Biodiversity Plan

for

Eyre Peninsula

South Australia

SUMMARY

Government
of South Australia

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for

Eyre Peninsula

South Australia

2002

DEPARTMENT FOR environment and heritage

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Note: See the 'Biodiversity Plan for Eyre Peninsula' for all references cited in this summary.

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Cover Photographs (top to bottom):
Sandhill Dunnart (*Sminthopsis psammophila*). Photo: S Doyle
Peninsula Dragon (*Ctenophorus fionni*). Photo: T Robinson
Venus Bay Coastline. Photo: A Graham
Whibley's Wattle (*Acacia whibleyana*). Photo: T Croft
Malleefowl (*Leipoa ocellata*). Photo: South Australian Ornithological Association
Background: Mallee leaf litter, Hambidge Conservation Park. Photo: E Matthews

Frontispiece:
Yellow-tailed Black-Cockatoo (*Calyptorhynchus funereus*). Photo: P Canty

Foreword

The conservation of our natural biodiversity is essential for the functioning of natural systems. Aside from the intrinsic importance of conserving the diversity of species, many of South Australia's economic activities are based on the sustainable use, conservation and management of biodiversity.

Biodiversity Plans are able to provide a focus for the conservation and management of biodiversity within a region so that a strategic approach to implementing conservation actions can be achieved. This focus also provides a framework for integrating biodiversity conservation with other regional natural resource management issues and plans.

In recognition of this, the South Australian Government is developing a series of Regional Biodiversity Plans to assist in the conservation, management and rehabilitation of habitats. This program has been greatly assisted by the Commonwealth Government through the Natural Heritage Trust. Initial funding obtained from Environment Australia and Land and Water Australia enabled a pilot project to be undertaken in the South East of the State. The Biodiversity Plan for the South East of South Australia has served as a model on which to base plans for other regions of the State.

The Biodiversity Plan for Eyre Peninsula is the fifth of a series of plans that are being prepared for the State.

A major component of the planning process is to involve the local community in the preparation of the plans, particularly in identifying issues and priorities and developing strategies for achieving on-ground conservation actions. Through this process the local community develops a sense of ownership and becomes involved in implementing the outcomes. During development of the Biodiversity Plan for Eyre Peninsula the community provided valuable input through a series of workshops held within the region and through individual contacts.

The Biodiversity Plan for Eyre Peninsula is not only an extremely valuable resource document for all those interested in the natural history of the region, but it identifies conservation priorities, including significant biodiversity assets in the form of the plant communities, habitats and species of significance, and provides advice on management strategies and key conservation actions that can be undertaken.

The Biodiversity Plan for Eyre Peninsula can be used by government agencies involved in managing public lands, local government, private landholders and individuals and community groups within the region interested in the conservation of biodiversity. The plan is intended to guide priority on-ground actions and it will therefore provide a useful basis for the biodiversity conservation component of the Eyre Peninsula Integrated Natural Resource Management Plan.

I am pleased to endorse the Biodiversity Plan for Eyre Peninsula as I believe it will provide a valuable contribution to conserving and maintaining the biodiversity of the region.

John Hill MP
Minister for Environment and Conservation

Biodiversity

E Matthews

Spotted Grass Frog *(Limnodynastes tasmaniensis)*.

What is it?

Biodiversity or biological diversity is the variety of all living things

- plants
- mammals
- birds
- reptiles
- amphibians
- fish
- invertebrate animals
- aquatic fauna
- microorganisms
- fungi

and includes the ecosystems of which they are a part. Biodiversity varies with climate, soil, geomorphology and geological history.

Why is it important?

We all depend on biodiversity. Biodiversity is the foundation for sustainable living. Five of our most important industries – agriculture, pastoralism, forestry, fisheries and tourism, as well as daily life, rely on healthy functioning ecological processes and systems. If we look after biodiversity, the land and water will support us.

Conservation of biodiversity not only underpins our medium to long term economic prosperity but also ensures:

- clean air, soil and water
- maintenance of soil fertility, water sources and cycles
- breakdown of domestic, industrial and agricultural wastes
- control of pests, disease, soil erosion and salinity
- reduction of species loss resulting from habitat decline and land degradation.

T Robinson

Stick-nest Rat (*Leporillus conditor*) has become extinct in mainland Australia, remaining only on Franklin Island.

E Matthews

Lichens absorb substances from air and rainwater and can be sensitive indicators of pollution.

Commitment to Maintaining Biodiversity

The South Australian Government is committed to achieving conservation of biodiversity and maintenance of ecological processes and systems in South Australia.

The Government is therefore intent on working with the community and all spheres of government to ensure:

- retention and restoration of existing native vegetation
- restoration of degraded areas, particularly threatened plant communities
- protective measures for threatened species
- control and eradication of pest plants and animals.

The Biodiversity Plan for Eyre Peninsula has been developed to provide a regional strategy for promoting conservation, rehabilitation and management of the region's biodiversity in the long term.

The aims are to:

- provide a regional context for conservation
- provide guidance for management actions and programs for conservation
- increase community understanding and action
- provide a regional framework for assessing proposals and integrate with other natural resource management plans.

E. Matthews

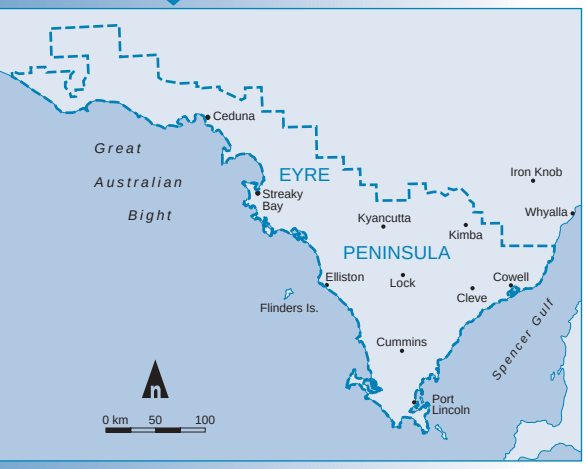
Diverse native vegetation preserved in the Tod Reservoir reserve.

Liz Davis

***Dinosaur Ant* (*Nothomyrmecia macrops*) is the world's most primitive surviving ant and occurs throughout northern Eyre Peninsula.**

T Robinson

Greater Long-eared Bat (*Nyctophilus timoriensis*) is rated as vunerable in South Australia.



Eyre Peninsula

Special attributes of the Eyre Peninsula include:

Geomorphological qualities

- granite outcrops
- highlands with lateritic capping
- longitudinal sand dune fields
- offshore islands

Coastal and Wetland qualities

- extremely long coastline with large areas in pristine condition
- a substantial number of both freshwater and saline wetlands
- large sheltered areas supporting mangrove communities
- areas of high energy exposed cliffs

Vegetation qualities

- extensive areas of mallee supporting diverse plant and animal communities
- woodlands, grassy woodlands and grasslands

Biological qualities

- high diversity of species and habitats
- large areas of habitat to support both common and threatened species
- a high number of species endemic to Eyre Peninsula
- offshore islands providing safe haven for populations of nationally threatened species.

A Graham

Gill's Wattle (*Acacia gillii*) is endemic to southern Eyre Peninsula and is regionally uncommon.

E Matthews

Lake Hamp near Elliston with intact samphire and buffering vegetation.

Major Vegetation Types

Mallee

Mallee is the dominant vegetation type on Eyre Peninsula, and there is a wide variety of mallee communities and associations. Eyre Peninsula is home to over 30 species of mallee, 4 of which are endemic, meaning that they are found on Eyre Peninsula and nowhere else in the world.

A few of the main types of mallee in the region include:

- Ridge-fruited Mallee (*Eucalyptus incrassata*)
- Coastal white Mallee (*E. diversifolia*).

The endemic mallee eucalypts of Eyre Peninsula include:

- Yeelanna Mallee (*Eucalyptus calycogona* var. *spaffordii*)
- Darke Peak Mallee (*E. cretata*)
- Cummins Mallee (*E. peninsularis*)
- Crimson Mallee (*E. lansdowneana*).

Woodlands

Woodlands have always been less common in the region than mallee and are extremely important for the biodiversity they support. A few of the most important woodlands include:

- Eyre Peninsula Blue Gum (*Eucalyptus petiolaris*)
- Sugar Gum (*E. cladocalyx*)
- River Red Gum (*E. camaldulensis* var. *camaldulensis*).

Eyre Peninsula Blue Gum is also endemic to Eyre Peninsula.

There are some woodlands that have been identified as being rare or threatened on Eyre Peninsula. These include:

- Drooping Sheoak (*Allocasuarina verticillata*)
- Rough-barked Manna Gum (*Eucalyptus viminalis* ssp. *cygnetensis*).

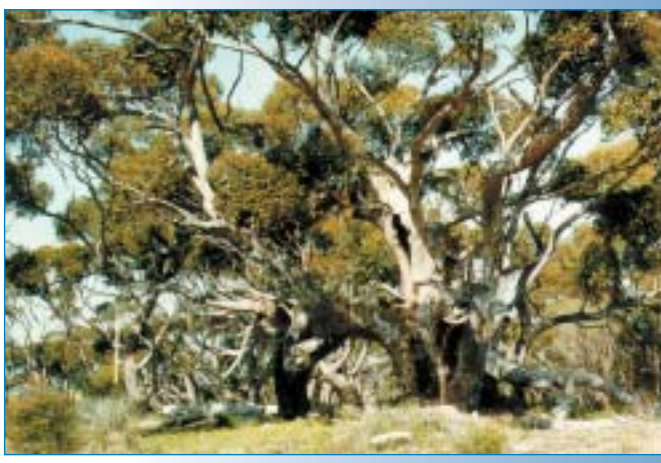
There are also a diverse range of forests, shrublands, sedgelands and grasslands. Each type of habitat supports a suite of plants and animals.

T Croft

Eyre Peninsula Blue Gum (*Eucalyptus petiolaris*). Roadside vegetation supports important remnants of the region's woodlands.

NPWSA

Fruits of Ridge-fruited Mallee (*Eucalyptus incrassata* var. *angulosa*).



E Matthews

Old Sugar Gum (*Eucalyptus cladocalyx*) tree providing numerous hollows, homes for many animals.

What was Eyre Peninsula like originally?

P Canty

The Southern Brown Bandicoot (*Isoodon obesulus*) has become extinct on mainland Eyre Peninsula. It has recently been rated as nationally endangered.

At the time of European settlement, the region was a complex mosaic of vegetation communities with mainly mallee and shrublands together with grasslands and forests. Many types of these mallee communities are only found in the region. Other smaller areas were covered with Sugar gum, Eyre Peninsula Blue gum and Red gum woodlands.

In 1847 George Angas arrived at Port Lincoln and according to him the hills around Port Lincoln were 'clothed with casuarina'.

Angas kept a record of a journey to Marble Range and Waungarrie Lake including comments such as:

> **'a grassy country studded with casuarina and banksia trees.... observed the biscuit tufa, much of which was extremely small, being no larger than a wafer, and lying very thickly scattered over the ground.... upon the open scrubby plains and the low grassy hills, we observed numerous kangaroos.... a low species of *Xanthorrhoea*, or grass-tree, grew abundantly in the open scrub.'**

R Grund

Large Bronze Azure (*Ogyris idmo halmaturia*) is dependant on Sugar Ants and may be regionally extinct.

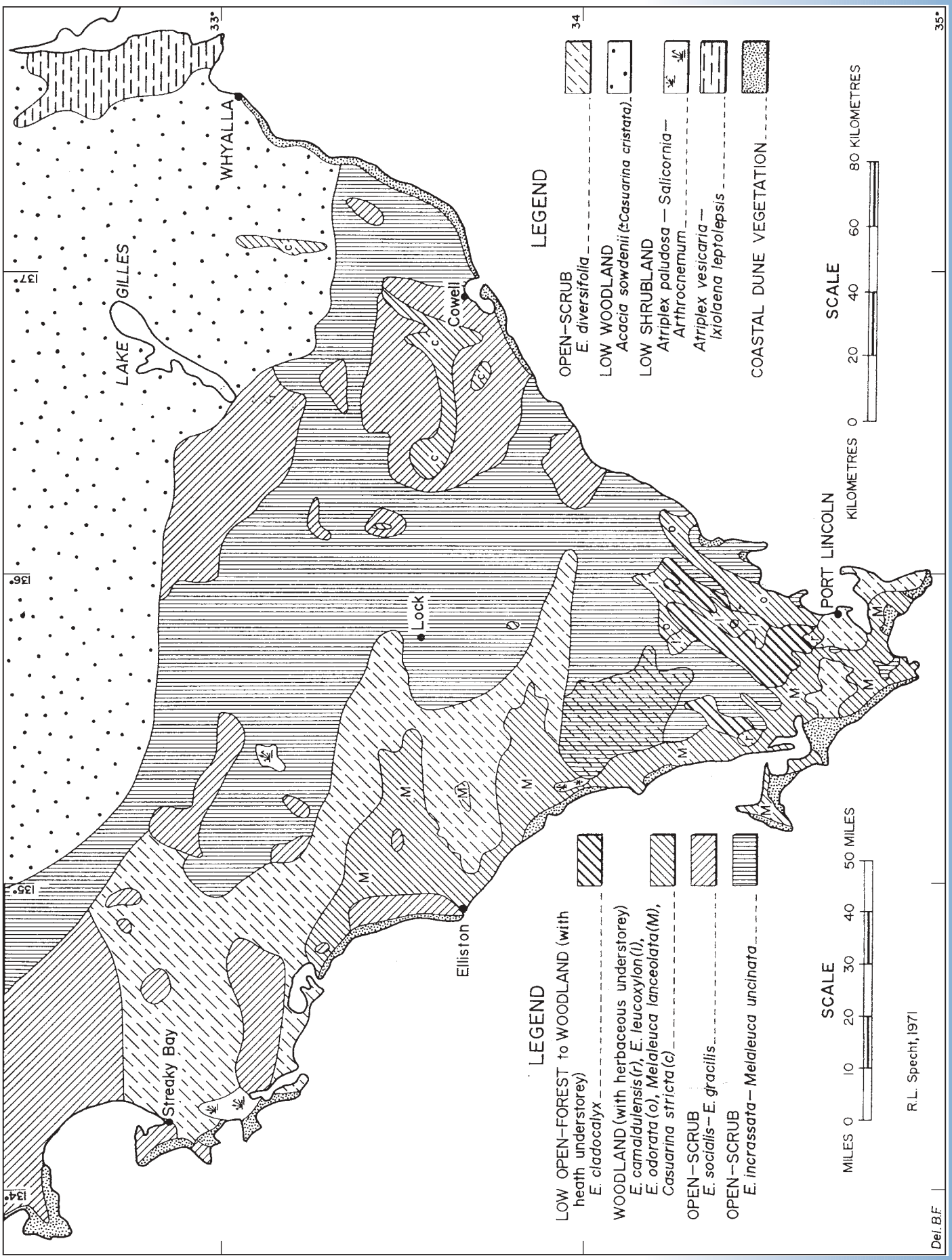
When Angas reached his destination he found that the area around Marble Range in southern Eyre Peninsula was:

> **'a richly verdant country stretched out all around, scattered with park-like trees, in the centre of which, surrounded by green banks of velvet turf, lay Waungarrie Lake.... besprinkled with multitudes of black swans; while some kangaroo were quietly feeding near the water.... It was indeed a lovely region.... A deep river, bordered on each side by tall reeds, runs out of the lake, connecting it with a smaller one about three miles beyond.'**

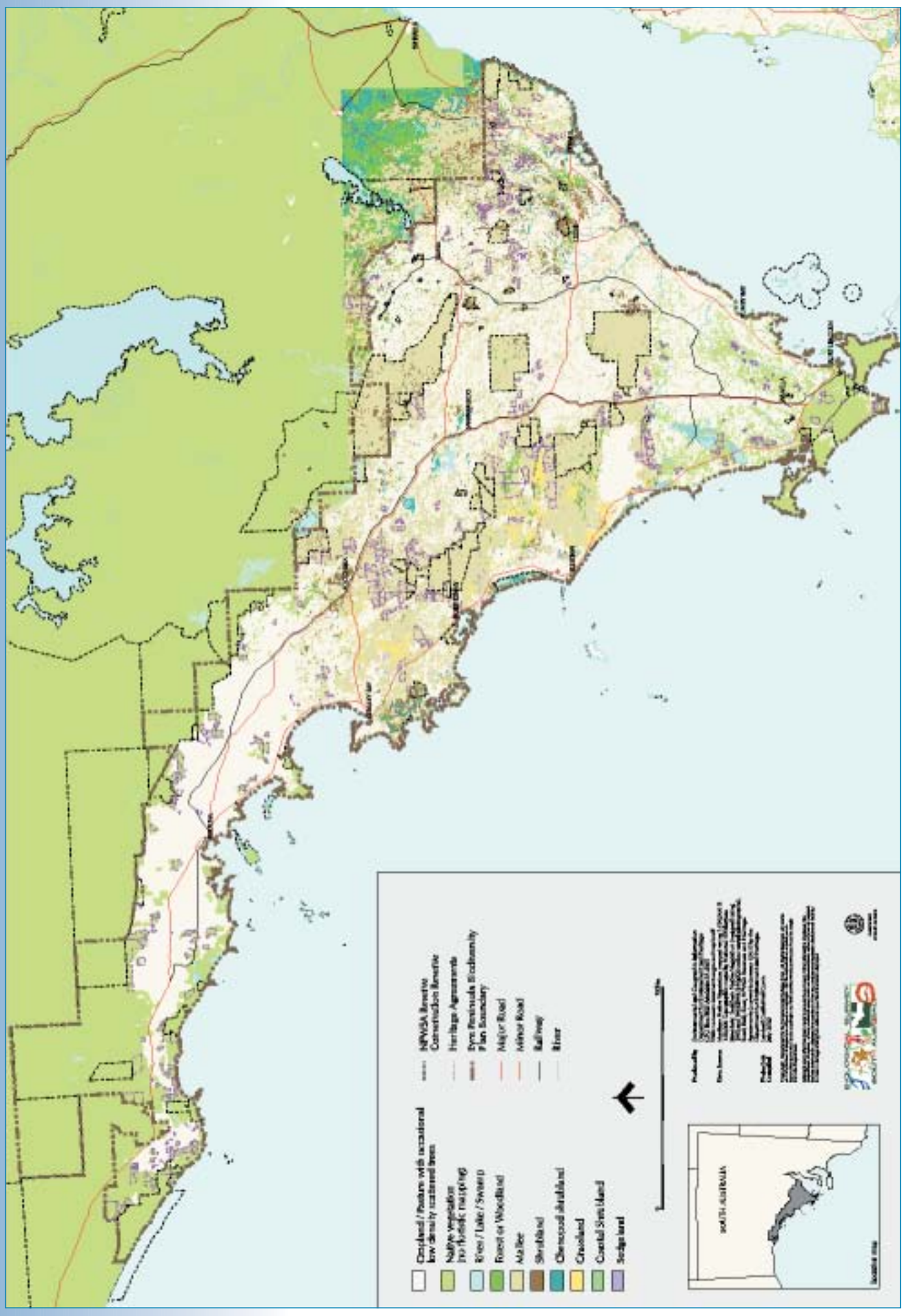
(Angas 1847, Savage Life and Scenes in Australia and New Zealand, Smith Elder and Co.)

T Croft

Mallee vegetation in Hincks Conservation Park.



Map of major pre-european vegetation types reproduced from Specht 1972.



Native Vegetation Cover – Eyre Peninsula.

What is Eyre Peninsula like now?

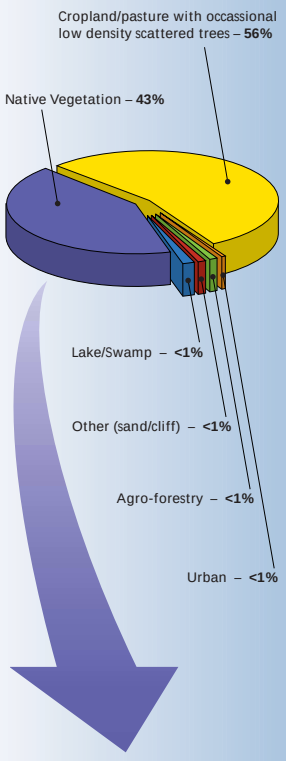
Today native vegetation covers 43% of Eyre Peninsula, mainly in areas less suited to agriculture. However, for many vegetation types, the remaining native vegetation occurs only along roadsides and as scattered woodland and trees in farmland.

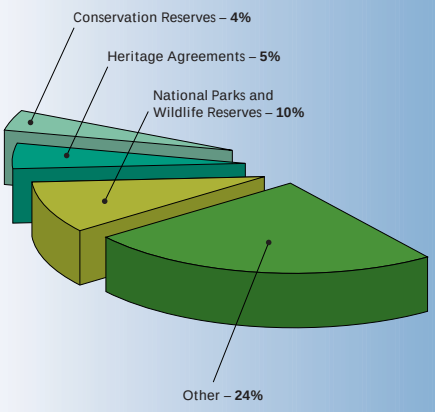
A number of species present in the region at the time of European settlement have become extinct. As with other areas of the country, small mammals have been severely impacted and on mainland Eyre Peninsula extinct species include the Western Quoll (*Dasyurus geoffroii*), Numbat (*Myrmecobius fasciatus*), Western Barred Bandicoot (*Perameles bougainville*), Burrowing Bettong (*Bettongia lesueur*), Tammar Wallaby (*Macrous eugenii*), Southern Brown Bandicoot (*Isoodon obesulus*), and Brush-tail Bettong (*Bettongia penicillata*). A number of plants are known to have become extinct including Osborn's Eyebright (*Euphrasia collina* ssp. *osbornii*), Yellow Eyebright (*Euphrasia scabra*), and Port Lincoln Speedwell (*Veronica parnkalliana*).

Additionally, the long term survival of many species of plants and animals are threatened. Some of the nationally endangered species of Eyre Peninsula (including those confined to its offshore islands) include: Chalky Wattle (*Acacia cretacea*), Jumping-jack Wattle (*Acacia enterocarpa*), Fat-leaf Wattle (*Acacia pinguifolia*), Prickly Raspwort (*Haloragis eyreana*), Metallic Sun-orchid (*Thelymitra epipactoides*), Sandhill Dunnart (*Sminthopsis psammophila*), Southern Brown Bandicoot (*Isoodon obesulus*), and the Greater Stick-nest Rat (*Leporillus conditor*). There are a further 15 plant species, 2 mammal species and 5 bird species that are nationally vulnerable.

It is essential that we properly manage the remaining habitats for the species we still have.

View over Cleve with Cleve Hills in background, showing contrast between cleared and remnant areas.





Biodiversity and Eyre Peninsula

T Robinson

Boxthorn *(Lycium ferocissimum)* is a major problem plant on Eyre Peninsula.

R Brandle

Predation by cats is recognised as a threatening process to biodiversity.

To achieve conservation of biodiversity, we need to understand the major threats and work together to implement action.

Major Threats to the Biodiversity of Eyre Peninsula

Major Threat	Threat leads to:
Loss of Native Vegetation	• Loss of habitat • Loss of food resources • Loss of nesting hollows • Loss of species • Fragmentation of habitat • Disturbance and loss of soil
Salinity	• Degradation of land • Loss of vegetation and plant community changes due to increased soil salinity and resulting loss of fauna • Salinisation of water supplies • Soil erosion
Introduced animals	• Loss of native animal species due to predation by cats and dogs • Loss of native animal species due to competition for resources • Lack of regeneration of native plants due to introduced grazers • Increased spread of weeds and disease • Soil erosion caused by hoofed stock and rabbits
Weeds	• Loss of native plant species due to competition for resources with introduced weeds • Changes in plant communities as native plants are smothered, out competed and shaded out by weeds
Inappropiate fire regimes	• Loss of local populations of plants and animals • Extinction

Through implementing action, threats to biodiversity can be reduced and wildlife habitats conserved.

Actions to Reduce Threats

Actions to reduce threats	How you can help
• Retain existing vegetation • Fence off existing vegetation • Revegetate using local native species	• Keep isolated trees in paddocks and trees in creeklines including dead trees with hollows • Keep stock out of native vegetation to allow natural regeneration • Revegetate where possible, particularly areas adjoining existing native vegetation on your property
• Retain all native vegetation • Revegetate with appropriate local native species	• Retain the native vegetation on your property • Fence off badly affected areas to promote growth of vegetation • Revegetate using salt-tolerant grasses and shrubs in badly effected areas surrounded by deep-rooted high water-use native vegetation • Use water efficiently
• Conduct coordinated district-wide programs to control numbers of pest animals	• Get involved with your local community to coordinate the control of foxes, rabbits, cats, and other pest animals to maximise its effectiveness
• Control weeds in native vegetation • Prevent as much as possible the spread of established weeds and the introduction of new weeds	• Control weeds in your native vegetation, starting with areas that are the least infested, making minimal disturbance, and allowing the rate of regeneration to dictate the rate of removal, particularly for weed species that provide habitat for native animals
• Prevent single fire events burning whole blocks of vegetation • Attempt to manage fire so that each block of native vegetation contains a mosaic of different age class areas (i.e. time since last fire) • Revegetate to form linkages between remnant islands of vegetation	• Revegetate to form links between blocks of vegetation on your property or adjoining properties to allow animals to seek refuge during a fire and to recolonise afterwards

E Matthews

Bridal Creeper (*Myrsiphyllum asparagoides*) completely smothers understorey plants.

E Matthews

Regeneration in Hambidge Conservation Park – fire is necessary for regeneration of many species.

Examples of Threatened Species on Eyre Peninsula

P Canty

The nationally endangered Sandhill Dunnart *(Sminthopsis psammophila).*

At least 50 species of plants and 42 species of mammals, birds and reptiles are threatened at the regional level on Eyre Peninsula. Actions carried out to protect individual species often benefit other species. Following are brief examples of actions for a threatened animal, plant species and plant community of Eyre Peninsula.

Sandhill Dunnart (*Sminthopsis psammophila*)

Until recently, the nationally endangered Sandhill Dunnart has been known on Eyre Peninsula from only two records in 1969, one from Mamblyn and the other from Boonerdoo. In January 2000 an individual was captured near Munyaroo Conservation Park on the east coast of Eyre Peninsula. Following this find, surveys concentrating in the area discovered several further individuals, all in sandy dunes west of Munyaroo. Little is known of the ecology or habitat requirements of the species.

E Matthews

Spinifex clumps provide shelter and protection for the Sandhill Dunnart.

Threats

- Loss of habitat
- Predation by cats and foxes
- Changed fire regimes

Actions

- Conduct research to determine the ecology and habitat requirements
- Prepare and implement a Recovery Plan
- Protect known habitat
- Control threats in known habitat
- Conduct further surveys in suitable habitat

Benefits

- Long-term survival of the Sandhill Dunnart
- Protection of other native species that live in similar habitat or are threatened by the same processes as Sandhill Dunnarts

Fat-leaf Wattle (*Acacia pinguifolia*)

Fat-leaf Wattle is nationally endangered. It is found on southern Eyre Peninsula around Cummins and in the Koppio Hills, and there is a small population near Finniss, on the Fleurieu Peninsula.

A Graham

Nationally endangered Fat-leaf Wattle *(Acacia pinguifolia)*.

Threats

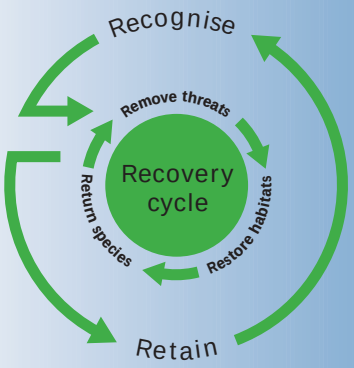
- Land clearance and habitat loss
- Weed invasion
- Roadworks near roadside populations
- Grazing

Actions

- Recognise and protect roadside populations including implementing the Roadside Marker System
- Control weeds
- Fence to protect from grazing and allow to naturally regenerate

Benefits

- Ongoing survival of Fat-leaf Wattle
- Protection of other threatened species that occur on roadsides
- Protection of other native vegetation occurring in the local area and animals that live there



A Bond

Fat-leaf Wattle (*Acacia pinguifolia*) in flower.

Rare or Threatened Plant Communities

Drooping Sheoak grassy woodlands (*Allocasuarina verticillata*)

Agricultural development has historically favoured areas of better soils and areas more readily cleared such as the grassy woodlands and grasslands. It is these areas of high agricultural value where the region's rare and threatened plant species/communities are mainly concentrated.

The Drooping Sheoak grassy woodlands vegetation community once covered large areas of western Eyre Peninsula. This community has been extensively reduced since European settlement. The following quote describes the damage that occurred soon after settlement.

> **'...large areas were thickly covered with small sheoaks. These trees disappeared largely as time went on, giving the landscape an unsightly appearance. Heavy stocking not only prevented fresh growth, but wore off the scanty soil, leaving wide areas of bare rock'.**
>
> (R. Cockburn 1927 - Pastoral Pioneers of South Australia. Publishers Ltd, Adelaide).

E Matthews

Large areas of Drooping Sheoak woodland have been cleared and do not regenerate due to grazing.

S Carruthers

Drooping Sheoak grassy woodlands with healthy understorey.

NPWSA

Regeneration of a degraded Drooping Sheoak woodland.

Threats

- Grazing inhibiting regeneration
- Clearance
- Loss of plant and animal species that once inhabited the sheoak woodlands

Actions

- Fence areas with remnant trees to allow natural regeneration
- Reduce total grazing pressure including reduced stocking rates and rabbit control
- Revegetate areas of Drooping Sheoak woodland with locally collected seed

Benefits

- Restoration of a threatened plant community and large areas of western Eyre Peninsula
- Provision of habitat for native plants and animals
- Reduction in soil erosion and salinity

Special Habitats

The region's special natural habitats include granite outcrops, wetlands, coastal areas, and offshore islands. Road and rail reserves have been created by human impact, but are also considered to be special habitats due to their biological significance. Brief notes on two of the region's special habitats are given below.

Granite outcrops

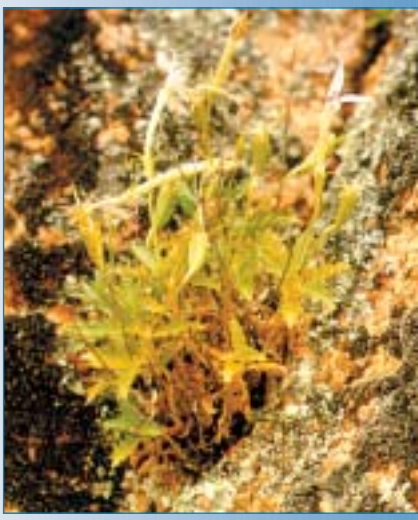
Granite outcrops have particular types of soil and vegetation associated with them so many plants are found only in these areas. Such plants include the Nodding Grass-lily (*Stypandra glauca*) which is known in South Australia only from a few isolated granite hills of central Eyre Peninsula such as Mt Wudinna, and Corrobinnie and Carappee Hills. Other species strongly associated with granite outcrops include *Rulingia craurophylla*, which is state and regionally vulnerable, the Needle-leaved Honey-myrtle (*Melaleuca armillaris* ssp. *akineta*), which is state and regionally rare, and the Rock Isotome (*Isotoma petraea*).

Coasts

Eyre Peninsula's coastal areas are important for biodiversity. The region forms some 1600 km of coastline including exposed cliffs, beaches, marshes and mangroves. All of these provide different habitat to suites of species. Mangroves and saltmarsh communities are vital for many wading birds and also act as a nursery for many fish. Many species of reptiles inhabit coastal dunes, beaches and clifftops. The Australian Sea-lion (*Neophoca cinerea*), which is rare for South Australia, is a regionally important animal that depends on good management of coastal areas, offshore islands and the marine environment.

E Matthews

Flared slope of Ucontitchie Hill.



E Matthews

Rock Isotome (*Isotoma petraea*) is associated with granite outcrops.

S Milne

Western Three-lined Skink (*Bassiana trilineata*) has only recently been discovered on Eyre Peninsula in bushes on top of limestone cliffs.

E Matthews

Cliffs south of Venus Bay.

Key Biodiversity Areas on Eyre Peninsula

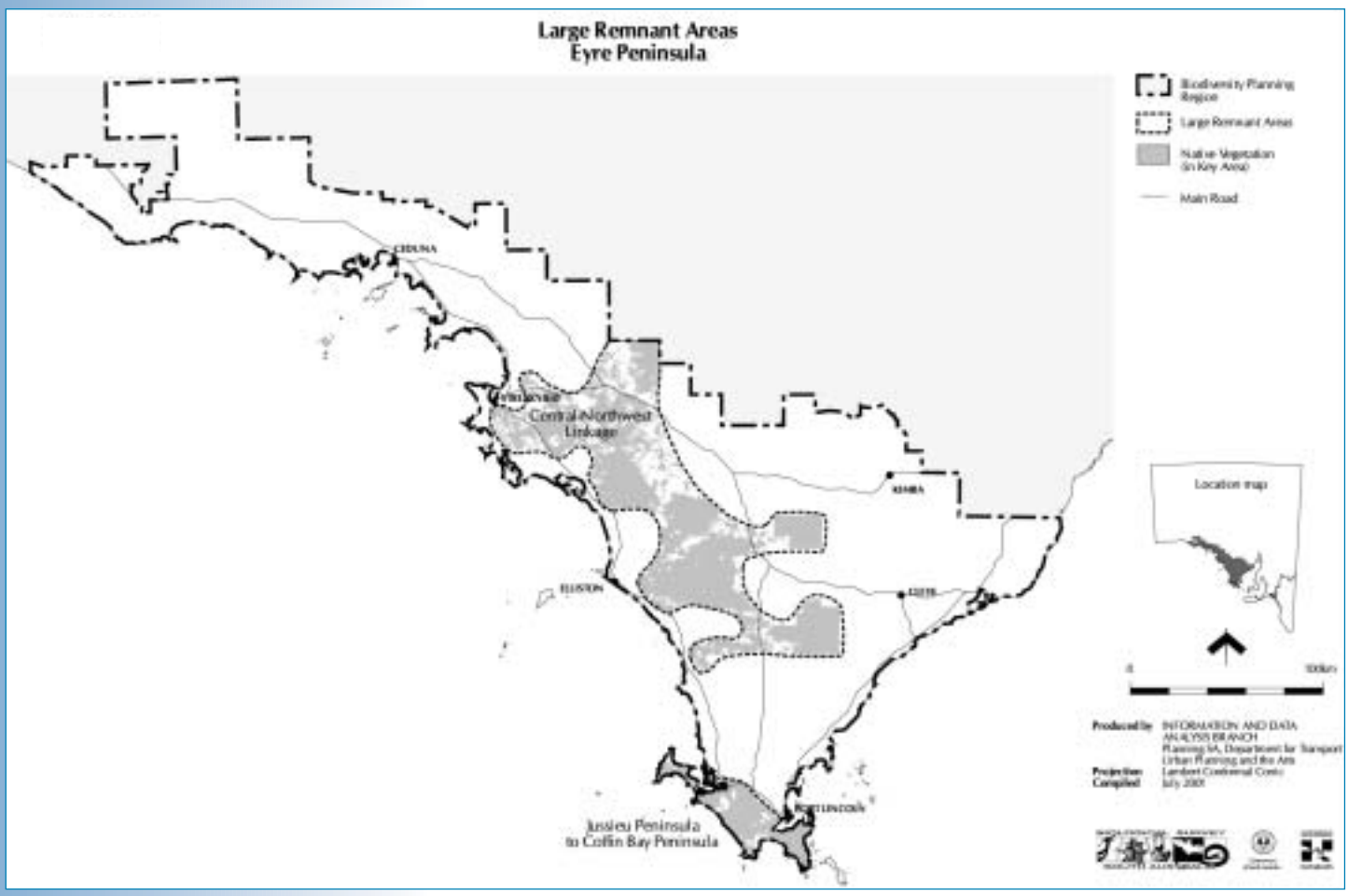
T Croft

View over Hincks Conservation Park from Verran Hill towards Blue Range.

All areas of remnant native vegetation on Eyre Peninsula are important for conserving the region's biodiversity. However, there are two types of Key Biodiversity Areas that have been identified on Eyre Peninsula: Large Remnant Areas and Threatened Habitat Areas. Each category has specific management recommendations to appropriately manage the biodiversity it contains. The significance of these areas, their threats and suggested management recommendations are outlined below.

Large Remnant Areas

Two Large Remnant Areas have been identified on Eyre Peninsula. These are the Jussieu Peninsula to Coffin Bay Peninsula and the Central-Northwest Linkage.



Large Remnants generally contain plant communities that are relatively intact or undisturbed. These areas provide sufficient habitat to sustain populations in the long term. They include:

- large blocks of native vegetation
- blocks of vegetation that are close together or form a semi-continuous tract of remnant native vegetation
- species diversity as close as possible to the community prior to European settlement
- good estimated population sizes for many species within these areas
- populations of species of high conservation significance at least at the regional level.

Threats

- Fragmentation preventing movement of some species between blocks
- Wildfire burning large areas of habitat at one time, potentially causing local extinctions
- Weeds invading native vegetation
- Predation of native fauna by introduced animals
- Disturbance and grazing of native vegetation by rabbits, goats and domestic stock.

Priority Actions

- Restore or revegetate vegetation between blocks or buffer blocks of remnant vegetation
- Develop wildfire management strategies to protect threatened species and habitat
- Control weeds
- Conduct coordinated district-wide control programs for foxes and cats
- Limit grazing by stock in native vegetation and control rabbit numbers throughout the district.

NPWSA

Nationally vulnerable Malleefowl (*Leipoa ocellata*) require large tracts of mallee that have not been burnt for some time.

T Croft

Mallee habitat is home to the Crested Dragon (*Ctenophorus cristatus*). It is found on Eyre Peninsula and westward into WA.

Resource Information, DEH

View of Lincoln National Park south-east from Sleaford Mere.

Threatened Habitat Areas

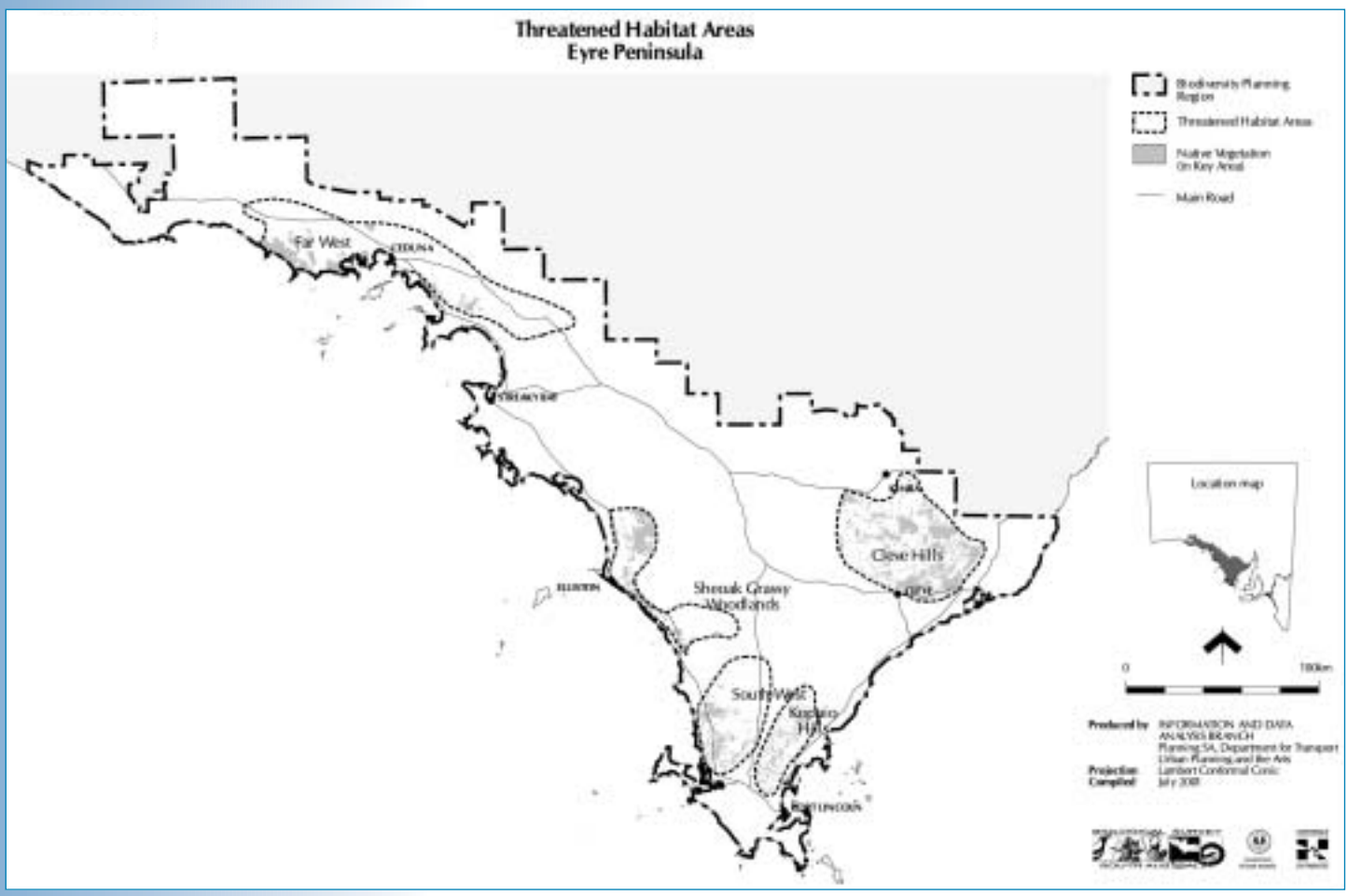
A Bond

Nationally endangered Metallic Sun-orchid (*Thelymitra epipactoides*).

Five Threatened Habitat Areas have been identified on Eyre Peninsula. They are the Cleve Hills, Far West, Koppio Hills, Sheoak Grassy Woodlands and the South West.

Threatened Habitat Areas have been identified on the basis that they are:

- selectively cleared and modified resulting in low remnancy of plant communities
- poorly conserved in government reserves or Heritage Agreements
- highly fragmented and isolated small blocks
- contain regionally threatened vegetation communities
- contain large numbers of species of high conservation significance (often at the national level).



Threats

- Continued isolation of vegetation and wildlife populations
- Grazing by stock and rabbits preventing regeneration
- Weed invasion
- Further clearance of habitat, including roadworks
- Predation by cats and foxes
- Fragmentation leading to isolated non-viable populations and eventual extinction
- Rising saline groundwater due to clearance, causing further loss of vegetation and land degradation.

T Croft

Nationally endangered Whibley's Wattle (*Acacia whibleyana*) is found in only two populations in and around the Koppio Hills Threatened Habitat Area.

Priority Actions

- Retain all existing remnant native vegetation
- Restore degraded remnants through fencing and destocking
- Re-establish trees and understorey species to expand existing blocks and create linking corridors or 'stepping stones'
- Conduct strategic weed control in and around threatened plant populations, and areas with least weed infestation
- Undertake coordinated district level predator control to assist the survival of fauna species.

P Canty

The Koppio Hills Threatened Habitat Area provides vital breeding habitat to the endangered Yellow-tailed Black-Cockatoo (*Calyptorhynchus funereus*).

D Kraehenbuehl

Marble Range and surrounding cleared land within the South-west Threatened Habitat Area.

Biodiversity Plan – Achieving Action

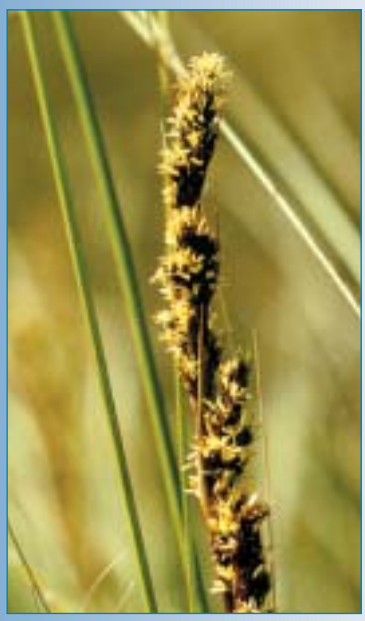
S Carruthers

The value of native grasslands is becoming better recognised.

The Biodiversity Plan is a guide for the community and government agencies. It provides information on strategic action to assist in maintaining biodiversity for the future. Below are some examples of how you can help individually, as a group or at a district level.

Individual Action

- Fence native vegetation and keep out the stock to allow regeneration
- Plant local native species around blocks of native vegetation to form a buffer and additional habitat
- Plant local native species next to road reserves with native vegetation, particularly where it links other native vegetation blocks
- Plant local native species along drainage lines and dune crests
- Remove weeds such as Olives and Bridal Creeper from native vegetation
- Place area of habitat under Sanctuary
- Place native vegetation areas under Heritage Agreement to gain financial help in managing the block
- Include local native trees and shrubs in planting shelter belts.



E Matthews

Gahnia in flower.

Group Action

- Look after a local native vegetation block or roadside native vegetation through the Bushcare Program
- Help look after the local conservation park by joining a Friends Group to help with controlling Bridal Creeper
- Become involved and form a group with neighbours to gain funding to jointly fence native vegetation blocks, control weeds and problem animals, look after a local reserve, or conserve a threatened species.

District Action

- With the neighbours, control rabbits and foxes. Coordinated control is effective
- Coordinate replanting with native plants to minimise the salinity and rising water table in the local catchment area
- Plant corridors linking areas of native vegetation in adjacent areas.

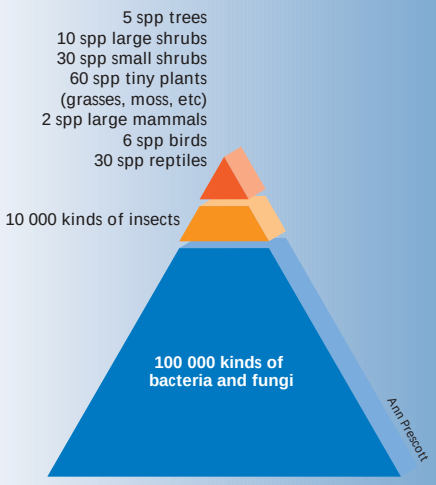
Biodiversity Project - Example

Actions on Eyre Peninsula may relate to a particular area or theme. Below is an example of a biodiversity project that could be implemented in the region.

Revegetation and Restoration of Wetlands

Wetlands are extremely important for the biodiversity they support and for the role they play in keeping ecosystems healthy. Some of the important functions of wetlands include: the provision of breeding, feeding and roosting habitat for many fish and bird species; their role in the trapping, immobilisation, filtration and uptake of nutrients and other chemicals; regulation of water flow rate including flood mitigation and erosion control; and their recreational and aesthetic value. In the past, the value of wetlands has been poorly understood and many have subsequently been lost.

Many of the wetlands that do remain have been severely degraded. Processes of degradation that threaten wetlands include: vegetation clearance, drainage, altered flow patterns, grazing, salinisation from rising water table, impacts of aquaculture, pollution from agricultural chemicals and rubbish dumping, mining for gypsum and sand, wildfire or inappropriate burning, introduced pest species such as Gambusia, Carp and Trout, as well as predation of waterbirds by cats and foxes, weed invasion, and inappropriate recreational activities such as indiscriminate hunting and fishing, and damage from 4WDs and power boats.



Hypothetical Native Vegetation Block

Actions

- Fence and exclude stock from riparian vegetation to protect from further degradation and allow regeneration
- Buffer existing riparian vegetation by revegetation with locally collected seed
- Encourage good land management practices such as minimising agricultural chemical drift and run-off into wetlands, and not cropping in or too close to wetlands
- Discourage rubbish dumping in wetlands
- Conduct weed control
- Control introduced fish species and participate in coordinated district level cat and fox control
- Regulate mining in and near wetlands
- Regulate recreational activity to ensure it is sustainable and responsible.

E Matthews

Little Swamp showing extensive clearance of surrounding vegetation and cropping right to the water's edge.

Potential Outcomes

- Revegetation of wetlands resulting in the provision of habitat for a wide range of wetland biodiversity
- Healthy ecosystem functioning including nutrient and water cycling
- Increase in the productivity of the wetland as feeding and breeding grounds for birds and fish (including many commercial and recreation fish species)
- Control of agricultural pest insects by waterbirds
- Increased recreational value and ecotourism potential.

Information and Contacts

A detailed version of the Biodiversity Plan for Eyre Peninsula is available at:

- Department for Environment and Heritage, 75 Liverpool Street, Port Lincoln
- District Council Offices in Eyre Peninsula
- State Library of South Australia
- The Environment Shop, 77 Grenfell Street, Adelaide, 8204 1910

There are a number of government and non-government agencies and people located in the region who can assist the community in implementing the Plan.

Organisation	Location	Telephone
Eyre Peninsula		
Australian Plant Society	Kimba Districts	8627 7207
	Southern Eyre	8684 5056
Bird Groups	Port Lincoln Birds	8684 3532
	Southern Eyre Birds	8682 3100
Bushcare	Lower Eyre	8688 3112
	Wudinna	8680 2208
Coastcare	Streaky Bay	8626 1001
Dept for Environment and Heritage	Port Lincoln	8688 3111
Dept of Water, Land and Biodiversity Conservation	Port Lincoln	8683 0027
Friends of Parks	Coffin Bay	8685 4090
	Far West	8625 2408
	Kimba District	8627 7215
	Southern Eyre	8683 0880
	Streaky Bay	8626 1641
Greening Australia	Port Lincoln	8683 1076
Landcare	Cleve	8628 2091
	Cummins	8676 2977
	Streaky Bay	8626 1108
	Tumby Bay	8688 2610
Local Government	City of Port Lincoln	8682 3033
	DC of Ceduna	8625 3407
	DC of Cleve	8628 2004
	DC of Elliston	8687 9177
	DC of Franklin Harbour	8629 2019
	DC of LeHunte	8680 2002
	DC of Lower Eyre Peninsula	8676 2106
	DC of Streaky Bay	8626 1001
	DC of Tumby Bay	8688 2101
NHT Co-ordinator (DWLBC)		8683 0027
Primary Industries and Resources	Port Lincoln	8688 3440
PIRSA Rural Solutions Revegetation Consultant	Port Lincoln	8688 3440
Adelaide		
Dept for Environment and Heritage		8124 4700
Dept for Water, Land and Biodiversity Conservation		8226 0222
Environment and Geographic Information (DEH)		8226 4676
Greening Australia, SA		8372 0120
Native Vegetation Council		8124 4744
Nature Conservation Society of SA, Biodiversity Extension Officer		8372 0191
Natural Resource Centre (formerly State Tree Centre)		8372 0120
Planning SA		8226 0222
Primary Industries and Resources		8226 0222
Threatened Plant Action Group		8339 3081
Threatened Species Network		8223 5155
Transport SA, Environmental Unit		8343 2281

DEH - Department for Environment and Heritage (Internet: www.environment.sa.gov.au) (Activities and programs include: Bush Management, Environmental Management, Biodiversity Planning, Wetland Management, National Parks & Wildlife, Waterwatch coordination, Coastcare, Heritage Agreement Scheme)

DWLBC - Department for Water, Land and Biodiversity Conservation (Internet: www.dwr.sa.gov.au) (Activities and programs include: Animal and Plant Control, Integrated Natural Resource Management, Natural Heritage Trust Co-ordination, Revegetation Management)