

Kanmantoo



Photo ©SATC

Flinders Chase, KI



The Kanmantoo bioregion includes Kangaroo Island and the Fleurieu Peninsula and part of the Mount Lofty Ranges on the mainland.

It has a temperate climate which means that the summers are warm and the winters are cool. Most of the rainfall occurs in the winter.

The land in the bioregion is mainly used for grazing, nature conservation and cropping for cereal.

Biodiversity and habitat

This bioregion has a diverse landscape with some very rugged and inaccessible terrain. There are also some significant lowland areas, such as eastern Kangaroo Island. A large amount of the vegetation in the bioregion has been cleared, though large areas of native vegetation remain on Kangaroo Island.

The main vegetation is mallee shrublands and woodlands, heath, eucalypt woodlands, eucalypt open forests and other forests and woodlands.

This bioregion is known as a 'biodiversity hotspot' because of the range of habitats and species found here. Many of these species are threatened and some are endemic to the region.

Threatened animals include the Kangaroo Island Dunnart, Southern Brown Bandicoot, Glossy Black-Cockatoo and the Southern Emu-wren. Threatened plants include the Small-flower Daisy-bush and Kangaroo Island Turpentine Bush.





Photo © Don Fuchs

Kangaroo Island

Threats

Threats to the Kanmantoo bioregion and its dependent species include:

- feral animals such as foxes, cats and rabbits, feral deer, feral goats and feral pigs (Kangaroo Island is free of foxes and rabbits)
- poor fire management
- weed invasion
- salinity.

The Kanmantoo bioregion is made up of two subregions, Kangaroo Island (KI) and the Fleurieu. The KI subregion is important as a refuge for native animals as there are no foxes and rabbits on the Island.

Conservation

Priorities for biodiversity conservation in the bioregion include feral animal and weed control and managing fire in the landscape.

Major conservation areas in the bioregion include Flinders Chase National Park, Ravine des Casoars Wilderness Protection Area, Seal Bay Conservation Park, Deep Creek Conservation Park and Cape Gantheaume Wilderness Protection Area.

You can help conserve the Kanmantoo bioregion and its dependent species by:

- participating in special events, information sessions, tree planting days and weed eradication programs in your local area
- finding out more about the unique environments of Kangaroo Island and why islands are so important for conserving biodiversity
- save our wildlife – help keep Kangaroo Island free of foxes and rabbits.

For further information

Public enquiries

For more local information on any of the species in this resource please contact your nearest Natural Resource Centre office on:

Eastwood: (08) 8273 9100

Gawler: (08) 8523 7700

Lobethal: (08) 8389 5900

Willunga: (08) 8550 3400

Education enquiries

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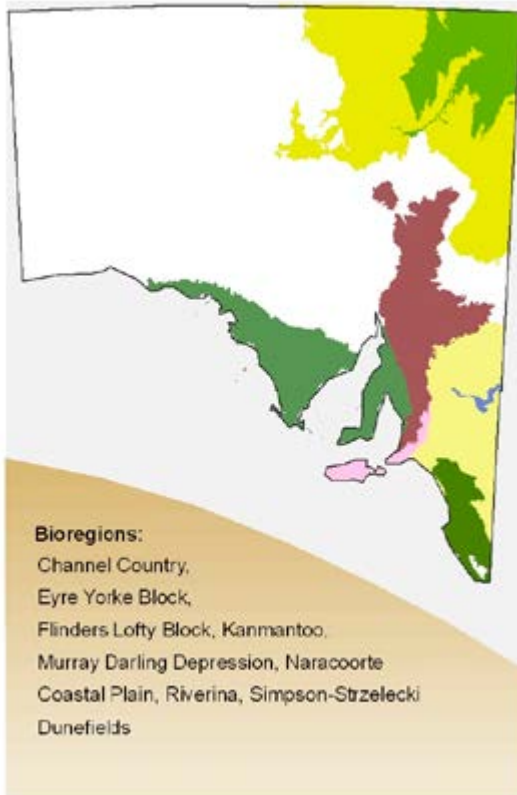
Southern Adelaide: (08) 8384 0176

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Bush Stone-curlew

Burhinus grallarius



Map courtesy of Mapping Unit, Customer and Commercial Services.

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Bush Stone-curlews are ground-dwelling birds; this means that they roost, feed and nest on the ground. Their big yellow eyes and long legs with knobby knees allow them to be easily distinguished from other birds. They can live more than 20 years and grow to 50-60 cm tall.

Bush Stone-curlew are nocturnal, and are famous for the wailing sound they make at night. They are such secretive birds that sometimes this call is the only way to know that they are around.

During the day they rest crouching down, head outstretched. When disturbed they tend to freeze instead of flying away, which can make them especially vulnerable to predators. Historically they travelled in groups of 50–100 but it is now rare to see more than four birds together.

Diet

These birds eat insects, small frogs, lizards and snakes.

Breeding

Bush Stone-curlews nest from August to February and usually lay two eggs in a scrape (small bare patch) on the ground. These eggs are mottled brown and grey for camouflage and are incubated by both parents. Unfortunately, only 15 per cent of nesting attempts in the South East of SA are successful.

Habitat

Bush Stone-curlew prefer 'untidy' landscapes covered in fallen timber and debris. The mottled grey-brown colour of their feathers makes them well camouflaged amongst the woody debris of their habitat. These unique birds have disappeared from around 90 per cent of their former habitat on the South Australian mainland.

Threats

Foxes and cats are the Bush Stone-curlew's main predators. The clearance of open woodlands has led to the fragmentation and destruction of suitable habitat. The removal of timber makes them vulnerable to predation from feral animals. Other threats include eggs being trampled by stock and nest disturbance from pets and people.



Aboriginal People associated the curlews with ghosts because of the wailing cries they make at night!

Conservation

You can help protect the Bush Stone-curlew by:

- avoiding taking firewood from woodland environments; these are an important part of the curlew's habitat
- keeping pets inside at night and walk dogs on a lead in woody areas – cats and dogs can kill native birds like the curlew
- trying not to disturb Bush Stone-curlews if you come across them.



Photo by Dan Harley

Bush Stone-curlew

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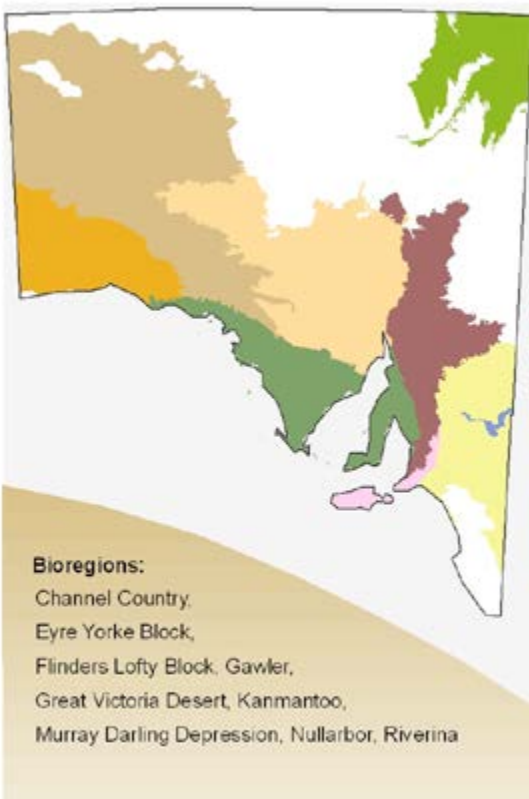
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Carpet Python

Morelia spilota



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Biodiversity

Carpet Pythons are semi-arboreal snakes (sometimes spending time in trees) which are non-venomous and popular as pets around the world. They are nocturnal, grow up to three metres long and can weigh up to 5kg. They are very strong and are often the largest predator in their ecological community. The skins of different individuals show many colour variations ranging from black with dark brown spots to a golden colour. Their patterns often help them to remain camouflaged in their habitat. Carpet Pythons feature in many creation stories from different groups of Aboriginal People.

Diet

Carpet Pythons are constrictors, meaning they kill their prey by suffocation. Their diet consists mainly of small mammals, bats, birds and lizards.

Breeding

Carpet Pythons are usually solitary snakes and only group together to breed. Females are oviparous (egg-laying) and lay 10–40 eggs at a time either in a tree hollow or a burrow deserted by another animal. They then coil around them and use muscular contractions to increase their body temperature and keep the eggs warm. Young are around 30 cm long at birth. They can live for up to 20 years and reach maturity at around three years of age.

Habitat

They are found in areas of Australia, Indonesia and New Guinea. Once widespread in south-east Australia, they have steadily declined in number. In the wild they are often associated with River Red Gum habitat, but can also be found in rocky areas and other habitats.

Carpet Pythons sometimes shelter in roof spaces and pump houses and provide a natural vermin control service as they eat rats and mice.

Threats

Carpet Pythons are taken from the wild for the pet trade and if not looked after properly many die in captivity. In the wild they are preyed upon by foxes and dogs. They are also threatened by habitat loss (e.g. loss of River Red Gums along the River Murray) and also by a reduction in their prey.



They have a highly sensitive heat-detecting organ on the scales of the lower jaw (Jacobsons or Vomeronasal organ). This gives them a thermal image of warm-blooded creatures in the dark.

Conservation

You can help the Carpet Python by:

- not disturbing them – if you see a Carpet Python in the wild, just look from a distance
- not killing snakes unnecessarily if you come across one in or around home – call someone to take it away for you
- visiting Cleland Wildlife Park to see and find out more about Carpet Pythons and other native animals.



Photo by Tony Robinson

Carpet Python



Photo by Tony Robinson

Carpet Python

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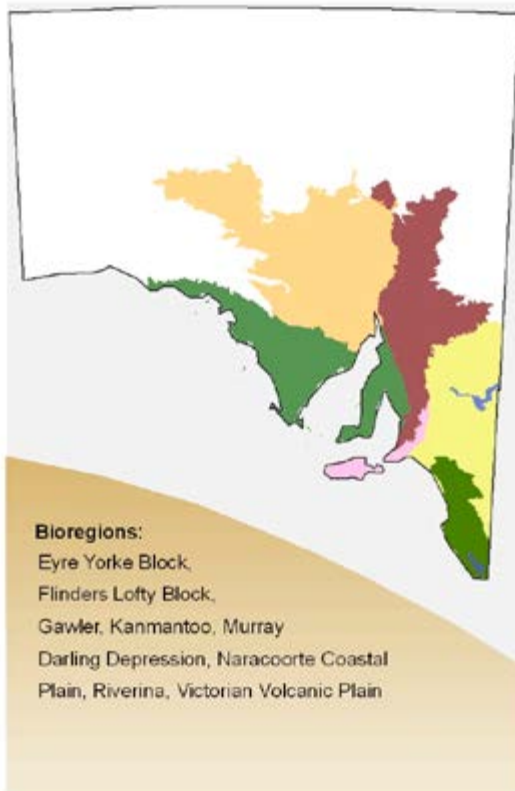
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Common Brushtail Possum

Trichosurus vulpecula



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Common Brushtail Possums are nocturnal marsupials. Silver grey in colour, Common Brushtail Possums have pale undersides and dark brown/black brushy tails. They are about the size of a cat and males are bigger than females. These animals live for 10-12 years in the wild. Usually solitary, they communicate with each other with hissing and growling/cough-like sounds, especially when mating or warning off intruders.

While rare and threatened in some parts of their native habitat in Australia, these possums are bothering our neighbours. Common Brushtail Possums were introduced to New Zealand in 1837 to establish a fur trade. They are now one of the most significant feral pests in the country, as they damage the environment and the farming industry.

Diet

They are predominantly herbivorous and much of their diet consists of leaves, flowers and fruit, however they will occasionally eat insects, eggs and meat.

Breeding

Mature at one year of age, Common Brushtail Possums usually have one baby (a joey) at a time in autumn. There is also a smaller breeding season in spring. After birth, joeys spend around 120 days suckling in their mother's pouch. After this, they can be seen travelling on their mother's back and getting in and out of the pouch until they are fully weaned and independent.

Habitat

Common Brushtail Possums are found in Eucalyptus and Sheoak woodlands. As arboreal animals, they make their nests (also known as dens) in tree hollows or other dark confined spaces such as hollow logs, dense vegetation or cork crevices. Some have adapted to life in the suburbs and enjoy eating planted gardens. Some also make their dens in roof spaces. They are territorial animals and mark their home ranges with scent glands located under their chins, on their chests and at the base of their tails.



Threats

In South Australia, Common Brushtail Possums are becoming less common, especially in arid areas where drought conditions have reduced their food sources. They are only common in the Adelaide region and on Kangaroo Island. Habitat fragmentation and loss of tree hollows for nesting are also threats. Changed fire patterns and predation by foxes, dogs and cats are other problems as they are increasingly living in the same areas as these animals. Competition for food and relocation by humans are other problems they face.

Pruning services! When feeding on Mistletoe, the Brushtail Possums break off parts of the plant, having a similar effect to pruning. Mistletoe is a native parasite that can kill gum trees, and possums help keep it under control.

Conservation

You can help the Common Brushtail Possum by:

- conserving native vegetation on your property
- not relocating possums without advice and approval as they are very territorial and many of them die when relocated
- keeping trees with hollows in them even if they are dead
- putting up nest boxes on your property.



Photo by SATC, Richard Smyth

Common Brushtail Possum

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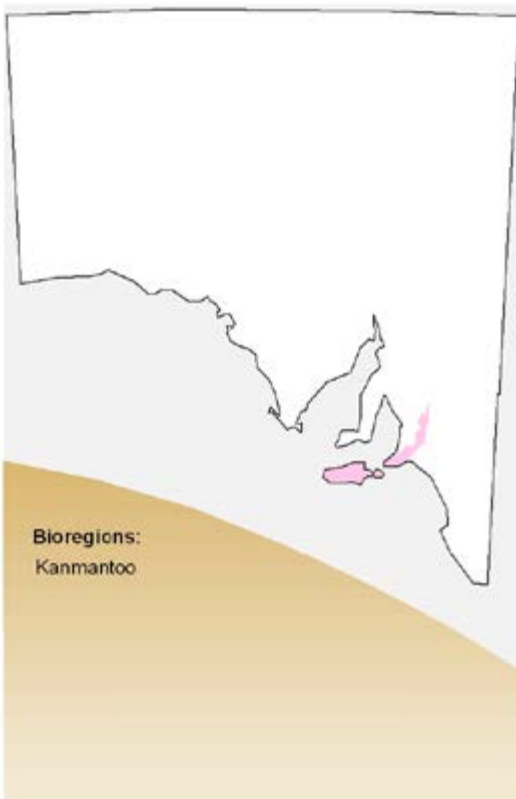
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Glossy Black-Cockatoo

Calyptorhynchus lathami habmaturinus



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Glossy Black-Cockatoos are endangered parrots. Black-brown in colour, they are distinguished by scarlet red feathers in their tails and the yellow colouring females have on their necks. They are 46-50cm long, with a wingspan of 90cm. The current population of Glossy Black-Cockatoos is estimated at 290-300 birds. A slow growth rate in comparison to similar birds makes it hard for the species to recover in numbers. Their lifespan is unknown, but is thought to be greater than 15 years and may extend to 50 years.

Diet

These birds have specialised diet requirements. Their large, powerful bills are perfect for getting seeds out of their favourite food: sheoak cones. They mainly eat Drooping Sheoak (*Allocasuarina verticillata*) seeds. Occasionally they may eat insect larvae and seeds from some eucalypts, acacias and hakeas.

Breeding

Closely-paired all year round, these birds seem to mate for life. They nest from late summer to spring, and there are records of egg-laying from January to July. They are quite particular about choosing nest sites and make their nests in tree hollows, usually high in live eucalypts (mainly Sugar Gums or South Australian Blue Gums).

Competition for nest hollows can be a problem for Glossy Black-Cockatoos, and can come from possums, bees and other birds. They lay a single egg, which hatches after approximately 30 days. When the female is incubating her egg, she stays in her hollow all the time while the male collects food.

Habitat

Nests are usually within one km of Drooping Sheoak trees and permanent water sources. However, individuals have been known to fly up to 14km between nesting and feeding areas. They have disappeared from the South Australian mainland, and are now restricted to Kangaroo Island (KI) and limited areas in the eastern states.

Threats

Glossy Black-Cockatoos are threatened by habitat clearance through the loss of quality feeding and nesting trees. Nest predation by Common Brushtail Possums is a major threat. Increased fire frequency also destroys nesting hollows and food trees. Nest interference, particularly by Galahs and Little Corellas and avian predation are other problems.



Glossy Black-Cockatoos will only handle Sheoak cones with their left leg! This makes it easy to know where to place a tag so it can be seen when they are eating.

Conservation

More than 80 artificial hollows have been constructed on KI where Glossy Black-Cockatoo nest sites are sparse, and around half of these have been used.

You can help the Glossy Black-Cockatoo by:

- preserving Sheoak tree populations on your land
- leaving trees with hollows in them; even if they are dead, birds still use them to nest in
- not letting pets wander unsupervised in the bush; cats kill birds like the Glossy Black-Cockatoo
- getting involved in planting more food and nest trees.

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Heath Goanna

Varanus rosenbergi



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Also known as Rosenberg's Goannas, Heath Goannas are powerful reptiles with strong limbs, sharp curved claws and long muscular tails. They reach up to 1.5 metres in length. Large curved teeth make it easier for them to hang onto their prey. Like all reptiles, Heath Goannas have limited ability to control their own body temperatures via their own metabolism and need to bask in the sun for at least half an hour each day before being active.

Diet

Their diet includes carrion, insects, birds, eggs, reptiles and small mammals. They sense prey by flicking their forked tongues and transferring the scent to sensory organs (Jacobson's organ). This organ is a common feature of many reptiles.

Breeding

Heath Goannas lay their eggs in active termite mounds. In mid to late summer the pregnant female will dig a tunnel into their chosen mound and lay 10–17 eggs. They then seal the nest and both the male and female guard the mound to ward off potential predators. Decaying material within the mound and the activity of the termites creates a warm, humid atmosphere, perfect for incubation. The eggs hatch in eight months after which the young slowly dig an escape tunnel. This can take them weeks, and they continue to use the mound as shelter for several months as they grow.

Habitat

Heath Goannas live in a variety of habitats from coastal and desert heaths to humid woodlands and sclerophyll forests. Kangaroo Island is an important refuge for Heath Goanna as they have become quite rare on the mainland. They are the largest land predator on the island. They find shelter in burrows, hollow logs and rock crevices at night. Several goannas might use the same burrow; they usually have connected tunnels and several exits.

Threats

Habitat loss and fragmentation is a major problem for these goannas. The removal of woody debris necessary for termite nesting can impact their ability to nest. The juveniles especially are threatened by predation by cats, dogs and native predators. Fast moving vehicles, illegal hunting and collection, poisoning/toxic pesticides, lack of recruitment, and fire are other problems.



Natural Pest Control! Rabbits were introduced to Kangaroo Island early last century and Heath Goannas are credited with eating them all. They are happy to burrow to find prey, and considering the damage rabbits have done to the mainland, KI is fortunate to have these reptiles.

Conservation

You can help the Heath Goanna by:

- being a responsible pet owner – desex your cats and dogs, keep them inside at night and don't take them into national parks
- not collecting fallen timber or destroying termite mounds if you live in the Heath Goanna's neighbourhood, as they need these to survive
- driving slowly if you are visiting Kangaroo Island as goannas may not be able to avoid fast cars.

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Hooded Plover

Thinornis rubricollis



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Hooded Plovers are small-to-medium sized coastal shorebirds. They can be active during the day and night time, and are non-migratory. Also known as the Hooded Dotterels, these plovers bob their heads continually when alert and standing still. A distinctive black hood and throat give them their name; they also have a red ring around their eyes, a black-tipped orange bill and orange legs.

Pairs of Hooded Plovers establish territories to live and breed in, that they defend from other plovers. When approached by humans they run or fly away and are quite vocal as they do so! They will only leave these areas if they are persistently disturbed.

Diet

They forage on the beach and can usually be seen in pairs or small groups finding food at the waters edge as the waves recede. Some Hooded Plovers also forage around salt water lagoons, salt pans and coastal lakes. They feed on insects, small bivalves, crustaceans, marine worms, water plants and seeds.

Breeding

Hooded Plovers breed from August to March in eastern Australia on wide, sandy, seaweed strewn beaches. They make their nests in small scrapes on the beach between the high tide line and the sand dunes during spring and summer. They line these nests with pebbles, seaweed or other materials they find on the beach. An average clutch size is one to three eggs, and these are incubated by both parents for around 28 days. There is a very low success rate for chicks hatching and making it to maturity.

Habitat

These birds are found along the southern sandy coasts of Australia.

Threats

Coastal development and increased human activity on the coasts is a major threat to the Hooded Plovers, especially as they nest in summer when people like to visit the beach. Vehicles on the beach destroy nests, eggs and chicks. Dogs kill chicks and destroy nests as well as chasing adults away from their nests. This often leads to the death of the chicks. Disturbance and trampling by humans and stock, and predation by foxes are other threats these birds face. Unfortunately, only 700–800 of these birds remain in SA. Nationally, it has been estimated that a population of around 7,000 Hooded Plovers are alive today.



Although they move around during the non-breeding season and sometimes flock with other birds, Hooded Plovers usually return to the same breeding area with the same partner to lay their eggs each year.

Conservation

You can help the Hooded Plover by:

- preferably keeping your dog on a leash (at least) when at the beach - especially during spring and summer
- only walking within the intertidal zone during the nesting season
- refraining from driving on the beach or dune areas
- moving away quietly when you see Hooded Plovers – parents will abandon their nests if they feel threatened.



Photo by Paul Wainwright

Hooded Plover



Photo by Paul Wainwright

Hooded Plover

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Kangaroo Island Dunnart

Sminthopsis aitkeni



The Kangaroo Island (KI) Dunnart is a nationally endangered marsupial found only on Kangaroo Island. It is the only mammal endemic to Kangaroo Island and belongs to the Dasyurid family. KI Dunnarts can be distinguished from other species by the dark sooty coloured fur on their backs, their light grey bellies and slender pointed muzzles. They are small marsupials with an adult body length between 80-90 mm. Their tails are longer than their bodies, they weigh 20–25 grams and have rows of sharp pointed teeth.

The KI Dunnart was only identified as a different species from the Common Dunnart in the early 1980s. It is unknown how many of them exist today, but there are thought to be less than 500.

Diet

KI Dunnarts eat mainly invertebrates such as spiders, ants, beetles, scorpions, grasshoppers and centipedes.

Breeding

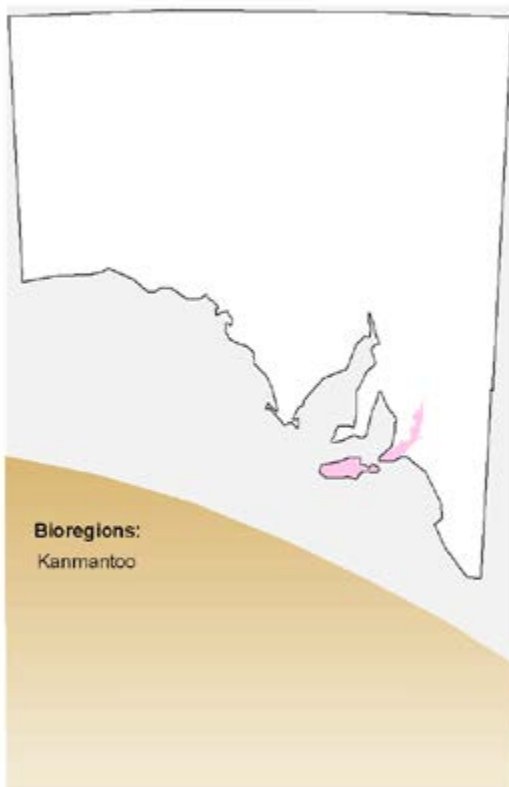
Females have an incomplete pouch that can hold more than one baby, and studies indicate that they can give birth more than once in a year.

Habitat

There are records of sightings from all over KI, however they have only been found on the western end of the island in recent times. KI Dunnarts have been recorded in different habitat types suggesting they are habitat generalists. They have shown a preference for sheltering in Yakka plants (*Xanthorrhoea spp.*) either under their fronds or inside their trunks when they are burnt out. They usually rest during the day in nests or sheltered places, and have been found in sheds and even in a cupboard!

Threats

KI Dunnarts are vulnerable to predation by feral cats. Excessive incidences of major bushfires threaten their immediate survival and their habitat and food supplies. The historical clearance of habitat areas for agriculture and their small population size are other problems they have to deal with.



Map courtesy of Mapping Unit, Customer and Commercial Services.

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Natural Resources
Adelaide & Mt Lofty Ranges



Government of
South Australia

Mysterious marsupial! Despite thousands of traps being laid to capture KI Dunnarts only 32 have been successful to-date. Are they very rare or well adapted at evading capture or both?

Conservation

Programs of capturing, tracking and monitoring the KI Dunnart have been active since the early 1980s, to try and find out more about these rare and elusive animals.

You can help the KI Dunnart by:

- being a responsible pet owner – desex your cats and dogs, keep them inside at night and don't take them into national parks
- learning more and spreading the word about the secretive KI Dunnart
- joining a local conservation group to help native species like the KI Dunnart to survive.

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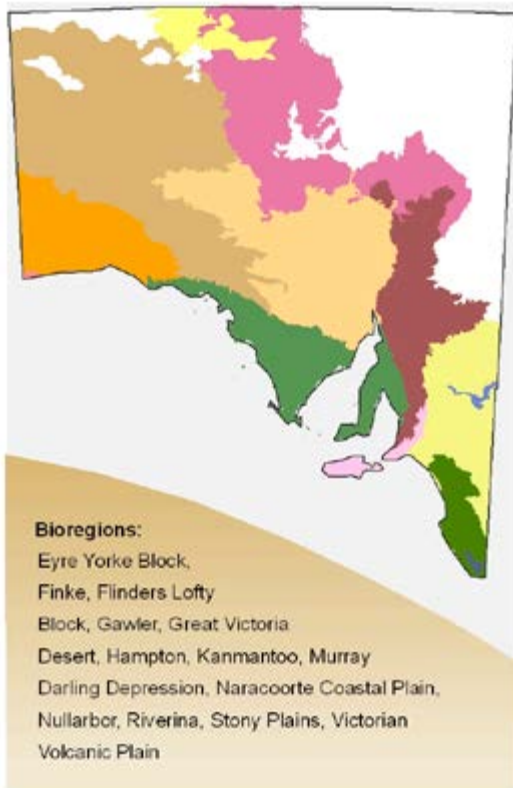
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Mallee

Eucalyptus spp.



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Mallee comes from an Aboriginal name for a group of eucalypts that grow two to nine metres high. They are multi-stemmed and grow from underground woody bases called lignotubers. Mallee is also the name for the vegetation communities in which Mallee eucalypts grow. These communities usually include several layers of vegetation from large shrubs to small grasses and ephemerals. Mallee support a wide range of biodiversity, including the Malleefowl.

Leaf litter is slow to decompose in Mallee areas because of the dry conditions, so there is often plenty of fuel for a fire. Mallee eucalypts have adapted to cope well with fire. They grow vigorously from dormant shoots under the bark of the branches, the trunks, or the lignotuber. This is called epicormic growth.

Lignotubers store water and nutrients so new branches can grow if they have been damaged or cut to the ground. This has been very annoying for farmers trying to cut them down. They are also very difficult to remove from the ground and used to break a lot of ploughs as they are solid and rock-like. Large-scale clearance started in SA around 1900 when the stump-jump plough was invented. Farmers then conquered the Mallee, but when the trees were gone there were problems with the soil becoming too salty and eroding away. It was realised too late that plant cover is very important for keeping the soil stable and stopping salt water from rising to the surface.

Habitat

Mallee eucalypts grow in the semi-arid parts of southern Australia, and have many adaptations that help them survive the hot, dry conditions. Like most eucalypts, they close the pores of their leaves (stomates) during the heat of the day so they lose less moisture through evaporation.

Threats

Being cleared for agriculture is the biggest threat to Mallees both historically and today. Drought caused by climatic change and too frequent and intense bushfires put pressure on populations of these trees. Their understorey is often grazed on by sheep, cattle and goats. Rabbits also graze on new shoots which can make it more difficult for them to grow. Salinity and habitat fragmentation are other problems Mallee plants face.



Musical Mallees! Didgeridoos are made from the stems of Mallee eucalypts that have been hollowed out by termites.

Conservation

You can help Mallee eucalypts by:

- preserving these trees on your property
- being waterwise at home and helping ease the strain on our limited water sources
- getting involved with revegetation projects like the Million Trees Project.

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Monarto Mintbush

Prostanthera eurybioides



The Monarto Mintbush is endemic to South Australia. They are spreading shrubs approximately one metre high, with clustered leaves which are thick and hairless. The flowers of this shrub are green with a red tinge at the base, with light purple petals. The petals are partly fused together, 10–12mm long with dark purple and orange dots on the inside.

This shrub is now endangered and limited to only two areas in South Australia. Fewer than two thousand plants grow naturally in the wild. The population at Mount Monster is healthier than the other at Monarto. This is thought to be because there is less rainfall at Monarto and the area has been affected by drought. There are many other threats to the plants in both populations which are discussed below.

Reproduction

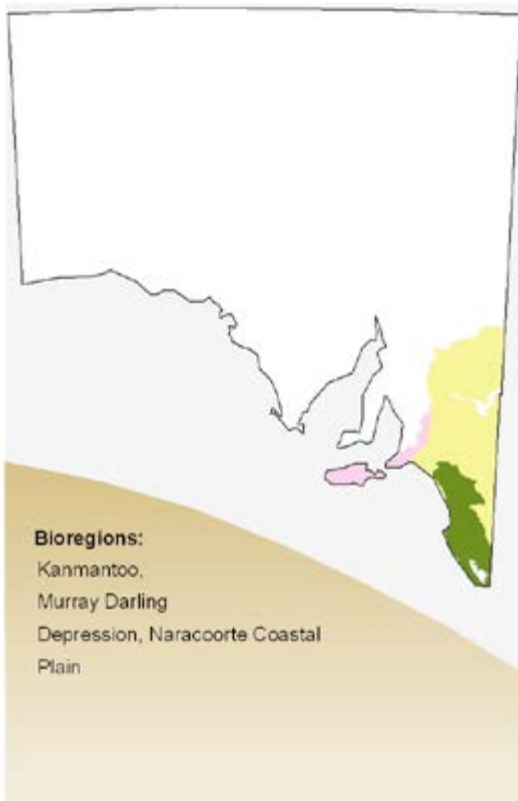
Monarto Mintbushes are in flower from September to November.

Habitat

These plants grow in sandy-loam and loam soils and can be found in tall shrublands or open woodlands associated with rocky granite outcrops. They often grow under mallee shrubs and/or broombush and wattles, while typical understorey plants (ones that grow under it) include native grasses, lilies and herbs.

Threats

Altered fire regimes leading to broad-scale and severe fires are a threat to the survival of Monarto Mintbush populations. Grazing by rabbits, kangaroos and stock may be reducing the number of seeds and seedlings. Weed invasion is another problem as weeds compete for space and nutrients with native plants. Illegal collection of plants from the wild can be a problem, especially due to the small population size and restricted distribution of this plant.



Map courtesy of Mapping Unit, Customer and Commercial Services.

Map is not intended to indicate spatial distribution of the species, only the bioregions in which the species is found.



Mount Monster Conservation Park and within the proximity of Monarto, are the only areas in the world you can see this plant growing in the wild.

Conservation

Measures have been put in place to try and help this native survive. These include rabbit and weed control in areas where the Monarto Mintbush is known to still occur; the propagation and planting of seedlings; and the protection of existing sites with heritage agreements. Around 1000 seedlings have been grown by conservation groups and replanted in the wild! The long term storage of seeds can also help to ensure it never disappears completely.

You can help the Monarto Mintbush by:

- not collecting plants from the wild; they could be endangered
- volunteering with 'Mallee Minders' at Monarto Zoo and helping care for the mintbush's native habitat
- contacting a Threatened Species Officer if you see it out of its current range.



Photo by Manfred Jusaitis

Monarto Mintbush

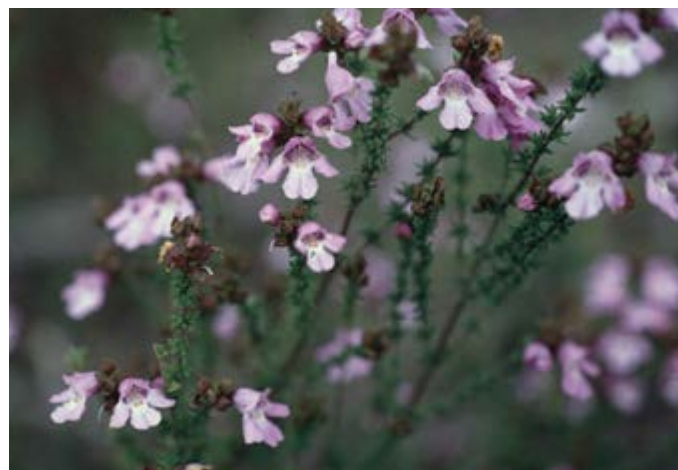


Photo by Manfred Jusaitis

Monarto Mintbush

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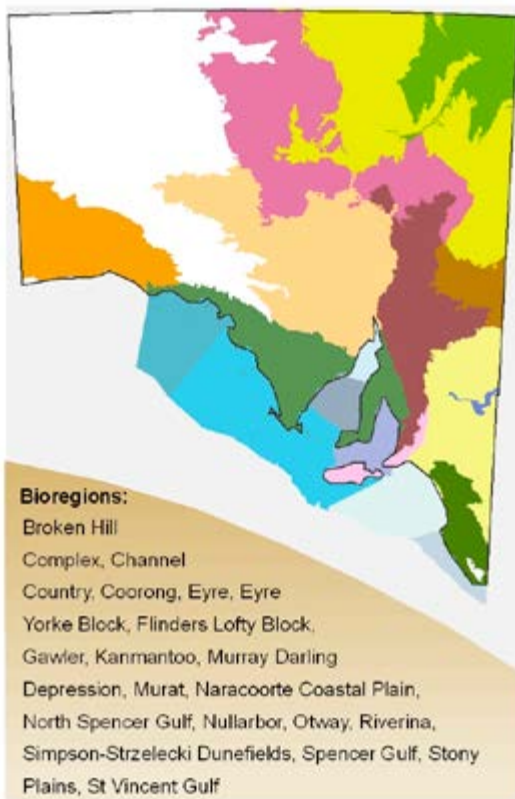
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Red-necked Stint

Calidris ruficollis



Map courtesy of Mapping Unit, Customer and Commercial Services.

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Red-necked Stints are migratory wading birds. When migrating, they travel by the East Asian-Australasian flyway and flocks of thousands of these birds travel together. Their breeding plumage gives the Red-necked Stints their name. After breeding they moult, and throughout the rest of the year their plumage provides good camouflage for their habitat in Australia, with a grey back and white underneath.

The smallest of Australia's migratory birds, the Red-necked Stint weighs just 30 grams and is small enough to fit inside a wine glass. Red-necked Stints are sandpipers; they have short straight bills, short legs and are quite plump in shape. Because of their short legs they can only walk in shallow water, and prefer to forage without getting their legs wet.

Diet

These birds are omnivorous – they eat seeds, worms, insects, small vertebrates, plants in salt marshes, molluscs, and crustaceans. Once they arrive in South Australia these birds start fattening themselves up for the long journey north, and a healthy bird can increase its weight by 50 per cent in the months it spends here. Unlike humans they can instantly convert this fat to energy. Their favourite food at the Coorong is midge (chironomid) larvae, and they find these on the surface of saturated mudflats.

Breeding

Despite their small size they still manage to make the annual journey north to breed, which is a distance of approximately 15,000 km one way. They breed in eastern Siberia and western Alaska and visit Australia only in summer.

Habitat

When in South Australia they choose mudflats within estuarine wetlands, sand flats and inland salt lakes as their habitats.

Threats

The destruction and degradation of their wetland habitats is the greatest threat to Red-necked Stints. This can be caused by coastal development, changed water regimes, drought and pollution. Flocks of migrating birds rely on a series of three to four stopovers so they can rest and find food on the journey from their breeding sites to their 'wintering' sites. If any one of these places becomes unsafe or degraded, it can be disastrous for them. These birds are also sometimes the victims of hunting.



In its lifetime (approximately 20 years) the Red-necked Stint flies further than the distance between the Earth and the Moon!

Conservation

Australia has signed the migratory bird agreements with China and Japan to protect birds crossing international boundaries, and more international agreements are being developed.

you can help the Red-necked Stint by:

- being waterwise at home and helping save our Coorong
- Not polluting – anything washed down a stormwater drain goes straight out to sea
- checking out the book (and link) *Rusty Loses His Loop* and understanding the Murray Darling System and how vital it is for creatures like the Red-necked Stint.



Photo © SATC, Craig Ingramz

Red-necked Stint

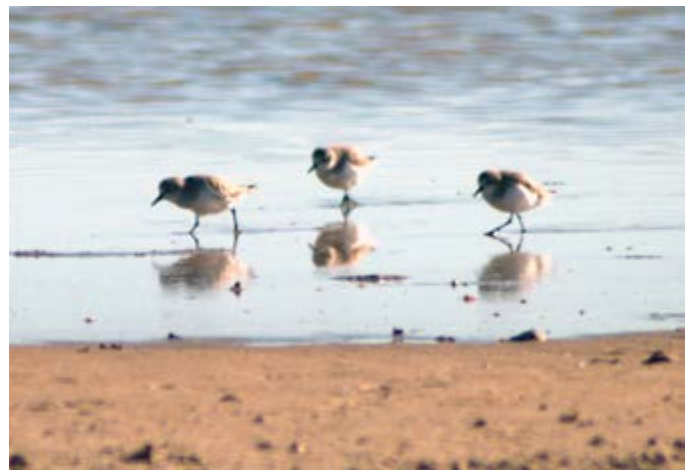


Photo by Daniel Rogerts

Red-necked Stint

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River Red Gum

Eucalyptus camaldulensis



Map courtesy of Mapping Unit, Customer and Commercial Services.

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River Red Gums are large, single stemmed eucalypt trees. They can grow up to 45m tall but usually grow to 20–30m and they can live for 500–1000 years. There are two subspecies; a northern and a southern. The durability of River Red Gum wood and its natural resistance to termites meant it was used heavily by European settlers for railway sleepers, mine shafts and wharves. Today, they are the most commonly planted tree in arid and semi-arid areas of the world (mostly in timber plantations).

Like all eucalypts, River Red Gums have survival mechanisms that can help them through tough times. Seedlings can drop their leaves to save water, and grow new ones when water arrives. If damaged, they can grow a new shoot from the base of the stem.

Red Gum forests and wetlands provide valuable habitat for biodiversity. These trees are important breeding, nesting and feeding grounds for a range of bird species. Native mammals, such as echidnas and kangaroos, make their homes in the shelter of these trees. They also provide homes for rare and threatened species like Sugar Gliders (*Petaurus breviceps*) and Carpet Pythons (*Morelia spilota*).

Reproduction

A forest of River Red Gums can produce 250 million seeds per hectare per year. Ants, and other insects, take most of these, and the ones that are left need to be there at just the right time to germinate. If seeds fall too early, before the floods, they become submerged and die. Fall too late and they don't have enough time to grow before the dry heat of summer arrives.

Habitat

River Red Gums grow near wetlands, and particularly along river plains. Along low flood plains they are often the only tree species present, forming open forests. Their name originates from this habitat as well as the red colour of their timber.

Threats

Changed flood and flow patterns in the River Murray due to irrigation and storage lead to drought or permanent flooding, both of which can kill River Red Gums. Historical and current logging, grazing animals eating seedlings, and changed fire regimes are other threats. Feral pigs disturb large habitat areas by digging and wallowing.



Scarred for life! Aboriginal people used the bark of River Red Gums to make shelters, canoes and shields. They did all this without killing the tree, but the evidence can still be seen today.

Conservation

You can help the River Red Gums by:

- finding out more about the River Murray system and how important it is to life in Australia
- being careful with your water use at home. Check out the SA Water website
- getting involved with revegetation projects like the Million Trees Project.



Photo by Brian Walters

River Red Gum



Photo by Brian Walters

River Red Gum

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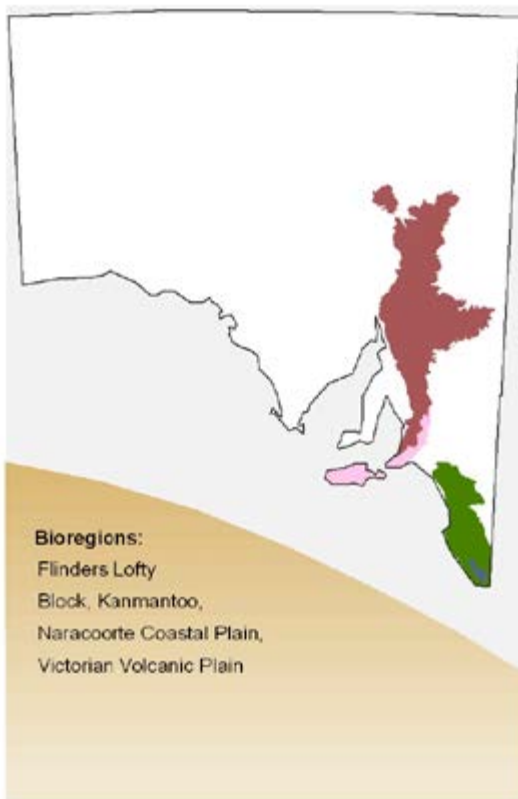
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Southern Brown Bandicoot

Isoodon obesulus obesulus



Map courtesy of Mapping Unit, Customer and Commercial Services.

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Southern Brown Bandicoots are medium-sized marsupials with long snouts, small rounded ears and large rumps. They are solitary animals that live for two to three years.

Diet

Southern Brown Bandicoots are omnivorous and forage for food under leaf litter and, in the soil, by digging distinctive cone-shaped holes. They stay close to cover when they search for food and eat ants, insects and worms (both adults and larvae), fungi, fruits and other plant material. When vegetation becomes more mature and fully grown there may be fewer food resources available for the bandicoot, whereas after fire, there are abundant insects in the revegetation areas which provide food, and the new, diverse vegetation provides habitat. Therefore, in some habitats there is evidence that they prefer areas that are burnt from time to time.

Breeding

Breeding takes place from winter through to summer and females usually give birth from two to four young per litter. They can have several litters per breeding season, but less than half of their young survive to maturity.

Habitat

Southern Brown Bandicoots can be found in the Mount Lofty Ranges, Kangaroo Island and the South East of South Australia. This eastern subspecies is one of five subspecies of Southern Brown Bandicoot, two of which live in South Australia. The Southern Brown Bandicoot lives in dense scrubby habitats or areas with dense, low ground cover.

They sleep in nests made of grass and other plant material that may be mixed with earth. These can be very well hidden in dense vegetation or among debris. Dense understorey vegetation is vital to the bandicoots' survival as it protects them from predators.

Threats

Threats to the Southern Brown Bandicoot include: vegetation clearing, inappropriate fire regimes (too many fires are also harmful to their habitat) and predation by foxes and cats. Habitat loss and fragmentation leads to isolated populations which are more vulnerable to chance events and other threats.



Making do! Where their native habitat has been disturbed or destroyed, bandicoots sometimes use the dense cover of weedy blackberry thickets as a substitute.

Conservation

Regional and National Recovery Plans have been developed to maintain, protect and improve Southern Brown Bandicoot populations in Australia.

You can help the Southern Brown Bandicoot by:

- being a responsible pet owner – desex your cats and dogs, keep them inside at night and don't take them into national parks as dogs and cats can kill bandicoots. Keep dogs on a leash in areas where bandicoots live.
- getting involved with a conservation group near you
- educating your community about Southern Brown Bandicoots and other local species, and encourage councils and community groups to protect even small patches of native bush.



Photo by Kirstin Long

Southern Brown Bandicoot



Photo by Kirstin Long

Southern Brown Bandicoot

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White Beauty Spider-orchid

Caladenia argocalla



White Beauty Spider-orchids are perennial plants which are only present above the ground in winter and spring and are dormant from summer to autumn. They grow with an understorey of native herbs and grasses. After a single hairy leaf (12-20cm long) emerges in winter, it produces a single flower stem in spring with one or two flowers. Flowers have white petals (9-15cm long) with red, pointed tips which usually droop down. Petals and sepals are long and tapered.

Like many other orchid species, White Beauty Spider-orchids rely on underground tubers that provide plants with the nutrients and energy necessary for new growth.

After a survey in 2007, it was estimated that there are only around 4,500 White Beauty Spider-orchid plants in existence. Many of these are thought to be in decline, with the largest populations found in the Clare region. They have a north-south range of approximately 130 kilometres.

Reproduction

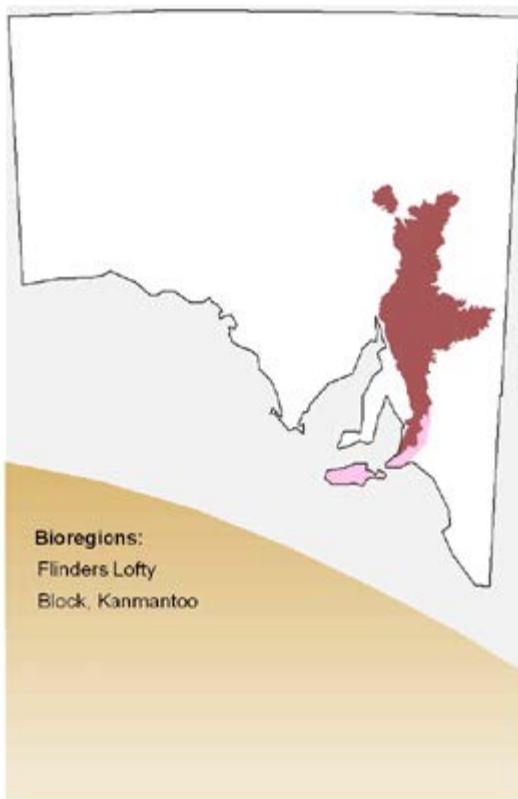
To reproduce they need to cross-pollinate with another plant, which is done with the help of male wasps. This orchid only attracts one particular species of wasp, and it does this by making the same pheromone that the female wasp gives off. They then form seeds when the flowers dry up from which new plants grow.

Habitat

A SA endemic, it grows in 15 known locations in grassy eucalypt woodlands from Clare to Harrogate. These woodlands usually include the South Australian Blue-Gum (*Eucalyptus leucoxylon*). These plants are quite specific in their habitat preferences. They usually grow in clay loam soils with high humus content on gentle hill slopes, often facing south.

Threats

The greatest threat to White Beauty Spider-orchids comes from weed invasion, especially from Topped Lavender (*Lavandula stoechas*), Cape Tulip (*Homeria flaccida*) and Bulbil Watsonia (*Watsonia bulbifera*). Grazing by kangaroos, livestock, such as sheep and cattle, rabbits and hares also reduces their numbers. Spider-orchids also suffer from a lack of pollination and recruitment. Phytophthora can kill plants that provide habitat to this species, so it poses an indirect threat. Climate change, road and track management activities and illegal collection are other threats to this species.



Map courtesy of Mapping Unit, Customer and Commercial Services.

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Some Aboriginal groups in the South East of SA dig up and eat the tubers of different orchid species. These contain many nutrients and apparently taste quite sweet!

Conservation

A recovery project is underway in the Lofty Block region aimed at conserving White Beauty Spider-orchids as well as 11 other endangered orchids. This involves preserving current habitat and attempting to increase the populations of these orchids.

You can help the White Beauty Spider-orchid by:

- getting involved in weed eradication projects in your local area, which gives native plants a chance to grow
- keeping a look out for White Beauty Spider-orchids if you are in the Clare region. Report sightings to: DEWNR, Clare or Black Hill office
- cleaning your shoes whenever you see a *Phytophthora* cleaning station to stop this disease from spreading
- never digging up orchids from bushland.



Photo by Joe Quarmby

White Beauty Spider-orchid



Photo by Doug Bickerton

White Beauty Spider-orchid

For further information

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White-bellied Sea-Eagle

Haliaeetus leucogaster



White-bellied Sea-Eagles are large birds of prey. They are graceful in flight and spend their time soaring over the surface of the sea, or perching on rocks or branches beside the water. They live for up to 30 years in the wild.

Diet

These birds hunt fish, tortoises, sea-snakes, waterfowl, reptiles, nestling birds, rabbits and also eat carrion. They are aggressive and skilled hunters both at sea and on the land. Their large talons and powerful curved beaks help them to grab and kill their prey. Thick scales on their legs protect them like armour. Excellent eyesight makes it easy for them to target their next meal. Occasionally, they harass other birds such as ospreys and terns until they drop their prey which the eagles then collect.

Breeding

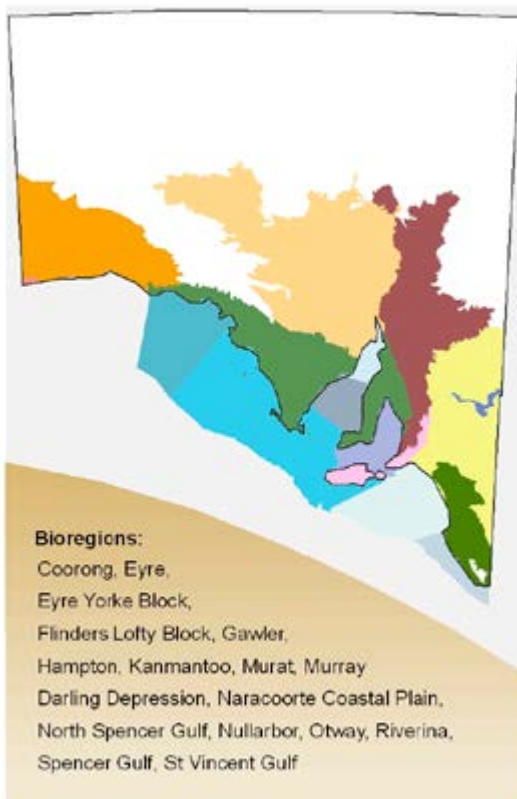
These eagles mate for life and share the same hunting range. In the morning and evening they roost and sometimes sing together. When breeding begins, sometime from May to October, White-bellied Sea-Eagles put on great aerial displays. They soar and call, loop-the-loop, drop fish from a height and then dive to catch it in midair. Nests are built on cliffs or in trees, and sometimes on the ground on treeless islands. Both sexes help with the construction and repair of a nest. Nests are made of sticks, and are huge structures up to four metres deep and 2.5m wide. Nests are lined with stems and green leaves and females lay a clutch of two eggs. Eggs are incubated for around six weeks, mostly by the female. One egg is laid several days before the other, and it is usually only the chick with the head start that survives because the parents feed the noisiest, most active chick first. If the first egg is infertile, or the chick is weak and dies, the second chick has a better chance of survival.

Habitat

White-bellied Sea-Eagles are found throughout Australia along coasts and beside lowland rivers and lakes. They also occur in south-east Asia and India.

Threats

The loss of nesting sites due to development is a major threat to the White-bellied Sea-Eagles. Disturbance of nesting pairs by human activity can cause them to abandon their nests. Deterioration of inland water sources and over-fishing in the ocean makes it harder for them to find food. Competition for food and nesting sites with Wedge-tailed Eagles (*Aquila audax*) is a potential problem.



Map courtesy of Mapping Unit, Customer and Commercial Services.

Map is not intended to indicate spatial distribution of the species, only the bioregions in which the species is found.



Big birds! White-bellied Sea-Eagles have a wingspan of up to 2.2 metres. Their home ranges can be up to 100 square kilometres.

Conservation

You can help the White-bellied Sea-Eagle by:

- always keeping your distance from eagles and their nests as they are easily disturbed by human activity
- protecting areas of native vegetation in your local area
- reporting anyone you see interfering with nests or disturbing sea eagles.

For further information

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Yellow-tailed Black-Cockatoo

Calyptorhynchus funereus



Yellow-tailed Black-Cockatoos are easy to identify due to their large size and distinctive markings. They are the largest Australian cockatoo and are 55-65cm long. They are black with yellow patches and yellow panels in their tail feathers. These birds have a distinctive call that can be heard as they fly over the tree tops. They are known to gather in large flocks of up to one hundred.

Diet

Their diet is varied but consists mainly of seeds of native trees, particularly the native sheoaks (*Allocasuarina spp.*) but also *Eucalyptus*, *Acacia*, *Banksia*, *Xanthorrhoea* and *Hakea* species. They also strip the bark from the trees to find tree-boring beetles and moth larvae. Yellow-tailed Black-Cockatoos have large, powerful bills for biting into the cones of pines and banksias. The upper part of the beak pierces the cone and hooks in while the lower part cuts through.

They have also adapted to feed on seeds of introduced Radiata (*Pinus radiata*) or Aleppo Pine (*Pinus halepensis*) often in commercial plantations because many of their native food sources have been cleared.

Breeding

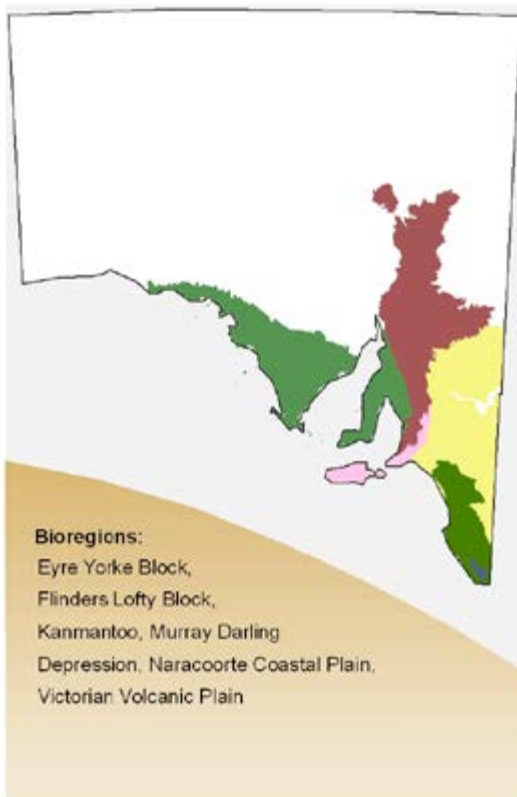
Nests are made in large hollows in old trees. Females incubate the egg(s) and it takes four weeks for the hatchling to emerge. Males provide food while the females are incubating and rearing the chicks. Females usually lay two eggs, but almost always only feed one chick, so that only one chick survives. The nestling fledges in about three months but does not become independent until just before the next breeding season (around six months).

Habitat

Yellow-tailed Black-Cockatoos are found throughout south-eastern Australia, and are not listed as nationally threatened. The population on Eyre Peninsula, is considered critically endangered. This is because it is isolated from other mainland and island populations and has undergone dramatic decline since European settlement.

Threats

Loss of habitat (clearance of food and nesting trees), competition for nesting hollows with bees and other birds and animals and, predation (e.g. by Wedge-tailed Eagles) due to lack of cover, are the major threats to the Yellow-tailed Black-Cockatoo. Predation of eggs by Common Brushtail Possums (*Trichosurus vulpecula*) can also be a problem.



Map courtesy of Mapping Unit, Customer and Commercial Services.

Map is not intended to indicate spatial distribution of the species, only the bioregions in which the species is found.



A distinctive local! Yellow-tailed Black-Cockatoos can be sighted in many Adelaide Hills conservation parks and visit the city parklands.

Conservation

Conservation of the wild population and its habitats, replanting of native food sources and habitat trees in this area, and a captive breeding program, are some of the positive actions being taken to help this population recover.

You can help the Yellow-tailed Black-Cockatoo by:

- keeping an eye and ear out if you go walking in the Adelaide Hills – you might see or hear a group of Yellow-tailed Black-Cockatoos flying around
- finding out about revegetation or other conservation programs in your local area
- helping out on community revegetation activities and projects
- making sure you save food and habitat trees for the Yellow-tailed Black-Cockatoos, and other threatened species, if you live on a property.



Photo by Jason Van Weenen

Yellow-tailed Black-cockatoo

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