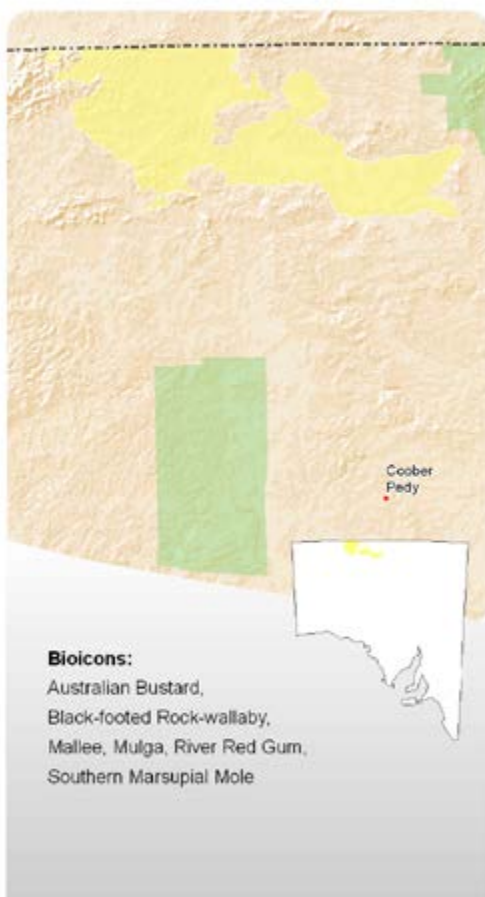


# Finke



The Finke bioregion extends from northern South Australia into the Northern Territory. Most of bioregion (74%) is in the Northern Territory with 26% in South Australia.

It has an arid and hot climate with very low rainfall and high evaporation. Most of the rain is received during the winter but it is only about 200mm (or less) to 300mm per year. Like most arid areas in Australia, rainfall varies significantly from year to year.

Temperatures can exceed 50°C in summer and the winters are cool to cold.

The land is used mainly for grazing cattle.

## Biodiversity and habitat

The bioregion has red sand plains and there are also areas with hills and valleys. It includes the Finke, Hugh and Palmer Rivers in the Northern Territory section of the bioregion.

Vegetation is mostly tussock grasslands, acacia shrublands and chenopod and samphire shrublands.

Scientists have noticed a decline of some bird species in the bioregion. This is thought to be because of fire management, predation by introduced species and changes in habitat caused by non-native plants.

Threatened animal species include the Black-striped Desert Skink and the Thick-billed Grasswren (eastern). The Australian Bustard and Plains Rat are also considered to be at risk.





Photo Rosey Boehm

### Threats

Threats to the Finke bioregion and its dependent species include:

- overgrazing
- poor management of finite water resources
- invasive weeds such as Buffel Grass and Athel Pine
- introduced animals, such as the fox, rabbit, wild dog, cat, donkey and horse.

### Conservation

There are no dedicated conservation areas in the South Australian section of this bioregion. There are several conservation areas in the Northern Territory portion of the bioregion, the largest being the Rainbow Valley Conservation Reserve.

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

- Participating in weed eradication programs in your local area
- Being a responsible pet owner - desex your cats and dogs, keep them inside at night and don't take them into National Parks
- Finding out more about the Finke River and the biodiversity it supports.

There are significant areas of Aboriginal land in this bioregion, including the Anangu Pitjantjatjara Yankunytjatjara lands.

## For further information

### Public enquiries

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**Eastwood:** (08) 8273 9100

**Gawler:** (08) 8523 7700

**Lobethal:** (08) 8389 5900

**Willunga:** (08) 8550 3400

### Education enquiries

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# Australian Bustard

*Ardeotis australis*



One of Australia's largest birds, the Australian Bustard is up to one metre tall with a wingspan of up to 2.3 metres! Heavy bodied, ground-dwelling birds, males (5-10 kilograms) are up to three times heavier than females (2-3 kilograms). An upright posture, long legs and a black cap of feathers on their heads make them easy to recognise. This bird has the distinction of being Australia's heaviest flying bird. When disturbed these birds walk away slowly (looking quite superior with their heads in the air!). They are strong in flight and sometimes move from one area to another.

## Diet

The Australian Bustard is omnivorous, foraging on insects, young birds, lizards, mice, leaves, seeds and fruit. In the arid parts of their range, Australian Bustards are primarily nomadic, tracking rainfall and food sources opportunistically across the landscape.

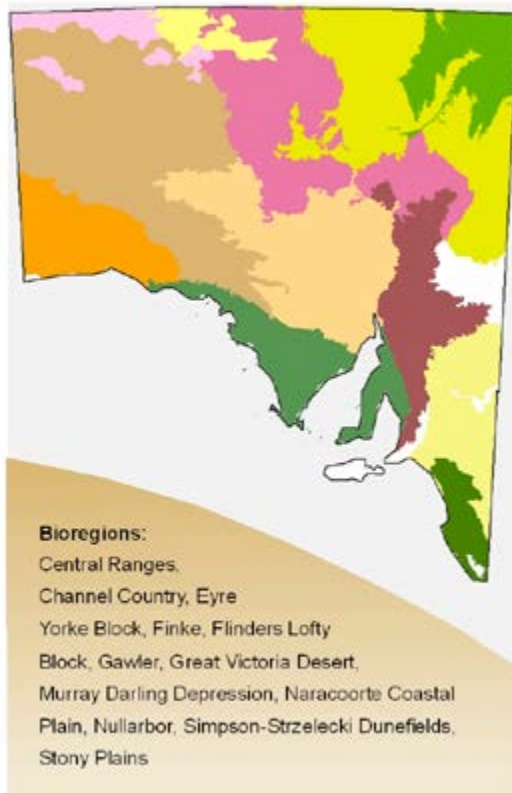
## Breeding

Australian Bustards breed once a year using what is called a 'lek' mating system. This means that when mating, each male uses a 'display site' to try and attract a female. Males put on a show by inflating a large throat sac and strutting around with their tails up making a loud, deep, roaring noise. Females then choose which male to mate with on the basis of their size and display. In the drier arid areas of SA they may not use the lek system, some being more solitary and even monogamous.

From September to November, eggs are laid in a hollow on the ground where the female has a good view of approaching threats while being well camouflaged. Females incubate one to two, rarely three, eggs for around 24 days. After mating males play no further part in raising the chicks.

## Habitat

The Australian Bustard lives on dry plains, grasslands and open woodlands, and they favour tussock and hummock grasslands. Occasionally they are seen in modified habitat areas such as farmlands and golf courses.



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.



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**Fire followers!** Groups of Australian Bustards have been seen flocking to fires to eat animals flushed out or killed by them.

### Threats

Past hunting reduced their populations and illegal hunting continues. Predation by cats and foxes, habitat degradation from overgrazing rabbits and stock, and habitat clearance and alteration are other major threats to the Australian Bustard. Secondary poisoning from rabbit baiting can also pose a threat to them. These threats have seen a large scale decline in their population in south-east Australia. They are largely now found in northern Australia and southern New Guinea.

### Conservation

You can help the Australian Bustard by:

- keeping our wildlife wild! Bustards could become more vulnerable to illegal hunters if they are fed or tamed and if disturbed their nests could fail
- being a responsible pet owner – desex your pets, keep them inside at night and don't take them into national parks.



Photo by Mark Ziemicki

Australian Bustard

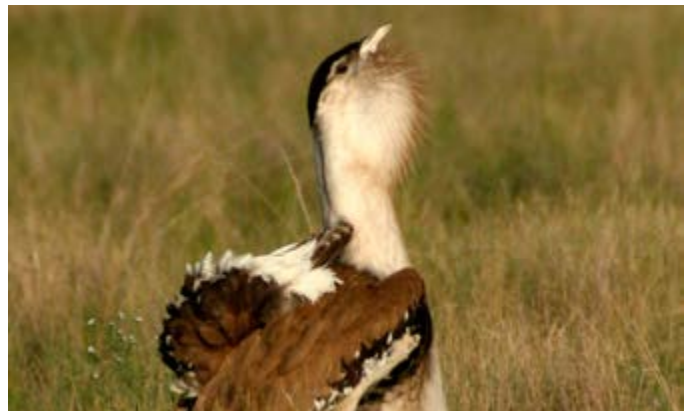


Photo by Bruce Doran

Australian Bustard

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# Black-footed Rock-wallaby

*Petrogale lateralis* (MacDonnell Ranges race)



Black-footed Rock-wallabies are an important creature in the culture of the Western Desert Aborigines who refer to it as 'Warru'. They are timid, agile macropods that rarely venture far from their rugged habitats. They live in groups of between 10 and 100 members referred to as colonies. These wallabies grow to just half a metre and become mature at an age of one to two years. They have a dark brown face, with a lighter cheek stripe, and their coats become lighter in summer. Their grey-brown coats help them to blend in with their rocky habitat. Black-footed Rock-wallabies have dark, bushy tails which are longer than their head and body put together. The long tail helps them to balance when hopping between rocks. The soles of their feet are heavily textured which helps to stop them from slipping.

## Diet

Their diet consists mainly of grass and shrubs although they sometimes eat fruit and herbs. They obtain the moisture they need from their food, but occasionally drink when water is present. These animals can survive without a permanent water supply.

## Breeding

Breeding can occur any time but is usually dependent on seasonal rainfall which can determine food availability.

## Habitat

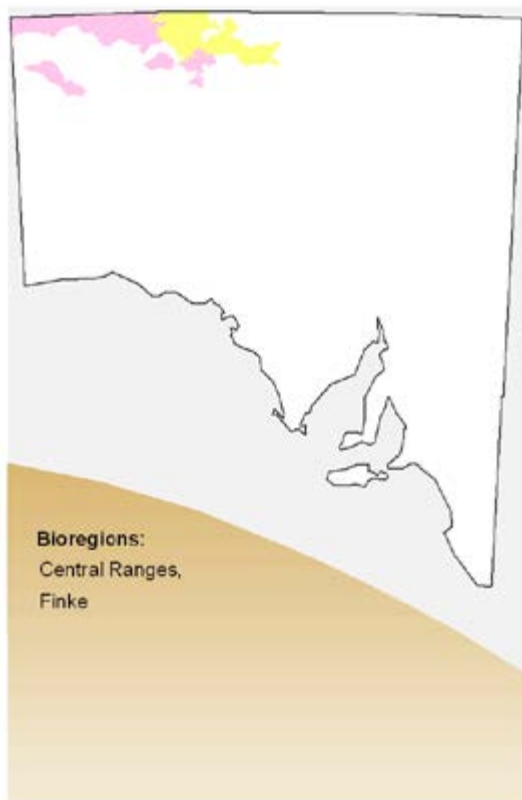
They like to live in rocky hills near vegetation. Once widespread in the central desert regions of the Northern Territory, South Australia and Western Australia they are now isolated in small colonies in scattered locations.

Black-footed Rock-wallabies are crepuscular. This means that they come out to feed at dusk and dawn. They rest in caves or rock crevices during the day and rely on such shelter to protect them from predators and to keep them cool during the heat of the day.

## Threats

Because they live in such a rocky landscape, mothers often leave their joeys in their shelters while they look for food. This can make the joeys vulnerable to predation by cats, foxes and other animals. Predation, especially of their young, is the greatest threat to Black-footed Rock-wallabies.

Competition for food with rabbits and feral grazers is also a threat. Altered fire regimes make this problem worse by leaving even less food available. Loss and degradation of habitat and predation by native dingoes and eagles puts even more pressure on individual small colonies. Black-footed Rock-wallabies are considered to be one of South Australia's most endangered mammals.



Map courtesy of Mapping Unit, Customer and Commercial Services.

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They have been seen jumping up to four metres to reach another rock!

### Conservation

The Warru Recovery Team was formed in 2006 to take action to protect the Black-footed Rock-wallaby in SA.

You can help the Black-footed Rock-wallaby 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 feeding native wildlife – this can make them more tame and therefore vulnerable to predators; if they rely on people for food they are less able to survive in the wild
- finding out more about the interesting ways the Warru Recovery Team are helping this wallaby survive.

## For further information

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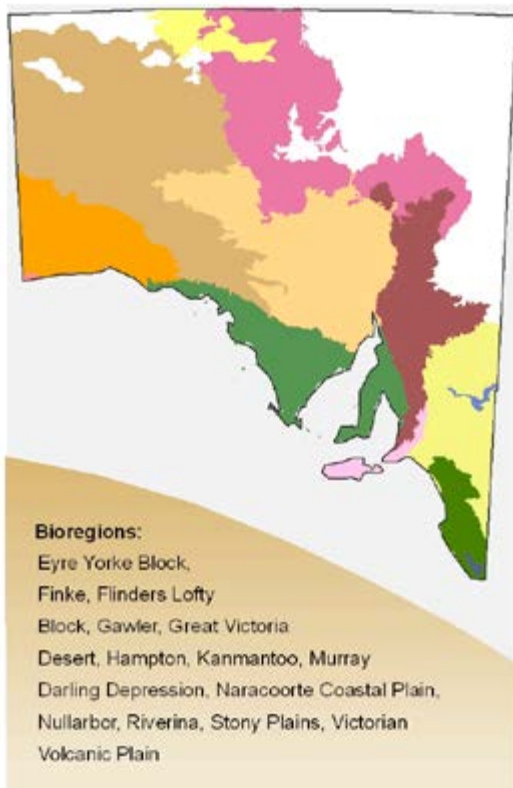
**Southern Adelaide:** (08) 8384 0176

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# Mallee

*Eucalyptus spp.*



**Bioregions:**

Eyre Yorke Block,  
Finke, Flinders Lofty  
Block, Gawler, Great Victoria  
Desert, Hampton, Kanmantoo, Murray  
Darling Depression, Naracoorte Coastal Plain,  
Nullarbor, Riverina, Stony Plains, Victorian  
Volcanic Plain

Map courtesy of Mapping Unit, Customer and Commercial Services.

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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.

## For further information

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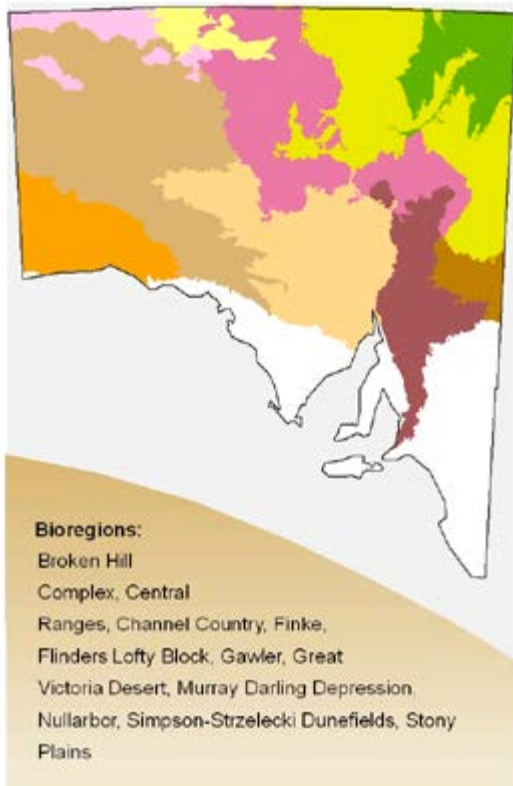
**Southern Fleurieu:** (08) 8551 0524





# Mulga

*Acacia anuera*



Map courtesy of Mapping Unit, Customer and Commercial Services.

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Mulgas are single or multi-stemmed acacias. They are classified as a small tree or a large shrub and are the main species in many desert ecosystems, such as Mulga woodlands. Mulgas are also an important food source for stock, especially during droughts.

While most acacias have relatively short life spans, Mulgas are long lived. They can grow to a maximum height of 10 metres. Reduced rainfall or drought conditions can slow or temporarily stop the growth of Mulgas. For this reason, it sometimes takes a Mulga tree 100 years to become mature. It is believed they can live between 300-400 years.

Acacias do not have leaves in a botanical sense, but instead have phyllodes. These are slim, flattened leafstalks. Phyllodes are arranged to avoid full sun and channel rainwater to the roots.

Underground, Mulgas have a taproot which can help the plant access deeper moisture and store water and nutrients. Mulga seedlings which are just 10cm high may have taproots extending three metres into the ground.

Mulga wood is very hard and is popular for use as fence posts and in craftwork. Mulga also had a wide range of traditional uses for some groups of Aboriginal people. These included: food from the seeds, lerps and sap; tools from the wood; resin from the phyllodes; and medicines from the leaflets and twigs. The name 'Mulga' comes from the name one Aboriginal group used for the shields they made from its wood. Honey Ants (*Camponotus inflatus*) make their nests underground beneath Mulga trees. These ants are another popular traditional food as their abdomens are full of a sweet honey-like substance.

## Reproduction

Mulgas produce bright yellow flowers at any time of year, usually following rain.

## Habitat

Mulgas are common in arid to semi-arid areas of South Australia, New South Wales, Queensland, Western Australia and the Northern Territory.



## Threats

The key threats to Mulga are introduced herbivores, such as rabbits and goats, some of which have established feral populations and led to the suppression of the regeneration of arid shrubs such as Mulga and thereby threatening their long-term survival. In some areas, seedlings are eaten and trampled on by rabbits and goats which can be devastating. It is unlikely that there was any successful Mulga regeneration between the 1880's and the 1950s due to the impact of the rabbit!

Mulga trees are also threatened mainly by past and present clearance for agriculture. Changed fire regimes can be another problem – acacias are less fire resistant than eucalyptus.

Climate change also creates a less suitable habitat.

Small insects called Red Mulga Lerp (*Austrotachardia acaciae*) live on the outer branches of Mulga trees. They exude a honey dew to protect themselves from animals. which can be sucked straight off the branch, or soaked in water to make a sweet drink!

## Conservation

You can help the Mulga by:

- finding out more about the many ways Aboriginal people use Mulgas and telling your class about it
- getting involved with revegetation projects, like the Million Trees Program.

## For further information

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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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# Southern Marsupial Mole

*Notoryctes typhlops*



Southern Marsupial Moles are secretive animals covered with dense, silky cream coloured fur that can be stained pinkish or golden brown by the red/orange pigments in the sand. They have many physical attributes that help them to live underground. These include a tubular body with a rear opening pouch (so they don't get dirt in it when digging), vestigial eyes (they don't need them when living underground in the dark), no external ear openings, a hard, protective shield on the nose and scooping claws for digging. Other features include short, powerful limbs and fused neck bones to make their bodies more rigid. They can be up to 16cm long and weigh between 40 and 70g with a tail length up to 2.6cm.

The only other recognised species of marsupial mole is the Northern Marsupial Mole which is slightly larger than the Southern species. Between 1900 and 1920, it is estimated that several thousand marsupial mole pelts were traded by Aboriginal people to Europeans and Afghan cameleers. Scientists are now working with local Aboriginal people to learn about tracking the mole which will help them find out more about their population sizes, movements, diet and life-cycle. Indigenous names for this species include *Itjariitjari* and *Yitjarritjarri*.

## Diet

They eat mainly invertebrate larvae and pupae, insects and geckoes. As they get enough moisture from their food they do not need to drink.

## Breeding

Little is known about their breeding habits but they are thought to have one to two young that suckle in the pouch after birth. Deep, permanent burrows are built for the young after they leave the pouch.

## Habitat

Southern Marsupial Moles are found in the sandy desert regions of Central Australia. Also known as 'blind sand burrowers', their habitat includes dunes, sandy plains and river flats. They need deep, loose sand as they mainly travel underground. While they usually move quite close to the surface, marsupial moles can burrow to depths of around 2.5m.

## Threats

Previous hunting greatly reduced the numbers of Southern Marsupial Moles. They are now preyed upon by animals such as foxes, dingoes and cats. Changed fire regimes and grazing animals may have reduced the amount of food they have to eat. Soil compaction by stock movements and vehicles makes it more difficult for these moles to burrow.



Map courtesy of Mapping Unit, Customer and Commercial Services.

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Southern Marsupial Moles use their front feet to tunnel sand under their bodies as they move forward and their webbed rear feet to fill it in behind them!

### Conservation

You can help the Southern Marsupial Mole by:

- being a responsible pet owner – desex your cats and dogs, keep them inside at night and don't take them into national parks
- telling others about these amazing little creatures.

## For further information

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