

# **National Park Fact and Information Sheets**

# Alice Springs Telegraph Station Historical Reserve



Fact Sheet

The Alice Springs Telegraph Station Historical Reserve marks the original site of the first European settlement in Alice Springs. Established in 1872 to relay messages between Darwin and Adelaide, it is the best preserved of the twelve stations along the Overland Telegraph Line. The site was first recorded by surveyor William Mills in March 1871, who was in search of a suitable route for the Overland Telegraph Line through the MacDonnell Ranges. Construction of the Telegraph Station began in November 1871. The township of Alice Springs obtained its name from the waterhole a short distance to the east of the Station buildings. The Telegraph Station operated for 60 years, after which time the buildings served as a school and 'the Bungalow' for Aboriginal children. During WWII parts of the Station were used by the Army. The Station was protected as a Historical Reserve in 1963, and a number of stone buildings have now been restored. These buildings house furnishings and artefacts from the early 1900s and are preserved as a historic interpretive display.

**Access**

By vehicle, the Reserve is situated 4 km north of Alice Springs along Herbert Heritage Drive off the Stuart Highway. Alternatively, there is a walking and cycling track into the Reserve from the Stuart Highway via Schwartz Crescent, and another

along the west bank of the Todd River (Riverside Walk). An entry fee, which includes a brochure and guided tour is payable for access to the buildings in the Historical Precinct (free for locals). Access to the remainder of the Reserve is free.

## When to visit

The Reserve is accessible all year round. The cooler months (April to October) are the most pleasant. The Reserve is open between 8am - 9 pm every day of the year. The Historical Precinct is open 8am - 5pm every day except Christmas Day.

**What to do**

**Guided Tours** - of the Historical Precinct operate throughout the year. Phone 8952 3993 to confirm tour times.

**Picnicking** - The shaded lawns make a popular venue for picnics and barbecues. Free electric barbecues are provided.

**Walking** - The Telegraph Station is a leisurely 4 km walk or cycle from the Todd Mall, along the Todd River. Alternatively a number of short marked walking tracks traverse the hill country within the Reserve. Section 1 of the Larapinta Trail to Simpsons Gap starts here.

*Walkers planning extended and overnight walks are strongly advised to register with the Walker Registration Scheme (Phone: 1300 650 730).*

## Safety and Comfort

- Observe park safety signs.
- Carry and drink plenty of water.
- Wear a shady hat, sunscreen, insect repellent suitable clothing and footwear.
- Avoid strenuous activity during the heat of the day.
- Consider your health and fitness when choosing a walk.

## Please Remember

- Keep to designated roads and tracks.
- All historic, cultural items and wildlife are protected.
- Use the gas barbecues provided and fuel stoves where possible.
- Put your rubbish in the bins provided or take it with you.
- Pets are permitted on a leash in the car park only.

**Cycling** - The Riverside walk and the track along Herbert Heritage Drive are shared walk/cycle paths (see map). Bikes are not permitted on any other walking tracks.

**Camping** - is not permitted in the Reserve.



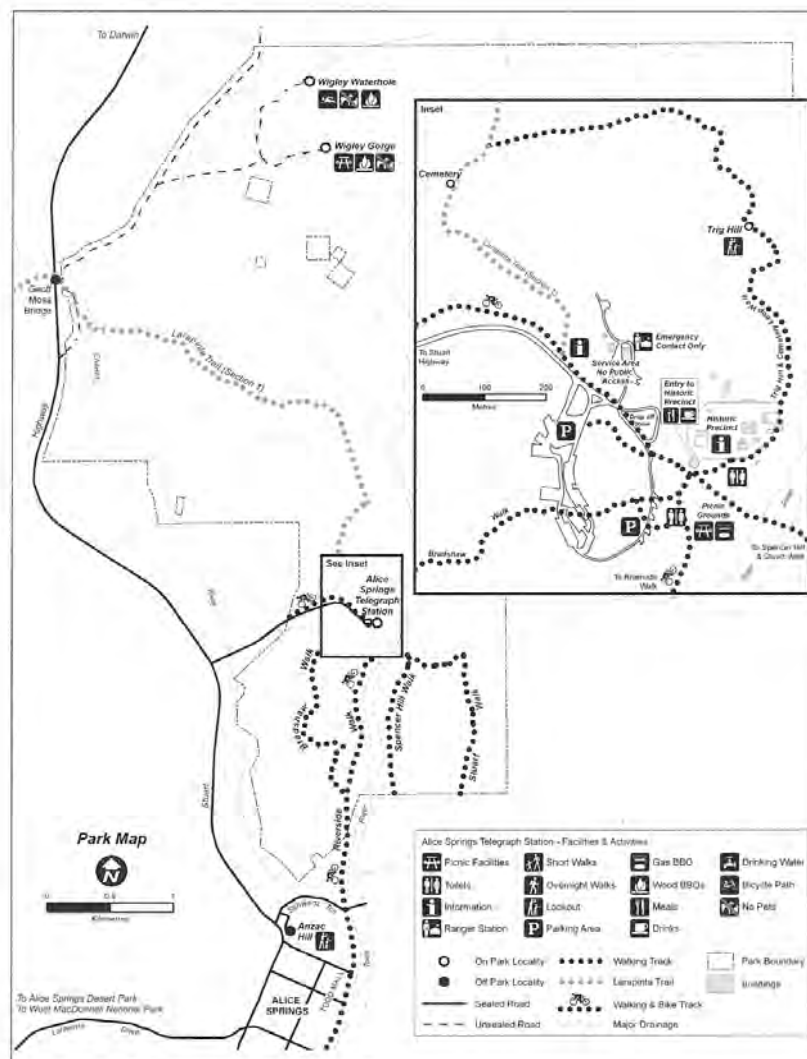
**Parks & Wildlife Service of the Northern Territory**  
Regional Office - Arid Zone Research Institute, Tom Hare Building  
South Stuart Highway, ALICE SPRINGS NT 0870  
PO Box 2130 ALICE SPRINGS NT 0871  
Ph: (08) 8951 8211 Fax: (08) 8951 8290

Northern Territory Government



# Alice Springs Telegraph Station Historical Reserve

Fact Sheet



A/6/2005PWSNT

For more information see our website: [www.nt.gov.au/ipe/pwnt/](http://www.nt.gov.au/ipe/pwnt/) or contact Central Australian Tourism (08) 8952 5800

## Watarrka National Park

Watarrka National Park, synonymous with Kings Canyon, contains the western end of the George Gill Range. This scenic landscape of rugged ranges, rockholes and moist gorges acts as a refuge for many plants and animals. This makes the Park an important conservation area and a major visitor attraction in Central Australia.

### Access

The Park is located southwest of Alice Springs and can be reached via a number of routes:

- via the Stuart Highway, Lasseter Highway and Luritja Road (sealed roads).
- via Larapinta Drive through the West MacDonnell National Park. A Meremnie Loop pass is required to travel this route and is available from the Alice Springs Tourist Information Centre, Glen Helen Resort and Kings Canyon Resort.
- via the Stuart Highway, Ernest Giles Road (4WD essential) and Luritja Road.

### When to visit

The Park is accessible all year round. The cooler months (April to September) are the most pleasant.

Overnight camping in tents or campervans is not permitted in the National Park.

Commercial motel and camping accommodation is the only option available for visitors wishing to stay overnight at Watarrka. Kings Canyon Resort Ph: (08) 8956 7442. Kings Creek Station Ph: (08) 8956 7474.

**Parks & Wildlife Service of the Northern Territory**  
Regional Office - Arid Zone Research Institute, Tom Hare Building  
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### What to do

**Walking** - Before undertaking any of the following walks, consider your personal health, fitness and available time.

Check the temperature gauge at the start of the Canyon walks.

**The Kings Creek Walk** (2.6 kms, one hour return). The gentle slope of the track meanders up Kings Creek to a lookout point. This walk is suitable for families. Wheelchairs can access the first 700 metres.

**The Kings Canyon Rim Walk** (6 kms loop, 3-4 hours). After an initial steep climb the walk offers spectacular views from the Canyon rim.

Along the way are the weathered, buttressed domes of the 'Lost City' and the 'Garden of Eden', a sheltered valley with permanent waterholes and lush vegetation. This walk is suitable for fit and experienced walkers. For safety reasons, the track must be walked in a clockwise direction. This minimises traffic congestion, track erosion and vegetation degradation.

**Kathleen Springs Walk** (2.6 kms, 1.5 hour return) leads to a delightful spring-fed waterhole, suitable for families and accessible to wheelchairs.

**The Giles Track** (22 km, 2 days) traverses the top of the range from Kathleen Springs to Kings Canyon with a halfway entrance/exit point at Reedy Creek/Lilla.

### Safety and Comfort

- Observe park safety signs.
- Carry and drink plenty of water.
- Wear a shady hat, sunscreen, insect repellent, suitable clothing and footwear.
- Avoid strenuous activity during the heat of the day.
- Consider your health and fitness when choosing a walk.

### Please Remember

- Keep to designated roads and tracks.
- All historic, cultural items and wildlife are protected.
- Firewood collection is not permitted in the park.
- Fires are not permitted in the park.
- Bins are not provided, please take your rubbish with you.
- Pets are permitted on a leash in the Kings Canyon carpark only.
- Please do not throw rocks over cliff edges, as there may be people below.

### Emergencies - Emergency

Call Devices are located on the Kings Canyon Walk and at the Canyon car park. Please use them to contact the Rangers in an emergency only. Two first aid boxes are located at the top of the Canyon. Refer to the map on the 'Be prepared for walking' sign in the shelter at the Canyon carpark.

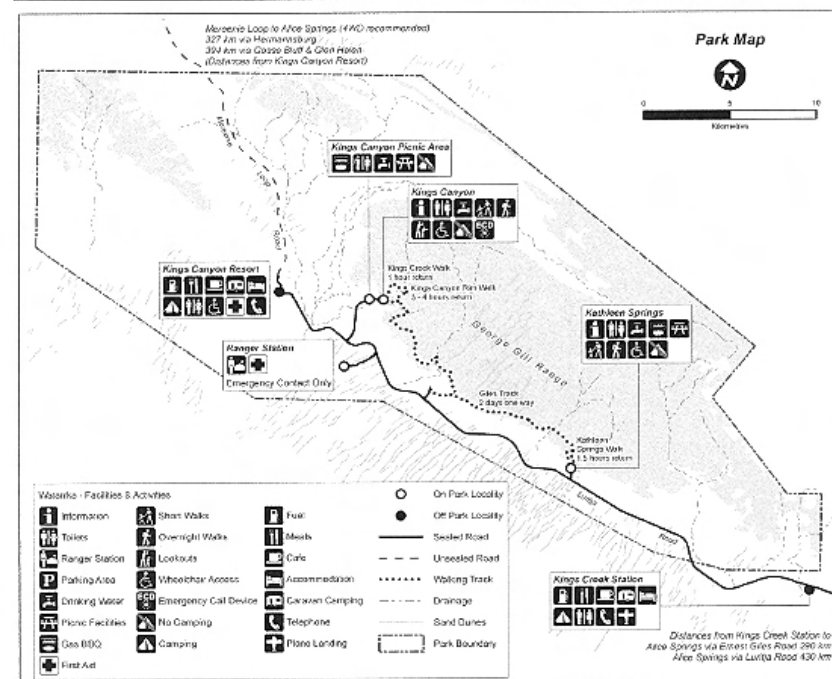
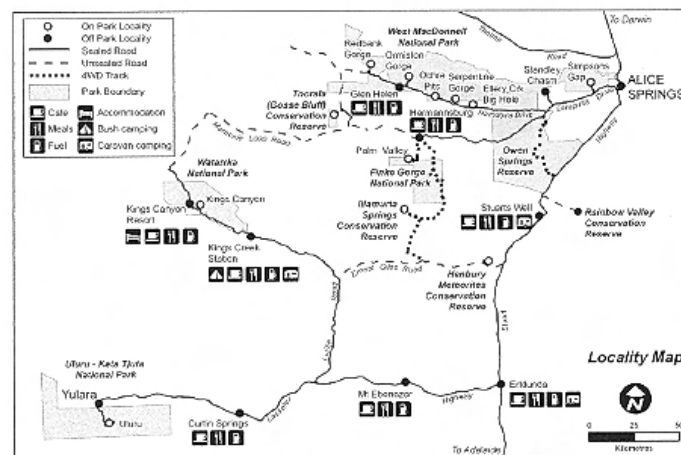
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Fact Sheet

## Watarrka National Park

### Fact Sheet



A/6/2005/PW/SNT

For more information see our website: [www.nt.gov.au/tpe/pwcnt/](http://www.nt.gov.au/tpe/pwcnt/) or contact Central Australian Tourism (08) 8952 5800





## Mammals of the Flinders Ranges National Park

Australia's unique fauna and the continent's geological history cannot be separated. Detached from all other land masses for millions of years, Australia has become a **FLOATING ARK**. Marsupials, long extinct in most other parts of the world, are Australia's dominant fauna. Marsupials, birds, reptiles and insects were central to the cultural life of the Flinders Ranges Adnyamathanha. Individuals were bound to the earth, its creatures and each other by totemic associations.

### GOODBYE GONDWANA

Australia has had many shapes and surfaces throughout Geological time. Continents shift, collide and separate. Sea levels rise and fall, as world climate fluctuates.

Australia was hidden in the supercontinent Gondwana when marsupials first began to roam. When Australia split from Antarctica 45 million years ago, it drifted away as an Ark of marsupials. Australia's modern marsupial fauna evolved from these isolated ancestors. About 15 million years ago Australia collided with South East Asia and a new migration began. Bats, lizards, and rodents moved into northern Australia from Asia.

Australia had its own spectacular mega-fauna. The fossilised remains of giant kangaroos, echidnas, wombats and other species which have no modern relatives, have been found across Australia. The biggest marsupial of all was the giant hippo-like **Diprotodon**. The fossil remains of Diprotodons have been recovered from Lake Callabonna above the Flinders Ranges. The Diprotodon also survives in the creation histories of some Indigenous communities.



Extinct Australian mega-fauna - DIPROTODON

### A POUCH FOR EVERY PATCH

Marsupials are animals that produce very immature young. After birth the 'joey's' migrate to a pouch where they are suckled until mature enough to emerge.

Marsupials make up more than half of Australia's land-dwelling mammals. They can hop, climb, run and glide. They live in trees, on the ground, in burrows. Marsupials are found in rainforests, coastal dunes, in deserts, cool alpine heathlands, in virtually all natural areas. They feed on nectar, fungi, grasses, fruit, herbs, shrubs, insects and each other. Kangaroos are the only large mammals in the world, other than humans, whose main movement is bipedal, which is upright on two hindlegs.

Marsupials with soft footpads did not destroy the delicate surface crusts of ancient, fragile soils. Low rainfall and infertile soils would not have supported the development of large hoofed animals with hearty appetites for grasses and herbs. The absence of hard animals such as deer, buffalo and zebra, in turn discouraged the development of a dependent big cat fauna. Predator and prey, most were marsupials.

### BOOM & BUST

Australia is a continent of climatic extremes. The rivers and creeks of the arid interior rarely run. Recurrent droughts, persisting for several years, followed by very wet years typify much of Australia's climate. Plants and animals have adapted to survive the unpredictable and the extreme. Populations crash with prolonged drought then rebuild following wet years. The cycles were sustainable until land use changed with the arrival of the Europeans.

Early settler's watercolour of a Kangaroo c.1840



### FANTASTIC FAUNA

Western science and understanding of the natural world is built upon collection and classification. The first Europeans to visit and settle Australia were collectors - of skins, eggs, bones, artefacts, and plants. Many of the mammals, birds, reptiles and insects were unlike anything the collectors had ever seen.

Traditional Aboriginals were not collectors. They made sense of their world through a complex system of Law. Knowledge was not stored in purpose-built libraries and museums but resided in elaborate creation histories. Human memory was the great storehouse for knowledge in the Indigenous world.

Each individual had a special relationship with a single species that was their totem. They were linked to all others sharing the same totem. In the creation histories, animals and yuras (Aboriginals) regularly changed form, moving in and out of the spirit world. Strict laws determined which animals could be hunted, how the meat was cooked, carved and shared. Recreational hunting was unknown. Waste was inconceivable. Traditional life has changed for the Adnyamathanha but the creation histories remain a rich part of Aboriginal culture.

### THE KANGAROO AND THE EURO

Once there lived a Kangaroo (urdu) and a Euro (mundya). They were very good mates until one day they had an argument. The kangaroo hopped off sulky and went back to his home. The euro decided to look for him and found him eating some creeper from the native pear which was sweet and juicy. The euro asked the kangaroo for some. The kangaroo gave the euro a piece and, to the euro's surprise, the creeper tasted better than his own food. The euro didn't like the kangaroo to have better food than him. He became jealous and they began to fight. The euro was pulling the kangaroo's arms and making them longer while the kangaroo pushed the euro's arms making them shorter. This went on during the fight. That is why the kangaroo has longer arms than the euro which has short stubby arms and paws.

After a while they parted again and each went his separate way. Later the kangaroo picked up a handful of dust and blew it. Suddenly there were plains and flat country all around him. The euro looked surprised and wondered what was going on. He saw the kangaroo hopping around on the plains, but he didn't care too much to go and see him, so he went back to his home to have a sleep.

He lay down but after a while he could feel something poking him in the side. He got up to scratch around to see if anything could be there, then he lay down again. Still something was poking into him, so he stood up and scratched again until he found a small stone. He picked up the stone and blew on it. Suddenly there were hills all around him. The kangaroo looked at the euro and wondered what he was doing. They both went their separate ways afterwards.

That is why the kangaroo is found mostly in the wide open plains because he made them, and the euro is found up in the hills amongst the rocks and caves because he made them.

### PRE-EUROPEAN MAMMAL SPECIES IN THE FLINDERS RANGES (45 mammals & 10 bats)

Based on evidence from sub-fossil remains, historical records, museum specimens, the oral history of the Adnyamathanha

- 1 echidna
- 10 carnivorous marsupials
- 3 bandicoots
- 2 bilbies
- 1 wombat
- 3 possums
- 3 bettongs or rat-kangaroos
- 9 kangaroos & wallabies
- 10 bats
- 5 native mice
- 2 stick-nest rats
- 5 hopping-mice
- 1 diingo

An estimated 28 species became extinct within fifty years of settlement



## FORGOTTEN FAUNA

It is estimated that two-thirds of land-dwelling mammals became locally extinct within fifty years of European settlement in the Flinders Ranges. The delicate balance between stress and recovery was destroyed.

Much of the Flinders Ranges was taken up as large pastoral runs. The newcomers anticipated reliable climate and regular seasons. They farmed as they had in Europe. They did not understand the nature of Australia. Hoofed animals were introduced and stocking rates were high. Waterholes and springs in accessible country were used by stock. Native vegetation was destroyed for many kilometres around waters. Native animals were hunted for their skins or were destroyed as vermin. Exotic animals such as foxes, rabbits, goats, donkeys and cats competed with or preyed upon the native fauna. Native animal habitat shrank and local extinctions resulted. Virtually all of the medium-sized mammals became locally extinct by the turn of the Century.

A few species benefited from the changes. The establishment of dams and bores, and the removal of the dringo from the Ranges enabled the large kangaroos to increase their range and population.

Locally extinct Mulgara



**LOCALLY EXTINCT**

## KANGA-WHO?

A little time spent closely observing the three species of kangaroo in the park will quickly reveal their differences. Kangaroos can be identified by their body size and build, colour and markings, distinctive hopping motion and preferred habitat.



### EUROS

**Euros** or Hills kangaroos, are of stocky build, have short legs and arms, and thick shaggy coats. The males are dark grey with reddish-brown hair on their shoulders and upper arms. The smaller females, often mistaken for wallabies, are usually a lighter grey. Euros have very dark conspicuous noses. They do not gather in large groups and prefer hilly country, but sometimes share country with Red kangaroos. Males are often seen feeding close to the edge of roads and are reluctant to move.



### REDS

**Red Kangaroos** are tall powerfully built animals. They stand very erect when disturbed and hop with a gently rocking motion. Reds have short dense fur, with distinctive cream coloured bellies and white muzzle markings. The large males may grow to two metres, and some have ginger coloured coats. The smaller females are usually a bluish-grey. Red kangaroos gather in extended family groups and may number several dozens. Reds are usually found on the plains.



### GREYS

**Western Grey Kangaroos** are similar in size and build to the Reds, but they are thinner. Called 'scrubbers' they have only moved into the Ranges in relatively recent times. Western greys have chocolate brown to dark grey coats, and caramel to grey coloured bellies. They hop with a peculiar stiff motion, quite different to the rocking of the Reds. A very social species, Greys also gather in family groups but their fewer numbers mean that large groups are unlikely to be seen.



## ANDU BOUNCES BACK

**ANDU** (pronounced am - doo) is the Adnyamathanha word for wallaby. It is now used in common language as the name for the vulnerable Yellow-footed rock wallaby. Andu was of great cultural significance for the Adnyamathanha. Traditional Law prevents the creation histories for the Andu from being widely shared.

The beautifully marked Yellow-footed rock wallabies were common throughout the Flinders Ranges when Europeans first arrived. Exploitation for skins, bounties, competition from introduced stock, and predation by foxes almost pushed the Andu to local extinction. Many colonies never recovered. Conservation programs of the last ten years have secured Yellowfoot colonies in the Flinders Ranges National Park. Numbers are steadily increasing. The Andu are now regularly seen in the evening in Brachina and Wilkawillina Gorges.



## OUT THERE BUT SELDOM SEEN

Many Australian mammals are nocturnal or most active at dawn and dusk, and so are rarely seen. Some mammals such as the native rodents, dunnarts and planigales are very small and difficult to see. Larger creatures such as the ant-eating echidnas are solitary for most of the year and are rarely encountered. We are interested in your sightings of echidnas. Please report all sightings to Visitor Centre staff.

## MOUSE OR MARSUPIAL?

Marsupial mouse is a very misleading name. Native rodents do occur in the Flinders Ranges. However marsupial mice, also called dunnarts, are not rodents at all, but small carnivorous pouched marsupials. Dunnarts have prominent ears and large eyes for hunting insects at night. They have fine razor-sharp teeth for shearing rather than grinding. The fat-tailed dunnart stores energy as fat in its tail, which helps it through the toughest of winters. Dunnarts live in leaf litter and other ground cover and are vulnerable to predation by foxes and cats that also hunt at night.

A dunnart has much larger eyes than a field mouse



## SIGNATURES IN SOUND

Not all mammals are earth-bound. Bats make up more than one third of the native mammal fauna of the Flinders Ranges National Park. Bats have poor eyesight and navigate by bouncing ultrasonic sound waves off objects around them, such as trees, buildings, cave walls, and insects. They virtually see with their large forward-facing ears, distinguishing prey items from other objects. Listen for the high-pitched squeaks of bats hunting insects that are drawn to campfire light and lanterns.

## TO LEARN MORE ABOUT THE MAMMALS OF THE FLINDERS RANGES:

- Participate in the Seasonal Events programs during school holidays
- Take your questions to the Visitor Centre and make use of the Centre's books & posters
- Purchase a copy of the *Flinders Ranges National Park - Background Information* booklet
- Take time to sit and observe animals in their natural habitat. Kangaroos can be seen in the early mornings and late afternoons from the T Junction back to the Solar Station carpark. Use a zoom lens or binoculars as kangaroos will scatter if approached.

**PLEASE DO NOT FEED NATIVE ANIMALS**  
KANGAROOS CAN BECOME AGGRESSIVE AND A NUISANCE AROUND CAMP-SITES IF HAND-FED. PLEASE ENJOY THEM AT A DISTANCE.

FOR FURTHER INFORMATION CONTACT THE WILPENA POUND VISITOR CENTRE, FLINDERS RANGES NATIONAL PARK, ON (08) 8648 0048





## Birds of the Flinders Ranges National Park

The long narrow spine of the Flinders Ranges penetrates into the arid heart of Australia. Moist mountain habitats extend the range of some bird species found in eastern and southern Australia. Other species from adjacent arid areas are found in edge habitats where the mountains fall away to low hills and plains. Birds normally separated by vast distances, are found in close association. Visitors to the Flinders Ranges may observe forest and woodland species with birds from mallee, spinifex, saltbush and bluebush communities in close or overlapping ranges. Springs, waterholes and spring-fed creeks support a low density waterbird population. Birds of prey range across most habitats. More than one hundred bird species are recorded for the Flinders Ranges National Park.

### WINNERS AND LOSERS

Maintaining the balance between harvest and natural replacement was the basis of Aboriginal land use and is reflected in traditional stories. European settlement of the Flinders Ranges from the 1850's, brought dramatic changes in land use. Widespread vegetation clearance for cereal and fodder crops occurred in the Southern Flinders. High stocking rates on pastoral runs followed by a century of rabbits led to similar levels of habitat loss in the Central and Northern Flinders. Some plant communities and associated fauna have never recovered. Many native animals disappeared from the Flinders Ranges. A number of bird species have special conservation significance. The Night Parrot and Australian Bustard may be facing local extinction in the Flinders Ranges.

Loss of habitat reduces the range and abundance of many species. But altered land use benefits others. Grain crops, exotic weeds, and year-round water availability from stock troughs, dams and bores, have favoured some seed-eating birds. Galahs, Little Corellas and Crested Pigeons, have increased their range and flock sizes. Each of these species was rarely seen south of Port Augusta until the 1920's. Flock sizes were much smaller than they are today. Originally confined to woodlands and shrublands in the arid interior, Galahs are now found in most parts of Australia. During the summer months large flocks of Little Corellas gather around stock troughs and bores. In their hundreds, the corellas defoliate redgums and contribute to tree stress during droughts. Mega-populations of native birds and animals can have serious ecological impacts.



immature wedge-tailed eagle

### BIRDS AND PEOPLE

Just as changes in land use have benefited some birds, other human activities create opportunities for adaptable species. The pirate of land birds, Australian Ravens are never far from campgrounds and popular picnic sites. They visit unattended campsites, stealing food scraps from plastic rubbish bags. Australian Magpies also visit campsites and picnic areas to take food scraps. Red-capped Robins and Willie Wagtails are regularly seen around the fringes of campsites, snapping insects disturbed by campers. Black Kites gather in communal groups during the warmer months, on the edges of settlements. They are frequent visitors to rubbish dumps and feed from roads during grasshopper plagues. Wedge-tailed eagles feed on road-kills and may rise suddenly in front of approaching vehicles. Visitors should not feed birds as feeding may adversely affect the health of native birds and encourages behaviour that can result in damage to personal property.



Yurlu Indhidindhidi Warraty Yudyudulya Wildu

Birds feature strongly in the traditional stories of the Adnyamathanha of the Flinders Ranges. Indeed birds are closely connected with many of the more spectacular landforms of the Central and Northern Flinders Ranges. Yurlu, the Red-backed Kingfisher, and Walha, the Australian Bustard are central to the creation history for Wilpena Pound. Yudyudulya the Blue-wren, created the distinctive cap of Mount Chambers, when his returning boomerang hit the western end of the mountain and came to rest there. Many of the higher peaks, including Patawarta Hill, Mt. Serle, Mt. Hack, Mt. Aleck and Mt. Painter are home to the spirit eagles. Willie wagtails, crested pigeons, hawks, mistletoe birds, ducks, emus and crows define, through story, the relationship that the Adnyamathanha people have with the land.

### The Dove's Grinding Stones

A long time ago Kurukuku, the peaceful dove, lived near Frome Well. She had some very nice grinding stones, called wadia. The little dove was very pleased with her grinding stones. Every day she would go out to collect seeds and bring them back to grind, to make damper or just to eat.

There was a pigeon in that country whose name was Murlambada. He used to watch Kurukuku grinding her seeds, and often wished he had some stones like that. One day when the little dove was away looking for seeds, Murlambada stole her large grinding stones and flew away with them to a place called Vimbartunha. Ever since that day, people for many hundreds of miles around have been able to go to this place and collect large slabs of sandstone to use for large grinding stones.

But poor Kurukuku had lost her large grinding stones and she was really unhappy. All she had left now were the small ones. She cried so much over losing her lovely stones that her eyes are red even to this day.

And Murlambada the pigeon, whenever he starts to fly makes a sharp clattering noise with his wings. This is the sound of the grinding stones rattling together, the same stones that he stole from poor little Kurukuku.

Later on the pigeon left Vimbartunha and travelled south, leaving more stones behind where he stopped. Even to the present day, grinding stones are found in the area.

Kurukuku is the Diamond Dove

Murlambada is the Crested Pigeon



Murlambada

Kingfisher Willie Wagtail Emu Blue-wren Eagle



## REAL ESTATE FOR FEATHERED FAUNA

The best way to find birds is to learn where they live. Different plant communities support different communities of birds. Generally, the more varied or diverse the plant community, the richer the bird life.

### RIVER REDGUM CREEKLINES

Most birds require water, and springs and waterholes are generally found along redgum creeklines. Redgums provide food, roosting and nesting sites for many birds, including the hollow-nesting parrots. Birds of prey such as Brown Goshawks and Coloured Sparrowhawks are sometimes seen working along creeklines. Spring-fed creeks support few, densely waterbird communities, including herons, ducks, dotterels, lapwings, and native hens. Common birds found along redgum creeklines include the Yellow-rumped Thornbill, Striated Pardalote, Rufous Whistler, Australian Magpie, Woodhill Kingfisher, Yellow-throated Miner, Bricneck Parrot, White-plumed Honeyeater, Rainbow Bee-eater, Peacocks Dove, Southern Boobycow, Brown Tree-creeper, and Australian Raven.

### MALLEE & MALLEE/HEATH

Mallee, mallee/health and mixed mallee provide some of the best bird habitat in the Flinders Ranges. Different layers of vegetation favour birds with varied requirements. Some ground-feeding birds, such as the Shy Heathwren, need dense ground cover. Some prefer the lower branches of mallee, whilst others move mainly through the upper storey. Wilpena Pound is the northern limit for several species, including the White-eared Honeyeater, Yellow-rumped Pardalote, Shy Heathwren, Grey Curlewong, and Little Raven. Rainfall is less reliable north of Wilpena and conditions become harsher. Other residents include the Elegant Parrot, Yellow-plumed Honeyeater, Brown-headed Honeyeater, Southern Scrub-robin, Gilbert's Whistler, Purple-crowned Lorikeet and the Short-tailed Grasswren.

### BIRD BOOKS AND BINOCULARS

Like their marsupial counterparts, many Australian birds are difficult to find in the landscape. Some are secretive, others are small. Many are well camouflaged with streaked plumage and blend effectively with soil, rocks, vegetation and bark. When viewed through binoculars, some birds reveal colourful markings that greatly aid identification.

Most Flinders Ranges birds breed during the second half of the year. A few species are opportunistic, breeding after favourable rains. Changes in behaviour during the breeding season create excellent opportunities for birdwatching. Courtship displays and 'lovesongs', territorial battles, accentuated colours, increased traffic to and from nests with food items for brood, and seasonal influxes from migratory and nomadic species, are features of the breeding season.

top breeding for river redgum hollows

### OPEN WOODLAND

Birds from both temperate and arid environments are found in mixed open woodland with shrubs and some ground cover. Look to the edges of plant communities to find a richer mix of birds. Dense even-aged stands of native pine and black oak have very poor bird communities. Trillers, quail, woodswallows, honeyeaters, chats, cuckoos, songlarks, and budgies arrive to breed locally in spring. Woodland species include the White-browed Tree-creeper, the Central Australian Redthroat whose southerly limit is the northern Flinders Ranges, Yellow Thornbills, Red-capped Robin, Rufous and Gilbert's Whistlers, Chestnut Quail-thrush, Peacocks Dove, White-browed Babbler, Jacky Winter, Mulga Parrot, Yellow-throated Miner, and the Grey-footed Honeyeater.

### CHENOPOD SHRUBLANDS

Permanent saltbush and bluebush shrublands support a restricted but very distinctive bird community. Several nationally rare and threatened species, including the Thick and Slender-billed Grasswrens, are found in chenopod shrublands. Many chenopod communities were lost during the early years of settlement. Species such as the Night Parrot and the Plains Wanderer, that were closely associated with chenopod shrublands are now extremely rare. As saltbush/bluebush communities extend beyond the Ranges, most chenopod birds are also found in more arid areas. Species include the Redthroat, Slender-billed Thornbill, Richard's Pipit, Singing Honeyeater, Cinnamon Quail-thrush, Black-eared Woodswallow, Southern Whiteface, Thick-billed Grasswren, Kestrel, White-winged Fairy Wren, White-fronted Chat and Orange Chat.



### LIFE ON THE STAGE

SOME OF THE FINEST SONGBIRDS ARE FOUND IN THE FLINDERS RANGES. LISTEN FOR THE CLAMOROUS REED-WARDLER NEAR REED-FILLED SPRINGS AND PERMANENT WATERS, SUCH AS APPEALING RUBINS. THE AUSTRALIAN MAGPIE, AN KOON OF THE AUSTRALIAN BUSH, REAFFIRMS ITS TERRITORY WITH MELLOW CAROLLING. THE GREY SHRIKE-THRUSH, WITH ITS REPERTOIRE OF SWEET SONG IS OFTEN A DAWN VISITOR TO CAMPGROUNDS, DELIVERING A BEAUTIFUL, IF PREMATURE WAKE-UP CALL. OTHER NOTABLE SONGBIRDS INCLUDE THE RUFOUS AND GILBERT WHISTLERS, THE SINGING HONEYEATER AND THE GREY BUTCHERBIRD.

### A FLASH OF COLOUR

MOST VISITORS TO THE FLINDERS RANGES WILL SEE BRILLIANTLY COLOURED RINGNECK PARROTS AND PINK AND GREY GALAHs. OTHER COLOURFUL BIRDS INCLUDE THE MIGRATORY RAINBOW BEE-EATER, THE RED-BACKED KINGFISHER, ORANGE AND CRIMSON QUILTS, THE ELEGANT AND MULGA PARROTS, THE PAINTED FIRETAIL AND THE RED-CAPPED ROBIN. COLOURFUL MARKINGS ON CERTAIN PARTS OF THE BODY ARE VITAL CLUES IN IDENTIFYING SOME SPECIES. THE CONCEALED COLOURS OF SOME BIRDS SUCH AS THE RED-RUMPED PARROT AND YELLOW-RUMPED THORNBILL, MAY ONLY BE CLEARLY VISIBLE WHEN THE BIRD IS SEEN IN FLIGHT.

## SOME NOTABLE LOCALS

### EMU

The Emu is a nomadic wanderer ranging across much of the continent. Emus are omnivores - they eat most things, including grasses, leaves, fruits, flowers, seeds, insects. When it comes to raising families emus do things differently to most. After laying a clutch of approximately ten eggs, the female moves on, leaving the male to incubate, brood and rear the young birds. The male lowers its metabolic rate and incubates for 53 days, rarely moving off the nest. Living on stored body fat, a male may lose up to eight kilograms whilst incubating eggs. Once hatched, the small distinctively striped chicks shelter beneath the male's feathers at night. Dad does it tough! In inland areas where males may remain with young birds for eighteen months. A male with young should not be approached. Larger clutch sizes have been observed in recent years, a result of fox and cat control programs in the Park.

### WEDGE-TAILED EAGLE

The Wedge-tailed eagle is Australia's largest bird of prey. In appearance, behaviour and breeding, it resembles the Golden eagle of the Northern hemisphere. Wedge-tails are often seen soaring at great height on rising air currents called thermals. Eagles form permanent bonds. They share a home range of several square kilometres. Spectacular acrobatic displays are sometimes seen in winter, when pairs lock talons and tumble through the air, calling as they fall. Platforms of sticks, nests may measure two and a half metres across. Nests are sanitised daily with fresh eucalyptus boughs. Generally only one chick is raised, the stronger of two killing its sibling. Wedge-tailed eagles may not breed during droughts. Hunters of rabbits and small kangaroos. Eagles also feed on carrion. Drivers should reduce speed when approaching an eagle near a road-kill.

### SHORT-TAILED GRASSWREN

Endemic to the Flinders and Gawler Ranges, the uncommon Short-tailed Grasswren is a species of regional and state conservation significance. Until recently it was considered a sub-species of the Striated Grasswren. Nervous birds that remain well hidden, Short-tailed Grasswrens are sometimes heard but are seldom seen. The birds typically dash from one patch of cover to another, maintaining contact with high-pitched squeaks and buzzes. A bird of the ground, grasswrens rarely fly. Breeding pairs establish territories, which the male defends. The female builds the nest in a clump of porcupine grass, incubates and broods unassisted, but both parents feed the young. The grasswrens often gather in loose groups outside of breeding. After failing to find birds on the park for several years, ornithologists located several breeding pairs of grasswrens during Spring of 2000.

### TO LEARN MORE ABOUT THE BIRDS OF THE FLINDERS RANGES:

- Participate in the Seasonal Events programs during school holidays
- Take your questions to the Visitor Centre and make use of the Centre's books & posters
- Purchase a copy of the *Flinders Ranges National Park - Background Information* booklet
- Take time to sit and observe birds in their natural habitat
- Carry a Field Guide and use a zoom lens or binoculars to observe birds at close range

THE FAUNA LIST PARK NOTE INCLUDES LISTS OF ALL BIRD, MAMMAL, REPTILE, AND AMPHIBIAN SPECIES IN THE FLINDERS RANGES NATIONAL PARK. PARK NOTES ARE AVAILABLE AT THE WILPENNA POUND VISITOR CENTRE.

FOR FURTHER INFORMATION CONTACT THE WILPENNA POUND VISITOR CENTRE, FLINDERS RANGES NATIONAL PARK, ON (08) 8843 0046





## Reptiles of the Flinders Ranges National Park

### DRAGONS & OTHERS

The diverse landforms and plant communities of the Flinders Ranges National Park support a rich reptile and amphibian fauna. Exposed ridges and rock-strewn hillsides are home to the rock-dwelling dragon lizards. Tree-lined watercourses and springs provide suitable habitat for skinks, geckoes, legless lizards and frogs, including the Streambank Froglet, a Flinders Ranges endemic. Accumulated leaf litter in mallee scrub provides cover for lizards, goannas and snakes. Now extremely rare, the large carpet python rests in tree hollows or on rock ledges, moving on the ground to hunt at night. Several species of conservation significance are found in the park.



Lizard - Arkaroo Rock

### AKURRA

Reptiles feature prominently in the cultural life of the Flinders Ranges Adnyamathanha. The all-powerful and dangerous Akurra, the creator and guardian of freshwater in the Ranges, is at the heart of the Adnyamathanha Dreaming. An enormous bearded and maned water snake, Akurra made much of the Northern Flinders Ranges landscape. Twin Akurras, one male, one female, created Wilpena Pound. The Akurra can be in many places at the same time. Both dead and alive, Akurra moves in and out of the spirit world. Many other reptiles like Alda the Sleepy Lizard and Vikarri the Gidgee Skink can be found in the Adnyamathanha creation histories.

### AKURRA AT YAKI

A long time ago there was a big snake called Akurra who lived up in the ranges. He was thirsty, so he went down to Lake Frome for a drink. He drank a lot of salt water at the lake. In fact, he drank the lake dry.

Akurra drank so much salt water that his belly became bloated and he became heavy. As he lumbered up towards his home in the ranges, his big belly carved out a great gorge. He also made lots of waterholes where he camped in the gorge as he climbed back up into the hills. The first of these waterholes was Akurruia Awu.

He kept on coming up, gouging out the gorge, until he came to Nuldandandha. He camped here and made another big waterhole. From here he went onto Vailvalinha, and made another waterhole. After that the next important waterhole that he made was Adiyu Vundhu Awa.

From here he went up into Mainwater Pound. He kept on climbing up the creek until he arrived at Yaki Awi, and there he stopped. This is where he came to stay for the rest of his life, and he is still there today.

He often comes up out of the waterhole at Yaki and makes rumbling noises. He lies there sunbaking and while the sun makes him warm, he makes loud rumbling noises in his belly. You can hear that big rumbling noise from a long way away.

\*AWI is waterhole or spring

### ROCK DRAGONS



Tawny dragon

The colourful Rock Dragons are seen regularly on the Wangara Lookout trail. They are also known as *typhoid lizards*, because of their posture when alert. Rock dragons bask on exposed rocks in warm weather and may suddenly rush, without warning, to grab a passing insect. The mature males are generally more vividly coloured and richly patterned than juveniles and females. Although not considered to be a true Rock Dragon because of its wide distribution, the handsome Painted Dragon is included in this group. The Dragons are oviparous or egg-laying lizards.

Although they have an inflatable throat, Bearded Dragons should not be confused with the Frill-necked Lizard of Central & Northern Australia. One of the largest of the Dragon lizards, Bearded Dragons are often seen basking on fence posts, in dead bushes or even on telegraph poles.



barking gecko

### GECKOES

The large-eyed nocturnal geckoes can be seen at night on walls in well-lit buildings where they hunt insects that are attracted to light. Geckoes have large, widely spreading toes with pads that enable them to grip smooth vertical surfaces. Geckoes do not have eyelids and keep their eyes clean by using their broad flat tongues as wash-cloths. Should you find the shed skin of a gecko you will discover that even a thin transparent eye layer is cast. Like many of the smaller skinks, geckoes can regenerate tails. However loss of a tail and the fat it stores for leaner times, will stress the lizard. For this reason geckoes should not be handled. Geckoes are egg-layers.



sleepy lizard

### SKINKS

A diverse group of lizards, the Skinks range in size from the tiny Dwarf Skink to the giant of Skinks, the Eastern Bluetongue. The best known Skink is the Sleepy Lizard. Known variously as the Bobby, Stumpy-tail or Shingleback, the slow-moving Sleepy Lizard is seen by most visitors as it ambles across the region's roads and tracks. The Sleepy Lizard is the only lizard in the world known to form lasting bonds. Mated pairs remain together for about ten weeks during the spring and summer. Studies have revealed that pairs seek each other out at the start of each breeding season. Sleepies bear live young. Although they appear very docile, Sleepy Lizards can give an unexpected crushing bite.



carpet python

### SNAKES

Most of the snakes that occur in the Flinders Ranges are Elapids, the most venomous group of snakes in the world. Cobras and Mambas belong to this group which includes Death Adders, Tiger Snakes, Brown Snakes, Whip Snakes and Taipans. Death Adders, Western Brown and Mulga Snakes are found locally. However the most commonly seen snake in the Flinders Ranges is the fast-moving Yellow-faced Whip Snake. A very thin snake to about 90 centimetres, greyish-green above, creamy below, sometimes with a reddish tinge to the tail, the whip snake is often seen near tree-lined watercourses. Although venomous, the small head and fangs of this snake prevent it from delivering much venom.

Noted by the early settlers as quite common, the non-venomous and impressive Carpet Pythons of the Flinders Ranges are now extremely rare. The collapse of the Python population may have been associated with the local extinction of most medium-sized mammals during the first fifty years of European settlement in the Flinders Ranges. Pythons are very occasionally observed basking on red gum limbs or rock ledges near permanent water. Please report any sightings of Pythons to Visitor Centre staff at Wilpena.

ALL REPTILES ARE PROTECTED IN THE NATIONAL PARK AND SHOULD NOT BE HANDLED. MOST SPECIES ARE EXTREMELY TIMID AND MOVE AWAY QUICKLY WHEN ENCOUNTERED. PEOPLE ARE MOST AT RISK FROM SNAKE-BITE WHEN ATTEMPTING TO HANDLE SNAKES. MANY LIZARDS CAN ALSO DELIVER A PAINFUL BITE.

FOR FURTHER INFORMATION CONTACT THE WILPENNA POUND VISITOR CENTRE, FLINDERS RANGES NATIONAL PARK, ON (08) 8648 0048





# Fauna List for the Flinders Ranges National Park

## REPTILES and AMPHIBIANS C = COMMON U = UNCOMMON AT REGIONAL LEVEL

<i>Litoria aruana</i>	Streambank Froglet	Endemic to the Flinders Ranges	C
<i>Limnodynastes tasmaniensis</i>	Spotted Grass Frog		C
<i>Pseudophryne bibronii</i>	Brown Toadlet	*Northern limit	C
<i>Litoria rubella</i>	Desert Treefrog	*Southern limit	C
<i>Neobatrachus centralis</i>	Central Trilling Frog		C
<i>Diplodactylus vittatus</i>	Eastern Stone Gecko		C
<i>Diplodactylus byrnei</i>	Pink-blotched Gecko		C
<i>Heteronotia blaini</i>	Bynoe's Gecko		C
<i>Nephurus millii</i>	Barking Gecko		C
<i>Phyllodactylus marmoratus</i>	Marbled Gecko		C
<i>Strophurus intermedius</i>	Southern Spiny-tailed Gecko		C
<i>Rhynchodurus ornata</i>	Beaked Gecko		C
<i>Gehyra variegata</i>	Tree Dole		C
<i>Pygopus lepidopus</i>	Common Scaly-foot		C
<i>Amphibolurus nobbi</i>	Nobbi Dragon		C
<i>Ctenophorus decresii</i>	Tawny Dragon	*Northern limit	C
<i>Ctenophorus pictus</i>	Painted Dragon		C
<i>Ctenophorus vandykei</i>	Red-barred Dragon	Endemic to Northern Flinders	C
<i>Tympanocryptus tetraporophora</i>	Eyrean Earless Dragon		C
<i>Pogona vitticeps</i>	Central Bearded Dragon		C
<i>Cryptoblepharus plagiocephalus</i>	Desert Wall Skink		C
<i>Ctenotus robustus</i>	Eastern Striped Skink		C
<i>Ctenotus orientalis</i>	Spotted Ctenotus		C
<i>Menetia greyii</i>	Dwarf Skink		C
<i>Morethia boulengeri</i>	Common Snake-eye (Skink)		C
<i>Egernia margaritae</i>	Masked Rock Skink		C
<i>Egernia multiscutata</i>	Bull Skink		C
<i>Egernia stokesii</i>	Gidgee Skink		C
<i>Egernia striolata</i>	Tree Skink		C
<i>Tiliqua rugosa</i>	Sleepy Lizard		C
<i>Tiliqua scincoides</i>	Eastern Bluetongue		C
<i>Cyclodomorphus melanops</i>	Spinifex Slender Blue-tongue		C
<i>Lerista bougainvillii</i>	Bougainville's Skink		C
<i>Lerista dorsalis</i>	Southern Four-toed Slider		C
<i>Lerista muelleri</i>	Dwarf Three-toed Slider		C
<i>Lerista punctatovittata</i>	Spotted Slider		C
<i>Eremiascincus richardsonii</i>	Broad-banded Sandswimmer		C
<i>Delma australis</i>	Barred Snake-lizard		C
<i>Delma butleri</i>	Spinifex Snake-lizard		C
<i>Delma mulleri</i>	Adelaide Snake-lizard		C
<i>Lialis burtoni</i>	Burton's Legless Lizard		C
<i>Varanus gouldii</i>	Sand Goanna		C
<i>Aprasia pseudopulchella</i>	Flinders Worm Lizard	*Nationally VULNERABLE	R
<i>Ramphotyphlops australis</i>	Southern Blind Snake		C
<i>Ramphotyphlops bituberculatus</i>	Rough-nosed Blind Snake		C
<i>Morella spilota variegata</i>	Carpet Python	VULNERABLE at State level	U
<i>Demansia reticulata</i>	Desert Whipsnake		C
<i>Furina diadema</i>	Red-naped Snake		C
<i>Pseudochis australis</i>	Mulga Snake		C
<i>Pseudonaja nuchalis</i>	Western Brown Snake		C
<i>Suta spectabilis</i>	Mallee Black-headed Snake		C
<i>Simoselaps australis</i>	Coral Snake		C
<i>Suta suta</i>	Curl Snake		C
<i>Vermicella annulata</i>	Bandy Bandy	*RARE at State level	U

## MAMMALS

C = COMMON U = UNCOMMON R = RARE AT REGIONAL LEVEL

<i>Tachyglossus aculeatus</i>	Short-beaked Echidna	U
<i>Macropus fuliginosus</i>	Western Grey Kangaroo	C
<i>Macropus robustus</i>	Euro or Hills Kangaroo	C
<i>Macropus rufus</i>	Red Kangaroo	C
<i>Petrogale xanthopus</i>	Yellow-footed Rock-wallaby	*VULNERABLE at State level R
<i>Planigale tenuirostris</i>	Narrow-nosed Planigale	U
<i>Smilthopsis crassicaudata</i>	Fat-tailed Dunnart	C
<i>Smilthopsis macroura</i>	Stripe-faced Dunnart	C
<i>Smilthopsis murina</i>	Common Dunnart	R
<i>Pseudomys bolami</i>	Bolam's Mouse	U
<i>Pseudomys hermannsburgensis</i>	Sandy Inland Mouse	U
<i>Tadarida australis</i>	White-striped Freetail Bat	C
<i>Chalinolobus gouldi</i>	Gould's Wattle Bat	C
<i>Chalinolobus morio</i>	Chocolate Wattle Bat	C
<i>Vespadelus baverstocki</i>	Inland Forest Bat	C
<i>Vespadelus finlaysoni</i>	Finlayson's Cave Bat	C
<i>Nyctophilus geoffroyi</i>	Lesser Long-eared Bat	C
<i>Canis familiaris</i>	Dingo	C
<i>Mus musculus</i>	House Mouse	*Introduced species C
<i>Oryctolagus cuniculus</i>	Rabbit	*Introduced species C
<i>Vulpes vulpes</i>	Fox	*Introduced species C
<i>Felis catus</i>	Cat	*Introduced species C
<i>Capra hircus</i>	Goat	*Introduced species C

## BIRDS

C = COMMON U = UNCOMMON R = RARE AT STATE LEVEL

<i>Dromaius novaehollandiae</i>	Emu	C
<i>Larus novaehollandiae</i>	Silver Gull	U
<i>Phalacrocorax melanoleucos</i>	Little Pied Cormorant	C
<i>Taphybaptus novaehollandiae</i>	Australian Grebe	C
<i>Egretta novaehollandiae</i>	White-faced Heron	C
<i>Ardea pacifica</i>	White-necked Heron	U
<i>Anas gracilis</i>	Grey Teal	C
<i>Anas superciliosa</i>	Pacific Black Duck	C
<i>Biziura lobata</i>	Musk Duck	U
<i>Chenonetta jubata</i>	Australian Wood Duck	C
<i>Milvus migrans</i>	Black Kite	C
<i>Elaenus axillaris</i>	Black-shouldered Kite	U
<i>Haliastur spheerulus</i>	Whistling Kite	C
<i>Accipiter cirrocephalus</i>	Collared Sparrowhawk	C
<i>Accipiter fasciatus</i>	Brown Goshawk	C
<i>Hieraaetus morphnoides</i>	Little Eagle	C
<i>Aquila audax</i>	Wedge-tailed Eagle	C
<i>Circus assimilis</i>	Spotted Harrier	C
<i>Falco berigora</i>	Brown Falcon	C
<i>Falco cenchroides</i>	Nankeen Kestrel	R
<i>Falco hypoleucos</i>	Grey Falcon	C
<i>Falco longipennis</i>	Australian Hobby	U
<i>Falco peregrinus</i>	Peregrine Falcon	R
<i>Falco subniger</i>	Black Falcon	C
<i>Coturnix pectoralis</i>	Stubble Quail	C
<i>Porzana fluminea</i>	Australian Spotted Crake	C
<i>Porzana pusilla</i>	Bailloni's Crake	*RARE at State level R
<i>Gallinula ventralis</i>	Black-tailed Native-hen	C
<i>Ardeotis australis</i>	Australian Bustard	*VULNERABLE at State level R
<i>Rostratulus bengalensis</i>	Painted Snipe	*VULNERABLE at State level R
<i>Vanellus tricolor</i>	Banded Lapwing	C





<i>Vanellus miles</i>	Masked Lapwing	C
<i>Charadrius ruticapillus</i>	Red-capped Plover	C
<i>Elseyornis melanops</i>	Black-fronted Dotterel	C
<i>Erythronyx cinctus</i>	Red-kneed Dotterel	C
<i>Charadrius australis</i>	Inland Dotterel	C
<i>Geopelia cuneata</i>	Diamond Dove	C
<i>Geopelia placida</i>	Peaceful Dove	C
<i>Phaps chalcoptera</i>	Common Bronzewing	C
<i>Ocyphaps lophotes</i>	Crested Pigeon	C
<i>Cacatua roseicapilla</i>	Galah	C
<i>Cacatua sanguinea</i>	Little Corella	C
<i>Nymphicus hollandicus</i>	Cockatiel	C
<i>Barnardius zonarius</i>	Australian Ringneck	C
<i>Psephotus haematonotus</i>	Red-rumped Parrot	C
<i>Psephotus varius</i>	Mulga Parrot	C
<i>Notiella haematogaster</i>	Red-vented Blue Bonnet	C
<i>Neophema chrysostoma</i>	Blue-winged Parrot	R
<i>Neophema elegans</i>	Elegant Parrot	U
<i>Melopsittacus undulatus</i>	Budgerigar	C
<i>Cuculus pallidus</i>	Pallid Cuckoo	C
<i>Chrysococcyx basalis</i>	Horsfield's Bronze-Cuckoo	C
<i>Chrysococcyx osculans</i>	Black-eared Cuckoo	U
<i>Ninox connexa</i>	Barking Owl	R
<i>Ninox novaeseelandiae</i>	Southern Boobook	C
<i>Podargus strigoides</i>	Tawny Frogmouth	C
<i>Eurosto podus argus</i>	Spotted Nightjar	C
<i>Aegotheles cristatus</i>	Australian Owllet-nightjar	C
<i>Todiramptus pyrrhopygia</i>	Red-backed Kingfisher	C
<i>Todiramptus sancta</i>	Sacred Kingfisher	C
<i>Dacelo novaeae</i>	Laughing Kookaburra	C
<i>Merops ornatus</i>	Rainbow Bee-eater	C
<i>Mirafra javanica</i>	Singing Bushlark	C
<i>Hirundo neoxena</i>	Welcome Swallow	C
<i>Petrochelidon ariel</i>	Fairy Martin	C
<i>Petrochelidon nigricans</i>	Tree Martin	C
<i>Choramoeca leucosternus</i>	White-backed Swallow	C
<i>Anthus novaeseelandiae</i>	Richard's Pipit	C
<i>Coracina maxima</i>	Ground Cuckoo-shrike	U
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	C
<i>Lalage tricolor</i>	White-winged Triller	C
<i>Drymodes brunneopygia</i>	Southern Scrub-robin	C
<i>Cinclosoma cinnamomeum</i>	Nullabor Quail-thrush	C
<i>Pomatostomus superciliosus</i>	White-browed Babbler	C
<i>Acrocephalus stentoreus</i>	Clamorous Reed-warbler	C
<i>Cinclocephalus cruralis</i>	Brown Songlark	C
<i>Cinclocephalus mathewsi</i>	Rufous Songlark	C
<i>Epthianura alibrons</i>	White-fronted Chat	C
<i>Epthianura aurifrons</i>	Orange Chat	C
<i>Epthianura tricolor</i>	Crimson Chat	C
<i>Aphelocophala leucopis</i>	Southern Whiteface	C
<i>Daphoenositta chrysoptera</i>	Black-capped Sittella	C
<i>Smicromis brevirostris</i>	Woebill	C
<i>Acanthiza apicalis</i>	Inland Thornbill	C
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill	C
<i>Acanthiza lineata</i>	Striated Thornbill	C
<i>Acanthiza nana</i>	Yellow Thornbill	C
<i>Acanthiza uropygialis</i>	Chestnut-rumped Thornbill	C
<i>Calamanthus cautus</i>	Shy Wren	C
<i>Pyrrholaemus brunneus</i>	Redthroat	R
<i>Amphispiza melanotrochilus</i>	Short-tailed Grasswren	U
<i>Malurus leucopterus</i>	White-winged Fairy-wren	C

<i>Malurus lamberti</i>	Purple-backed Wren	C
<i>Rhipidura albiscapa</i>	Grey Fantail	C
<i>Rhipidura leucophrys</i>	Willie Wagtail	C
<i>Microeca fascians</i>	Jacky Winter	C
<i>Petroica goodenovii</i>	Red-capped Robin	C
<i>Melanodryas cucullata</i>	Hooded Robin	C
<i>Pachycephala pectoralis</i>	Golden Whistler	C
<i>Pachycephala rufiventris</i>	Rufous Whistler	C
<i>Colluricincla harmonica</i>	Grey Shrike-thrush	C
<i>Oreolca gutturalis</i>	Crested Bellbird	C
<i>Psephodes cristatus</i>	Chirruping Wedgebill	C
<i>Climacteris picumnus</i>	Brown Treecreeper	C
<i>Dicaeum hirundinaceum</i>	Mistletoe Bird	C
<i>Pardalotus striatus</i>	Striated Pardalote	C
<i>Zosterops lateralis</i>	Silvereye	C
<i>Lichenostomus leucotis</i>	White-eared Honeyeater	C
<i>Lichenostomus ornatus</i>	Yellow-plumed Honeyeater	C
<i>Lichenostomus penicillatus</i>	White-plumed Honeyeater	C
<i>Lichenostomus plumulus</i>	Grey-fronted Honeyeater	U
<i>Lichenostomus virescens</i>	Singing Honeyeater	C
<i>Phylidonyris brevirostris</i>	Brown-headed Honeyeater	C
<i>Phylidonyris albigularis</i>	White-fronted Honeyeater	C
<i>Gilicphila melanops</i>	Tawny-crowned Honeyeater	C
<i>Manorina flavigula</i>	Yellow-throated Miner	C
<i>Manorina melanoccephala</i>	Nolsy Miner	C
<i>Anthochaera carunculata</i>	Rod Wattlebird	C
<i>Acanthagenys rufogularis</i>	Spiny-cheeked Honeyeater	C
<i>Emblema pictum</i>	Painted Finch	R
<i>Taeniopygia guttata</i>	Zebra Finch	C
<i>Passer domesticus</i>	House Sparrow	C
<i>Sturnus vulgaris</i>	Common Starling	C
<i>Grallina cyanoleuca</i>	Magpie-lark	C
<i>Artamus cinereus</i>	Black-faced Woodswallow	C
<i>Artamus cyanocephalus</i>	Dusky Woodswallow	C
<i>Artamus minor</i>	Little Woodswallow	U
<i>Artamus personatus</i>	Masked Woodswallow	C
<i>Cracticus torquatus</i>	White-browed Woodswallow	C
<i>Gymnorhina tibicen</i>	Grey Butcherbird	C
<i>Corvus bennetti</i>	Black-backed Magpie	C
<i>Corvus coronoides</i>	Little Crow	C
<i>Corvus meliort</i>	Australian Raven	C
	Little Raven	C

#### Species requiring confirmation include:

<i>Cacatua leadbeateri</i>	Major Mitchell's Cockatoo	*VULNERABLE at State level	R
<i>Cacomantis flabelliformis</i>	Fan-tailed Cuckoo		C
<i>Pomatostomus ruficeps</i>	Chestnut-crowned Babbler		C
<i>Amphispiza melanotrochilus</i>	Thick-billed Grasswren	*VULNERABLE at State level	R
<i>Artamus leucorhynchus</i>	White-breasted Woodswallow		C
<i>Cracticus nigrogularis</i>	Pied Butcherbird		U

AS AT 01 / 07 / 2001

\*Species names were taken from the Biological Survey of the Flinders Ranges of South Australia Final Report, published 2001.

FOR FURTHER INFORMATION CONTACT THE WILPENA POUND VISITOR CENTRE, FLINDERS RANGES NATIONAL PARK, ON (08) 8646 0048





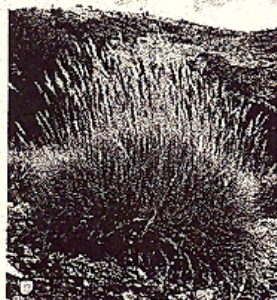
## Plants of the Flinders Ranges National Park

The Flinders Ranges support an eccentric mix of moisture dependent and arid adapted plants. Survivors from a much wetter past like the Wild Orange, live on as relict species. The specialised habitats of local endemics, plants that occur only in the Flinders Ranges, are bound to the region's geology. Native vegetation is shaped by landform, soil, climate and fire. It is also influenced by human activity. Native plants sustained the cultural and economic lives of the Flinders Ranges Adnyamathanha for thousands of years. Land use changed with the arrival of Europeans in the 1850's. High stocking rates on early pastoral leases, land clearance for agriculture, a century of feral animals, competition from introduced plant species and fewer bushfires, have dramatically altered the ecology of many plant communities in the Flinders Ranges.

### PLANT DIVERSITY

Diverse landscapes produce diverse plant communities. Narrow gorges, steep-sided valleys, cliffs and rock walls, terraces and talus slopes create moisture traps and shelter for a cocktail of plants that may surprise the visitor. Bush peas, guinea flowers, grevilleas, shrubby violet, native cranberry and fringe myrtles hug the quartzite slopes of Wipera Pound where rainfall is greater than in surrounding areas. Lilies, mat-rushes and ferns grow on sheltered rock-strewn slopes where soil moisture persists. Swamps, springs and waterholes are fringed by reeds, sedges, rushes and native buttercups. Spring-fed creeks support a community of submerged water plants.

Much of the vegetation of the Flinders Ranges National Park is semi-arid. Cypress pines occur across much of the park thriving on shaly soils. Porcupine grass is found on stony hills where it forms dense communities. Pure and mixed stands of mallee and black oak grow mainly on the deeper soils of the north-eastern portion of the park. Some plants are fussy and require specific soil chemistry. Leafless ballart, bloom emubush, red mallee and pearl bluebush are usually found on very alkaline soils.



porcupine grass



### SEASONS OR 'EVENTS'?

Australia is a continent of climatic extremes. The Southern Oscillation, an atmospheric-pressure see-saw controls much of the continent's weather. Recurring droughts, 'big wets' and occasional average years typify the climate of the interior. Two distinctive climate systems bisect the Flinders Ranges. Summer rainfall produced by decaying tropical lows drives the ecology of the northern Flinders Ranges, which has more arid adapted species than the south. A more temperate climate with predominantly winter and spring rainfall and occasional light snow falls on the highest peaks, favours the more moisture dependent species of the south. The Flinders Ranges National Park is influenced by both systems.

Native plants have evolved to survive the unpredictable and the extreme. Reproduction may be seasonal or opportunistic, triggered by big rain events. Generally, the more arid and unpredictable the climate, the more opportunistic and less seasonal are the reproductive pulses. Spring triggers flowering for many plant species in the Flinders Ranges National Park. But plants like the desert chinese lantern, and the desert rose may flower opportunistically following good rains.



desert rose



Uti

Arta

Wida

Iga

Mayaaka

**INDIGENOUS ECONOMIES:** Plant communities have sustained indigenous economies for thousands of years. Natural emporiums provided food items and source materials for tools, implements and weapons, nets and bags, shelters, games, musical instruments, adhesives, medicines, ornaments and ceremonial objects. Plants were also used in subtle ways for signing and touch. The Flinders Ranges Adnyamathanha used the language of smoke from green leaves to move messages between small groups over considerable distances. The leaves of the sleep dust fern were gently brushed across the eyelids of young children to encourage them to sleep, a kind of fern lullaby.

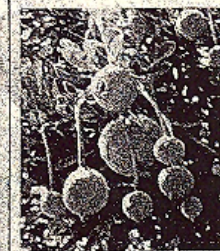
**BUSH TUCKER:** Bush tucker, a new and fashionable food industry, has always been a part of Adnyamathanha culture. Seeds, fruits, berries, kernels, tubers, gum and flowers were harvested. Nutritious fibre seed cakes were ground from wattle seeds. Native cress and native spinach, various tubers, nardoo seed, and the young green shoots of the yacca were eaten. Mayaaka, the bush banana and uti, the quandong or wild peach, are still considered good mai by contemporary Adnyamathanha. The flowers and small young mayaaka fruits are eaten fresh, the older fruits boiled and sometimes preserved, and the roots cooked in hot coals. The flesh and kernel of the wild peach are eaten raw or dried and stored. Native plant harvest is threaded through the creation histories and continues to be a rich part of contemporary life for the Adnyamathanha.

Mai is vegetable food



The dark and distinctive Iga tree or Wild Orange, is at the heart of Adnyamathanha identity. Igas record the range of Adnyamathanha country.

Fruit of the Iga tree



### STORY OF THE IGA TREE

Iga used to be Adnyamathanha people. They used to live mainly around Italowie Gorge. They were told to drink out of the spring which surfaces in the Gorge.

They used to travel north of Italowie, but one day they decided to go south because they had heard that some Yuras were at Baratta Springs. As they travelled south, they spread out towards Mt Chambers.

But when they finally reached Baratta Springs they were told to go back to their own land by the Yuras there. So most of them travelled back to Italowie Gorge.

Now you will find in the Flinders Ranges that most of the Iga (Wild Orange trees) are found around Italowie Gorge, though some are to be seen towards the south near Mt Chambers.

Yuras are other Aboriginals

Mayaaka vine







## Plant List for the Flinders Ranges National Park

More than 450 native plant species have been recorded for the Flinders Ranges National Park. The following general list is intended AS A GUIDE ONLY. Common names for plants are those used in the Biological Survey of the Flinders Ranges of South Australia Final Report\*, published 2001. Other common names are bracketed where appropriate. Plants are arranged in families which are listed alphabetically. \* The report can be purchased from THE ENVIRONMENT SHOP, 77 Grenfell Street, Adelaide, SA. ☎ (08) 6204 1910

### ADIANTACEAE / ASPLENIACEAE

*Cheilanthes austrotenuifolia*  
*Cheilanthes sieberi*  
*Pleurosorus ruffellii*  
*Paraceterach reynoldsii*

### AMARANTHACEAE

*Phytolacca exaltata*  
*Phytolacca obovatus*  
*Phytolacca spathulatus*

### AMARILLIDACEAE

*Calostemma purpureum*

### ASOLEPIADACEAE

*Marsdenia australis*

### CAMPANULACEAE

*Wahlenbergia species*

### CASUARINACEAE

*Allocasuarina muelleriana*  
*Allocasuarina verticillata*  
*Casuarina pauper*

### CHENOPODIACEAE

*Atriplex stipitata*  
*Chenopodium species*  
*Dioscorea paradoxus*  
*Enchylaena tomentosa*  
*Maireana astrolabica*  
*Maireana georgii*  
*Maireana pyramidata*  
*Maireana sodifolia*  
*Rhagodia paradoxa*  
*Rhagodia sponseriana*  
*Salsola kali*  
*Sclerolaena species*

### COMPOSITAE

*Bractyocoma ciliata*  
*Cassinia laevis*  
*Cassinia uncata*  
*Chrysocapitulum apiculatum*  
*Chrysocapitulum semipapposum*  
*Isolaena species*  
*Microseris lanceolata*  
*Minuria cunninghamii*  
*Olema species*  
*Rhodantha species*  
*Senecio species*  
*Vittadinia species*

### CONVOLVULACEAE

*Convolvulus erubescens*

### CUPRESSACEAE

*Callitris glaucophylla*

### CYPERACEAE

*Carex species*  
*Cyperus species*

### FERNS

Annual Rock-fern  
Narrow Rock-fern  
Blanket Fern  
Scaly Rock-fern  
PUSSY-TAILS  
Pink Mulla Mulla  
Silver Tails  
Pussy-tails

### GRAMINEAE

Pink Garland Lily

### LEGUMINOSAE

Native Pear

### LABIATAE

Native Bluebells

### CASUARINACEAE

Common Oak-bush  
Drooping Sheoak  
Black Oak  
BLUEBUSHES  
Utter Saltbush  
Goosefoot  
Ball Bindy  
Rusty Saltbush  
Low Bluebush  
Salmy Bluebush  
Black Bluebush  
Pearl Bluebush  
Mealy Saltbush  
Spiny Saltbush  
Blackbush  
Blindys  
DAISIES  
Variable Daisy  
Curry Bush  
Sticky Cassinia  
Common Everlasting  
Clustered Everlasting  
Plover-casios  
Yam Daisy  
Bush Minuria  
Daisy-bushes  
Everlastings (Sunnys)  
Groundsels  
New Holland-daisies  
BINDWEEDS  
Australian Bindweed  
CYPRESS PINES  
White Cypress-pine  
SEDGES & CLUB-RUSH  
Sedges  
Flat-sedges

### Isolopis species

### DILLENIACEAE

*Hibertia species*

### DROSERACEAE

*Drosera species*

### EPACRIDACEAE

*Astroloma humitum*  
*Euphorbia drummondii*  
*Phyllanthus laciniatus*

### EUPHORBACEAE

*Beyeria laschiana*  
*Euphorbia drummondii*  
*Phyllanthus laciniatus*

### GERANIACEAE

*Erodium species*  
*Geranium species*

### GOODENACEAE

*Dampiera lanceolata*  
*Goodenia species*  
*Scapula species*

### GRAMINEAE

*Aristida species*  
*Cymbopogon ambiguus*  
*Danthonia caespitosa*  
*Eriopogon species*  
*Eragrostis species*  
*Phragmites australis*  
*Stipa species*  
*Themeda triandra*  
*Triodia scariosa*

### JUNCACEAE

*Juncus species*

### LABIATAE

*Alga australis*  
*Electranthus intraterraneus*  
*Prostanthera striatiflora*  
*Teucrium corymbosum*  
*Westringia rigida*

### LEGUMINOSAE

*Acacia calanittolia*  
*Acacia continua*  
*Acacia ligulata*  
*Acacia oswaldii*  
*Acacia pycnantha*  
*Acacia rivalls*  
*Acacia victoriae*  
*Daviesia genistifolia*  
*Eutaxia microphylla*  
*Glycine clandestina*  
*Indigolera australis*  
*Petalostylis labicheoides*  
*Pultanea largiflorens*  
*Senna species*

### Club-rushes

### GUINEA-FLOWERS

Guinea-flowers

### SUN-DEWS

Sundews

### HEATHS

Cranberry Heath

### SPURGES & EUPHORBES

False Turpentine Bush  
Caustic Weed  
Lagoon Spurge

### HERONS-BILLS

Heron's-bills

### Native Geraniums

### FAN-FLOWERS

Grooved Damplera  
Goodenias  
Fan-flowers  
GRASSES  
Wire-grasses  
Lemon-grass  
Common Wallaby-grass  
Bottle-washers  
Lyme-grasses  
Common Reed  
Spear-grasses  
Kangaroo Grass  
Spinifex (Porcupine Grass)  
RUSHES  
Rushes  
AROMATIC PLANTS  
Australian Bugle  
Inland Spur-flower  
Striated Mintbush  
Rock Germander  
Stiff Westringia  
WATTLE & BUSH-PEAS  
Wattlows  
Thorn Wattle  
Umbrella Bush  
Umbrella Wattle  
Golden Wattle  
Silver Wattle  
Elegant Wattle  
Broom Bitter-pea  
Common Eutaxia  
Twining Glycine  
Austral Indigo  
Butterfly Bush  
Twiggy Bush-pea  
Desert Sennas

### Swainsona species

*Templetonia retusa*  
*Templetonia aculeata*

### LILIACEAE

*Anthropodium strictum*  
*Bulbine semiberbata*  
*Dianella revoluta*  
*Lomandra species*  
*Wurmbea species*  
*Xanthorrhoea quadrangulata*

### LORANTHACEAE

*Amyma species*  
*Lysiana exocarpi*

### MALVACEAE

*Abutilon leucopetalum*  
*Alogogyne hakeifolia*  
*Gossypium sturtianum*  
*Sida species*

### MYRTACEAE

*Eremophila alternifolia*  
*Eremophila duttonii*  
*Eremophila freelingii*  
*Eremophila longifolia*  
*Eremophila scoparia*  
*Myoporum montanum*  
*Myoporum platycarpum*

### MYRTACEAE

*Callistemon teretifolius*  
*Calytrix tetragona*  
*Eucalyptus camadulensis*  
*Eucalyptus flindersii*  
*Eucalyptus gonicalyx*  
*Eucalyptus gracilis*  
*Eucalyptus intermixta*  
*Eucalyptus microcarpa*  
*Eucalyptus odorata*  
*Eucalyptus porosa*  
*Eucalyptus socialis*  
*Melaleuca lanceolata*  
*Melaleuca glomerata*

### ORCHIDACEAE

*Caladenia species*

### Swainson-peas

Cockle's Tongue  
Spiny Mallee-pea  
LILIES  
Common Vanilla Lily  
Small Leek-lily  
Pale Flax-lily  
Malrushes  
Star-lilies (Early Nancy)  
Rock Grass-tree (Yacca)

### MISTLETOES

Mistletoes  
Harlequin Mistletoe  
HIBISCUS  
Desert Lantern-bush  
Hakea-leaf Hibiscus  
Sturt's Desert Rose  
Sides  
EMUBUSHES  
Narrow-leaf Emubush  
Harlequin Emubush  
Rock Emubush  
Weeping Emubush  
Broom Emubush  
Native Myrtle  
False Sandalwood  
EUCALYPTS / TEA-TREE  
Needle Bottlebrush  
Common Fringe-myrtle  
River Red Gum  
Flinders Grey Mallee  
Lime-leaf Box  
Yorrell  
Gum-barked Coolibai  
Grey Box  
Peppermint Box  
Mallee Box  
Beaked Red Mallee  
Dryland Tea-tree  
Inland Paper-bark  
ORCHIDS  
Spider-orchids

### Platostylis species

*Thelymitra species*

### PITTOCORACEAE

*Billardiera species*  
*Bursaria spinosa*  
*Pittosporum phylliracoides*

### PROTEACEAE

*Grevillea aspera*  
*Grevillea lavandulacea*  
*Hakea ednae*  
*Hakea leucopetra*

### RANUNCULACEAE

*Ranunculus species*  
*Clematis microphylla*

### RHAMNACEAE

*Cryptandra amara*  
*Spyridium pervitulum*

### SANTALACEAE

*Exocarpos aphyllus*  
*Santalum acuminatum*  
*Santalum lanceolatum*

### SAPINDACEAE

*Alectryon oleifolius*  
*Dodonaea baileyi*  
*Dodonaea lobulata*  
*Dodonaea microzyga*  
*Dodonaea viscosa*

### SOLANACEAE

*Solanum ellipticum*  
*Solanum potophillum*  
*Solanum sturtianum*

### STACKHOUSIACEAE

*Stackhousia myrsina*

### THYMELAEACEAE

*Pimelia species*

### TYPHACEAE

*Typha species*

### VIOLACEAE

*Hybanthus floribundus*

### ZYGOPHYLLACEAE

*Nitraria billardierei*  
*Zygophyllum species*

### Greenhood Orchids

Sun-orchids

### Apple-berries

Sweet Bursaria  
Native Apricot

### SPIDER-FLOWERS

Rough Grevillea  
Spider-flower  
Flinders Rgs Corkwood  
Silver Needlewood

### Buttercups

Old Man's Beard

### Cryptandra

Dusty Millor

### ROOT-PARASITIC TREES

Leafless Cherry  
Cushdorig (Native Peach)

### NATIVE HOP-BUSHES

Bullock Bush  
Crinkled Hop-bush  
Lobed-leaf Hop-bush  
Brilliant Hop-bush  
Sticky Hop-bush

### NIGHTSHADES

Velvet Potato-bush  
Rock Nightshade  
Sturt's Nightshade

### CREAMY CANDLES

RICE-FLOWERS  
Rice-flowers  
BULRUSHES  
Bulrushes  
Shrub Violet  
TWIN-LEAFS  
Nitro-bush  
Twin-leaves

### SPECIES OF SPECIAL CONSERVATION SIGNIFICANCE

RATINGS: N = NATIONAL SIGNIFICANCE S = STATE SIGNIFICANCE R = REGIONAL SIGNIFICANCE

*Stipa breviflumis* Rare at N, S & R  
*Anthocercia angustifolia* Rare at N, S & R  
*Daviesia stricta* Rare at N, S & R  
*Derwentia decorosa* Rare at N, S & R  
*Hovea purpurea* Rare at S & R

*Acacia menziesii* Vulnerable at N, S & R  
*Codonocarpus pyramidalis* Vulnerable at N, S & R

*Eleocharis sphacelata* Endangered at P Rare at S  
*Utricularia australis* Endangered at S  
*Histioglossa incis* Endangered at S & R

*Deycelex quadrifida* Assumed EXTINCT in Flinders Region  
*Potamogeton ochreatus* Assumed EXTINCT in Flinders Region  
*Ptilularia novae-hollandiae* Assumed EXTINCT in Flinders Region

*Reed Bent-grass* Assumed EXTINCT in Flinders Region  
*Bunt Pondweed* Assumed EXTINCT in Flinders Region  
*(same family as Naradoc)* Assumed EXTINCT in Flinders Region

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FOR FURTHER INFORMATION CONTACT THE WILPENA POUND VISITOR CENTRE, FLINDERS RANGES NATIONAL PARK, ON (08) 8646 0046





#### WILDFLOWERS OR WONDERFUL WEEDS?

Massed displays of colourful plants have attracted visitors to the Flinders Ranges for decades. Rosy dock and Salvation Jane became icons for the Flinders, greatly valued by the tourism industry. More recently, invasive onion weed has challenged the old favourites for space and dominance. Massed flowers in the Flinders Ranges, are in fact, colourful weed displays. In some years localised patches of white and yellow everlasting add a refreshing natural touch. The spectacular Sturt's desert pea may also be seen in good years in sandy country on the eastern and western margins of the ranges.

For the visitor seeking a genuine wildflower experience, expectations must change. Native wildflower displays in the Flinders Ranges are not bold, single colour blockbusters, but, rather, scattered flourishes of many different coloured native flowers and shrubs. A walk into Wilpena Pound or Arkaroo Rock in spring will delight the native wildflower enthusiast. Sennas, wattles, yam daisy, guinea flower, butterfly bush and everlastings provide golds and yellows. Grevilleas, bottlebrush, mulla mulla, bush peas, and native hoppers add reds, pinks and oranges. Purples and mauves appear as shrubby violet, hovea, halimolobos, dampiera, ajuga and vanilla lily. Clematis, brachycomes, olearias, fringe myrtle and mintbushes add accents of white and cream. In other areas of the National Park many small flowers like billy buttons, fan-flowers and goodenias may be hidden by hummocks of porcupine grass and other larger plants. A short walk will reveal what is so often missed when visitors remain in their vehicles.

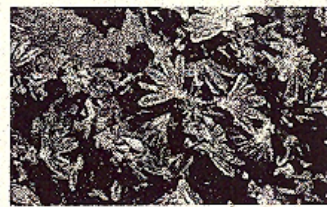


Salvation Jane at Old Wilpena Station

#### HOW EUROPEAN SETTLEMENT HAS CHANGED NATIVE VEGETATION IN THE FLINDERS RANGES

- In many areas, perennial herbs and grasses have been replaced by annual species, especially weeds
- Grazing pressure by stock, rabbits, goats and kangaroos has prevented natural recovery
- Loss of perennial vegetation on productive soils has promoted soil erosion
- Native grasslands have diminished
- Cypress pine, used for fences, buildings and stockyards, has regenerated dramatically over the last fifty years
- Reduced bushfire frequency is impacting upon the health and long term viability of some fire-dependent species
- Many woodland communities like mallee have lost understorey plants
- Probable local extinctions of some plant species especially between 1850 - 1900
- An increase in the range and vigour of native mistletoe

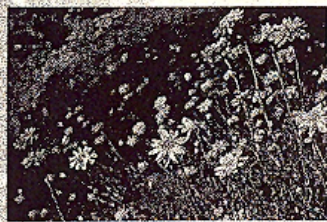
fan-flower



butterfly bush



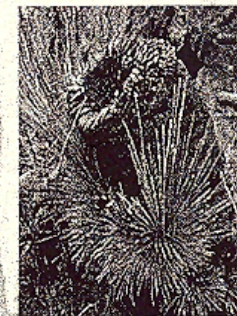
everlastings



#### FIRE: NATURE'S HOUSEKEEPER

Australia is the continent of fire. An unlikely liaison between fire and vegetation ensures continued health for many native plant communities. Fire produces a pulse of potash and other minerals that are vital in the early life of many plants. Some seed capsules are extremely hard and must be burned to release seeds from inner chambers. Other seeds need smoke for successful germination. Some eucalypts, like the red mallee, shed long ribbons of bark that act like ladders, carrying fire back into the canopy where natural fuel in the leaves awaits ignition. Yaccas wear long inflammable skirts that draw fire up into the main body of the plant. Porcupine grass contains volatile compounds that intensify fire and guarantee a hot burn.

Lightning is Nature's match. It strikes during the summer months when humidity is low and temperatures are high. Indigenous communities have traditionally used firestick farming across much of Australia to stimulate cycles of renewal. But fire no longer fulfils its ecological role in many parts of the continent. Suppression of fire to protect property and the loss of native species that carried fire, have diminished its role in maintaining ecosystem health. Ironically, the destructive wake of wildfire may be a critical factor in determining the ultimate fate of some threatened species, such as the nationally vulnerable bell-fruited tree which is found in the Flinders Ranges National Park.



Yacca regrowth after fire

#### PLANTS AND PEOPLE

- Porcupine grass is not a bushwalker friendly plant. Goats provide excellent protection from the acutely sharp spines and are recommended for walkers intending to pass through porcupine grass.
- Many seeds, especially those of introduced plants like horehound, are readily dispersed by clinging, fleecy and knitted fabrics, shoelaces and socks provide transport for such opportunity-seeding plants.
- The Flinders Ranges has its share of bush tucker plants - berries, tubers, fruits, flowers. As some plants are poisonous visitors should not sample unless in the company of a guide who can make informed choices.
- Dead timber plays a critical ecological role, providing natural seed traps, protection for seedlings and shelter for native animals. The collection of firewood in the National Park is prohibited.
- Vehicles, especially 4WD's, may carry seeds in tyre treads, particularly after off-road driving. Weeds and plant pathogens may be spread over vast distances. A thorough clean of tyres is recommended before and after any trip to the bush.
- All native plants are protected and should not be picked. Visitors are encouraged to make note of any plant of special interest, recording location, size, number of plants and a general description. Drawings are very useful. Reports should be discussed with Visitor Centre staff. Carrying a small pocket guide is recommended.
- River redgums, once called 'widow-makers', may drop limbs without warning. Visitors should picnic and camp WELL clear of the large, attractive but unreliable gums.
- Extremely fine-grained cypress pine pollen may stimulate allergies during the spring months. Visitors who suffer from asthma and hay fever should carry Ventolin inhalers when visiting the Flinders Ranges in spring.

#### TO LEARN MORE ABOUT THE PLANTS OF THE FLINDERS RANGES:

- Participate in Seasonal Events programs during school holidays
- Take your questions to the Visitor Centre and make use of the Centre's books & posters
- Purchase a copy of the *Flinders Ranges National Park - Background Information* booklet
- Carry a copy of a pocket-size FLINDERS RANGES PLANT IDENTIKIT with you
- Ask for a COMMON PLANTS OF THE FLINDERS RANGES supplementary list at the Visitor Centre
- Visit the Australian Arid Lands Botanic Gardens in Port Augusta

FOR FURTHER INFORMATION CONTACT THE WILPENA POUND VISITOR CENTRE  
FLINDERS RANGES NATIONAL PARK, ON (08) 9348 0043







## Flinders Ranges National Park CONSERVATION PROGRAMS

Nothing stands alone in nature. Every plant, animal, insect, soil microbe, living or dead, interacts with the ecosystem of which it is a part. Natural events like drought, floods and wildfire test the resilience of species and ecosystems. Most are adapted to survive extreme conditions in the short term. Rare catastrophic events like earthquakes, volcanic eruptions and comet impacts, or climate change over time, may alter conditions for life locally or globally. But change is usually slow, measured in units of geological time rather than human lifetimes. However human-induced changes, during the last 150 years, have seriously impacted upon the ecosystems of the Flinders Ranges. Some effects are irreversible, like species extinctions. The Rabbit-eared Bandicoot or *warra* lives only in memory, as a catalogued museum skin or as a creation spirit of the Adnyamathanha Dreaming. But there is scope for some recovery. BOUNCEBACK FLINDERS RANGES is an ambitious ecological recovery program that is restoring ecosystem health to the Flinders Ranges.

### ECOLOGICAL HEALTH/BIOLOGICAL WEALTH

In Nature, variety is all-important. Variety or biodiversity, ensures strong healthy communities of living things. As natural areas shrink in the wake of development and exploitation, variety diminishes. Species are lost. Nature conservation has been driven by 'rescue packages' for threatened species like pandas, condors, and bilbies. Conservation has been largely species focused. Management for biodiversity, shifts the spotlight from individual species to landscape-scale ecosystem health. The conservation of threatened species, or species rescue becomes an integral part of management for biodiversity. BOUNCEBACK FLINDERS RANGES is a landscape-scale conservation management program which aims to restore healthy, resilient, and diverse natural ecosystems, and, in the process, rescue threatened species.



Yellow-footed rock wallaby

### WHY ARE THE FLINDERS IMPORTANT?

The Flinders Ranges penetrate into the arid heart of Australia. Moist mountain habitats extend the range of some plant and animal species found in eastern and southern Australia. Temperate and arid species occur in close association. Relict, threatened and endemic species, those that are found only in the Flinders Ranges, are of particular interest to conservation managers. Many species of conservation significance are the invisible tenants of the Flinders Ranges and are unlikely to be seen by visitors.

- Fourteen plant species are endemic to the Flinders Ranges including the *Arkaroola*, *Quorn* and *Spidey wattles* and the *Flinders Ranges bitter-pea*.
- Two hundred and twenty-one native plant species have some level of conservation significance, at national, state or regional level.
- Ten of the twenty-four surviving native mammal species have special conservation status. On a recent biological survey several species previously unknown within the Flinders Ranges were recorded, including the *Little Long-tailed Dunnart*, *Common Dunnart*, *Desert Mouse* and *Little Forest Bat*.
- The Ranges are the stronghold of the nationally vulnerable *Yellow-footed Rock Wallaby* with about 70% of remaining wild populations within Australia, found in the Oary and Flinders Ranges.
- Five reptile species and thirty-four bird species have state conservation significance, whilst seventy bird species are regionally significant. Notable species include the *Red-barred Dragon*, *Short-tailed Grasswren* and the *Blue-winged Parrot*.

The semi-arid environment of the Flinders Ranges is particularly fragile. Much of the region including the Flinders and Gammon Ranges National Parks, was taken up for pastoral production in the mid to late 1800's. Stocking rates were among the highest recorded for Australia during the early pastoral years. Many small to medium sized mammals and some birds and reptiles had all but disappeared from the region by 1900. The extent of local extinctions was realized almost a century later. The persistence of European foxes, rabbits, feral cats, goats and donkeys has contributed to the further degradation of ecosystems.

### THE IMPACT OF EUROPEAN SETTLEMENT ON BIODIVERSITY IN THE FLINDERS RANGES

- Unsustainable grazing pressure led to the loss of some plant communities and dramatic shrinkage of others.
- Indigenous land use and associated economies based upon conservative harvest were destroyed during the first fifty years of settlement.
- 66% of local mammals became extinct within 50 years of European settlement. The greatest impact was borne by small to medium sized mammals weighing between 50 g and 5kg.
- Feral animals were introduced in the nineteenth century but their greatest impacts have been felt during the last century. Rabbit plagues were first recorded in the 1890's. Foxes had arrived by the early 1900's. Feral cats probably preceded settlement. Goats accompanied exploration parties in the 1840's, and were probably held in check by dingoes until the 1900's.
- The dingo, the only high order predator, was poisoned, shot and ultimately excluded with the erection of the Dog Fence in 1912.
- Loss of plant cover exposed fragile soils to the elements, resulting in widespread soil erosion.
- Some introduced plant species have out-competed natives and now dominate whole land systems.
- Artificial watering points like dams and stock-troughs helped to sustain unnaturally high populations of large native animals like euros and kangaroos.
- Bushfire frequency has diminished, threatening the long term survival of fire-dependent species.
- A substantial percentage of native plant and animal species have current conservation significance ratings which confirms that threatening processes continue.
- Hunted for scalps and furs, the once abundant Yellow-footed Rock Wallaby was identified as needing protection in 1919.

### BOUNCEBACK FLINDERS RANGES ECOLOGICAL RESTORATION INITIATIVES INCLUDE:

- Removal of feral goats at a regional level in collaboration with other landholders.
- Destruction of rabbit warren systems in the Flinders and Gammon Ranges National Parks - ripping, fumigation, explosives and follow-up inspections. A completed treatment area of 160 square kilometres in the Flinders Ranges National Park and 120 square kilometres on neighbouring Gum Creek Station make this the most ambitious warren systems control program in Australia.
- Removal of foxes from the Flinders and Gammon Ranges National Parks and adjacent buffer zones using 1080 baits.
- Strategic control of feral cats - trapping & shooting.
- Management of total grazing pressure including a sustainable macropod (kangaroo) population.
- Control of key pest plant species including bio-control trials for Harehound & Salvation Jane.
- Land rehabilitation: trialing a number of different treatments for sheet and gully erosion.
- Establishment of seed production areas.
- Revegetation of key plant species using a number of techniques including direct seeding of ripped warrens.
- Trial re-introductions of locally extinct mammals.
- Close ties with the RHD\* research program. The Flinders Ranges is one of a number of study sites in Australia used for the monitoring of RHD by scientists from the CSIRO and the Animal & Plant Control Commission. Site locations include the Flinders and Gammon Ranges National Parks and adjoining properties.
- Rigorous monitoring programs for the evaluation of all activities. Monitoring programs include:  
Annual kangaroo (macropod) surveys - ground & aerial  
Annual rock-wallaby survey - aerial  
Annual small vertebrate trapping surveys  
Regular vegetation & photopoint survey  
Quarterly vehicle-based spotlight counts of rabbits & kangaroos along set transects in treated & untreated areas  
Regular counting, trapping and shot-sampling of rabbits for RHD monitoring & surveillance  
Twice-yearly monitoring of vegetation enclosures to compare plant cover in treated & untreated areas  
Quarterly vehicle-based spotlight counts & shot sampling of foxes and cats in baited and non-baited areas.
- Collaboration with undergraduates and post-graduates undertaking research into biodiversity issues.

\*RHD is the bio-control Rabbit Haemorrhagic Disease also known as Rabbit Calicivirus Disease



## What's For Dinner...?



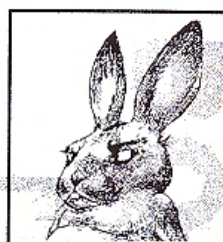
### FERAL BANQUET

Rabbit  
Red Kangaroo  
Euro  
Pink-blotched Gecko  
Common Scaly-foot  
Gidgee Skink  
Sleepy Lizard  
Spotted Slider  
Eastern Striped Skink  
Short-legged Ctenotus  
Dwarf Three-toed Slider  
Centralian Earless Dragon  
Painted Dragon  
Five-lined Earless Dragon  
Central Bearded Dragon  
Thick-tailed Gecko  
Beaked Gecko  
Tree Otella  
Sand Goanna  
Southern Blind Snake  
Red-naped Snake  
Western Brown Snake  
Mallee Black-headed Snake  
White-browed Babbler  
Elegant Parrot  
Galah  
Emu  
Crested Pigeon  
Australian Magpie  
Sheep  
Goat  
House Mouse  
Stripe-faced Dunnart  
Fat-tailed Dunnart  
Earthworm  
Centipede  
Scorpion  
Wolf Spider  
Grasshopper  
Wood Cricket  
Stick Insect  
Peppercorn fruit  
Nitre Bush fruit  
Mistletoe fruit



### subject to seasonal availability

Rabbit  
House Mouse  
Stripe-faced Dunnart  
Thick-tailed Gecko  
Beaked Gecko  
Pink-blotched Gecko  
Tree Otella  
Common Scaly-foot  
Common Snake-eye Skink  
Sandswimmer  
Eastern Bluetongue  
Dwarf Three-toed Slider  
Eastern Striped Skink  
Gidgee Skink  
Short-legged Ctenotus  
Sleepy Lizard  
Spotted Ctenotus  
Central Bearded Dragon  
Centralian Earless Dragon  
Painted Dragon  
Sand Goanna  
Rough-nosed Blind Snake  
Curl Snake  
Mallee Black-headed Snake  
Mulga Snake  
Red-naped Snake  
Western Brown Snake  
Beaked Gecko  
Bynoe's Gecko  
Common Bronzewing  
Galah  
Australian Magpie  
Brown Sanglerk  
Little Corelia  
Crested Pigeon  
Marbled Frog  
Red Kangaroo  
Sandy Inland Mouse  
Gould's Wattled Bat  
Little Mastiff Bat  
Beetle  
Centipede  
Wood Cricket  
Grasshopper



Cypress pine  
Black oak  
Oswald's wattie  
Umbrella wattie  
Prickly acacia  
Broughton wattie  
Needlewood hakea  
Bullock bush  
Butterfly bush  
Sandalwood  
Mulga  
Honeysuckle embush  
Rock sida  
Desert Chinese-lantern  
Sturt's Desert rose  
Bladder saltbush  
Mealy saltbush  
Low bluebush  
Satin bluebush  
Black bluebush  
Pearl bluebush  
Bitter saltbush  
Lemon Scented grass  
Wallaby grass  
Kangaroo grass  
Cotton grass  
Mulga grass  
Poverty bush  
Silky bluegrass  
Panic grass  
Lovegrass  
Small Flinders grass  
Silky brown top  
Sugarwood  
Slender Bell-fruit tree  
Goosefoot  
Twiggy sida  
Ruby saltbush  
Showy indigo  
Darling pea  
Native jasmine  
Tar bush  
Corkwood  
Parakeelya

\*Species identified in the stomach contents of foxes and cats removed from the Flinders Ranges National Park

## IS BOUNCEBACK FLINDERS RANGES SUCCEEDING?

### EARLY RESULTS:

- Foxes almost eliminated from the Flinders Ranges National Park (FRNP)
- A major reduction in feral goat and rabbit numbers (on the National Parks and regionally)
- A dramatic increase in the Yellow-footed rock wallaby population in the Flinders and Olary Ranges
- Trial re-introduction of the Brush-tailed bettong (FRNP)
- Establishment of saltbush and bluebush revegetation trials (FRNP)
- Establishment of a land reclamation trial using saltbush (FRNP)
- Control of the pest plant Wheel cactus in FRNP & adjoining properties
- Habitat protection for the nationally endangered Spidery wattie in the Northern Flinders Ranges
- Significant native plant regeneration on the parks

### AWARDS

Winner of the inaugural 2000 SA GREAT ENVIRONMENT AWARD

Winner of the 2001 BANKSIA AWARD for LAND, BUSH & WATERWAYS MANAGEMENT

### FIREARMS, POISON BAITS & VISITORS

The use of 1060 baits (pronounced ten-eighty) and firearms for the control of feral animals on the Flinders Ranges National Park is rigorously controlled with visitor safety the highest priority.

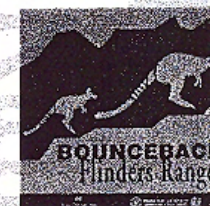
- The park is closed for all aerial shooting programs.
- The shooting of foxes and feral cats is undertaken only by experienced shooters in the company of NPWSA officers. No shooting is permitted in / near occupied campgrounds. Signs are posted throughout the park advising of dates for the quarterly activity.
- Dried 1060 meat baits are used throughout the park for the control of foxes. Baits are not laid within 500 metres of campgrounds and day visitor areas. 1060 baits are lethal to foxes and domestic dogs. Dogs are prohibited in the National Park. However as public roads pass through some sections of the park, visitors should keep dogs in vehicles at all times until well beyond the park boundary. Visitors should also be aware that some pastoralists also bait for foxes and dingoes. Dogs should be kept on a leash at all times when passing through pastoral country.
- 1060 baits pose very little risk to people. If a bait was found and handled there would be no ill effects. However, baits should not be eaten if found, which is unlikely. A 1060 bait looks like an unappetising old piece of leather.

### BOUNCEBACK PARTNERS

Management for biodiversity is a regional issue. Bounceback Flinders Ranges evolved out of the collaborative efforts of NPWSA officers and neighbouring landholders to improve biodiversity in the Flinders Ranges.

Bounceback Flinders Ranges partners include:

- District Pastoralists
- The North Flinders Soil Conservation Board
- Other State Land Management Agencies
- The Sporting Shooters Association of Australia (SA)
- Wilpena & Arkaroola Tourist Resorts
- The Adnyamathanha community.



Volunteers have also provided invaluable assistance with labour-intensive activities like seed collection, location & mapping of pest plants, fox-baiting, kangaroo surveys and tree-planting. Volunteers include the Australian Conservation Volunteers and Greening Australia, the Friends of the Flinders Ranges National Park, the Mid North Bushwalkers, TAFE and university students, NPWSA families.

**BOUNCEBACK** also acknowledges the assistance and support of the Natural Heritage Trust, the Nature Foundation SA and Toyota

FOR FURTHER INFORMATION CONTACT THE WILPENNA POUND VISITOR CENTRE, FLINDERS RANGES NATIONAL PARK, ON (08) 8948 0048 or visit [www.environment.sa.gov.au/biodiversity/](http://www.environment.sa.gov.au/biodiversity/)





## Earth History of the Flinders Ranges National Park

Geologists use science to explain how the Flinders Ranges were formed. The Adnyamathanha of the Flinders Ranges have their own creation histories for the land and the life it supports. The creation histories and geology complement each other, enriching our knowledge of the landscape. This Park Note explores the formation of the Flinders Ranges, two stories, both recorded in stone. The rocks remember a time when Australia was part of the supercontinent Gondwana, when ice sheets covered much of the earth, when the first complex animal life stirred in the oceans, when the great water snakes travelled south.

### GEOLOGICAL TIME

Geological time is immense. Geologists measure time in billions of years. The age of rocks can be determined by techniques such as isotopic dating. Rocks of particular ages and sequences are found on a number of continents suggesting that the continents were arranged differently in the distant past. Continents do shift with time and change shape as they collide with or break away from other continents. World climate fluctuates. Sea levels rise and fall and influence the shape of continents and islands. Although imperceptible, the landscape is continually changing. The Geological Time Scale is science's measure of earth history.



### DREAMTIME

For the Adnyamathanha, time is a continuum. It encompasses past, present and future, and all that is known. Knowledge is not sorted into spiritual, legal, geological, social, ecological and historical systems. Law and knowledge are manifest in land. The landscape is alive with signs of the presence or passing of ancestral spirits who shaped the land. Geological formations are often linked to specific Creation Spirits. Where the non-Indigenous eye is drawn to what is scenic, a significant feature for the Adnyamathanha, is not always a notable physical feature of the landscape. The Dreaming is timeless.

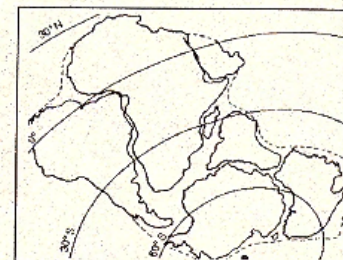
### READING THE ROCKS

The Flinders Ranges are the recycled sediments and elements of a much older earth. Most rocks that make up the Flinders Ranges are sedimentary. The rocks record major climatic fluctuations and changing environmental conditions. The textbook of stone tells us of:

- Several Ice Ages and one Big Freeze lasting 300 million years, when the Earth almost froze over
- Dramatic changes in the chemistry of the Earth's oceans which influenced the evolution of life
- Changes in the Earth's atmosphere which created more favourable conditions for life to flourish
- Fluctuating sea levels when seas flooded continental areas and later retreated
- A major comet impact some distance away which hurled rock fragments for hundreds of kilometres in all directions 600 million years ago
- Signatures of life including the earliest bacteria and algae, primitive multi-cellular life, and complex organisms from which all present life derives

### RECYCLED LANDSCAPES

The Flinders Ranges were laid down as weathered sediments deposited in a deep trough off the southern edge of a supercontinent called Gondwana. Australia was not an island continent but was part of Gondwana, with sister continents Africa, India, South America and Antarctica. The buried sediments, many kilometres thick, were compressed and heated to become solid rocks.



About 500 million years ago the rock layers were squeezed and folded into a long mountain chain, much higher than today's ranges. The re-cycling process continues. The great bulk of the ancestral Flinders Ranges has been eroded to form the plains and basins that surround the ranges.



Wilpena Pound is a natural landform created by the uplifting, folding and weathering of sedimentary rocks. Time worn, Wilpena Pound is a remnant elevated synclinal basin once enclosed by much higher mountains. The shallow basin and steep ramparts are composed of resistant quartzite. Wilpena Pound is a classic example of a Pound structure and is listed on the Register of the National Estate.



### RUMBLES IN THE ROCKS

Remnants of geological processes that uplifted the Flinders Ranges persist today. Ancient faults are still active. Earth tremors occur frequently throughout the Ranges.

An Adnyamathanha story explains why the earth trembles:

Akurra is a giant water snake who has a beard, mane and very sharp fangs. He is the creator and keeper of all permanent waterholes and springs (awi). Akurra lived in the Gammon Ranges. One day he travelled to the plains looking for water. When he came across Lake Frome and Lake Callabonna, he drank them dry. Because the water was gone, Akurra became bloated and his trip back to the ranges was very slow. The heat from the sun warmed his bloated belly and made rumbling sounds that can still be heard over a great distance. As he went Akurra carved out the gorges in which creeks run and made waterholes and springs and finally came to rest at Yaki Waterhole in Mainwater Pound.

### HARD AND SOFT



THE DISTINCTIVE FLINDERS RANGES LANDSCAPE IS SHAPED BY THE UNEVEN WEATHERING OF ALTERNATING HARD AND SOFT ROCKS. RESISTANT QUARTZITE FORMS THE HIGHEST PEAKS AND RIDGES. LIMESTONE HILLS OF INTERMEDIATE HEIGHT OFTEN FEATURE HARDER BANDS OF DOLOMITE WHICH CREATE THE ILLUSION OF DISTANT STONE WALLS GIRDING THE HILLS. SOFTER MATERIALS LIKE MUDSTONE, SILTSTONE AND SHALE HAVE BEEN WORN AWAY TO FORM VALLEYS AND GORGES.

### BLUE HAZE

At distance, during the day, the Flinders Ranges appear to be blue. The blue haze is created by terpenes which are natural plant products that combine with ozone. The blue haze is very noticeable in the Central Flinders where extensive Native Pine woodlands occur. In contrast, the ranges appear pink and, in certain atmospheric conditions, shimmer in the low-angled light of early morning or evening. The presence of iron oxides in the rock create this stunning effect.

### RED GLOW



## Singing the Land

For Indigenous Australians all understanding derives from the land. Different accounts for the same feature or phenomena coexist. This contrasts with science which seeks singular truths. Creation stories have many layers of meaning. A story may explain how a particular feature of the landscape was formed, provide details of animal behaviour, create a map for travellers, and prescribe appropriate behaviour for Aborigines.

In the Dreaming of the Adnyamathanha, the unformed land was shaped by the Akurra, an immense maned and bearded water snake. Two Akurras, a male and female, feature in the creation history for Wilpena Pound. The activities of travelling ancestral spirits further shaped the land. The white-winged fairy wren threw a boomerang which created the cleft in Mt Chambers. An argument between a euro and red kangaroo led to the creation of the rocky northern Flinders Ranges, separated from Lake Frome by the sweep of the kangaroo's tail. Waterholes and springs along the eastern side of the Ranges were created by the Thumping Kangaroo. The talcstone of the northern Flinders is the decomposed fat of a dead Akurra. Copper is rotting emu fat. Landform, rocks, minerals, all are manifestations of the Dreaming.

### YURLU NGUKANDANHA

#### THE TRACK TO WILPENNA POUND (IKARA)

Yurlu, the Kingfisher, decided to go south for a ceremony. On the way he made a big fire, a sign that he was coming. The remains of that fire is the big heap of coal still at Leigh Creek today.

As Yurlu was travelling, there were also two big Akurras (Dreamtime Serpents) going south. Yurlu continued down the valley still making smoke, leaving coal behind him.

The two serpents also went on southwards and entered the Pound through Edeowie Gorge and camped at a large waterhole.

That night, some people in the Pound were holding a ceremony. When they looked into the sky at the stars to see if it was time to start, the stars they saw were actually the eyes of the two Akurras. The male Akurra told his mate to go to the southwest, while he went northeast to surround the people.

When Yurlu reached Mt. Abrupt he stopped and looked into the Pound. He could hear the sound of the ceremony. He threw a firestick into the air; it turned into the red star, Mary.

While this was going on, the two Akurras came up on each side of the ceremonial ground and ate up all the people except two initiates and Yurlu.

St. Mary Peak is the head of the male Akurra and Beatrice Hill is the head of the female serpent, both watching the flight of the initiates. Their bodies form the two sides of the Pound.

### THE OCHRE TRAILS

FOR INDIGENOUS AUSTRALIANS, RED OCHRE WAS A SACRED MATERIAL WHICH REPRESENTED THE LIFE-GIVING BLOOD OF THE DREAMTIME SPIRITS. RED OCHRE WAS USED AS A CHARM, AS A MEDICINE, A BODY PAINT, FOR THE DECORATION OF SACRED OBJECTS AND FOR CEREMONIAL IMAGE-MAKING IN CAVES AND ROCK SHELTERS.

IRON OXIDES AND CLAY FORM VERY SOFT MINERALS WHICH ARE EASILY GROUND TO A FINE POWDER. HIGHLY PRIZED RED OCHRES FROM THE FLINDERS RANGES WERE TRADED THROUGHOUT THE LAKE EYRE BASIN AND BEYOND. ABORIGINAL VISITORS FOLLOWED DREAMING TRAILS SOUTH TO THE OCHRE MINES IN THE FLINDERS RANGES. AS THEY TRAVELLED ALONG THE ANCESTRAL TRADE ROUTES THE VISITORS WOULD RENEW CONTACT WITH CREATION SPIRITS. THE OCHRE TRADE WAS DEEPLY INVESTED WITH CEREMONY.

THE OCHRE WAS QUARRIED, MOISTENED WITH WATER AND SHAPED INTO LARGE CAKES THAT WERE CARRIED ON THE HEAD. THE VISITORS TRADED PICTURES (A NATIVE TOBACCO WITH NARCOTIC PROPERTIES), STONE AXES AND BALEN SHELLS FOR THE LUSTROUS OCHRE.

A series of interpretive panels exploring the Traditional Ochre Trade Routes can be found at the Heyden Trail carpark in Parachilna Gorge, about 17 kilometres west of Blinman.

## FOSSILS

## FINGERPRINTS OF THE PAST

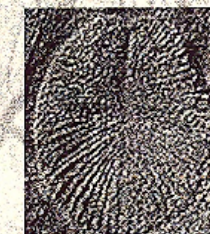
The story of life on Earth is written in the rocks. For the Adnyamathanha of the Flinders Ranges, the land resonates yet with the activities of ancestral spirits who shaped the land. For non-Aboriginals, the rocks also hold the key to the past. Fossils are like ancient texts relating stories about earlier forms of life. Fossils provide information about the characters of the past, their relationships, the environments in which they lived, and even aspects of their behaviour. Without fossils we would have a much poorer understanding of the evolution of life on earth. Fossils enrich our culture and feed our imagination. The great Dinosaur exhibitions that have toured the world, filled museum halls as no other exhibitions have done. Fossils are part of our own journey through time. The Fossil Record is the Earth's memory.



ARCHAEOCYATHA



MARSSONITES



DICKINSONIA

THE FOSSIL RECORD OF THE FLINDERS RANGES AND NEARBY SALT LAKES IS EXTREMELY DIVERSE. WHILST MANY OF THE FOSSILS ARE NOT INDIVIDUALLY SPECTACULAR, COLLECTIVELY THEY TELL A REMARKABLE STORY:

- In their search for microfossils on other planets, scientists have discovered fossilised microbes in rocks of the Northern Flinders Ranges that take science back to the dawn of time. Genetically distinct from bacteria, the heat-loving microbes persist today in hot springs, volcanic vents, and at great depth in the earth's crust.
- Primitive bacteria and algae are preserved as stromatolite reefs throughout the Ranges, and are well exposed in the Flinders Ranges National Park. Stromatolites gave the Earth the gift of free oxygen and an atmosphere in which air-breathing life forms could evolve.
- The first evidence of multi-cellular life on earth was discovered at Ediacara, near Lake Torrens, in 1946. The world famous Ediacaran Fauna has since been found on most continents, and in several other places throughout the Flinders Ranges.
- Vast limestone reefs made by ancestral sponges called Archaeocyatha outcrop in the Park. The explosion of complex animal life in the Cambrian Seas about 550 million years ago is recorded in the younger rocks of the Ranges.
- Lake Callabonna is an important 'burial ground' for Australian mega-fauna. The large hippo-like Diprotodon, estuarine crocodiles and dolphins have been recovered from the salt lake. Diprotodons are remembered in the creation histories of some Indigenous groups.

### TO LEARN MORE ABOUT THE EARTH HISTORY OF THE FLINDERS RANGES NATIONAL PARK:

- Explore the Brachina Gorge Geological Trail, a self-guided driving tour through Brachina Gorge. Follow the signs and use the companion brochure and map to discover more about the rocks and the dynamic forces that shaped them.
- Take a flight over Wilpena Pound to fully appreciate its unique saucer-like structure.
- Participate in Seasonal Events programs which offer geological and cultural tours.
- Visit Stokes Hill Lookout for spectacular views, cultural interpretation and a scaled bronze relief of the Wilpena Pound.
- Metal detectors are not permitted in the Flinders Ranges National Park.
- A permit is required to collect rock and mineral specimens in the Flinders Ranges National Park.

FOR FURTHER INFORMATION CONTACT THE WILPENNA POUND VISITOR CENTRE, FLINDERS RANGES NATIONAL PARK, ON (08) 8649 0043





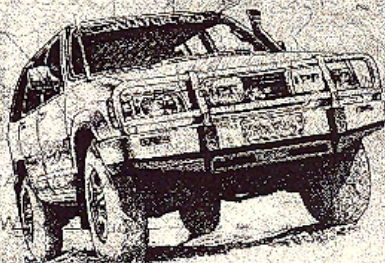


## Flinders Ranges National Park Vehicle Touring

Dramatic horizons greet all visitors to the Flinders Ranges, regardless of the direction from which they come. Some of the most spectacular scenery on offer in the Flinders Ranges is accessible by vehicle. Scattered European heritage sites and popular Aboriginal cultural sites are found along scenic routes. All roads beyond Wilpena Pound are unsealed and most can be accessed, with care, by conventional vehicles. Several pastoral properties in the district provide challenging 4WD tracks for those visitors seeking an off-road experience. To get the most out of scenic drives, visitors should stop regularly, leave their vehicles and walk, to experience the deep silences, the expansiveness of the landscape and much of the detail that is missed from a moving vehicle.

### IS THERE A BEST SEASON?

The Flinders Ranges can be enjoyed all year round. Each season has its own particular charm. The dramatic contrast of red rock, golden grass and the intense blue of the outback sky, is the gift of summer. Autumn brings magnificent weather, with warm, calm days and cool nights. Wildlife is more readily seen in winter and the denser air provides sharp detail for photography. A carnival of colour is spring, with flowering plants of many hues, and birds in breeding plumage.



### 2WD OR 4WD?

All public roads in the Flinders Ranges National Park are suitable for conventional vehicles. Average speeds of 40 - 60 kilometres per hour are recommended through the park. Drivers of low clearance vehicles should take special care when crossing creekbeds. Kangaroos, emus and wedge-tailed eagles may be encountered along roads, and drivers should reduce speed when approaching wildlife. Road surfaces may become slippery after light showers. Conditions can change dramatically after heavy rain. Creeks can rise suddenly, temporarily blocking access or return. In extreme conditions roads may be closed to allow them to dry out or until damaged sections can be repaired.

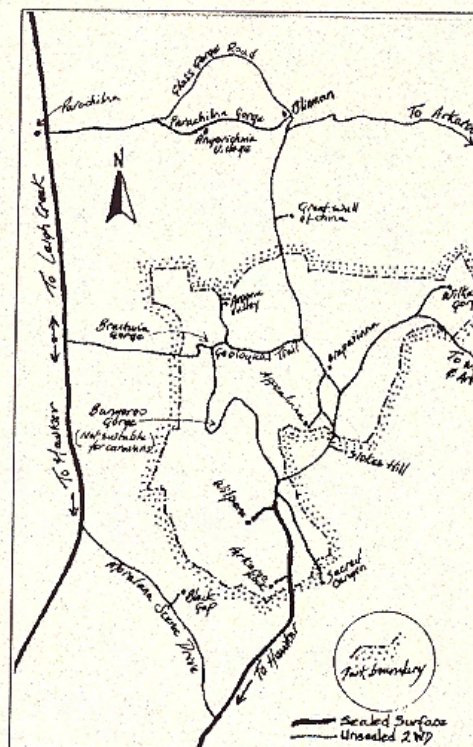


Road closures are posted on Department of Transport signs throughout the Ranges. The nearest sign is located at the end of the bitumen beyond the Wilpena / Hawker road junction. Failure to observe road closures attracts steep fines. Daily updates on road conditions are available from the Visitor Centre at Wilpena or by ☎ 1300 361 033. The nearest RAA Agency is Hawker Motors ☎ 8648 4014. Fuel is available at Hawker, Rawnsley Park, Wilpena, Blinman, Angorichina Village and Parachina. Tyres can be repaired or purchased from Hawker and Angorichina Village.

### COMMUNICATIONS

A CDMA mobile phone service for the Wilpena Pound area will soon be established. The range will be limited to the Resort and immediate surrounds. All other areas in the park will be out of range. Local UHF Repeaters include Channels 3, 4 & 6. **Visitors should observe protocols for radio use.** UHF radio is the lifeline of Station families whose daily operations or emergency requirements can be blocked by lengthy casual conversations. Visitors should only use UHF radios to maintain contact, identify hazards and in emergency situations.

Unsealed mudmap of Flinders Ranges National Park and nearby locations



### PARK AMENITIES

**Toilets** are located in campgrounds throughout the park. Sites include Trezona, Koolamon, Cambrian, Acraman, Brachina East, Teamster's and Aroona. Toilets are also found at Slippery Dip.

**Picnic Areas:** visitors may use tables, fire pits and BBQ plates at unoccupied campsites. There are also day visitor picnic areas at Twin Gums, Bunyeroo Lookout, Aroona Valley, Arkaroo Rock carpark, and Wood Duck Dam.

**Rubbish bins** are provided at campgrounds and through Brachina Gorge. All visitors who are not bushcamping are asked to take rubbish with them for disposal where they are accommodated. Plastic bags left in rubbish bins in the park are torn apart by ravens searching for food scraps. Rubbish spreads and becomes unsightly. Hard items may be disposed of in park rubbish bins.

### PETS

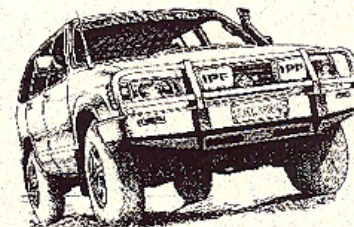
**PLEASE DO NOT BRING YOUR PETS TO THE PARK.** Unrestrained animals can disturb or harm native wildlife. 1080 poison, lethal to foxes and domestic dogs, is used to control foxes and feral cats. Whilst baits are unlikely to be found by visitors dogs are at risk.

### CLOSED TRACKS

Some tracks in the Flinders Ranges National Park are not available for public use. They are identified with appropriate signage or locked gates. Fire-fighting access tracks are not maintained at a standard suitable for scenic touring. Other tracks are used to access remote areas of the park for conservation works. As some operations, such as aerial animal control, pose potential risks for visitors, access tracks remain closed. Most of the conservation management and recovery programs are located in the more degraded areas of the park.

### 4WD TOURING

Several pastoral properties in the district offer a range of self-drive and tag-along 4WD tours. Some experience is recommended. Look for the **Great 4WD Journeys of the Flinders Ranges** brochure or ask for details at the Wilpena Visitor Centre.





## ABORIGINAL CULTURAL SITES

### SACRED CANYON

34 kilometres return from Wilpena, the turn-off a few hundred metres past the Cazneau Tree on the Blinman road. The track passes through dense Native pine woodland to a small shaded gorge just outside the park boundary. A short walk from the carpark along a gum-lined creek leads to the site where rock engravings and petroglyphs are found on the gorge walls. The images representing animal tracks, people and waterholes, have been pecked into the sheer rock faces with stone tools. Some images are very weathered and are best seen in the soft light of morning or late afternoon.

### ARKAROO ROCK

About 17 kilometres south of Wilpena on the Hawker Road. Follow the unsealed track in to the carpark. Allow 1.5 hours return for one of the most satisfying short walks in the park. With a gentle gradient overall, the walking trail passes through attractive native vegetation regenerating successfully after destruction by wildfire more than ten years ago. The trail leads to a rock shelter which features ochre and charcoal images that tell of the creation of Wilpena Pound. Magnificent views of the Chace Range are seen on the return walk, and are at their best just before or at sunset. The rock paintings are best seen in morning light.

Aboriginal guides conduct cultural walks at Sacred Canyon and Arkaroo Rock during the Seasonal Events programs.

### STOKES HILL LOOKOUT

20 kilometres north of Wilpena on the Blinman road. Rising 750 metres, Stokes Hill provides spectacular panoramic views of the ranges and in particular, of Wilpena Pound and Patamawarte Hills above Blinman, both important sites in the Adnyamathanha Dreaming. Stokes Hill features a large bronze relief model of Wilpena Pound and a series of panels interpreting Adnyamathanha cultural history.

## EUROPEAN HERITAGE SITES

### WILPENA EATING HOUSE SITE

Located near the Cazneau Tree 5 kilometres from Wilpena. No buildings have survived. Eating Houses were the service stations of yesteryear, providing 'refuelling' stops for travellers and stock. Usually located a day's travelling distance apart, the Eating House settlements provided beds, meals, stables and yards, and repairs to wagons and drays. Little remains other than china shards and flagging stones at most Eating House sites in the Central Flinders.

**APPEALINNA RUINS, OMAKA PADDOCK**  
The impressive ruins of a mining settlement and homestead from the 1850s/60s, sit above the Appealinna, 25 kilometres north of Wilpena on the Blinman road. Early settler Joseph Wills took up the Appealinna run as the left-over bits of harsh country not included in surrounding leases. Wills ran cattle on the stony, spinifex covered hills. Remains of the station homestead and outhouse are found on the south side of the creek. Flat stone, quarried on site, was used for the small mining settlement on the north side of the creek. Miners worked the nearby Appealinna copper mine at the junction of the Blinman and Wirralpa roads. The stonework at the two sites is distinctively different. A drystone wall, restored by the Friends of the Flinders Ranges National Park in 1996, probably protected a garden watered from nearby permanent springs.

### APPEALINNA MINER'S HUT

Located about 600 metres from the Blinman and Wirralpa Road junction. Restored in 1996 by the Friends of the Flinders Ranges National Park.

### AROONA RUINS

An Adnyamathanha word meaning 'place of the frogs', Aroona was settled on a permanent spring which issues out of a low rise. Heritage from two eras survives at the site. Above the spring, to the left of the carpark, are the remains of Hayward's head-station for the Aroona run on the 1850s. Below is the restored bog and pine hut, first built in 1925, as an outstation of the expanded Oropargina run. The site is deeply associated with the renowned Australian landscape painter Sir Hans Heysen who made a number of painting trips to the area.

### YANYANNA HUT

Musterers hut and yards, above a small spring along the Bunyeroo Valley road. The hut, built on the site of a ruined shepherd's hut from the 1850s, is now used by Heysen Trail trekkers.

## SCENIC DRIVES ON PARK

### BRACHINA GORGE GEOLOGICAL TRAIL

A 20 kilometre self-guiding trail passes through 130 million years of Earth history. Trail signage provides insights into past climates, the formation of the ranges and the evolution of early forms of life. The trail is best done from east to west, but information shelters at either end provide a sound starting point regardless of direction. Accessible by 2WD, special care is required for shallow water and dry creekbed crossings. Look for the companion Brachina Gorge Geological Trail Guide in the Wilpena Visitor Centre.



Watch for Yellow-footed rock wallabies in Brachina Gorge

### BUNYEROO - BRACHINA - AROONA SCENIC DRIVE: length varies with optional links

This route combines the best the park has to offer - spectacular scenery, great opportunities for observing wildlife, interpreted geological history and European heritage. Visitors should allow at least five hours to complete the round trip from Wilpena of approximately 100 kilometres. The drive takes in the Brachina Gorge Geological Trail. Magnificent Brachina Gorge is a magnet for wildlife, with a small waterbird community living on the permanent spring-fed waters. The gorge is also an important refuge for the vulnerable Yellow-footed rock wallaby, whose numbers are increasing as a result of intensive feral animal control within the park. Framed by the Heysen and ABC ranges, the Aroona Valley is one of the most scenic locations in the park. The ruins of Hayward's 1850s sheep run are found at the northern end of the valley. A restored 1920s pug and pine hut, used by the renowned Australian landscape painter Sir Hans Heysen during painting expeditions, is also found nearby. Spectacular panoramic views from Bunyeroo and Stokes Hill Lookouts are perfect locations to take in the sunset.

#### LINKS INCLUDE:

**Moralana Scenic Drive** - continue through Brachina Gorge to the Leigh Creek road and turn left. Travel south on the bitumen for about 22 kilometres to the turn-off for the Moralana Scenic Drive.  
**Parachilna Gorge / Blinman** - continue through Brachina Gorge to the Leigh Creek road and turn right. Travel north on the bitumen for about 18 kilometres to the small settlement of Parachilna. The turn-off for Parachilna Gorge is about two hundred metres north of the settlement.

## SCENIC DRIVES OFF PARK

### MORALANA SCENIC DRIVE:

A 28 kilometre picturesque route that connects the Hawker and Leigh Creek roads, and is best done as a link with another drive. The route follows the Moralana Valley which lies between the south-western wall of Wilpena Pound and the dramatic Elder Range. It is especially colourful in spring when the introduced plant Salvation Jane (Paterson's Curse) blankets the low hills and valleys in a riot of deep purple. Great views of the Pound and Mt. Alick can be seen from Black's Gap Lookout. Suitable for conventional vehicles, this route does feature many tight dips and low crests. The scenic drive passes through private property, and camping is not permitted, but visitors may enjoy the many attractive picnic spots.

### BLINMAN, PARACHILNA GORGE, GLASS GORGE, PARACHILNA:

A 31 kilometre route best done as a link with another drive. Seven kilometres beyond the northern park boundary look for the Great Wall of China, a striking landform of resistant limestone. The historic township of Blinman was a thriving copper mining centre in the 1880's and again early in the 1900's. Site interpretation at the mine relates Blinman's fluctuating fortunes. The tiny settlement of Parachilna can be reached by two routes. The Glass Gorge track follows the route taken by the drays that hauled copper ore to the railway at Parachilna. The Parachilna Gorge road is best travelled east to west, with spectacular views of the Heysen and ABC Ranges. The popular Blinman Pools walk begins at the Angorichina Tourist village.

### TO GET THE MOST OUT OF VEHICLE TOURING:

- Purchase a set of PARK NOTES for information about the birds, mammals, geological history, European heritage and Aboriginal cultural history of the Flinders Ranges National Park.
- Participate in Seasonal Events programs during school holidays.
- Spend more time out of the vehicle than travelling in it.

For further information contact the Wilpena Pound Visitor Centre, Flinders Ranges National Park, on (08) 8648 0048.





# Welcome

*Ananguku ngura nyangatja ka pukuipa pitjama*  
**This is Aboriginal land and we welcome you.**

We, the traditional owners, value the Park as a place that honours the culture of our people, preserves the fragile ecology of the land of our ancestors and upholds Tjukurpa - the Pitjantjatjara word for our history, knowledge, religion, morality and Law that has always dictated the way in which we look after each other and the country.

Please enjoy this world heritage area and open your minds and hearts to learn about our land, beliefs and culture.

We would like to welcome you by sharing the main messages of the Tjukurpa Piti display at Uluru-Kata Tjuta Cultural Centre in Pitjantjatjara and English. These messages are very important to us.

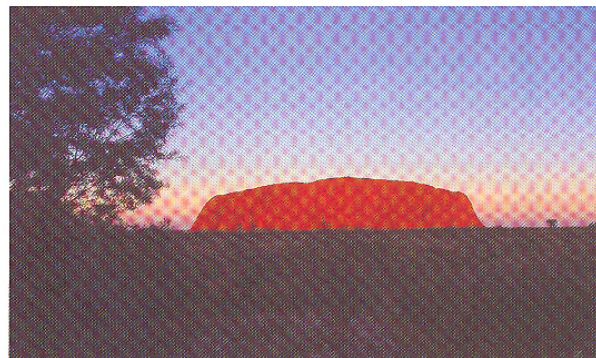
*Ananguku ngura nyangatja ka pukuipa pitjama.*  
This is Aboriginal land and we welcome you.

*Nyakula munu nintirinkula Anangu kulintjikitjangu munu kulnma Ananguku ara kumpu munu pulka mulapa ngaranyi.*  
Look around and learn so you can know something about Aboriginal people and understand that Aboriginal culture is strong and really important.

*Nganana malikitja tjutaku mukuringanyi nganampa ngura nintirinkuntjikitja munu Anangu kulintjikitja.*  
We want all our visitors to learn about our place and listen to us Anangu.

*Kuwari malakitja tjuta tjutu tjarpantjala nyakula kutju munu puli tatilpai.*  
Now a lot of visitors are only looking at the sunset and climbing Uluru.

*Puli nyangatja mitl-mitlpa alatjitu. Uti nyura tatintja wiya!*  
That rock is a really important sacred thing. You shouldn't climb it!



*Tatintjala ara mulapa wiya. Ara mulapa ngaranyi pulkara kulintjaka.*  
Climbing is not a proper part of this place. The proper thing is to really listen.

*Anangu ngurajitja pukularinyi nyura ngalya-pitjaka ngura nganampa para-nyakuntjatjanu.*  
We custodians of this place are really happy for you to come and look around our country.

*Ananguku ngura nyangatja, Anangu tjukurpa. Nganana panya Tjukurpa nyanga palula tjana-languru kulini.*  
This is an Aboriginal place, with Aboriginal Law. We custodians are told this Law by others.

*Kamila, tjamulu, tjana panya tjukurpa kumpu palyanngi, munu tjana kanyiningi pulka, ara kanyaningi kumpu munuya Anangu tjuta kumpu nyinangi.*  
Our grandmothers and our grandfathers maintained and held our Law strongly, and held strongly to our culture, and they lived strong and happy.

*Ka kuwari nyanga nganana tjungu nyinanyi piranpa tjuta munu maru tjuta.*  
Here and now we are living together, white people and black people.

*Nganana tjungu waakuripai, piranpa munu maru, palu purunypa.*  
We are working together, white and black, equal.

*Uwankara Ulurula munu Kata tjutala tjukururu ngaranyi.*  
Everything at Uluru and Kata Tjuta still runs according to our Law.

*Ranger tjuta patitjara National Park-aku kanyini, patji panya pulitjara.*  
All the rangers wear a badge on their sleeve, a badge carrying an image of our sacred place.

*Tjukaruru nyangatja.*  
That is as it should be.

*Nganana National Park tjukururu alinyamankupai.*  
We are protecting this National Park according to our Law.

*Anangu tjuta ranger munu scientist tjutangka nintini Parkaku kuka tjutaku munu puru tjutaku.*  
Aboriginal people are training rangers and scientists about the fauna and flora of the Park.

*Paluru tjana tjalkultjunanyi yaaltji mingkiri tjuta nyinapai, munu piti tjanaampa nyaangka ngarapai, munu mai nyaa tjana ngalkupai, uwankara.*

They are telling them where to look for animals, where their burrows are, what food they eat, everything.

*Anangu kutju ninti. Ka kulila, ngalya kuwari Tjukurpa-nguru wangkanyi.*  
Only Anangu know all this. So listen, I am speaking from the Tjukurpa now.

*Nganana tjilpi munu pampa tjuta-nguru Tjukurpa nyangatja nintirinkanyi ka nganana kuliga munu pulkara witija kanyini.*  
We learn this Tjukurpa from old men and women. We listen to them and hold onto our Law really strongly.

*Ananguku Tjukurpa kumpu pulka alatjitu ngaranyi.*  
There is strong and powerful Aboriginal law in this place.

*Inma pulka ngaranyi munu Tjukurpa pulka ngaranyi kala palula tjana-languru kulini munu uti nganana kumpu mulapa kanyinma.*  
There are important songs and stories that we hear from our elders, and we must protect and support this important Law.

*Mitl-mitlpa ngaranyi, munu Ananguku Tjukurpa nyanga pulka mulapa.*  
There are sacred things here, and this sacred Law is very important.

*Government-aku Law nyiririnka ngarapai. Ananguku Law katangka munu kurunpangka ngarapai.*  
Government law is written on paper. Anangu carry our Law in our heads and in our souls.

*Nganana Tjukurpa nyiririnka wiya tjunkupai.*  
We can't put our Law onto paper.

Welcome to Aboriginal land and enjoy your visit!

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# Anangu language

*The traditional land owners of Uluru - Kata Tjuta National Park, call themselves Anangu (pronounced an-abng-oo), and would like you to use that term. Very few Anangu speak English as a first language but they may speak several other indigenous languages. Very few senior people speak English well and many have difficulty pronouncing English words. Younger Anangu are learning both Yankunytjatjara or Pitjantjatjara and English.*

## Aboriginal Languages

It is estimated that prior to European colonisation, there were about 700 dialects spoken by indigenous Australians. These languages are as different and distinct from each other as, for example, English, Russian and Italian. Since colonisation many of these languages have become extinct or are in danger of disappearing. It is estimated that there are only 20 - 50 languages which are still described as 'healthy', that is, which are spoken to and used by children.

## Yankunytjatjara and Pitjantjatjara

The Traditional Owners of Uluru - Kata Tjuta National Park mainly speak Yankunytjatjara (pronounced as yan-kun-ja-jarra) and / or Pitjantjatjara (pronounced as pit-jan-ja-jarra). Some may speak Ngaatjatjara and Luritja. These are all dialects of what linguists call the Western Desert Language, the largest language group of Aboriginal Australia. The group includes about 4000 speakers, and stretches north-west to Balgo, west to Port Hedland, south to Kalgoorlie, Yalata and Oodnadatta, and north-east to Alice Springs.

Yankunytjatjara literally means the people who use 'yankunytja' to say 'going'. Pitjantjatjara literally means the people who use 'pitjantja' when they say 'coming'. Anangu means 'people' in Yankunytjatjara and Pitjantjatjara.

The Western Desert languages have different grammar and structures to English. There are sounds that do not occur in English, and vice versa. There are 17 consonants, some of which non-Western Desert speakers find difficult. There are also three vowels, a, i and u, each of which may sound long or short. Sounds such as s, z, v, sh or th do not exist.

Such dynamic languages develop and adapt 'old' words to new situations. For example, the word for tourists, 'minga', literally means 'ants' because the lines of visitors climbing Uluru look like lines of ants. Anangu also incorporate but change the form of English words such as 'mutuka' for 'motor car'.

## Pronunciation

There is always stress on the first syllable of Yankunytjatjara and Pitjantjatjara words. The letters t, n, l and r can be written with a line, called a retroflex, underneath. The retroflexes are there to remind the reader to pronounce the sound in a certain way - a different way to the same letter without the line. The lines indicate retroflex pronunciation which are produced by slightly curling the tongue back in the mouth. (see the Visitor Guide for a further explanation of this)

## SOME ANANGU WORDS

Note: The 'oo' sound is the same as in 'look'

### FAMILY

Tjitji (gee-gee)	Child
Ngunyntju	Mother
Mama (mah-mah)	Father
Kami (kah-mee)	Grandmother
Tjamu (jah-moo)	Grandfather

### OTHER WORDS

Kapi (kah-pee)	Water
Kuli (koo-lee)	Hot weather, summer
Uwa (oo-wah)	Yes
Palya (pah-yah)	OK, good, hello, bye
Pulka (pool-kah)	Big
Tjukurpa (chook-or-pa)	Anangu Law
Tjuta (joo-tah)	Many
Waru (wah-roo)	Fire
Wiya (wee-ah)	No
Wiru (wi-roo)	Beautiful

### NUMBERS

Kutju (koo-joo)	One (1)
Kutjara (koo-djah-rah)	Two (2)
Mankurpa (man-koor-pah)	Three (3)
Kutjara-kutjara	Four (4)
Kutjara-mankurpa	Five (5)

### PLACES

#### Ininti (in-in-tee)

The name of the Arts shop at the Cultural Centre. Red seeds of the bean tree often used in making necklaces and other decorations.

#### Kata Tjuta (kah-tah choor-ta)

Kata - 'head', tjuta - 'many'.

#### Maguku (mah-roo-koo)

The name of the Arts and Crafts shop located at the Cultural Centre. It literally means 'dark' or Aboriginal peoples'.

#### Mutitjulu (moor-ti-djoo-loo)

The name of the Anangu community situated on the eastern side of Uluru, and the name of one of the major waterholes at the base of Uluru.

#### Uluru (oo-loo-roo)

The rock and the name of a waterhole. There is no literal translation of Uluru. It is a name only, like Sydney, Paris, Rome or Berlin.

## FAUNA

### Itjarijari (ee-cha-ree-cha-ree)

Marsupial mole. Rarely seen because it lives almost entirely underground. An ancestral creature.

### Kalaya (kah-lay-ah)

Emu

### Kuniya (koon-e-ya)

Woma Python

Non-poisonous and edible snake. It has very important ancestral associations with Uluru.

### Liru (icar-oo)

Brown snake

Poisonous and not eaten. One of the most important ancestral beings.

### Lungkata (loong-cart-ah)

Centralian Blue-tongue lizard. Ancestral creature.

### Mala (ma-la)

Rufous Hare Wallaby

A small, big-eared wallaby with ginger fur. Mala are no longer found in the Park, however they are still one of the most important ancestral creatures associated with Uluru and the surrounding areas.

### MaJu (mar-loo)

Red plains kangaroo

An important food and source of materials such as sinew for binding together spear sections.

### Mingkir (ming-keer-ree)

Mouse

### Murtja (moor-djah)

Mulgara

An endangered carnivorous marsupial, distinguished by a short tail which is fattened at the base with a crest of black hairs.

### Ngintaka

Perentie

Largest of the monitor lizards. A good food source.

### Ngiyari (nee-ah-ree)

Thorny Devil

### Papa (pa-pa)

Dog, dingo

### Wanampi (wah-nahm-pee)

Watersnake.

A wanampi lives in a waterhole and guards it against intrusion, particularly by strangers. When approaching a waterhole, one traditionally alerts the wanampi by making noises, perhaps lighting small fires, and announcing who you are. Such measures are considered appropriate and necessary behaviour when in someone else's country. Mutitjulu is one of the waterholes in the Park which is said to have a resident wanampi.

## FOR REFERENCE

Anangu and non-Anangu linguists have produced a Pitjantjatjara/Yankunytjatjara to English Dictionary. It is available from Ininti Café and Souvenirs at the Uluru - Kata Tjuta Cultural Centre.

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## Uluru - Kata Tjuta National Park Notes

# Tjukurpa

*"Tjukurpa panya tjamulu, kamilu, mamalu, ngunytjulu nganangu, kurunpangka munu katangka kanyintjaku."*

*This law was given to us by our grandfathers and grandmothers, our fathers and mothers, to hold onto in our heads and in our hearts."*

Quote from Uluru-Kata Tjuta Cultural Centre

### What is Tjukurpa?

Tjukurpa (pronounced like Chook-orr-pa) is the foundation of Anangu life and society. It has many complex but complementary meanings. Tjukurpa refers to the creation period when ancestral beings, Tjukuritja, created the world as we know it now. It is also the law for relationships between people, plants, animals and the land. It is the past, the present and the future. It is also the stories that hold this knowledge.

'Dreamtime' or 'dreaming' is often used to describe the way indigenous Australians see their origins. This translation suggests that the beliefs are unreal and easily forgotten. Tjukurpa is no dream and Anangu do not use the word 'dreamtime' in Anangu languages. There is not one English word that conveys all the meanings which is why the Pitjantjatjara word Tjukurpa is used in the Park. Yankunytjatjara Traditional Owners use the word Wapar (pronounced wop-arr).

### The Creation Period

The world was once a featureless place. None of the places existed until Tjukurpa ancestors, in the forms of people, plants and animals, travelled widely across the land. Then, in a process of creation and destruction, they formed the world as we know it today. For Anangu the land is inhabited by dozens of ancestral beings. Their journeys and activities are recorded at sites linked by iwara (paths or tracks). These iwara link places that are sometimes hundreds of kilometres outside the Park and beyond Pitjantjatjara and Yankunytjatjara country. The Mala Tjukurpa, for example, involves three groups of mala (rufous hare-wallaby people) who travel from the north to reach Uluru. Two groups then flee south and south-east to sites in South Australia. Kuniya Tjukurpa involves the travels of the woma python from the east. Many other Tjukurpa such as kalaya (emu), liru



(poisonous snake), lungkata (blue tongue lizard) luurpa (kingfisher) and tjintirtjintipa (willic wagtail) travel through the Park. Other Tjukurpa affect only one specific area. Many exploits of Tjukurpa involve the creation beings going underground.

Evidence of Tjukurpa stories can be seen at Uluru. For example the battle wounds of Liru and Kuniya Tjukurpa can be seen on the face of Uluru near Mutitjulu waterhole.

Land, 'mapped' through the events of Tjukurpa, is therefore full of meaning. Tjukurpa is the basis of all Anangu knowledge.

They identify themselves through the Tjukurpa. Where they are born, where they live and where they die are of great significance. When Anangu travel across the land, they do so with the knowledge of the exploits of the ancestral beings. Their knowledge of the land, and the behaviour and distribution of plants and animals is based on knowledge of Tjukurpa. This is recounted, maintained and passed on through ceremony, song, dance and art.

### Social Structure

Anangu refer to sites as being 'my grandmother' or 'my grandfather' because they are part of the land. They identify with land and Tjukurpa shapes their relationships with other people.

The kinship system, based on Tjukurpa, prescribes a range of proper behaviour within the immediate family and with other relations. It gives rules about marriage, and other relationships between men and women, young and old. Family obligations extend to the entire language group and into other language groups. Anangu can work out their obligations to each other even if they have never met. Anthropologists describe the kinship system as a 'classificatory' system, that is, all members of the language group are 'classified' as relations.

### Moral Belief System

Tjukurpa provides beliefs and morals with which to judge right and wrong. Tjukurpa guides daily life through a series of symbolic stories and metaphors. It gives people information but also obligations and responsibilities. The stories are not simple stories, but represent technically complex explanations of the origins and structure of the universe, and the place and behaviour of all elements within it. Understanding of such stories increases throughout Anangu lives. For a child, a story may be a moral tale about greed, while for an adult it may provide very complex explanations of ethical behaviour.

### Law

Tjukurpa establishes the rules used to govern society and manage the land. It dictates correct procedures for dealing with problems, and penalties for breaking the Law. The proper way of doing things is the way things are done in Tjukurpa. Since the coming of non-Aboriginal people Anangu have had to modify some of the penalties under traditional Law. They have also adapted non-Aboriginal law to help enforce Tjukurpa. Sacred sites are protected under Commonwealth and Northern Territory legislation and hunting and foraging rights are protected under the legislation and lease agreement with Parks Australia. The *Uluru-Kata Tjuta National Park Plan of Management* helps protect Tjukurpa by using it as a guide for making management and policy decisions.

### Passing on Tjukurpa

Tjukurpa is not written down, but learned by living and memorising. It is a cultural obligation to pass on this knowledge to the right people. Ceremonies play an important role in the passing on of knowledge. Specific people or groups in the kinship system have responsibility to maintain different sections or 'chapters' of Tjukurpa. These chapters may relate to a specific site, or a section of an iwara (ancestral path). This knowledge is carefully passed on to people who have inherited the right to that knowledge through, for example, their birthplace, or earned the right, for example, by progressive attendance at ceremonies.

There are many interrelated devices for remembering Tjukurpa, such as specific verses of inma (songs), site related stories, ritual dances or rock art. The iwara (ancestral paths) are recalled in long sequential lists of sites, sometimes including sites beyond country which has been visited, and including sites belonging to other people. Tjukurpa may also be recorded in physical forms such as objects. Some objects are created for a specific ritual and then destroyed, others are very old and passed on from one generation to the next. Tjukurpa is also recorded in various designs and paintings such as the 'dot' paintings of the Western Desert. These designs are often sacred and their use is restricted to specific groups or individuals.

Tjukurpa is extremely important to Anangu. They say they can share some of its information with non-Aboriginal people, but the secret sacred information must stay only with Anangu.

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## Uluru - Kata Tjuta National Park Notes

# We don't climb

*"If you worry about Aboriginal Law, then leave it, don't climb it. The chain is there if you want to climb it. You should think about Tjukurpa and stay on the ground. Please don't climb."*

Barbara Tjikatu, traditional owner

We, the traditional owners of Uluru - Kata Tjuta National Park, say 'Nganana Tatintja Wiya.' This means please don't climb Uluru. We say this because:

- What visitors call 'the climb' is the traditional route taken by our ancestral Mala (rufous hare-wallaby men) on their arrival at Uluru. The path is therefore of great spiritual significance to us.
- We have a duty to look after visitors on our land and feel a great sadness when a person dies or is hurt on the climb.

When we leased the land to the Commonwealth Government, we agreed not to close the climb because we know that some visitors come to the Park especially for that purpose. Rather than close the climb we prefer that you choose to respect our law and culture by not climbing. We ask visitors to respect Tjukurpa and learn about our land and culture through alternative activities, such as the Mala Walk and Uluru Base Walk.

At the Cultural Centre you will learn more about the significance of Uluru in Anangu law and culture. Please do this before you decide whether to climb.



We are happy that an increasing number of visitors do not climb Uluru. It shows us that they understand and respect our view and see our land as more than just a place of amazing geological and ecological features, with a climb and a sunset view.

### Safety

Many rescues are performed each year. These rescues are dangerous and expensive. There is no guarantee that a rescuer will reach you.

In the past many people have been injured and more than 30 people have died attempting to climb the very steep Uluru path. Deaths and severe injury have also occurred from heat induced illness at the Valley of the Winds walk at Kata Tjuta. The Park has therefore developed a number of risk minimisation strategies for potentially hazardous weather.

### The Uluru climb is closed when:

- The forecast maximum temperature is 36°C or above.
- The climb will close from 8:00am on these days and remain closed for the rest of the day.
- The estimated average wind speed at 25000ft reaches 25 knots (47km/h).
- There is a greater than 20% chance of rain in the next three hours. Uluru becomes very slippery after rain.
- There is any storm activity closer than 50km from Uluru.
- There is a greater than 5% chance of thunderstorms in the next three hours.
- Cloud descends to or below the summit of Uluru.
- There is insufficient light to safely undertake and complete the return climb.
- A rescue is taking place.

Any part of the Park, including the climb may be closed for cultural reasons at the request of Anangu.

### Are you fit enough to climb?

Remembering that some people have died attempting the climb, please also carefully consider your fitness and health.

### You should not climb if you are:

- elderly.
- unfit.
- a young child (DO NOT expect to carry a child).
- a person with a fear of heights.
- a person with a medical condition such as:  
heart condition  
high blood pressure  
low blood pressure  
asthma  
a weight problem.

### The Valley of the Winds Walk is closed when:

- the forecast maximum temperature is 36°C or above. The walk will close from 11:00am on these days and remain closed for the rest of the day.
- there is insufficient light to safely undertake and complete the return walk.
- a rescue is taking place.

### Respectful Behaviour

- Always provide yourself with plenty of water and make sure you have a map.
- Take your rubbish and cigarette butts away with you when you go.
- Please enjoy your time, and respect the right of others to enjoy theirs.

### The following rules are in place to protect this fragile environment:

You must....

- Follow all requests and instructions from Park staff, including producing a valid Park use ticket upon request.
- Stay on walkways, tracks and roads at all times.
- Not camp anywhere in the Park.
- Not bring a dog or dogs into the Park (contact the Park manager, to obtain a written permit). Guide dogs on a leash are permitted entry with their companion.
- Not bring firewood or other plant material or seeds into the Park.

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## Uluru - Kata Tjuta National Park Notes

# Understanding the country

*When Anangu (our people) look at the landscape we pay close attention to landforms, soils, plants, animals, water supply and fire history. We understand the country. We know how to use plants and can read the tracks of animals. We understand the significance of weather changes. Our knowledge and our responsibility to care for the country and its wildlife comes from Tjukurpa (our law).*

From Uluru-Kata Tjuta Cultural Centre text

### Seasons

*Anangu don't go by Pirampa dates, we only go by our own seasons... We know which fruits and foods we get during our seasons - that's what is important to us!*

Barbara Tjikatu, traditional owner

**Piriyakutu/piriya piriya** is when the piriya comes, a warm steady wind from the north and west (usually August/September). Animals



breed and food plants flower, fruit and seed. Hibernating reptiles come out. Sometimes this season is called kaliny-kaliny when the kaliny-kaliny (honey grevillea) flowers. Anangu can then make sweet drinks from the nectar of the flower.

**Mai wiyaringkupai/kuli** is the really hot time when food finishes (around December). There is magutjara (storm clouds) and lightning, but little rain.

**Itjanu/inuntji** is when utawari, (overcast clouds) usually bring rain (January-March). Lots of food plants flower at this time.

**Wanitjungkupayi** is the beginning of cold weather. Reptiles hibernate.

**Tjuntalpa** clouds start around April, but usually don't bring rain. They come from the south mainly by westerly winds. Tjuntalpa sit low over the hills until late in the day.



**Wari** is the cold time (late May, June, July). There is nyinnga (frost) and kulyarpa (mist or dew) every morning, but little rain.

*Anangu are teaching the Rangers and scientists about the animals and plants of the Park. Showing them where to look, telling them about animals and the kind of burrows they have, what they eat, everything. Only Anangu know all this!*

From Uluru-Kata Tjuta Cultural Centre

### Habitats

Anangu recognise habitats in their own way. They understand the relationships between the land, plants and animals. They know when and where to find particular foods.

### Puli - rocky areas, gorges, stony slopes

Only plants that can survive in shallow, barren soils live here. Anangu burn around puli to protect it from wildfires. Many animals come to drink or shelter in puli, but return to other habitats to graze and breed. Kanyala (euro), tjilkamaga (echinida) and arutju (fat-tailed antechinus) are found here. Lots of birds come to get water in rocky areas after rain including ipuru (spinifex pigeon).

### Karu - creekline and run-off plains

Anangu usually find good supplies of water here. Although the creeks are normally dry, waterholes can remain for months. People dig for water along the creek beds. Here they can get grass seeds such as kalu-kaltu (native millet) and wangunu (naked woollybutt). Anangu also collect firewood and timber for carving tools from the muur-muurpa (bloodwood) and itjara (river red gum).

### Puti - open woodlands

After good rain, where the ground is hard and sometimes stony, kapi tjintjira (freshwater claypans) form. Animals come to drink from here. Puti wanari is flat country where there is thick wanari (mulga). The ground storey can be spinifex or other grasses. After rain, lots of food plants are available and tjala (honey-ants) start making their nests. When nigu (bilby) were around they could be found eating lots of maku (witchetty Grubs) and tjala in puti. Malu (red kangaroo) come here when good feed is available. Kanyala (euro) use the rocky areas. There are many animal burrows: pintjatampa (rabbit), mingkiri (mice/small dasyurids) and tarkawaga (spinifex hopping-mouse).

### Pila - spinifex plains, low areas between dunes

Many kurkara (desert oaks) grow in pila - the most common habitat in the Park. When tjanpi (spinifex) is old, with a ring in the middle, Anangu burn it to allow new growth. Trees and shrubs such as kurkara (desert oaks), watarka (umbrella bush) and muur-muurpa (bloodwood) provide seeds for animals and people to eat. Many 'honey plants' such as kaliny-kaliny (honey grevillea) are common here. Some of the animals of the pila are tarkawaga (spinifex hopping-mouse), mutingka and muluny-mulunypa

(striped skinks), kuniya (woma python), lungkata (centralian blue tongue lizard), tjakaga (giant desert skink), kalaya (emu), kipaga (bustard), tuuka (fox) and ngaya (cat).

### Tali - sand dunes

This habitat is very fragile. Spinifex and green shrubs such as pukara (desert thryptomene) and watarka (umbrella bush) grow here. Plants like walkalpa (emu poison bush) and nyitu (nut bush) grow on the sand dunes. In the mornings you can see networks of tracks on the sand dunes. Many of the animals of the tali protect themselves by burrowing into the sand. Generally, the small mammals that live in pila are also found in tali. Itjaritjari (marsupial mole) is likely to come to the surface after rain. Some reptiles, particularly some of the mutingka (small skinks) live specifically on the sand dunes. Frogs lie buried on the moister side of the dunes, emerging after rain.

### Nyaru - burnt or regenerated areas

Pila and tali become nyaru after they are burned, with similar animals in both habitats. Animals like the nyaru after a fire because there are many types of food plants here, such as kampuraga (desert raisin) and wiriny-wiriny (bush tomato), edible seed grasses and succulents. Animals such as tarkawaga (spinifex hopping-mouse) prefer the nyaru for foraging while others such as tjantjalka (military dragon) move away until the spinifex cover comes back.

### Flora

The growth and reproduction of plant communities rely on irregular rainfall. Some plants are able to survive fire, some are dependent on it to reproduce. The flora of Uluru-Kata Tjuta National Park represents a large portion of plants found in central Australia. A number of these species are considered rare and are restricted to the Park or the immediate region.

### Wildlife

The desert wildlife is adapted to the harsh conditions. The fauna is secretive and nocturnal. The Park protects a greater number of reptile species than any comparable area of Australia.

This century a number of medium sized mammals have disappeared from the Park, all of which have cultural significance. These disappearances have been attributed to predators such as foxes and cats, competitors such as rabbits, and to ecological changes such as the suspension of traditional burning practices prior to the handback of the land to the Traditional Owners in 1985.

The National Park plans to reintroduce important Tjukurpa species that have disappeared from the Park such as wayuta (common brushtail possum), mala, (rufous hare wallaby) and waru (black-footed rock wallaby).

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# Bush foods

*Since the time of Tjukurpa, hunting and gathering has linked Anangu with their land. Gathering food expresses and reaffirms knowledge and ownership of the land.*

## Pitiantjatjara words relating to bush foods:

### Mai

- vegetables such as tjanmata (bush onion)
- fruits such as kampurarpa (desert raisin), arnguli (bush plum) and wayanu (quandong)
- seeds such as wakalpuka (dead finish) and wangunu (woollybutt grass)

### Tjuratja

Sweet foods such as nectar from Kaliny-kalinypa (honey grevillea) and tjala (honey ants).

### Maku

Edible grubs such as witchetty grubs.

### Kuka

- Meat such as malu (kangaroo) and rabbit
- Ngampu (eggs) such as sand goanna eggs and bird eggs.



## Tasks for women, men and children

With bush food collection, as in other aspects of life, women perform certain tasks and men perform others. Traditionally, the separation of men's and women's functions exists by law, and these functions are balanced by a strong sense of respect and cooperation.

Anangu women are traditionally responsible for gathering mai, tjuratja, maku and small kuka. Men can and do dig for honey ants or collect fruit, but generally they are more likely to be hunting kuka (meat).

The men use a kulata (spear) with the addition of a miru (spear thrower) to hunt malu (red kangaroo), kanyala (euro) and kalaya (emu).

Children have an important role to play in gathering and hunting. They go with their parents and other adults to collect bush food. The children play, dig and work with the adults. They watch and learn about plants, animals, foods and tools as well as other aspects of the land.

Bush foods are highly nutritious and the act of gathering and hunting them is a healthy activity.

## Tools used in food collection

Women use three types of bowls carved from the trunks or roots of the murrmurpa (bloodwood) or itara (river red gum) trees. Wira, smallest of the three bowls, is used as digging tool or drinking cup. Kanilpa is used primarily for cleaning seeds and carrying foods. Piti, the largest dish, is shaped for carrying water.

Mangu, a head ring, is worn to balance bowls on top of the head.

A wana, a digging stick carved from wanagi (mulga) is used to loosen the earth when collecting foods such as maku (witchetty grubs), tjala (honey ants), and tjanmata (bush onions).

Two large grinding stones are used to process seed. A large flat stone called a tjiwa and smooth round stone that fits comfortably in the hand is called tjungari. Women sit the seed in a small pile on the tjiwa and grind it with the tjungari.

Some ground seeds such as wangunu (naked woollybutt) and kalu- kalu (native millet) are then mixed with water to make a dough which is cooked on the coals of a fire to make nyuma (seed cake). Some seeds such as wanagi (mulga) and wakalpuka (dead finish) are mixed with water and made into a paste called latja. This is then eaten raw.

The other side of the grindstone is used for preparing medicinal plants and ochre.

A local plant known as irmangka-irmangka, (native fuchsia) is ground and either made into a tea for drinking or mixed with fat to make a rubbing medicine for colds, flu and muscular aches and pains.

## Tools today

These traditional tools and implements are now often made for sale as artefacts. They are also used for demonstration and learning purposes.

As Anangu lives have changed and people now live mostly in houses in small communities their tools have also changed. The wana (digging stick) is now often made of metal and called a kurapa (crowbar) and the wira (digging tool or bowl) replaced by billycans and pannikins (metal cups) used to carry foods and water.

For men, the kulata (spear) is often replaced by a rifle. Metal axes, files and rasps are used to cut timber and make artifacts where once stone tools were always used.

Today people still enjoy hunting and gathering bush foods, which are collected and eaten for flavour, enjoyment and the good experience. Plant and animal foods are still prepared according to the Law laid down in the Tjukurpa.

## A great deal more to learn

The words and information presented in this Park Note represent only a small fraction of a huge store of knowledge that Anangu have about living from and with the land. Only by speaking the language and by spending time hunting, gathering, making, learning and being involved in ceremonies and daily life in the bush would any non-Aboriginal person learn the full extent of this knowledge. Anangu spend a lifetime learning from their parents and grandparents. Such knowledge is highly valued and the older people pass it on to their children and grandchildren. It is the richness of this living tradition that makes Uluru-Kata Tjuta a World Heritage living cultural landscape.

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## Uluru - Kata Tjuta National Park Notes

# Fire management

***Fires and burning have been a part of Tjukurpa (traditional law) for thousands of years.***

Burning the country began with the ancestral beings in the Tjukurpa (creation era). Lungkata, the blue tongued lizard, burned the spinifex as he travelled towards Uluru from the north. In the old days Anangu travellers carried a tjangi or firestick to carry fire and burn as they travelled on foot.

Anangu use fire for cooking food, warmth and making tools. They also burn patches of land as they travel to send messages, encourage bush foods to grow, flush out game and make walking easier. Fire patches are often as small as a few hectares and close together, leaving a pattern of burnt and unburnt terrain similar to a mosaic.

The regular burning throughout the Uluru area stopped when Anangu were driven from the region during the 1930s. During the 1940s rainfall was good and the vegetation flourished. The 1950 fire, fed by the fuel grown during the previous 20 years, wiped out about one third of Uluru - Kata Tjuta National Park's vegetation. The pattern repeated itself in 1976 when two fires burnt 76 percent of the Park. Such widespread fires, have a devastating effect on wildlife, as it prevents animals taking shelter and destroys habitat diversity. To prevent further damage to the diversity of vegetation, Park Managers approached traditional land managers for advice and tuition. A system of patch burning was reintroduced for use in the Park. Anangu help direct and carry out the burning with the assistance of Park Rangers.

### Desert vegetation and burning

In order to understand burning, it is important to know about desert vegetation. There are two main vegetation groups in the Park, one dominated by spinifex and the other dominated by mulga. Both these vegetation types have adapted very differently to survival in the arid zone.



### Spinifex

The spinifex-dominated vegetation of the dunes and higher plains looks grassy with openly spaced trees. The spinifex and low shrubs burn readily. Most of the plants revegetate by sprouting from either under the ground like spinifex or above the ground like the desert oaks. After fire, regrowth will be visible within weeks, even without rain! Vegetation with these resilient characteristics can survive frequent fires.

### Mulga

Groves of trees on the lower plains and in the dips between dunes make the mulga-dominated vegetation look quite different from the spinifex areas. Most of the plants in these areas regenerate from seeds. Fire in mulga-dominated vegetation can kill. New growth comes only from the seeds that often require the heat from the fire to crack and encourage growth. It takes two good seasons of rain to germinate the seeds. Young mulga trees grow for around 10 to 20 years before they become mature enough to set seed. Fires in immature mulga forests can eliminate whole communities of the species. In the Park you will notice large stands of mulga, especially near Uluru. The seeds for these trees were germinated after the 1976 fires. Frequent fires would wipe out this type of vegetation. There are many places in Central Australia where frequent wild fire has done this. Mulga woodlands can only afford to be burnt every 50 years or so.

### Rainfall and natural fires

Rainfall is the key to fire danger at Uluru. The higher the rainfall, the greater the amount of fuel and the more chance there is of fire. The periods of highest fire danger occur after a few years without fire when the spinifex has built up and the growth of grasses in the mulga has peaked following heavy rain. When these coincide, uncontrolled fires will carry long distances through both vegetation types. These are the most devastating fires. Natural fires mostly occur in the early summer months. They are usually started by the lightning strikes from dry electrical storms from the northwest. When these storms arrive the weather is usually hot, dry and windy - ideal conditions for raging fires. Impacts on plants and animals can be more severe.

### What is patch burning?

Patch burning is a controlled plan of burning numerous small fires. It is designed to protect the Park vegetation from destructive burning. The many small patches are burned so that large areas are protected from accidental burning. From a satellite, patch-burned areas make a mosaic pattern. Over the years, as the burnt patches regrow, satellite images

show different shades in the various vegetation growth stages.

### How patch burning works

Patch burning works by reducing the amount of fuel in patches and strips throughout the Park. These strips and patches break the full force of a natural fire allowing it to burn out and can also be a refuge for animals whose homes and foraging grounds are in the wake of the fire. This limits the amount of damage any one fire can cause in the Park.

The process is progressive so that regrowth is staged. Re-establishing the mosaic for the entire Park will take around 20 years as only about five percent of the Park is burned in any year. Patch burning also has the ecological advantages of providing shelter and regrowth to support the Park fauna. Biologists often refer to this as the edge effect. They believe wildlife shelter in the older vegetation, which is not good eating and move on to the tender new shoots to feed and hunt.

The patch burning program has been running in the Park since 1985. It had taken to that year for the regrowth of the devastating 1976 fires to provide enough fuel to sustain small controlled fires. The strategy has already shown success. During 1990 two big fires threatened the Park, driven by the hot, dry, summer winds. Both fires were easily controlled as they hit the patches and went out.

As a biosphere reserve, Uluru - Kata Tjuta National Park is a fine example of arid zone ecology. Park management have a responsibility to preserve the diversity of life within the Park. Patch burning has been learned from the ancient tradition and practice of Tjukurpa. Today's Rangers use drip torches, rake hoes, helicopters and satellite imagery to plan and control burning. Science has also proven that it is an effective management tool to maintain maximum biodiversity.

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## Uluru - Kata Tjuta National Park Notes

# Cultural Centre

*The Cultural Centre is the Anangu (Aboriginal) way of saying 'Welcome to Anangu land.'*

The opening of the Uluru - Kata Tjuta Cultural Centre in 1995 celebrated ten years of working together under joint management. The building represents a blend of the needs of Anangu culture and the demands of over 400 000 visitors each year. The Cultural Centre is a synthesis of Anangu and non-Anangu inspiration and design.

Discussions about building a Cultural Centre to share Anangu culture began in 1986, less than a year after the handback of Uluru - Kata Tjuta National Park to the traditional owners. The first Plan of Management for the Park, gazetted in 1986, recommended that:

- "A cultural centre may be established in the Park for the following purposes:
- Presentation of interpretive material relating to traditional culture;
  - Display and sale of contemporary Aboriginal art and crafts;
  - Display of historical and contact history;
  - Presentation of traditional song and dance; and,
  - The conduct of other appropriate Anangu controlled cultural and/or commercial activities".

### The design process

In September 1990 Gregory Burgess Architects Pty Ltd were commissioned to produce a design brief. The architects set up a work studio in the Mupitjulu Community where Anangu and other interested parties could comment on what they felt were the requirements of the proposed building. The earliest and most fundamental design idea sprang from the flowing lines drawn in the sand by Anangu. Other ideas came from paintings on canvas and talking over issues for long periods of time. Anangu made sure that everyone involved in the process learned about Tjukurpa.

The final concept was based on the Tjukurpa ancestors Kuniya (the woma python - southern entry building) and Liru (the poisonous brown snake - northern exit building). Traditional Owners, Mupitjulu community members and design team consultants worked together on the texts and concepts. Artists from Mupitjulu community worked on paintings, ceramics, glass, wood, video and audio-visual displays.



The site was chosen with consideration of environmental impact, the atmosphere of the surrounds and the wishes of Anangu.

In early 1994 Sitzler Bros Pty Ltd from Alice Springs were selected as the building contractors.

### The Cultural Centre building

The building consists of:

- Compacted earth foundations;
- 90,000 mud bricks made of local soil with less than 2% bitumen added for strength;
- A slurry of soil and water bagged over the bricks to provide the finishing texture;
- White cypress pine poles from south-west Queensland and north-west New South Wales;
- Cypress pine and stringy bark rafters;
- Victorian yellow stringy bark cladding and panelling, radially-sawn allowing for the most efficient use of timber;
- Western red cedar door and window frames;
- Bloodwood roof shingles from New South Wales;
- Grey iron bark floorboards in the Walkatjara retail outlet area;
- Grey iron bark bearers and joists;
- Copper roof shingles, which slowly colour through the oxidation process as they age;
- External paths of compacted gravel overlain with consolidated sand.

The original internal pathways were constructed of compacted earth with an oil and wax finish. In August 1999 these pathways were upgraded using reinforced concrete with a rough finish. The concrete is normal Portland cement to which oxide was added during the batching process at the plant. The oxide is 90% desert sand and 10% terracotta for increased redness. A reddish natural aggregate containing quartzite was also added. As the paths wear over time they will reveal the quartzite, yet not fade. The Walkatjara artists prepared the decorative tiles representing features of Anangu life and culture, and arrows for directional tiles.

### Cultural Centre Logo

The logo for the Uluru - Kata Tjuta Cultural Centre represents four major Tjukurpa for Uluru. Kuniya, Liru, Kurpany and Mala are ancestral beings who help form the basis of traditional law and custom for Anangu today. They connect Anangu with country in all directions around Uluru. Kuniya came from the east near Erldunda and is still present at Uluru today. Liru came from the southwest and returned to that country after the battle with Kuniya's nephew. The Mala people arrived for ceremonies from Mawulyarungu to the north near Yuendumu. Kurpany was sent in from the west near Kaltukatjara (Dockar River) and chased the Mala

people through Uluru itself and then further south to Ulkiya.

See the logo in the Cultural Centre and on the Anangu Tours bus.

### Award Winning Building

After four years of planning and eighteen months to build, the Uluru Kata Tjuta Cultural Centre was opened on 26 October, 1995. The builders had taken particular interest and pride in constructing a building so culturally important and one which was also a challenge to their skills because of its unusual design.

A year after opening, the Uluru Kata Tjuta Cultural Centre design was recognised through the prestigious Royal Australian Institute of Architects (Northern Territory Branch) annual awards. Other awards received by Gregory Burgess Pty Ltd for the Cultural Centre were the 1996 Tracy Memorial Award for the best building in any category; the Institutional Architecture Award and the People's Choice Award.

### The Cultural Centre Experience

There is a set route through the Centre to provide a variety of experiences. By entering through the Tjukurpa Piti visitors learn about the traditional and ancient culture of the area. Joint Management of the National Park is then presented in the Nintirinkupai room.

The economic aspirations of Anangu are presented in their own businesses, Maruku Arts, Anangu Tours, Walkatjara Art and Ininti Cafe and Souvenirs.

To fully appreciate the Cultural Centre visitors should allow at least two to three hours, plus time for refreshments.

Because of the deep spiritual nature of the area and to respect the personal privacy of Anangu workers visitors are asked not to film or video inside the building or precinct. This is to respect the wishes of the Traditional Owners, and protect Anangu cultural and intellectual property rights.

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## Anangu enterprises

*Old people remember their contact with visitors in the 1960s and 1970s when they sold artefacts for cash. Older men remember their low paid jobs constructing the early motels on the southern and eastern sides of Uluru. Some Anangu recall working as lowly paid yards men and motel domestic staff.*

Anangu involvement with visitors to Uluru has changed over the last 40 years of tourism. The huge increase in tourist numbers throughout the 1970s and 1980s produced very few benefits for Anangu and raised considerable problems. The integrity of important men's and women's sites around Uluru and Kata Tjuta were threatened. Employment opportunities declined, living conditions worsened and there were informal moves by parts of the tourist industry to remove Anangu from the Park. The rich cultural knowledge of the land was usually ignored or misrepresented by visitors and tour operators. Anangu wanted to remain living on their traditional lands and have their knowledge, expertise and ownership acknowledged. They wanted to fulfil their cultural obligations to look after their country and pass on Tjukurpa to their children and grandchildren.



Anangu Tours Liru Walk

### Ininti Store



In 1972, against some opposition, the Docker River Social Club set up the Ininti Store at Mutitjulu, (the Anangu community) within the Park. This was the first legitimate Anangu commercial interest in the Park. The Ininti Store operated as the community store, servicing both Anangu residents and tourists until all tourism facilities were moved to the Yulara resort in 1984.

▲ Walkatjara Gallery  
▼ Maruku Arts and Crafts Gallery



As part of the celebrations for handback of the land title to the Traditional Owners in 1985, postcards and other materials were designed to raise visitor's awareness of Anangu culture. These included Tjukurpa, bush tucker and medicine designs.

Today Gumlake Pty Ltd runs both Ininti Store at Mutitjulu community and Ininti Souvenirs and Cafe at the Uluru - Kata Tjuta Cultural Centre. The cafe is a great place for visitors to enjoy light refreshments, while enjoying a magnificent view of Uluru. Ininti Souvenirs provides a wide selection of gifts, books, videos and clothing.

### Maruku Arts

During 1980/81 Anangu artists and crafts people from Uluru and Amata set up a temporary sales tent at the base of Uluru. In 1984 Maruku Arts and Crafts was established at the Mutitjulu community to market arts and crafts for artists from across Pitjantjatjara/Yankunytjatjara/Ngaanyatjara lands to the south and southwest of Uluru in South Australia and Western Australia.

As part of the Yulara tourist resort development in 1983/84, Anangu were invited to tender for commercial operations including the sale of arts and crafts. However, they decided to wait for commercial space in the Park designed for their needs. In June 1985, just before Handback of the land, Maruku and Ininti set up retail outlets at the Ranger station.

Today Maruku Art provides a dynamic exhibition space and unique sales outlet at the Uluru - Kata Tjuta Cultural Centre. The Gallery sells traditionally crafted pugu (woodwork) as well as more recently developed art forms such as paintings, jewellery and animal carvings.

Maruku also has a large warehouse in Mutitjulu Community. The Maruku truck regularly goes on buying trips to over 20 communities throughout the western desert. They buy craft for wholesale distribution and exhibition all over the world. The making of artefacts for exhibition and sale keeps the traditional crafts alive in a modern commercial world.

On most weekdays Maruku artists can be observed painting at the Uluru-Kata Tjuta Cultural Centre.

### Anangu Tours

Anangu Tours Pty Ltd is an Aboriginal owned tourism company at the forefront of indigenous tourism in Australia. Aboriginal guides provide visitors with a very special encounter with Uluru in tours that run twice a day, every day of the year (depending on bookings). Tours are conducted in the guides' own language (generally either Yankunytjatjara or Pitjantjatjara) and are translated into English by interpreters.

The business was initiated by Aboriginal residents of the region, without government funding or assistance. Operations began on 25 October 1995 to coincide with the 10 year celebration of the Handback of Uluru to the Traditional Owners. Since then the company has steadily won national and international credibility and acclaim and has become a commercially successful operation. Anangu Tours has repeatedly won Australian Tourism Awards, and Northern Territory "Brolga" Tourism Awards and has an excellent record of employment and training of local Anangu.

### Walkatjara Art

In 1995 artists from Mutitjulu Women's Centre were commissioned to paint murals and tiles for the newly constructed Tjukurpa Tunnel at the Cultural Centre. At the time the artists were preparing their work in the heritage listed Straw House situated at Mutitjulu community. (The Straw House was the first Ranger House in the Park, built in 1950).

Artists continued developing the ceramics with a small amount of arts funding until 1997. In order to provide further employment opportunities and increase the income of artists, the art centre restructured and moved to the Cultural Centre. The Walkatjara Art Centre and Gallery Shop opened in the Cultural Centre in February 1998.

The art room activities are centred around ceramics and the development of designs on paper depicting Uluru and the surrounding landscape. These designs are now licensed to manufacturers and sold throughout the country. Visitors are able to observe the art room activities adjacent to the gallery space, adding a very unique visitor experience to the Cultural Centre.

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# World Heritage

*Uluru - Kata Tjuta National Park is world heritage listed for both natural and cultural values. In 1994 the Park became the second national park in the world to be listed as a cultural landscape.*

## What is World Heritage?

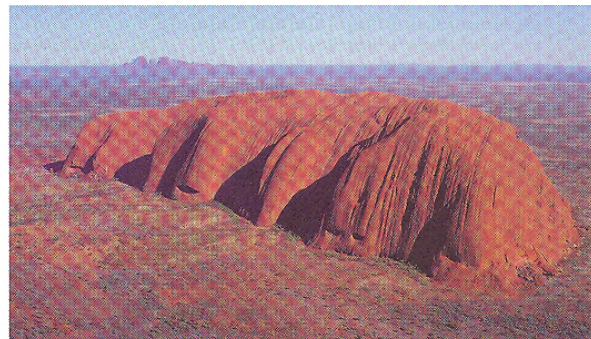
World heritage sites are places of outstanding universal value. Australia was one of the first countries in the world to sign the World Heritage Convention, which came into force in 1975. Over 100 countries are now signatories to the Convention, with over 440 sites around the world listed as World Heritage Areas.

## The World Heritage Convention aims to:

- promote cooperation among nations to protect world wide heritage which is of such international value that its conservation is a concern for all people,
- commit signatory nations to help in the identification, protection, conservation and presentation of World Heritage properties,
- encourage signatory nations, with international assistance where appropriate, to 'adopt a general policy which aims to give the cultural and natural heritage function in the life of the community and to integrate the protection of that heritage into comprehensive planning programs'
- oblige signatory nations to refrain from 'any deliberate measures which might damage directly or indirectly the cultural and natural heritage' and to 'take the appropriate legal, scientific, technical, administrative and financial measures' necessary for its protection.

Australia, with its *World Heritage Conservation Act 1983*, is the only nation to have enacted specific legislation to protect World Heritage Areas. World Heritage Listing does not affect property rights. Ownership remains as it was before listing, and state and local laws still apply to the listed properties. The areas do not become government property, nor does control pass into the hands of any international body or foreign power.

The Australian Government makes nominations for the World Heritage List in consultation with state and territory governments.



The nominations are considered by the World Heritage Committee, on which Australia has served regularly since 1976.

## Natural Landscape

In 1987 Uluru - Kata Tjuta National Park received World Heritage listing as a 'natural property' representing 'ongoing geological, biological and ecological processes' as well as exhibiting 'natural beauty with an exceptional combination of natural and cultural elements.' This recognized the western scientific value of the Park.

## Cultural Landscape

In 1994 the Park was successfully nominated as a World Heritage property under this category because it is:

- a cultural landscape representing the combined work of nature and of man, manifesting the interaction between humankind and its natural environment; and,
- an associative landscape having powerful religious, artistic and cultural associations of the natural element.

The nomination highlighted those parts of the Park's Plan of Management which emphasised the centrality of Anangu scientific knowledge and traditional land management practices. The nomination noted the fact that land degradation that has occurred in the Park over the last 50 years has begun to be reversed since these practices have been re-established.

## Anangu view of World Heritage

The listing of Uluru - Kata Tjuta National Park as a World Heritage Property for its natural and cultural values represents years of work by Anangu to assert their role as custodians of their traditional lands. This international recognition is a significant victory for the Traditional Owners because it confirms the validity of Tjukurpa and Anangu culture in all aspects of the Park's Management. The independent International Council for Monuments and Sites (ICOMOS), which assessed the cultural values of Uluru - Kata Tjuta National Park for the World Heritage Council, gave international recognition of:

- Tjukurpa as a religious philosophy linking Anangu to their environment;
- Anangu culture as an integral part of the landscape; and,
- Anangu perspective and interaction with the landscape.

This is one of the reasons Anangu want Australians to refer to the lands of the Park by their traditional names Uluru and Kata Tjuta rather than the non-Anangu names which have been given more recently.

## Implications for the Park Management

The World Heritage listing of Uluru - Kata Tjuta National Park emphasises the Park as a living culture as well as a unique ecosystem. This puts further pressure on all the joint management parties to ensure Tjukurpa remains a vital component of all aspects of Park management. The key objectives in the Park's current Plan of Management with regard to the Park's cultural resources are to:

- utilise Anangu scientific knowledge and land management practices in the Park;
- continue research into Anangu scientific knowledge;
- expand and develop the Park's interpretation program of Anangu explanations of the landscape;
- ensure that Anangu knowledge is seen as the primary interpretation of the Park and ensure that non-Anangu interpretations complement Anangu interpretation;
- support and enforce existing policies and regulations regarding visitor management based on Anangu perceptions of appropriate visitor behaviour;
- work with Anangu to identify and conserve rock art and other archeological resources of the Park; and,
- record and interpret Anangu oral history.

## Effects on Tourism

The listings ensure that the Park remains a world class destination for both its cultural and natural heritage. Visitors will continue to have an authentic cultural experience at the Park and leave knowing that the Park is managed according to cultural practices that date back tens of thousands of years. World Heritage listing helps maintain tourist numbers in Central Australia, providing various regional and national economic benefits.

Further information on the World Heritage Convention and World Heritage Properties can be obtained at the website [www.unesco.org/whc](http://www.unesco.org/whc) or [www.ea.gov.au/heritage/awh/worldheritage/](http://www.ea.gov.au/heritage/awh/worldheritage/)

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## Uluru - Kata Tjuta National Park Notes

# Park management

*"It's only recently that visitors and the Park have been here. But we have always looked after this place, this place of great Tjukurpa."*

Nellie Patterson, traditional owner

Angangu have always been taught land management practices by their parents and grandparents. Today the Angangu Traditional Owners of Uluru-Kata Tjuta National Park jointly manage the Park with Parks Australia. Joint management arrangements allow Angangu to continue to meet traditional land management obligations and to keep their culture strong.

### Handback and Lease Agreement

After the Handback of the land to the Traditional Owners on 26 October 1985, it was immediately leased back to the Director of National Parks for 99 years.

The lease ensures that the national park service (Parks Australia):

- encourages the maintenance of Angangu tradition through protection of sacred sites and other areas of significance;
- maximises Angangu involvement in Park administration and management, and provides necessary training;
- maximises Angangu employment in the Park by accommodating Angangu needs and cultural obligations with flexible working conditions;
- uses Angangu traditional skills in Park management;
- actively supports the delivery of cross-cultural training by Angangu to Park staff, local residents and Park visitors;
- consults regularly with Angangu;
- encourages Angangu commercial activities in the Park. The lease agreement includes an indexed rental agreement of 25% of Park revenue.

### Board of Management

Angangu manage the Park through a Board of Management made up of six members nominated by Angangu and originally four, now five, non-Angangu members. The Board prepares Plans of Management, makes



policy and management decisions, monitors management programs, and provides advice to the Federal Minister for the Environment.

### Tjukurpa and Management

Tjukurpa (Law) guides the development of Park policy, as set out in the Plan of Management. Plans of Management are developed in consultation with Angangu and a wide range of individuals and organisations associated with the Park. Park management programs are all guided by Tjukurpa. (See Plan of Management on [www.ca.gov.au/parks/publications/Uluru-pom](http://www.ca.gov.au/parks/publications/Uluru-pom))

### Parks Australia

Parks Australia, part of the Commonwealth Department of Environment and Heritage, plays a major role in the coordination of conservation planning, management and monitoring of issues of national and international significance. It facilitates cooperation and coordination of conservation issues among the various tiers of government. Parks Australia has management responsibilities for protected areas at Norfolk Island, Ningaloo Marine Park, Boodee National Park, Cartier and Ashmore Islands, Mermaid Marine National Nature Reserve, the Coral Seas Islands Territory and Elizabeth and Middleton Reefs National Nature Reserve.

In the Northern Territory, Parks Australia leases two National Parks from Aboriginal traditional landowners, Uluru-Kata Tjuta National Park and Kakadu National Park. Other parks in the Northern Territory are managed by the Parks & Wildlife Commission of the Northern Territory.

### Staff

The Park Manager is responsible for the day to day implementation of the Plan of Management. The four sections of the Park are Administration and Training, Park Operations (rangers, maintenance, entry station), Public Communications (Cultural Centre, media, interpretation, education, public relations) and Natural and Cultural Resources. Angangu are consulted about all Park programs and employed as consultants, rangers and contractors. The lease provides for the employment of a Community Liaison Officer by the Mutitjulu Community funded by Parks Australia.

### Mutitjulu Community

The Mutitjulu Community, on the north-eastern side of Uluru, is home for many Angangu families who have a long association with Uluru and Kata Tjuta. It has an elected Council responsible for community activities and development. It also participates in decisions regarding Park management and liaison with the tourism industry.

Approximately 250 Angangu live in the Community along with some non-Angangu workers. The community has a primary school, child-care centre, disabled care, health clinic, general store, church, recreation hall, football oval, Council office, mechanical workshop, adult education centre and women's council.

Traditional Owners also live in communities outside the Park to the north, south-east and west. Angangu frequently travel between communities and to homelands and outstations according to family and social needs and other cultural responsibilities.

### Conventions and Agreements

Uluru - Kata Tjuta National Park is ranked as one of the world's most significant arid land ecosystems. In January 1997, it was accepted as a Biosphere Reserve under the UNESCO Man and Biosphere Program, joining 11 other reserves in Australia and an international network aiming to preserve the world's major ecosystem types.

In 1987 the Park was listed as a World Heritage area for its natural values and again in 1994 was listed for its cultural values. The *Environment Protection and Biodiversity Conservation Act 1999* protects such properties by prohibiting activities such as mining, building, road construction and tree removal, unless carried out under a plan of management.

The Park is also registered as part of the National Estate. Under the *Australian Heritage Commission Act 1975*, no such activities shall be undertaken unless there is no feasible and prudent alternative.

### Award for Land Management

Many countries are now recognising the importance, and appropriateness of the role of Indigenous people in the management of National Parks on traditional lands. In April 1995 the Board of Management of Uluru-Kata Tjuta National Park and Environment Australia were awarded the UNESCO Picasso Gold Medal for land management. The award was presented in recognition of the "outstanding management and conservation of Uluru-Kata Tjuta National Park with the participation of Traditional Owners of the Biosphere Reserve and World Heritage site".

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## Uluru - Kata Tjuta National Park Notes

# Non-Aboriginal history

*Angangu have always been on the land now known as Uluru-Kata Tjuta National Park. Their history begins with the travels of the creation ancestors in the Tjukurpa (Creation Period) and the signs left in and on the land.*

### Prehistory

Non-Aboriginal people have a different view of the past, saying that Aboriginal people have only lived on the Australian continent for about 60 000 years. Some scientists suggest that Aboriginal people may have been here for twice that period. They also say that different areas of Australia were probably settled at different times, as people gradually moved from the abundant coastal areas into the deserts. Archeological work to the north of Uluru in 1987 suggests that Aboriginal people have inhabited this area for at least 22 000 years. Work carried out in the MacDonnell Ranges in 1994 suggests habitation in Central Australia dates back 30 000 years.

### Non-Aboriginal History

The non-Aboriginal history in the area is short, but has impacted greatly on Angangu lives.

In 1862 John McDouall Stuart completed the first return south-north crossing of Australia. The construction of the Adelaide to Darwin Overland Telegraph Line between 1870 and 1872 substantially followed Stuart's route. The line provided a series of bases, including Alice Springs, from where exploration, for the purpose of pastoral expansion, could continue.

William Earnest Giles first saw Kata Tjuta while exploring near Watarrka (Kings Canyon) to the north in 1872. He named the largest dome at Kata Tjuta 'Mount Olga', although he could not cross Pantu (Lake Amadeus) to reach it.

In 1873 William Christie Gosse became the first visitor to reach this area, naming Uluru, 'Ayers Rock', after the then Chief Secretary of South Australia, Sir Henry Ayer.

Between 1872 and 1885 pastoralists took up the majority of the country between Oodnadatta and Alice Springs, and the well-watered central range country. However, the land proved too harsh for the pastoral industry.

Instead, Uluru and Kata Tjuta were included in the South West Reserve, declared in 1920 as part of a larger system of reserves set aside as sanctuaries for Aboriginal people. The result was that few non-Aboriginal people visited this area until the 1940s.

In 1928 the missionary, E E Kramer, guided by the late 'Tiger' Tjalkalyiri, gave a Christian service south of Uluru. He was the first non-Aboriginal person to record Uluru as a sacred place: 'the most sacred spot in all the country around [where] natives come for their ceremonies and certain sections are not allowed to Aboriginal women on the pains of sure death'.

The gradual expansion of pastoralism south and west of Alice Springs in the 1920s and 1930s led to conflict between non-Aboriginal and Aboriginal people over resources such as water and hunting grounds. Police patrols in the area increased, and in 1934 one Angangu man was arrested. He escaped, was chased and shot by police in a cave near Mutitjulu waterhole at Uluru. He later died. In the 1930s dingo hunters also came in search of scalps. This contact introduced some Angangu to European food and ways.

### Tourism and Mining

The gold prospector Harold Bell Lasseter was in the area in the early 1930s, and some Angangu remember his death in the Peterman Ranges west of Kata Tjuta in 1931.

Gosse, Giles and other travellers through to the 1930s described Uluru and Kata Tjuta with such wonder that it was inevitable that tourism would develop once access was available. Walter Gills' camel visit in 1931 may be considered the first by a tourist. In 1942 the popular author Frank Clune was to suggest, 'As Fujiyama is to Japan, so should Ayers Rock be to Australia, a sacred mountain and place of pilgrimage, in the heart of our continent.'

Between 1947 and 1950 tracks were made by miners and tourists to Uluru, Kata Tjuta and beyond, allowing the development of growing tourist operations in the area.

In 1958 Uluru and Kata Tjuta were excised from the South West Reserve to form a national park managed by the Northern Territory Reserves Board. Bill Harney was appointed the Park's official curator. In 1959 the first motel leases were granted and an airstrip built on the north-east side of Uluru. The next three decades saw a huge growth in numbers of visitors to the region, putting a lot of pressure on Angangu as well as the fragile environment around Uluru and Kata Tjuta.

During the 1960s a number of tour operators tried to persuade the Native Welfare Branch to remove Angangu from the Park. The government settlement at Kaltukatjara (Docker River) west of Uluru, was established partly to draw Angangu away from Uluru and Kata Tjuta.

To protect the environment a Federal Parliamentary inquiry in 1973 decided to relocate all accommodation facilities along the eastern side of Uluru to a new site 27 kilometres away. Yulara Resort was opened in 1983 along with new airport facilities.

Despite pressures on Angangu to leave the Park, some remained throughout the 1960s to try to protect sacred sites and other places of importance. Many Angangu living and visiting Uluru took part in the tourist industry through the sale of artifacts, as labourers and sometimes guides.

At a meeting at Ernabella (South Australia) in 1971, senior land owners raised concerns about desecration of sites by tourists. In 1972 many Angangu men came together to hold traditional ceremonies at Uluru asserting their traditional rights.

### Land Rights

The Aboriginal Land Rights Act (Northern Territory) 1976 and the formation of the interim Central Land Council in 1974 gave Angangu a powerful voice to protect sacred sites and an opportunity to regain control of the land. As a result of the 1979 Katiti Land Claim, Commissioner Justice Toohey accepted that 104 Traditional Owners had been formally identified for Uluru and 57 for Kata Tjuta. Angangu were given title to the Katiti Land north and east of the Park. However they were told they could not claim Uluru and Kata Tjuta, as it was crown land leased as a National Park.

In 1977 Uluru (Ayers Rock-Mt Olga) National Park was declared under the National Parks and Wildlife Conservation Act 1975. An agreement was made between the Commonwealth and the Conservation Commission of the Northern Territory to manage the Park.

The long struggle for title was documented in the press, including Angangu's reasons for rejecting the Northern Territory Government's offer to grant Northern Territory land title.

Finally in 1983 Prime Minister Hawke promised the return of the land in the Park to the Traditional Owners under the Land Rights Act. On 26 October 1985, Governor-General Sir Ninian Stephens presented Traditional Owners with the title deeds to the Uluru-Kata Tjuta lands. In return, Angangu agreed to lease the lands to the Director of National Parks for 99 years.

Since Handback, Angangu and Environment Australia staff have worked together to manage the Park. There have been many achievements in that time.

For a time line see Basic Facts sheet.

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## Uluru weather

*Uluru is in the arid zone of Central Australia at 131°E and 25°S, 500 metres above sea level. The climate around Uluru is extreme and difficult to predict.*

### Recording the weather

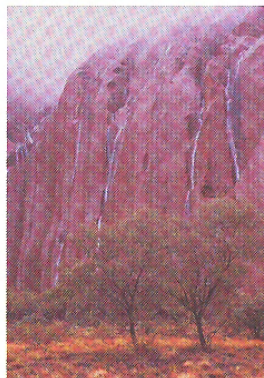
In 1991 the Bureau of Meteorology installed a weather station near Uluru - Kata Tjuta National Park Administration Centre. Park staff take daily readings, maintain records and equipment, and make regular reports to the bureau. The station measures rainfall, wind speed and direction, air temperature with maximum and minimum readings, soil temperature at 10, 20, 50 and 100cm depth, wet-bulb temperature (used to calculate relative humidity) and an evaporation reading.

### Temperature

Temperatures are not moderated by the sea, which is many hundreds of kilometres away in any direction. Nor are temperatures often moderated by clouds, resulting in considerable heating of the earth's surface during the day and considerable cooling at night. This produces large daily temperature ranges.

The highest temperature recorded by the newly installed weather station was 45.5°C on 17 February 1992. Although higher temperatures have undoubtedly occurred, accurate, controlled recordings have not been possible. Between October and April, there is an average of 43 days above 40°C.

High summer temperatures often cause considerable stress to those moving about the Park. Activity is better in the early morning or late afternoon. The day/night temperature range is normally 15°-25°C and occasionally over 30°C. Temperatures drop very quickly during and preceding storms. In winter the overnight minimums often fall below 0°C, followed by sunny days.



### Frosts

Frosts are common during winter when high pressure systems move through the area combining cooler dry air with nocturnal radiation. The frosts cure the grasses, drying and preserving them. This dry fuel can feed wild fires that can ignite during the electrical storms of early summer.

### Rainfall

About 70% of the Australian continent is arid. Uluru is located roughly near the middle of the arid centre. The driest region in the arid zone surrounds Lake Eyre, further to the south, where the annual rainfall is only 120mm. At Uluru the long-term average annual rainfall is higher, about 307mm.

Seasonal and annual rainfalls are extremely variable throughout the region, and rain may fall at any time of the year. However, heavy rains are more likely between November and March. At this time of year large tropical depressions may move deep into the continent causing heavy flooding rains to sweep inland across the arid zone, leaving large areas of drowned country.

The average annual evaporation rate is high at approximately 2800mm. In such a dry environment prolonged droughts may be frequent and extreme. The longest drought on record ended in 1965 and lasted six and a half years. The lowest recorded annual rainfall was 82mm in 1965 and the highest 935mm in 1974.

When rain comes the ephemeral (drought-evading) vegetation explodes into growth. Plants of this type only grow after rain and are mostly grasses and small plants which cover the ground in shrub and tree communities. They flower profusely, set seed and die as soon as the water dries up. The seeds lie waiting until the next deviant cyclone. Summer rains promote the growth of grasses and winter rains promote the growth of ephemeral flowers.

### Humidity

The average relative humidity throughout the region is markedly lower than in coastal zones. Seasonally, humidity recordings are almost the inverse of temperatures. They are highest in winter and lowest in summer. Humidity in summer is highest at night. It has been measured in the Park at 3% on a summer day - that is low! The air is usually very dry, the humidity normally dropping as temperatures rise in the afternoon, which

contributes to efficient bodily cooling but requires the body to use a great deal of fluid. **Visitors need to drink enough water to replace that used when participating in a strenuous activity such as walking.**

### Winds

Winds at Uluru come predominantly from the south-east. They are at their strongest during the spring from September to November.

At the top of the Uluru climb winds are invariably much stronger than at ground level. Wind speeds of up to 90km per hour have been recorded in the region. **Visitors must take care to avoid hypothermia when strong winds combine with cold weather, by ensuring suitable clothing is worn.**

### Storms

The general flow of the weather is from west to east, though storms can and do occasionally come in from other directions, frequently steering from the north-west with an approaching change. Storm conditions and lightning are most common from October to February, but may occur at any time of year. Stormy weather is often preceded by strong, often dry and dusty winds from between north-east and west. Puffy stratocumulus clouds appear on the western horizon, amidst fairly hazy conditions, and make their way east, quickly covering the sky. About 10 minutes before a storm hits, the wind picks up and the temperature drops, this trend continuing with the passage of the storm.

The daily weather forecast is available at the Cultural Centre

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# Basic facts & maps

*These facts and figures are for your information. We request that they are thought about in conjunction with the cultural aspects of the Park.*

## GENERAL

Location:	335km SW Alice Springs (450km by road)
Size of Park:	1325 square kms
Average Rainfall:	307.7mm per annum
Uluru height	340m above plain
	863m above sea level
Uluru Circumference:	9.4kms
Kata Tjuta:	36 domes
Highest dome of Kata Tjuta	500m above the plain
	1066m above sea level

## FAUNA

(Reid, Uluru Fauna, ANPWS 1993)

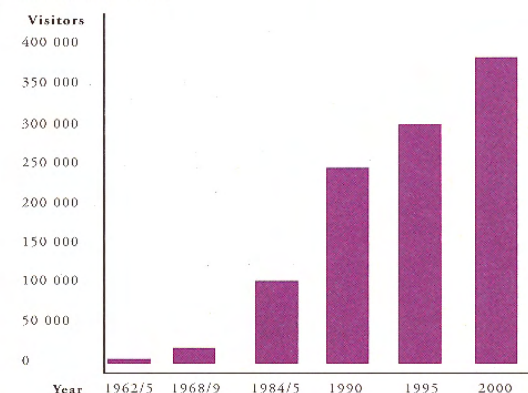
Mammal species:	25
(historic records)	46 species
Bird species:	178
Reptile species:	72
Frogs species:	4
Introduced mammal species:	5

## FLORA

(Barrit, Plants Uluru-Kata Tjuta CCNT 1995)

Genera	207
Species	416
Families	105
Introduced flora	30 species

## VISITOR STATISTICS



## STAFFING

Administration:	5
Operations:	30:
Rangers	16
Trainees	2
Maintenance and Entry station	12
Public Communications:	10
Media	3
Interpretation and Education:	3
Information:	3
Natural and Cultural Resources:	7
Total Staff (Full and Part time)	52

## MUTITJULU COMMUNITY

Approx 250 adults

## AWARDS & NOMINATIONS

1977	UNESCO Biosphere Reserve
1987	World Heritage Listing
	Listed on the Register of the National Estate
1994	World Heritage Listing - Cultural Landscape
1995	UNESCO Picasso Gold Medal for Land Management

## THE BOARD OF MANAGEMENT

The Board was formed after the Handback of land title to Anangu on 26 October 1985. The first meeting was held in February 1986. Meetings are usually held three or four times a year with all business discussed in Yankunytjatjara/Pitjantjatjara and English. The Board has an Anangu majority, and is made up as follows:

- Six members nominated by the Aboriginal Traditional Owners;
- One member nominated by the federal Minister responsible for tourism;
- One member nominated by the federal Minister responsible for the environment;
- One scientist experienced in both arid land ecology and the management of such land;
- One member nominated by the Northern Territory Government; and
- The Director of National Parks (Parks Australia).

## Recent Time Line

1872	Ernest Giles sighted the highest dome of Kata Tjuta and named it Mt Olga.
1873	Goss was the first European to visit Uluru.
1896	Horne Scientific Expedition visits Uluru and records natural features.
1919	An influenza epidemic devastates Aboriginal people in southern portion of NT.
1920	The South Western Reserve set aside as a sanctuary for Aboriginal people. This includes Uluru and Kata Tjuta.
1928	Missionary, E E Kramer, recorded Uluru as a sacred place to Aboriginal people.
1930's	Anangu first introduced to European foods and ways by dingo hunters.
1937	Ernabella Mission established in SA.
1942	Areyonga ration depot established.
Mid 1940's	Tourists start to arrive to see Uluru.
1950	First Len Tuit tour to Uluru.
1958	Uluru and Kata Tjuta are taken out of the South West Reserve and declared as a tourist and wildlife reserve. Bill Harney is appointed as the first Ranger.
1963	Posts put in place to hold 'the chain'.
1967	Docker River (Kaltukatjara) settlement established.
1972	Docker River Social Club establishes the Ininti Store at Uluru - first Anangu business. First ceremonies held at Uluru that were noticed and recorded by government officials.
1976	Ayers Rock Advisory Committee consults Anangu re: location of Yulara and airport.
1976	Northern Territory Land Rights Act passed.
1979	During Katiti Land Claim the Land commissioner identifies Traditional Owners for Uluru and Kata Tjuta but can't grant a claim to a national park.
1983/4	Yulara Resort township opened.
1985	Title deeds handed back to Traditional Owners on 26 October.
1987	Uluru National Park World Heritage listed as a natural property with cultural associations.
1993	Park renamed Uluru - Kata Tjuta National Park.
1994	Park listed as a World Heritage Cultural Landscape.
1995	Uluru-Kata Tjuta Cultural Centre opened.
1999	New Environment Protection and Biodiversity Conservation Act becomes Law.
2000	Current (fourth) Park Plan of Management released by the Board of Management.

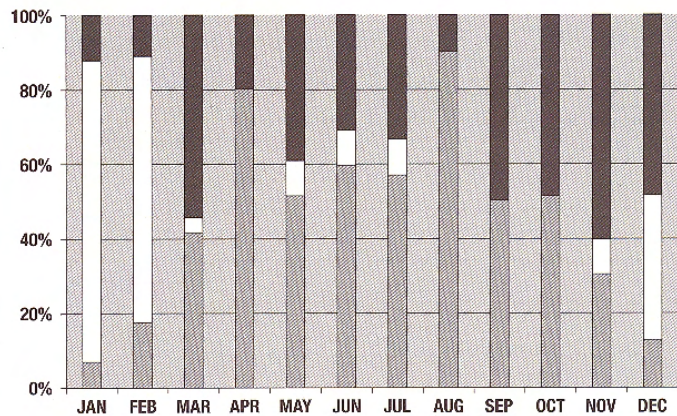


## CLIMB CLOSURE

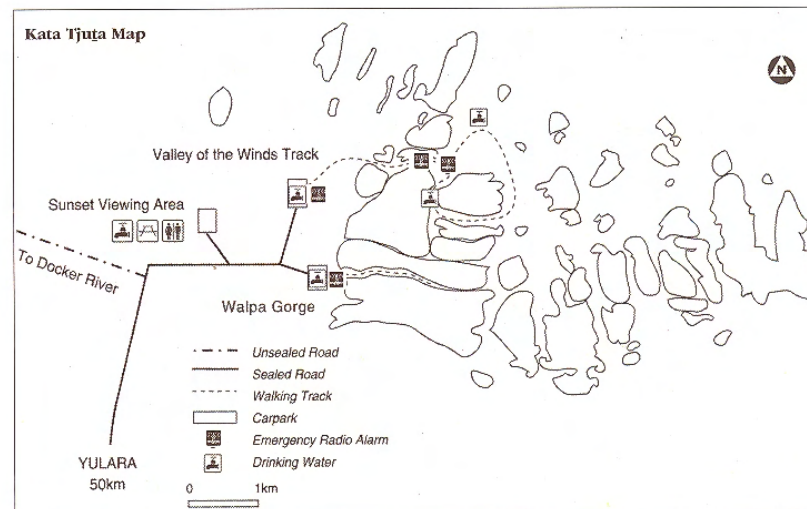
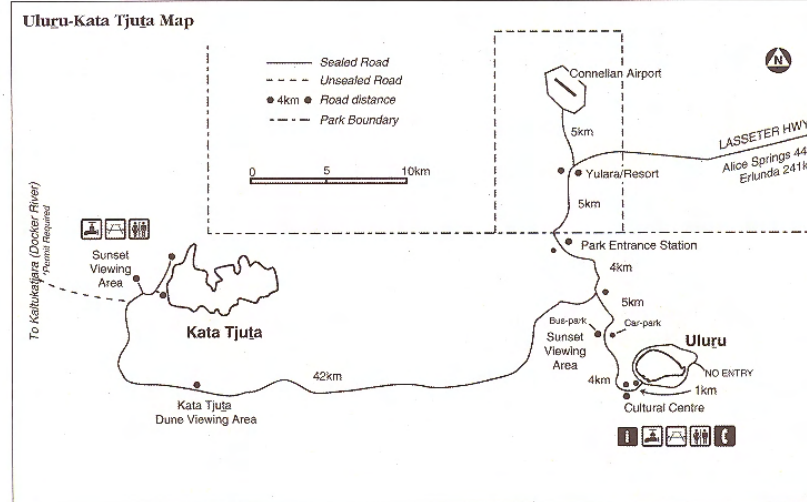
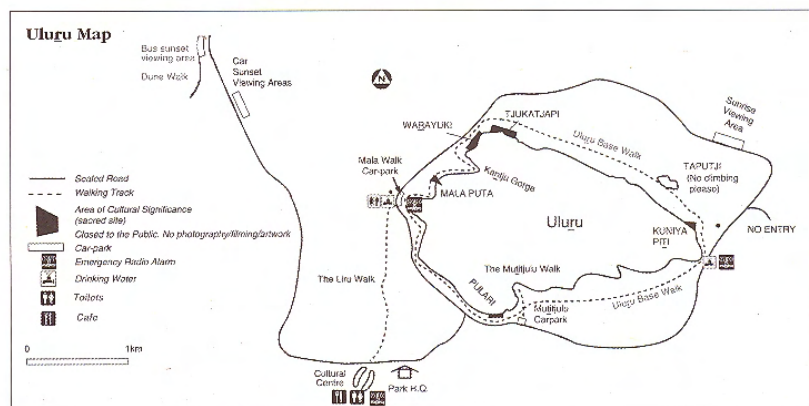
The Uluru climb is closed when:

- The forecast maximum temperature is 36°C or above.
- The climb will close from 8:00am on these days and remain closed for the rest of the day.
- The estimated average wind speed at 25000ft reaches 25 knots (47km/h).
- There is a greater than 20% chance of rain in the next three hours. Uluru becomes very slippery after rain.
- There is any storm activity closer than 50km from Uluru.
- There is a greater than 5% chance of thunderstorms in the next three hours
- Cloud descends to or below the summit of Uluru.
- There is insufficient light to safely undertake and complete the return climb.
- A rescue is taking place.
- Any part of the Park, including the climb may be closed for cultural reasons at the request of Anangu.

## CLIMB CLOSURE STATISTICS 2001



■ Climbed Closed □ Partial Closure ■ Open All Day



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Uluru - Kata Tjuta National Park Notes

## Further resources

*The Park recommends the following resources. Representatives of the Mutitjulu Community have checked the information included in this list for accuracy and cultural appropriateness. Other references may contain inaccurate or inappropriate information.*

ENVIRONMENT AUSTRALIA (2002)  
*Uluru - Kata Tjuta National Park Tour Operator Workbook*

ENVIRONMENT AUSTRALIA  
*Park Notes and other Park Publications*  
Environment Australia, Canberra

ENVIRONMENT AUSTRALIA (2000)  
*Uluru - Kata Tjuta National Park Plan of Management*  
Environment Australia, Canberra

ENVIRONMENT AUSTRALIA (1993)  
*Kowari 4, Uluru Fauna. The Distribution and Abundance of Vertebrate Fauna of Uluru (Ayers Rock and Mount Olga) National Park*  
Reid JRW, Kerle JA, Morton SR, CSIRO Division of Wildlife and Ecology, Centre for Arid Zone Research

BREEDEN S. (1995) *Growing up at Uluru Australia*  
Steve Parish Publishing, Qld

BREEDEN S. (1995)  
*Uluru: Looking after Uluru - Kata Tjuta the Anangu Way*  
Simon and Schuster, Sydney

CAAMA ABORIGINAL TELEVISION UNIT (1991)  
*Nganampa Anwernekenhe*, program Uluru (videotape)

CAAMA PRODUCTIONS (2001) *Minymaku Way*  
Video by SBS, Australian Film Finance Corporation and CAAMA Productions.

CCNT (1995) Barritt, MJ, Albrecht, DE  
*Checklist of Vascular Plants of the Uluru - Kata Tjuta National Park, Central Australia*



DOWNING, Jim (1988) *Ngura Walytja Country of my Spirit*  
ANU, Canberra

FINLAYSON, HH (1943) *The Red Centre*  
Angus and Robertson, Sydney

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*Sharing the Park - Anangu initiatives in Ayers Rock Tourism*, Asprint, Alice Springs

INSTITUTE FOR ABORIGINAL DEVELOPMENT (1992)  
*Women's Gathering and Hunting in the Pitjantjatjara Homelands*.  
Book plus video kit compiled by Suzie Brycc, IAD Publications, Alice Springs

INSTITUTE FOR ABORIGINAL DEVELOPMENT (1992)  
*Pitjantjatjara/Yankunytjatjara to English Dictionary*, second edition, compiled by Cliff Goddard, IAD Publications, Alice Springs

INSTITUTE FOR ABORIGINAL DEVELOPMENT (1993) *A Learners Guide to Pitjantjatjara*, IAD Publications, Alice Springs

INSTITUTE FOR ABORIGINAL DEVELOPMENT (1995) *Puju Yankunytjatjara Plant Use*  
IAD Press, Alice Springs

ISAACS J. (1992) *Desert Crafts, Anangu Maruku Puju*.  
Doubleday, Sydney

LAYTON Robert, (1986) *Uluru an Aboriginal History of Ayers Rock*,  
Australian Institute of Aboriginal Studies, Canberra

LESTER, YAMI (1993) *Yami*,  
IAD Press, Alice Springs

MUTITJULU COMMUNITY (1986) *Uluru an Anangu Story*,  
Video by Film Australia

MUTITJULU COMMUNITY (1995) *Mingkeiri, Small Mice and Other Wildlife*  
A Natural History, compiled by Baker, L  
IAD Press, Alice Springs

SUTTON, Peter (1989) *Dreamings, The Art of Aboriginal Australians*  
Viking, New York

THOMPSON, I. (1998) *The Anangu of Uluru-Kata Tjuta*.  
Fighting for Survival Series. Heinemann, Melbourne

TOYNE, P and VACHON, D (1984) *Growing Up the Country*  
McPhee Gribble/Penguin

**Uluru - Kata Tjuta National Park website**  
[www.ea.gov.au/parks/uluru](http://www.ea.gov.au/parks/uluru)

**SOME OTHER USEFUL REFERENCES**  
CENTRE FOR INDIGENOUS DEVELOPMENT  
EDUCATION AND RESEARCH (1996) *Keeping Company - an intercultural conversation*  
Bridge Printery, University of Wollongong.

KERLE, A (1995) *Uluru-Kata Tjuta and Watarrka*.  
National Parks Field Guides. University of NSW Press, Sydney

LATZ, P (1996) *Bushfires and Bushstucker*  
IAD Press, Alice Springs

SWEET, IP & CRICK III (1992) *Uluru-Kata Tjuta A Geological History*  
Australian Geological Survey Organisation, Canberra

URBAN, A (1993) *Wildflowers and Plants of Central Australia*.  
Paul Fitzsimons, Alice Springs

**World Heritage website:**  
[www.ea.gov.au/heritage/awh/worldheritage](http://www.ea.gov.au/heritage/awh/worldheritage)













