



COASTAL FAUNA AND HABITATS OF THE WESTERN EYRE PENINSULA

A field guide to
the common fauna and habitats of the
West Coast of the Eyre Peninsula, South Australia

Hannah Ling and James McGregor



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Front Cover Images (1. main image, 2-7. top left to bottom right): 1. Coastal Cliffs and Cliff Top Vegetation, Eyre Peninsula (Tim Hall). 2. Sleepy Lizard (*Tiliqua rugosa*)(Matt Baker). 3. Eastern Great Egret (*Ardea alba*)(Keith Baseley). 4. Short-beaked Echidna (*Tachyglossus aculeatus*)(Department of Environment, Water and Natural Resources). 5. Hooded Plover (*Thinornis rubricollis*)(Glenn Ehmke). 6. Australian Sea-Lion (*Neophoca cinerea*)(Andrew Sleep). 7. Common Death Adder (*Acanthophis antarcticus*)(David Armstrong).



Introduction

Coastal Fauna and Habitats of the Western Eyre Peninsula is a field guide to the common fauna and the habitats in which they live on the western Eyre Peninsula coastal region of South Australia (refer Map 2). With over 250 full colour images, it features 94 native fauna species including 66 bird species, 6 mammal species and 22 reptile species. Ten key habitat types for coastal western Eyre Peninsula are represented with associated native plant and fauna species. The publication brings together information from a wide variety of sources including fauna identification books, biodiversity plans, fauna surveys, electronic and online databases, and native fauna distribution maps. The format has been specifically designed for those pursuing an interest in native fauna, and it aims to assist students, land managers, field officers, community groups and volunteers to improve their understanding of local native fauna species that inhabit this coastal zone.

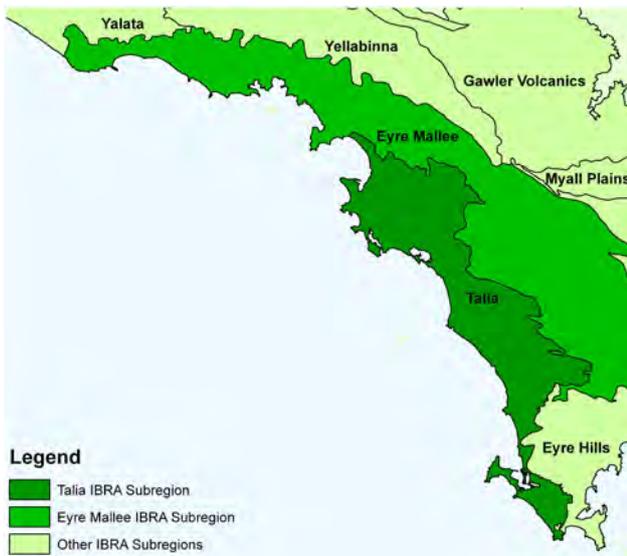
Regional Description

The West Coast of the Eyre Peninsula spans over 1,700 kilometres (44% of South Australia's coastline) with coastal areas covering around 172,000 hectares (refer Map 2). The marine environment is part of the Great Australian Bight. Major population centres include Streaky Bay (pop. 1,005) and Ceduna (pop. 2,289). The climate consists of hot, dry summers and cool, wet winters with the average annual rainfall ranging from 300-500 millimetres.

The western coast includes the coastal sections of the Talia and Eyre Mallee Interim Biogeographic Regionalisation of Australia (IBRA) Subregions (refer Map 1). The Talia IBRA Subregion features extensive undulating dunefields and calcrete near the surface, whilst the Eyre Mallee Subregion is characterised by parallel sand dune systems. Stretching north and west from Lincoln NP in the south to Wahgunyah CP in the west, this coastal region comprises a series of large sheltered bays intermittently separated by extensive coastal dunefields, rocky marine shores and coastal cliffs, and backed by ephemeral saline lakes and lagoons. The region also contains some of the largest, intact and contiguous stretches of native vegetation in agricultural South Australia, and supports a number of national and state threatened plant and animal species.

Around 24% of the West Coast of the Eyre Peninsula is protected through conservation parks (e.g. Lake Newland CP, Acraman Creek CP, Sceale Bay CP, Venus Bay CP, Point Bell CP, Chadinga CP, and Fowlers Bay CP). A number of offshore islands are also protected through conservation parks (e.g. Nuyts Archipelago CP, Isles of St Francis CP, Waldegrave Islands CP, Investigator Group CP).

The region contains seven Important Bird Areas (IBA); Coffin Bay, Investigator Islands, Lake Newland, Nuyts Archipelago, Seagull Lake, Venus Bay and Tourville and Murat Bays. Each IBA meets at least one of four criteria developed by BirdLife International to identify sites of global conservation importance.



Map 1: IBRA Subregions on the West Coast of the Eyre Peninsula

Habitat Types

Ten key habitat types were selected that capture the distinct fauna assemblages across the West Coast of the Eyre Peninsula, including mangroves, coastal dune shrublands, coastal cliffs and cliff tops, open sandy beaches, sand flats, saltmarsh/samphire, dunefields (non-vegetated), rocky coasts, offshore islands and subcoastal lakes. Each habitat type broadly differs from others through a unique combination of geomorphology, hydrology and vegetation. The occurrence of different habitat types is largely determined by the level of exposure to high-energy conditions along the coast. Typically open sandy beaches and rocky cliffs are common in exposed coastal areas whilst tidal sand flats, mangroves and estuaries occur in more sheltered locations. The coastal environment is highly volatile and following a disturbance event such as a storm one habitat type can rapidly transition into another, particularly in sandy locations.

Although the many habitat types are presented as discrete landforms, often even small areas contain many habitat types. These can rapidly transition from one into another and it may not be clear where one starts and another stops. Tourville Bay (Map 3) is one such example where along a short stretch of coastline each of the broad habitat types are present. This mosaic of habitat types is crucial in supporting the various needs of many animals which feed in one habitat type and breed in another.

Native Fauna

The native fauna included in this publication represent common bird, mammal and reptile species from the coastal areas of the western Eyre Peninsula. The information covered for each fauna species aims to provide sufficient material for the purpose of preliminary animal identification, with some additional background information on species' ecology and behaviour. It is not intended to be a definitive field identification manual for fauna species. Many other excellent publications fulfil this function; see the references and further reading section. To aid in identification between similar species key distinguishing features have been included in some species profiles.

Many migratory bird species have been included in this publication. Migratory shorebirds feed and rest on western Eyre Peninsula beaches during the spring and summer. Throughout the autumn months most of the adult population flies north along the East Asian-Australasian Flyway to distant breeding grounds, many of which are in the high arctic tundra. By the time they arrive, they have acquired a breeding plumage that provides camouflage for nesting on tundra and marshes. Breeding takes place within 2-3 months and by September, on their return to Australia, they have generally moulted into a non-breeding plumage that is much plainer; white underparts and grey or brown/grey upper parts, excellent camouflage for birds occupying the intertidal flats, beaches and rocky shorelines.

From the 66 bird species included in this book, 40 species are of national conservation significance (two Vulnerable) and 22 are of state significance (16 Rare, three Vulnerable and three Endangered). Six mammal species are included with one nationally Endangered, one Vulnerable in South Australia and one Rare in South Australia. Of the 22 reptile species two are Rare in South Australia.

Limitations of Information and Broad Disclaimer

This publication includes only those species which spend a significant portion of their lives on land and therefore cetaceans (whales and dolphins) and pelagic birds were not included. Invertebrates were not included due to the large knowledge gaps relating to this suite of animals.

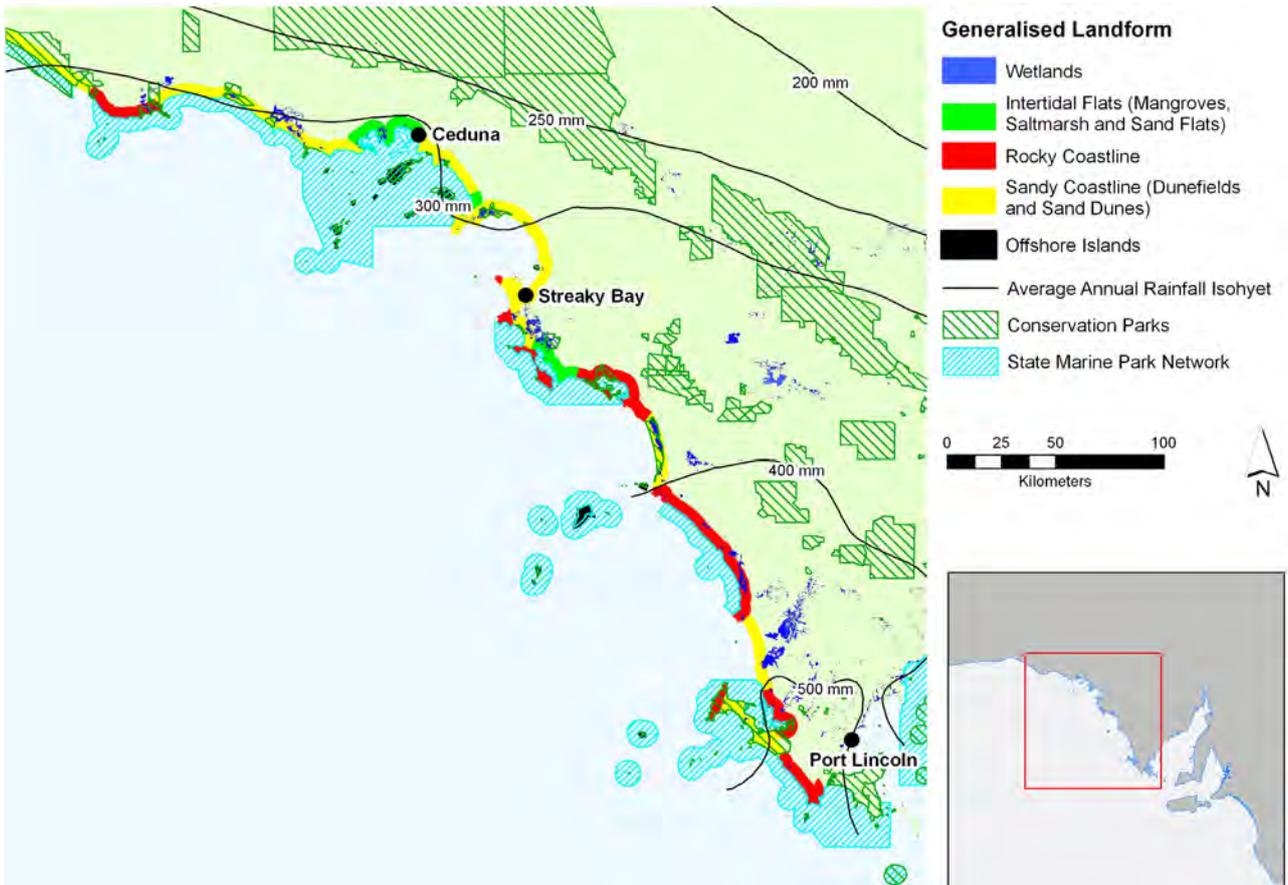
When compiling a publication of such a broad nature, compromises in the accuracy of the information must, at times, be made. Whilst every attempt has been made to respect the original intent of the data sources, liberties may have been taken to present information in a format that is more easily understood by the reader.

Maps are intended as a guide only and were produced with reference to GIS mapping data. Where species have a strictly coastal distribution, the inland area of inhabitation is embellished for easier display. All scientific and common names have been referenced to the Census of South Australian Vertebrates (2009).

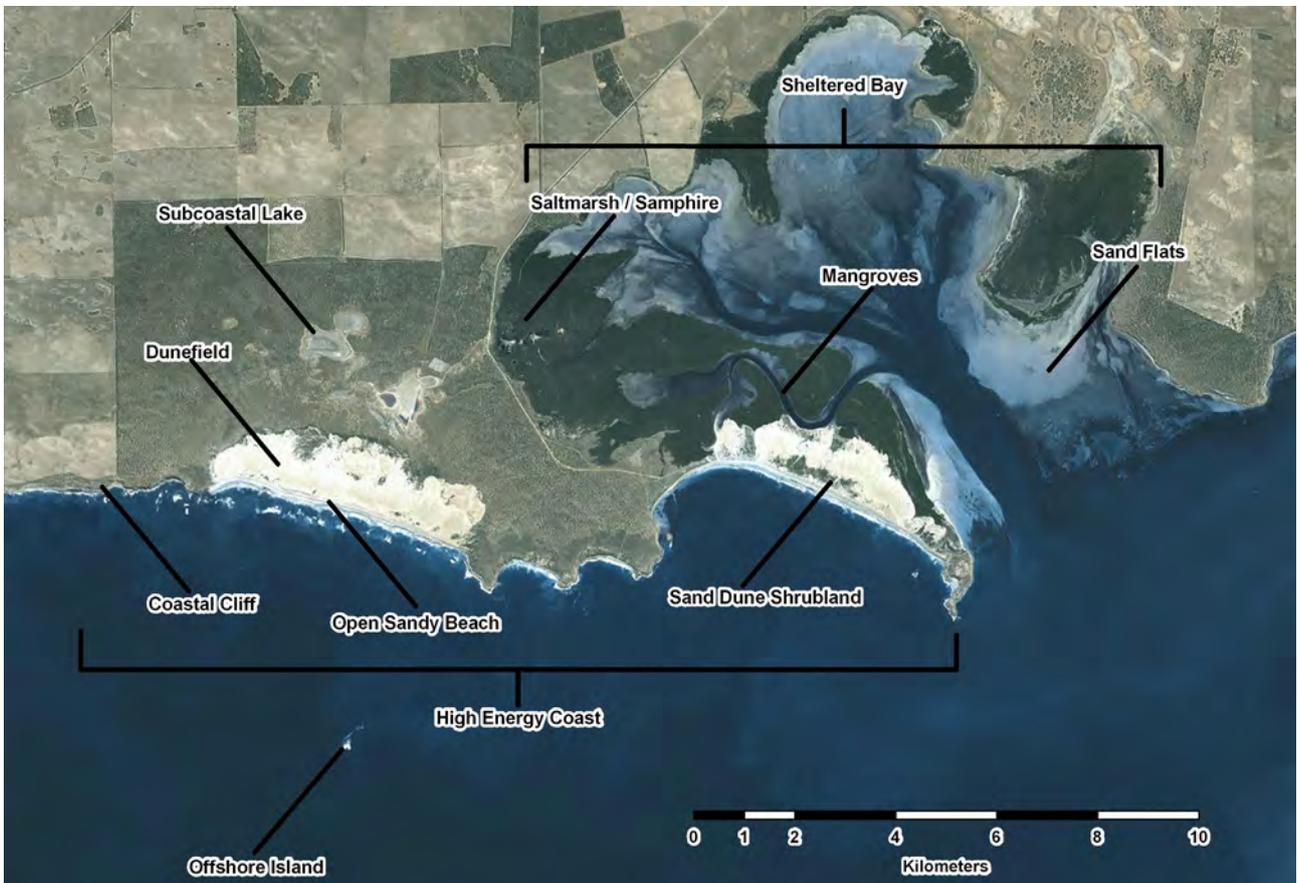
The information presented in this publication is intended to be broad and general in nature. The author accepts no responsibility for any reliance on the accuracy of the data and recommends further consultation with field experts and site surveys for more detailed information on local fauna species.

Sources of Information

Information for this publication was compiled from a large variety of sources including fauna identification books, biological surveys, biodiversity plans, technical reports, fauna distribution maps, on-line and electronic databases, and expert knowledge (refer to References and Further Reading). Information for the habitat types section relied heavily on the *Native Vegetation of the Eyre Peninsula, South Australia* (Berkinshaw, 2010). Mapping data has been sourced under licence from the Department of Environment, Water and Natural Resources, Geoscience Australia, Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP and swisstopo.



Map 2 (above): Generalised Coastal Landforms and Features on the West Coast of the Eyre Peninsula.
 Map 3 (below): Variety of Habitat Types in and around Tourville Bay.



Glossary of Terms

Conservation Status: the status of protection within the given geographic extent. National (Aus) and state (SA) conservation status' according to EPBC Act 1999 and NPWSA Act 1972 respectively. The EPBC Act may list species under a specific threat status (e.g. 'Endangered') and/or 'Migratory' and/or 'Marine'. Migratory species may also be protected by listing under the JAMBA/CAMBA/ROKAMBA agreements or the Bonn Convention. This is presented under the national status as 'migratory'. Eyre Peninsula conservation status' are derived from the *Regional Species Conservation Assessment Project* (Gillam and Urban, 2009).

Endangered: the best available evidence indicates that the taxon is facing a very high risk of extinction in the wild.

Extinct: there is no reasonable doubt that the last individual potentially capable of reproduction within the region has died or disappeared from the region, or, in the case of a former visiting taxon, individuals no longer visit the region.

Family: a division of the taxonomic system for classifying organisms which groups genera with similar characteristics and/or genetics. Lies between Order and Genus in the classification hierarchy.

Genus (Genera): a division of the taxonomic system for classifying organisms which groups species with similar characteristics and/or genetics. Lies between Family and Species in the classification hierarchy.

Midstorey: assemblage of small trees and tall shrubs that form the middle layer of native plant communities.

Rare: has a low overall frequency of occurrence (may be locally common with a very restricted distribution or may be scattered sparsely over a wider area). Not currently exposed to significant or widespread threats but warrants monitoring and protective measures to prevent reduction of population sizes.

Shrubland: an area of vegetation dominated by multiple-stemmed plants generally less than 3 metres high.

Species: a division of the taxonomic system for classifying organisms which groups organisms with similar characteristics and/or genetics. Lies between Genus and Subspecies in the classification hierarchy.

Stable: the population is neither decreasing or increasing significantly.

Threatened: a general term for a status of Rare or higher (see Species Status to right).

Understorey: assemblage of low shrubs, grasses, sedges and groundcovers that form the lower layer of plant communities.

Upperstorey: assemblage of trees and tall shrubs that form the upper layer or canopy of plant communities.

Vulnerable: the best available evidence indicates that the taxon is facing a high risk of extinction in the wild.

Woodland: an area of trees with less than 30% projective foliage cover of the tallest stratum.

West Coast Trend: The trend of the population across the Talia and Eyre Mallee IBRA Sub-regions according to the *Regional Species Conservation Assessment Project* (Gillam and Urban, 2009).

Abbreviations and Symbols

Regions:

EP – Eyre Peninsula

Aus – Australia

SA – South Australia

Species Status (in order of most to least threatened):

X – Extinct / Presumed Extinct

CE – Critically Endangered

E – Endangered

V – Vulnerable

R – Rare

NT - Near Threatened

U – Uncommon

LC - Least Concern

DD - Data Deficient

Other Status under EPBC Act 1999

Mi - Migratory

Ma - Marine

International Agreements:

CAMBA - China-Australia Migratory Bird Agreement

JAMBA - Japan-Australia Migratory Bird Agreement

ROKAMBA - Republic of Korea-Australia Migratory Bird Agreement

Protected Areas:

NP – National Park

CP – Conservation Park

Measurements:

mm - millimetres

cm – centimetres

m – metres

kg – kilograms