-	-	-	-	-	LC	✓
White-bellied Sea-Eagle	*Haliaeetus leucogaster*	-	EN	-	Listed	-	LC	✓
Whistling Kite	*Haliastur sphenurus*	-	-	-	-	-	LC	✓
Little Eagle	*Hieraaetus morphnoides*	-	-	-	-	-	LC	✓
Eastern Osprey	*Pandion cristatus*	-	-	-	-	-	-	✓
Megapodes and Allies GALLIFORMES								
Australian Brush-turkey	*Alectura lathami*	-	-	-	-	-	LC	✓
Stubble Quail	*Coturnix pectoralis*	-	-	-	-	-	LC	✓
Brown Quail	*Coturnix ypsilophora (Synoicus ypsilophorus)*	-	VU	-	-	-	LC	✓
Malleefowl	*Leipoa ocellata*	VU	VU	-	-	-	VU	✓
Wild Turkey	*Meleagris gallopavo*	-	-	-	-	-	LC	✓
Indian Peafowl	*Pavo cristatus*	-	-	-	-	-	LC	✓
Black-tailed Native-hen	*Tribonyx ventralis (Gallinula ventralis)*	-	-	-	-	-	LC	✓
Button Quails and Allies GRUIFORMES								
Buff-banded Rail	*Gallirallus philippensis (Hypotaenidia philippensis)*	-	-	-	-	-	LC	✓
Waders, Plovers, Terns and Gulls CHARADRIFORMES								
Common Sandpiper	*Actitis hypoleucos (Tringa hypoleucos hypoleucos)*	-	RA	Listed	Listed	Listed	LC	✓
Ruddy Turnstone	*Arenaria interpres*	-	RA	Listed	Listed	Listed	LC	✓
Bush Stone-curlew	*Burhinus grallarius*	-	RA	-	-	-	LC	✓
Sharp-tailed Sandpiper	*Calidris acuminata*	-	-	Listed	Listed	Listed	LC	✓
Sanderling	*Calidris alba (Crocethia alba)*	MA MI	RA	Listed	Listed	Listed	LC	✓
Red Knot	*Calidris canutus*	-	-	Listed	Listed	Listed	NT	✓
Curlew Sandpiper	*Calidris ferruginea*	CR MA	-	Listed	Listed	Listed	NT	✓

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Red-necked Stint	*Calidris ruficollis*	-	-	Listed	Listed	Listed	NT	✓
Great Knot	*Calidris tenuirostris*	-	RA	Listed	Listed	Listed	EN	✓
Double-banded Plover	*Charadrius bicinctus*	-	-	-	-	-	LC	✓
Red-capped Plover	*Charadrius ruficapillus*	-	-	-	-	-	LC	✓
Whiskered Tern	*Chlidonias hybrida*	-	-	-	-	-	LC	✓
Silver Gull	*Chroicocephalus novaehollandiae (Larus novaehollandiae)*	-	-	-	-	-	LC	✓
Banded Stilt	*Cladorhynchus leucocephalus*	-	VU	-	-	-	LC	✓
Black-fronted Dotterel	*Elseyornis melanops*	-	-	-	-	-	LC	✓
Red-kneed Dotterel	*Erythrogonys cinctus*	-	-	-	-	-	LC	✓
Eurasian Coot	*Fulica atra*	-	-	-	-	-	LC	✓
Dusky Moorhen	*Gallinula tenebrosa*	-	-	-	-	-	LC	✓
Sooty Oystercatcher	*Haematopus fuliginosus*	-	RA	-	-	-	LC	✓
Australian Pied Oystercatcher	*Haematopus longirostris*	-	RA	-	-	-	LC	✓
Black-winged Stilt	*Himantopus*	-	-	-	-	-	LC	✓
Caspian Tern	*Hydroprogne caspia*	-	-	-	-	-	LC	✓
Pacific Gull	*Larus pacificus*	-	-	-	-	-	LC	✓
Bar-tailed Godwit	*Limosa lapponica*	-	RA	Listed	Listed	Listed	NT	✓
Eastern Curlew	*Numenius madagascariensis*	CR	VU	Listed	Listed	Listed	EN	✓
Whimbrel	*Numenius phaeopus*	-	RA	Listed	Listed	Listed	LC	✓
Pacific Golden Plover	*Pluvialis fulva*	-	RA	-	-	Listed	LC	✓
Grey Plover	*Pluvialis squatarola*	-	-	Listed	Listed	Listed	LC	✓
Purple Swamphen	*Porphyrio*	-	-	-	-	-	LC	✓
Australian Spotted Crake	*Porzana fluminea*	-	-	-	-	-	LC	✓
Red-necked Avocet	*Recurvirostra novaehollandiae*	-	-	-	-	-	LC	✓
Arctic Jaeger	*Stercorarius parasiticus*	-	-	Listed	-	Listed	LC	✓
Fairy Tern	*Sternula nereis (Sterna nereis)*	VU	EN	-	-	-	VU	✓
Crested Tern	*Thalasseus bergii (Sterna bergii)*	-	-	Listed	-	-	LC	✓

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Hooded Plover	*Thinornis rubricollis (Charadrius rubricollis)*	VU MA	VU	-	-	-	VU	✓
Grey-tailed Tattler	*Tringa brevipes (Heteroscelus brevipes)*	-	RA	Listed	Listed	Listed	NT	✓
Common Greenshank	*Tringa nebularia*	-	-	Listed	Listed	Listed	LC	✓
Marsh Sandpiper	*Tringa stagnatilis*	-	-	Listed	Listed	Listed	LC	✓
Painted Button-quail	*Turnix varius (Turnix varia)*	-	RA	-	-	-	LC	✓
Little Button-quail	*Turnix velox*	-	-	-	-	-	LC	✓
Masked Lapwing	*Vanellus miles*	-	-	-	-	-	LC	✓
Banded Lapwing	*Vanellus tricolor*	-	-	-	-	-	LC	✓
Pigeons and Doves COLUMBIFORMES								
Rock Dove	*Columba livia*	-	-	-	-	-	LC	✓
Crested Pigeon	*Ocyphaps lophotes*	-	-	-	-	-	LC	✓
Common Bronzewing	*Phaps chalcoptera*	-	-	-	-	-	LC	✓
Brush Bronzewing	*Phaps elegans*	-	-	-	-	-	LC	✓
Spotted Dove	*Streptopelia chinensis*	-	-	-	-	-	-	✓
Parrots and Cockatoos								
Australian Ringneck	*Barnardius zonarius*	-	-	-	-	-	LC	✓
Sulphur-crested Cockatoo	*Cacatua galerita*	-	-	-	-	-	LC	✓
Little Corella	*Cacatua sanguinea*	-	UP	-	-	-	LC	✓
Red-tailed Black-Cockatoo	*Calyptorhynchus banksii*	VU	EN	-	-	-	LC	✓
Yellow-tailed Black-Cockatoo	*Calyptorhynchus funereus (Zanda funerea)*	-	VU	-	-	-	LC	✓
Glossy Black-Cockatoo	*Calyptorhynchus lathami*	EN	EN	-	-	-	LC	✓
Galah	*Eolophus roseicapillus (Cacatua roseicapilla)*	-	-	-	-	-	LC	✓
Musk Lorikeet	*Glossopsitta concinna*	-	-	-	-	-	LC	✓
Purple-crowned Lorikeet	*Glossopsitta porphyrocephala*	-	-	-	-	-	LC	✓
Rock Parrot	*Neophema petrophila*	-	RA	-	-	-	LC	✓
Blue Bonnet	*Northiella haematogaster*	-	RA	-	-	-	LC	✓
Cockatiel	*Nymphicus hollandicus*	-	-	-	-	-	LC	✓

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Crimson Rosella	*Platycercus elegans*	-	-	-	-	-	LC	✓
Red-rumped Parrot	*Psephotus haematonotus*	-	-	-	-	-	LC	✓
Mulga Parrot	*Psephotus varius (Psephotellus varius)*	-	-	-	-	-	LC	✓
Rainbow Lorikeet	*Trichoglossus haematodus*	-	-	-	-	-	LC	✓
Cuckoos CUCULIFORMES								
Fan-tailed Cuckoo	*Cacomantis flabelliformis*	-	-	-	-	-	LC	✓
Pallid Cuckoo	*Cacomantis pallidus (Heteroscenes pallidus)*	-	-	-	-	-	LC	✓
Horsfield's Bronze-Cuckoo	*Chalcites basalis (Chrysococcyx basalis)*	-	-	-	-	-	LC	✓
Shining Bronze-Cuckoo	*Chalcites lucidus*	-	-	-	-	-	LC	✓
Owls STRIGIFORMES								
Southern Boobook	*Ninox novaeseelandiae*	-	-	-	-	-	LC	✓
Eastern Barn Owl	*Tyto javanica (Tyto alba javanica)*	-	-	-	-	-	-	✓
Frogmouths and Nightjars CAPRIMULGIFORMES								
Australian Owlet-nightjar	*Aegotheles cristatus*	-	-	-	-	-	LC	✓
Spotted Nightjar	*Eurostopodus argus*	-	-	-	-	-	LC	✓
White-throated Needletail	*Hirundapus caudacutus (Chaetura caudacuta)*	MA	-	Listed	Listed	Listed	LC	✓
Tawny Frogmouth	*Podargus strigoides*	-	-	-	-	-	LC	✓
Swifts APODIFORMES								
Fork-tailed Swift	*Apus pacificus*	-	-	Listed	Listed	Listed	LC	✓
Kingfishers and allies CORACIFORMES								
Laughing Kookaburra	*Dacelo novaeguineae*	-	-	-	-	-	LC	✓
Red-backed Kingfisher	*Todiramphus pyrrhopygius (Todiramphus pyrrhopygia) (Todirhamphus pyrrhopygia)*	-	-	-	-	-	LC	✓
Sacred Kingfisher	*Todiramphus sanctus*	-	-	-	-	-	LC	✓
Perching Birds PASSERIFORMES								
Spiny-cheeked Honeyeater	*Acanthagenys rufogularis*	-	-	-	-	-	LC	✓
Inland Thornbill	*Acanthiza apicalis*	-	-	-	-	-	LC	✓
Yellow-rumped Thornbill	*Acanthiza chrysorrhoa*	-	-	-	-	-	LC	✓

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Striated Thornbill	*Acanthiza lineata*	-	-	-	-	-	LC	✓
Yellow Thornbill	*Acanthiza nana*	-	-	-	-	-	LC	✓
Brown Thornbill	*Acanthiza pusilla*	-	-	-	-	-	LC	✓
Eastern Spinebill	*Acanthorhynchus tenuirostris*	-	-	-	-	-	LC	✓
Australian Reed-Warbler	*Acrocephalus australis*	-	-	-	-	-	LC	✓
Eurasian Skylark	*Alauda arvensis*	-	-	-	-	-	LC	✓
Red Wattlebird	*Anthochaera carunculata*	-	UP	-	-	-	LC	✓
Little Wattlebird	*Anthochaera chrysoptera*	-	-	-	-	-	LC	✓
Australasian Pipit	*Anthus novaeseelandiae*	-	-	-	-	-	LC	✓
Southern Whiteface	*Aphelocephala leucopsis*	-	-	-	-	-	LC	✓
Dusky Woodswallow	*Artamus cyanopterus*	-	-	-	-	-	LC	✓
White-browed Woodswallow	*Artamus superciliosus*	-	-	-	-	-	LC	✓
Shy Heathwren	*Calamanthus cautus (Hylacola cauta)*	-	RA	-	-	-	LC	✓
European Goldfinch, Common Greenfinch	*Carduelischloris (Chloris chloris)*	-	-	-	-	-	LC	✓
White-backed Swallow	*Cheramoeca leucosterna*	-	-	-	-	-	LC	✓
Brown Songlark	*Cincloramphus cruralis*	-	-	-	-	-	LC	✓
Chestnut Quail-thrush	*Cinclosoma castanotum (Cinclosoma castanotus castanotus)*	-	RA	-	-	-	LC	✓
Grey Shrike-thrush	*Colluricincla harmonica*	-	-	-	-	-	LC	✓
Black-faced Cuckoo-shrike	*Coracina novaehollandiae*	-	-	-	-	-	LC	✓
White-winged Chough	*Corcorax melanorhamphos*	-	RA	-	-	-	LC	✓
Crow and Raven species								✓
Australian Raven	*Corvus coronoides*	-	UP	-	-	-	LC	✓
Little Raven	*Corvus mellori*	-	UP	-	-	-	LC	✓
Australian Magpie	*Cracticus tibicen (Gymnorhina tibicen)*	-	-	-	-	-	LC	✓
Grey Butcherbird	*Cracticus torquatus*	-	-	-	-	-	LC	✓
Varied Sittella	*Daphoenositta chrysoptera*	-	-	-	-	-	LC	✓
Southern Scrub-robin	*Drymodes brunneopygia*	-	-	-	-	-	LC	✓
White-fronted Chat	*Epthianura albifrons*	-	-	-	-	-	LC	✓

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Orange Chat	*Epthianura aurifrons*	-	-	-	-	-	LC	✓
Crimson Chat	*Epthianura tricolor*	-	-	-	-	-	LC	✓
Tawny-crowned Honeyeater	*Glyciphila melanops (Phylidonyris melanops)*	-	-	-	-	-	LC	✓
Magpie-lark	*Grallina cyanoleuca*	-	-	-	-	-	LC	✓
Welcome Swallow	*Hirundo neoxena*	-	-	-	-	-	LC	✓
White-winged Triller	*Lalage sueurii*	-	-	-	-	-	LC	✓
Purple-gaped Honeyeater	*Lichenostomus cratitius*	-	RA	-	-	-	LC	✓
White-eared Honeyeater	*Lichenostomus leucotis*	-	-	-	-	-	LC	✓
Yellow-plumed Honeyeater	*Lichenostomus ornatus*	-	-	-	-	-	LC	✓
Singing Honeyeater	*Lichenostomus virescens*	-	-	-	-	-	LC	✓
Superb Fairy-wren	*Malurus cyaneus*	-	-	-	-	-	LC	✓
Variegated Fairy-wren	*Malurus lamberti*	-	-	-	-	-	LC	✓
Yellow-throated Miner	*Manorina flavigula*	-	EN	-	-	-	LC	✓
Little Grassbird	*Megalurus gramineus*	-	-	-	-	-	LC	✓
Hooded Robin	*Melanodryas cucullata*	-	RA	-	-	-	LC	✓
Brown-headed Honeyeater	*Melithreptus brevirostris*	-	-	-	-	-	LC	✓
White-naped Honeyeater	*Melithreptus lunatus*	-	-	-	-	-	LC	
Jacky Winter	*Microeca fascinans*	-	RA	-	-	-	LC	
Horsfields Bushlark	*Mirafra javanica*	-	-	-	-	-	LC	
Restless Flycatcher	*Myiagra inquieta*	-	RA	-	-	-	LC	
Red-browed Finch	*Neochmia temporalis*	-	-	-	-	-	LC	
Crested Bellbird	*Oreoica gutturalis*	-	-	-	-	-	LC	
Olive-backed Oriole	*Oriolus sagittatus*	-	RA	-	-	-	LC	
Golden Whistler	*Pachycephala pectoralis*	-	-	-	-	-	LC	
Rufous Whistler	*Pachycephala rufiventris*	-	-	-	-	-	LC	
Spotted Pardalote	*Pardalotus punctatus*	-	-	-	-	-	LC	
Striated Pardalote	*Pardalotus striatus*	-	-	-	-	-	LC	
House Sparrow	*Passer domesticus*	-	-	-	-	-	LC	
Fairy Martin	*Petrochelidon ariel (Hirundo ariel)*	-	-	-	-	-	LC	

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Tree Martin	*Petrochelidon nigricans (Hirundo nigricans)*	-	-	-	-	-	LC	
Scarlet Robin	*Petroica boodang*	-	-	-	-	-	LC	
Red-capped Robin	*Petroica goodenovii*	-	-	-	-	-	LC	
New Holland Honeyeater	*Phylidonyris novaehollandiae*	-	-	-	-	-	LC	
Crescent Honeyeater	*Phylidonyris pyrrhopterus*	-	-	-	-	-	LC	
Chestnut-crowned Babbler	*Pomatostomus ruficeps*	-	-	-	-	-	LC	
White-browed Babbler	*Pomatostomus superciliosus*	-	-	-	-	-	LC	
Western Whipbird	*Psophodes nigrogularis*	EN	EN	-	-	-	LC	
White-fronted Honeyeater	*Purnella albifrons (Phylidonyris albifrons)*	-	-	-	-	-	LC	
Grey Fantail	*Rhipidura albiscapa (Rhipidura fuliginosa)*	-	-	-	-	-	LC	
Willie Wagtail	*Rhipidura leucophrys*	-	-	-	-	-	LC	
White-browed Scrubwren	*Sericornis frontalis*	-	-	-	-	-	LC	
Weebill	*Smicrornis brevirostris*	-	-	-	-	-	LC	
Beautiful Firetail	*Stagonopleura bella*	-	RA	-	-	-	LC	
Diamond Firetail	*Stagonopleura guttata*	-	VU	-	-	-	LC	
Southern Emu-wren	*Stipiturus malachurus*	EN	EN	-	-	-	LC	
Grey Currawong	*Strepera versicolor*	-	EN	-	-	-	LC	
Common Starling	*Sturnus vulgaris*	-	-	-	-	-	LC	
Common Blackbird	*Turdus merula*	-	-	-	-	-	LC	
Bassian Thrush	*Zoothera lunulata*	VU	RA	-	-	-	LC	
Silvereye	*Zosterops lateralis*	-	UP	-	-	-	LC	