Habitats & Threatened Species of South East South Australia

Although only 13% native vegetation cover remains, the South East has diverse habitats & species, sharing many with South West Victoria. Just over a guarter of all species are threatened. 76% are classified at risk.

WHY SO MANY RARE AND THREATENED SPECIES IN SOUTH EAST SA?

1. It's a **transition zone** where east meets west meets arid conditions. This means many species are at the end of their range in the South East.

Habi

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- Variable landscapes, soil & rainfall-from 850mm in the south to 450mm in the region's north.
- Geological history means the South East is home to species not seen elsewhere, or are only found in small populations in other places like the Fleurieu Peninsula, Tasmania or alpine areas.
- The wide range of factors present that can act as threats & impact habitats and/or species.

The South East is made up of three bioregions- areas of common climate, geology landform & vegetation. Corridor projects aim to reconnect patches of native vegetation & wetlands across our fragmented landscape.

This brochure is not definitive. It highlights some species listed nationally under the EPBC Act. For more details contact Natural Resources South East. Measurements are approx. heights/lengths at maturity. Colours may vary.

PHOTOGRAPH INFORMATION KEY beneath photos on last line of text in order of appearance: Conservation - Size - Photographer - Habitat - Threats

Seasonal Herbaceous Wetlands

Permanent Wetlands & Lakes

Karst Rising Springs

Creeks & Drains

Coastal Shrublands

Coastal Lakes

CONSERVATION STATUS (AUST, sa) Critically Endangered **CR** Endangered **E e** Vulnerable **V v** Rare **R r**

KEY TO HABITATS

- Grassy/Heathy Woodlands
- River Red Gum Woodlands
- Shrublands & Mallees
- Stringybark Woodlands/Forests
- Grey Box Grassy Woodlands
- Buloke Woodlands
- Wet Heathland & Low Shrublands Beach & Intertidal Zone
- Caves Coastal Headlands & Clifftops
- Ephemeral Wetlands

GET ACTIVE, GET INVOLVED!

Natural Resources South East Ph: 08 8735 1177 www.naturalresources.sa.gov.au/southeast Atlas of Living Australia www.ala.org.au Federal Biodiversity info (EPBC Act) www.environment.gov.au/biodiversity NatureLinks www.naturelinks.sa.gov.au SA NatureMaps: online mapping tool www.naturemaps.sa.gov.au Integrated Flora & Fauna Team Victoria www.swifft.net.au BirdLife Australia www.birdlife.org.au

Native Orchid Society SA www.nossa.org.au

Amphibian Research Centre www.frogs.org.au

FURTHER REFERENCES

Butterfly Brochures: SE Region (Penambol Butterfly Walk Guide) & Silver Xenica www.forestry.sa.gov.au/Publications

Wetland guides: i) All Wetlands Great and Small: A guide to the wetland diversity of SE SA ii) birds iii) plants. Available at: www.naturalresources.sa.gov.au/southeast SE NRM Plan: Regional Description: www.naturalresources.sa.gov.au/southeast Regional Species Conservation Assessment Project, South East Region Phase 1. Technical Report Dec 2011. www.environment.sa.gov.au

Cover Photo by Oisín Sweeney: Glenelg Spiny Crayfish **Compiled by** Becky McCann. Many thanks to the many people who donated their time and resources to make this possible.

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Habitats & **Threatened Species**

of south East south Australia

50 Million Years in the Making





Natural Resources

South East





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Government





BIRDS

HPGF 🔥

Red-tailed Black-Cockatoo (SE ssp.) Calyptorhynchus banksii graptogyne **E** 55- 60cm www.redtail.com.au (BM) H G W Fs 💏





Orange-bellied Parrot (Elegant Parrot, Blue-winged Parrot) Neophema spp. <50 OBPs left in wild **CR** (**r**; **v**) 22- 25cm (DW)

HPG 🌢

Thinornis rubricollis

v 19-23cm (SB)

HFD 🔘





V 3-4cm (MH)

Glenelg Spiny Freshwater Crayfish, or Pricklyback Euastacus bispinosus E 13-16cm carapace length (DM)





📕 📕 H F G 🌢 🗘 🛛

15-

Fairy Tern

Sternula nereis

e 22-27cm (JP)

HFD Ö



FISH & FROGS



Variegated (Ewen's) Pygmy Perch Nannoperca variegata

V 6.5cm (MH)

📕 H P F 🌢 🔘 🗄

Yarra Pygmy Perch Nannoperca obscura V 6.5cm (MH)

📕 📕 📕 H F 🌢 🔘 🗄



Dwarf Galaxias Galaxiella pusilla

INVERTEBRATES



Southern Bell Frog

Litoria raniformis

V 55-110cm (SB)

🗧 🗧 📕 H F Fg 🌢 📿 🗄

Ancient Greenling Damselfly Hemiphlebia mirabilis IUCN Red List-E 2.4cm (BH) 📕 H P G 🗞 🌢 📿 🛛

MAMMALS



Southern Bent-wing Bat Miniopterus schreibersii bassanii **CR** <10cm (SB) 📕 📕 📕 📕 H F D 🌢 📿 🞚



Southern Brown Bandicoot Isoodon obesulus obesulus E 30-33cm (RJ)

HPF 👸

WATTLE



Heath Mouse Pseudomys shortridgei V 9-12cm (MB) 📕 H P F W 谢





Striped Legless Lizard Delma impar V Grasslands (native & exotic) east of Bool Lagoon <30cm (PR)

HGC 👸

ORCHIDS



Swamp Greenhood Pterostylis tenuissima

V <30cm (LW) (Exclusive to Silky/

Wooly Tea-tree (Leptospermum lanigerum) scrubland)

HPGD 🔘 🌢

Metallic Sun-orchid

Thelymitra epipactoides

E 20-50cm (NRSAMDB)

Silver Daisy-bush Olearia pannosa ssp. pannosa V 1.5m (BS)

📕 H P W G 🖏



Monarto Mintbush Prostanthera eurybioides **E** <1m (NRSAMDB) (Rocky granite outcrops) 📕 H P G W 🖄 🗘 🖏

ORCHIDS



Maroon Leek-orchid Prasophyllum frenchii E <60cm (PT) (Grasslands. Usually over limestone pavements)

📕 H P W G 🖄 🌢 🔘



Little Dip Spider-orchid Caladenia richardsiorum E 16-22cm (KBB)

HGWÖ



Avenue (Sticky) Cassinia Cassinia tegulata CR 0.5-1.6m associated habitat with Clustered Daisy-bush Olearia suffruticosa (e) (RJ)

📕 H P W G 🌢 🔿 🔥



Lowan Phebalium Phebalium lowanense **V** 60cm (CD) HPGW 👸



Jumping-jack Wattle Acacia enterocarpa E <1.5m galls (PT) HPWG Ö



Bell-flower Hyacinth-orchid Dipodium campanulatum **CR** <70cm (SB) H P W G Ö



WOODLANDS

Woodlands differ from forests by wider tree spacing and canopy generally not touching. They occur in lower rainfall areas. Common throughout South Fast South Australia. **H G W** 🖄

GRASSY / HEATHY WOODLANDS



Grassy woodlands: Herb-rich understorey dominated by grasses. Fertile soils. Overstorey includes SA Blue Overstorey includes Pink (Hill) Gum, Manna Gum, Swamp Gum & Drooping Sheoak. (PT)



& Swamp Gum, (OS)

SHRUBLANDS & MALLEE

Ince widespread on poorer soil

Dominated by Mallee Eucalypts,

particularly in the Upper SE.

Broombush & Desert Banksia.



Paddock tree cover accounts fo 35% of its total remaining cover Status: Expected to be rare. (CD)

STRINGYBARK WOODLANDS/FORESTS



Dominated by Brown and Desert Stringybark (food for Red-tailed Black Cockatoos) or Messmate. Heathy understorey. (MB)



Once common from NSW to SA Less than 3% left. Frances -Bordertown area. Important for Bush Stone-curlews. Status: **E** (PT) **P**



Once common on heavier clay

soils from NSW to SA. Less than

3% left. Frances–Bordertown

area. Food for Red-tailed Black

Cockatoos. May contain Gilgai-

depressions/mounds formed

by clay soils drying & wetting

Status: **E** (PT) **P**



HEATHLANDS



Associated with woodlands & wetlands, common on interdunal flats, particularly in the Upper SE Seasonally inundated. Fresh or brackish, shallow water when wet. Associated fertile soils. Preferentially cleared (15% remains). e.g. Tilley Swamp. (NRSE) H G W 🌢 📿 🞚

WETLANDS

EPHEMERAL WETLANDS

A wetland is land that is wet for all or some of the year, supporting plants and animals that need water as a part of their lifecycle. Around 50% of SE SA was wetland habitat pre-European settlement. Less than 6% remains. Less than 1% of South East wetlands are permanent. **HGW** 🌢 🛱 🛽



Extends from NSW to SE SA. Fills seasonally via rainfall. Shallow when wet. Open, damp, grassy with unique herbaceous species that die down when dry. Poorly draining clay soils. Can be associated with Gilgai. Status: CR (OS) P

PERMANENT WETLANDS & LAKES



Can be terminal (e.g. Bool Lagoon) or fresh & groundwater dependent (e.g. Blue Lake, Lake Edward). Also see Coastal Lakes. (NRSE)

KARST RISING SPRINGS



Expression of groundwater from the limestone aquifer. Close to the coast from Piccaninnie Ponds to Millicent. Home to unique aquatic life. Associated with peat. Unique vegetation, typically dominated b Silky/Woolly Tea-tree. Only 3% remains. Status: globally rare. Expected to be **CR** (OS) **P**

CREEKS & DRAINS

Few streams exist due to the low

relief & porous limestone. Maior

systems originate from Victoria e.g

Mosquito Creek. All others are

coastal & spring fed. (SB)



permanent or temporary. Found in interdunal areas. Largely dependent on groundwater & runoff. e.g. Lake Robe, Lake Bonney, The Coorong. (NRSE) H G W 🌢 📿 🗄

vehicle use in sensitive areas.

BEACH & INTERTIDAL ZONE



Beach habitat includes beach wrack (washed up seaweed). Organisms have adapted to high energy tidal flows & constant exposure in rock pools & reefs. (NRSE)



Caves & sinkholes define SE SA. Formed by groundwater movement & modified by rainwater filtering down limestone. Important fossil 8 Aboriginal cultural sites. (SB) H 🛿 rubbish dumping

Seasonal, shallow, generally with little open water.

Dominated by reeds, grasses & sedges; trees & shrubs sometimes present. Can be small or large. Groundwater inflow important. e.g. Deadmans Swamp, The Marshes, Lake Hawdon, (NRSE) **WETLANDS**

COAST

Almost half of the regions high energy, distinct coastline is protected. It is part of the Naracoorte Plains Bioregion. Major threats include inappropriate

> Associated with dunes, interdunal areas & wetland fringes. Coast Daisv-Bush & Coast Beard Heath dominate. (OS) HGW 🔊



Calcreted outcrops of marine sediments form cliffed headlands. Often bare & eroded, vegetation has adapted to tolerate harsh coastal conditions. (OS) **H F W**

50 Million years in the making

50 Million years ago (MY): Australia completes its separation from Antarctica & continues drifting north, forming the Southern Ocean.

40 MY: The sea advances past the Riverland, covering the South East for about 25 Million years. Between Kingston & Keith were numerous small islands composed of 450 million year old granite - now seen as isolated outcrops, such as Mount Monster & Jip Jip Rocks.

15 MY: The sea retreats, allowing lime-rich marine sediments to dry out & consolidate into fossil-bearing, permeable limestone. Weathering begins to create a landscape of sinkholes & caves, with few surface streams. Eucalypts & Wattles begin to replace rainforest species.

2 MY: The sea retreats further as a result of a major Ice Age & uplift of the land surface, forming a series of stranded dune systems ("ranges") sub-parallel to the coast. Interdunal plains inundate, establishing wetlands. Uplift of the Naracoorte Range occurs along the Kanawinka Fault line.

2 MY to 45,000 vrs: Megafauna roam Australia. Their fossils can be seen at the Naracoorte Caves World Heritage Site.

2 MY to 20,000 yrs: Most recent volcanic activity in Australia occurs in Western Victoria & the South East, forming the Mount Burr Range, Mount Gambier & Mount Schank.

1 MY to 20,000 yrs: Final formation of dune systems. Prior to warmer conditions post-lice Age causing the sea to advance again, the maximum extent of the ancient shoreline was kilometres out from the current coast.

40,000+ yrs to today: Aboriginal people living on and connected to country. First contact with Europeans in the 1830's.

150 vrs to today: European settlement results in agricultural improvements through vegetation clearance and drainage of wetlands. Adapted from "Geology of the South East" brochure (1989), South Australia Department of Mines and Energy.



KEY TO THREATS

| Habitat loss, clea | aring, fragmentation, isolation | Н | Inappropriate fire regimes | 3 |
|--------------------|---------------------------------|---|------------------------------|----|
| Feral predators | (foxes, cats, exotic fish) | F | Climate change, drought | 0 |
| Changed wate | regime, drainage | | Poaching/illegal collections | \$ |
| Decreased wat | er quality, chemicals | 1 | Weed invasion | W |
| Grazing, inappr | opriate grazing regimes | G | Small population size | Ρ |
| Disturbance | | D | Food shortage | Fs |
| Cultivation | | С | Fungus | Fg |
| | | | | _ |

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