



Land for Wildlife

Biodiversity Surveys

Lillecrapp Rd

2008



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Introduction

Land for Wildlife is a voluntary extension program which began in Alice Springs in 2002. The program encourages and facilitates private landholders and groups to maintain and improve native habitat on their properties. This capacity building is done through workshops, environmental assessments on properties, newsletters, advice and access to the local conservation network.

Through maintaining and improving native habitats and managing key biodiversity threatening processes on their properties, members contribute to regional biodiversity conservation.

Land for Wildlife was established in Victoria in 1981, and has been adopted by Queensland, Western Australia, Tasmania, New South Wales and the Northern Territory with over 10,000 properties registered. The native bushland areas of Alice Springs provide excellent opportunities for private landholders to learn about and contribute to nature conservation by managing remnant vegetation on their own property. Wildlife corridors are being created between nature reserves, allowing wildlife movement and genetic interchange within plants and animals. Private landholders are encouraged to contribute to the survival of plants and animals that are dependant on remnant native vegetation.

As of November 2008, there were a total of 81 properties registered with Land for Wildlife in the Alice Springs municipality, covering a total land area of 5471.77 ha.

Land for Wildlife members energetically contribute to natural resource management of private land by controlling threatening processes like invasive weeds, feral animals, erosion and altered fire regimes.

In 2007, previous Land for Wildlife coordinator Heidi Groffen conducted Biodiversity Surveys as part of her Master's in Vertebrate Management. Heidi surveyed four sites within the Ilparpa Valley area and four from the Ross Highway area within the Alice Springs municipality. From the Ilparpa area, two properties had removed all buffel grass and the other two properties were in early stages of clearing or managing the spread of buffel grass but still had buffel grass present within the site. The Ross Highway properties were also surveyed using the same factor i.e. buffel grass presence and non presence. The surveys involved plant identification within 50 m squared plots and bird transects as well as active reptile searches and Elliot trapping for small mammals and reptiles. The surveys proved successful in encouraging member participation in property monitoring and evaluation of biodiversity change over time.

The 2008 surveys along the Blatherskite Range, focused on a corridor of Land for Wildlife properties within the Ilparpa subdivision located on Lillecrapp Road. These properties were chosen because of the relatively high biodiversity occurring on the range. Disturbance on the properties has been reasonably minimal, with invasive weeds and fire the primary impacts on the blocks. These threats have each been successfully managed over the past

few years, with extensive removal of buffel grass occurring and erosion issues controlled. Previous Land for Wildlife membership visits to each of the Lillecrapp Road properties highlighted diverse bird and reptile presence when compared to properties located in differing land unit locations. This diversity in wildlife presence has also been recorded regularly by the dedicated Land for Wildlife members themselves.

The primary aims of conducting the biodiversity surveys were to:

1. Increase member ability in self-assessment methods so that they can use the techniques learnt to measure the beneficial impact of their conservation activities.
2. Determine and record species richness of native flora and fauna within Land for Wildlife properties.

Another advantage to the biodiversity surveys was to increase the landholder's knowledge in identification of wildlife species by observing tracks and listening to bird calls.

Methods and Materials

Fauna surveying using Elliot trapping and Pitfall traps were conducted along the transects over three nights. Each property contained two Pitfall traps and one set of Elliot Traps (25 traps). The Marshall's contained three Pitfall traps.

Elliot's are small aluminium traps, whereby the trap door closes behind the animal when activated by a pedal inside. Rolled oats and peanut butter were used as bait. Traps were placed facing downwards to prevent the trap from filling with water in the event of rain (which occurred in abundance).

Pitfall traps were also used. A pitfall trap consists of a plastic bucket sunk in the soil so its opening is flush with the ground surface. Netting is constructed upright approx. 5m each side of the bucket so each animal that runs into the netting drifts alongside it into the bucket.

The conditions for using Pitfall traps were unfavourable, as rocks and stones prevented a smooth runway along the drift fence. Pitfalls are particularly suited to open country, such as grasslands and sandy arid areas. Despite this, a number of species were caught in the Pitfall Traps constructed.

All traps were closed during the day to prevent long term capture and heat stress to the animals. All animals were identified on site and released immediately.

Bird calls and observations were recorded along the transect line. Bird presence was recorded by vocalisation and observations. Pat Hodgins, an experienced ornithologist from the Alice Springs Desert Park, and Lillecrapp Rd resident, ensured that the observations were accurate and consistent.

Present vegetation species and their abundance were recorded



Left: Closed Elliot Trap

Right: Rani and Keira check a Pitfall Trap

Weather

Observations taken at Alice Springs Airport.

The airport is about 11 kilometres from Alice Springs township.

Observations were drawn from Alice Springs Airport {station 015590}

Date	Minimum temp (°C)	Maximum temp(°C)	Rainfall (mm)
1/11/2008	20.4	31.4	0
2/11/2008	18.1	28	1.8
3/11/2008	16	35	0.2
4/11/2008	22	34	0
5/11/2008	21	32	2
6/11/2008	20.9	38.8	0.4
7/11/2008	19.5	30	18.2
8/11/2008	14	21	24
9/11/2008	11	25.7	0
10/11/2008	12.9	29	0
11/11/2008	15	33	0
12/11/2008	19	38	0
13/11/2008	26	40.9	0
14/11/2008	24.5	37	0
15/11/2008	19	28	6
16/11/2008	17	21.6	39
17/11/2008	18.2	26	6.4
18/11/2008	19	27	3
19/11/2008	17	30	48
20/11/2008	18	31	7
21/11/2008	21	37.3	0
22/11/2008	21.7	30.1	0
23/11/2008	18	30	0
24/11/2008	20.1	36.8	1.2
25/11/2008	20.9	36	2.4
26/11/2008	24.7	36	0
27/11/2008	29	39	0
28/11/2008	26	35	0
29/11/2008	19	31	0
30/11/2008	18	34.1	0



The Todd River in flow during the survey period

Background Information

Lillecrapp Rd has a history of devoted Land for Wildlife members. The creation of the booklet 'Reptiles and Frogs of Alice Springs' By Nic Gambold and Deborah Metters originated from a meeting between the authors and Lillecrapp Rd Land for Wildlife members in 2002.

Of the properties surveyed, the Marshall's and Clark's joined Land for Wildlife in February 2003. The Ferguson's joined in March 2008, however previous owners Maria van der Krogt & Doug Graham joined in October 2003.

The Hehir's, Moore's and Ian McLeish and Karen Gillepsie joined Land for Wildlife in March 2008. Amie and Indigo are renting, however joined Land for Wildlife in January 2009.

Vegetation communities present on the blocks surveyed include

1. Hillside Spinifex and mallee on quartzite slopes. The ground layer is dominated by *Triodia basedowii*, with the shrub layer containing *Eremophila freelingii*, *Senna artemisioides subsp. artemisioides*, *Senna artemisioides subsp. helmsii*. The tree layer includes *Callitris glaucophylla* (higher up the range). This vegetation type is distinctive and occurs higher on the range, however grades into Vegetation type 4 lower down the slope.

4. Witchetty Bush and/or Mulga on rocky hills of granite, gneiss or schist. The ground layer is dominated by *Enneapogon ssp.*, *Eriachne mucronata*, *Sclerolaena convexula* and buffel grass. The shrub layer include *Acacia kempeana*, *Acacia tetragonophylla*, *Eremophila freelingii* and *Senna artemisioides subsp. helmsii*. The tree layer includes *Acacia anuera*, *Atalaya hemiglauca*, *Corymbia opaca* and *Hakea lorea*.

6. Mulga on rocky or stony slopes of quartzite, sandstone or silcrete

The ground layer is dominated by buffel grass, *Enneapogon polyphyllus*, *Eragostis eriopoda*, *Eriachne mucronata* and *Frimbristylis dichotoma*. The shrub layer includes *Acacia anuera*, *Acacia kempeana*, *Rhagodia eremaea* and various species of *Eremophila*, *Maireana* and subspecies of *Senna artemisioides*. The tree layer is dominated by *Acacia anuera*, but also includes *Atalaya hemiglauca*, *Corymbia opaca* and *Hakea lorea*

The vegetation on the blocks changed dramatically during the survey period, due to the substantial amount of rain falling during the month of November.

There had been little rain in the months leading up to the surveys. Therefore, previous to the heavy rains, the vegetation was dominated by Mulga *Acacia anuera* and Lobed Spinifex *Triodia basedowii*. Intensive Buffel control had occurred on the majority of blocks surveys, and very little regrowth was visible

Significant rains occurred during the survey period and between surveys. This altered the landscape, and the re-emergence of many previously recorded species was observed. Species observed are recorded in 'Vegetation' on Pg.14 In total 159.6 mm of rain fell in November in Alice Springs, complete with hail, thunderstorms and a flowing Todd River.

1. Glenn and Jane Marshall Ian McLiesh and Karen Gillespie Tuesday 4th-Friday 7th November

Our first properties were numbers 7841 and 7842 Lillecrapp Rd. Glenn had diligently dug all five holes for the required pitfall traps, battling extremely rocky, hard and uncooperative ground. The Marshall girls all helped out during the survey period, with Ruby Marshall assisting Heidi and Danielle to open and close traps every day. A Euro *Macropus robustus* was observed, very close to the house, being chased by a dog, when setting up the traps the first day

The conditions:

The weather was mild and wet during the surveying period. Light rain fell the first night, and very heavy rain fell the last night, flooding the Pitfall traps and deterring most creatures from venturing out and taking the bait. The minimum temperature was 21 degrees, recorded on the Wednesday night. The maximum was 38.8 degrees on the Thursday. Approx. 44mm of rain fell during the week of the surveys, and the Todd River flowed on the Friday night after the surveys finished.

Birds observed:

Black Kite
Brown Honeyeater
Crested Pigeon
Galah
Grey Crowned Babbler
Grey-headed Honeyeater
Mistoebird
Pied Butcherbird
Rainbow Bee Eater
Rufous Whistler
Spiny-cheeked Honeyeater
Wedgetail Eagle
White-plumed Honeyeater
Willy Wagtail

Milvus migrans
Lichmera indistincta
Ocyphaps lophotes
Cacatua roseicapilla
Pomatostomus temporalis
Lichenostomus keartlandi
Dicaeum hirundinaceum
Cracticus nigrogularis
Merops ornatus
Pachycephala rufiventris
Acanthagenys rufogularis
Aquila audax
Lichenostomus penicillatus
Rhipidura leucophrys

What we trapped:

All animals trapped were captured on the middle, only dry night. A Rough Knob-tailed Gecko *Nephrurus amya* and a Bynoe's Gecko *Heteronotia binoei* were found in different pitfalls, and one Fat-tailed False Antechinus was found in an Elliot Trap. A Rock Ctenotus *Ctenotus saxatilis* fell into a Pitfall on the Tuesday night when the traps were being set.

Photos



2. Jan & Chris Ferguson and Amie & Indigo Tuesday 12th-Friday 15th November

7843 and 7844 Lillecrapp Rd were surveyed during the second week. After spending the first afternoon battling rocks and heat, Pat and Danielle had an increased appreciation for the frustration felt by Glenn and Bryan who had previously dug a number of holes for pitfall buckets on their properties. Indigo and Amie assisted by baiting and opening the Elliot traps and bringing up a bucket of sand to ensure the pitfall traps had a smooth runway for animals to run alongside the netting.

Amie and Indigo helped out every morning and evening and provided cold drinks during the heat of the afternoon, which was greatly appreciated.

The conditions: A hot, rain-free week, with temperatures reaching 40.9 °C on the Thursday. The minimum was 15 °C, occurring on the Tuesday.

Birds we observed:

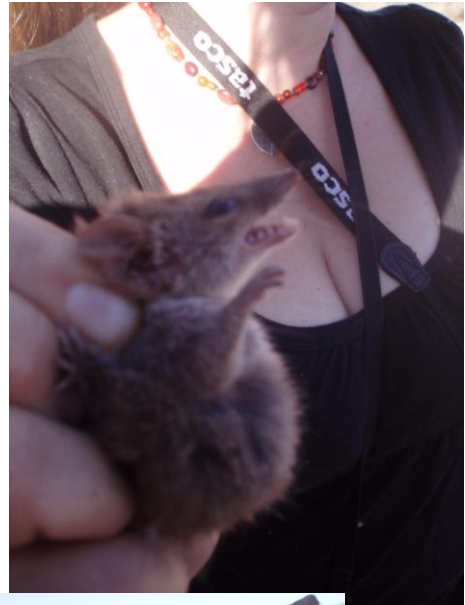
Black Faced Woodswallow
Crested Pigeon
Fairy Martin
Galah
Grey Shrike-Thrush
Grey-headed Honeyeater
Mistletoe bird
Spiny-cheeked Honeyeater
Willy Wagtail

Artamus cinereus
Ocyphaps lophotes
Hirundo ariel
Cacatua roseicapilla
Colluricincla harmonica
Lichenostomus keartlandi
Dicaeum hirundinaceum
Acanthagenys rufogularis
Rhipidura leucophrys

What we trapped: On the first trapping morning, a Fat-tailed False Antechinus *Pseudantechinus macdonnellensis* was found in an Elliot trap. The antechinus did not have a fat tail, which develops during prosperous times when fat is stored for dry periods. It was in a healthy condition.

The second trap morning a small Rock Ctenotus *Ctenotus saxatilis* was caught in an Elliot trap. As these skinks are active during daylight hours, it must have crawled in either after the traps were opened in the evening, or very early the next morning. On the concluding night, nothing was captured.

Photos



3. Moores, Hehirs and Bryan and Ursula Clark Tuesday 25th - Friday 28th.

It was Danielle and Andy, this time, who trudged up the range to commence digging through the soil (with a large proportion of rocks) in the 36 degree heat. David Moore and Bryan had already dug their holes, however as Bryan was extremely punctual and dug his holes many weeks ago when we first requested hole-digging to be done, the holes had been part-filled with sediment and had to be partly re-dug.

The conditions: It was a hot, muggy week, with the occasional shower/storm. The maximum was 39°C, recorded on the Thursday. The minimum was 20.9°C, recorded on the Tuesday night. The survey period also contained the highest minimum of the month, with 29°C recorded on the Thursday night.

Birds we observed:

Willy Wagtail
White-plumed Honey-eater
Fairy Martin
Spiny Cheeked Honeyeater
Crested Pigeon
Mulga Parrot
Black Faced Woodswallow
Rufous Whistler
Mistletoe Bird
Nankeen Kestrel
Grey-Headed Honeyeater

Rhipidura leucophrys
Lichenostomus penicillatus
Hirundo ariel
Acanthagenys rufogularis
Ocyphaps lophotes
Psephotus varius
Artamus cinereus
Pachycephala rufiventris
Dicaeum hirundinaceum
Falco cenchroides
Lichenostomus keartlandi

What we trapped: The first night, we trapped a Striped Desert Roach *Desmozosteria cincta* and an unidentified spider.

The second night, we trapped a humble little House Mouse *Mus musculus* in an Elliot Trap. It can be differentiated from a native mouse from its teeth- house mice have two front top teeth, whilst native mice have four. House Mice compete with native mice for food and resources.

A Spinifex Slender Blue Tounge *Cyclodomorphus melanops* was caught in a Pitfall Trap.

On the exceptionally warm, 29 °C last night, all we caught were some beetles. However whilst opening up the traps on the Thursday night, Sarah Moore and I observed three Euros very close to the houses.

Photos



Vegetation

Previous to the wonderful rains we received during the surveys, the vegetation on the blocks was looking rather sparse! Dominated by Mulga *Acacia anuera*, Oval-leaved *Senna art. ssp. oligophylla* and Spinefex *Triodia basedownii*, minimal buffel *Cenchrus ciliaris* was present due to its extensive removal by the streets residents.

Pigweed
Spotted fuchsia
Rock fuchsia
Native tomato
Rock fern
Ruby Saltbush

Portulaca oleracea
Eremophila maculata
Eremophila freelingii
Solanum ellipticum
Cheilanthes sieberi ssp. sieberi
Enchylaena tomentosa

Himalayan Raintree
Fork-leaved Corkwood
Whitewood
Dead Finish

Dalbergia sisso
Hakea divaricata
Atalaya hemiglauca
Acacia tetragonaphylla

Bloodwood
White Cypress Pine

Corymbia opaca
Callitris glaucophylla



Right: Bloodwood *Corymbia opaca*. The trees often have large, rough, apple-sized edible galls, known as bush coconuts, which contain insect grubs. When a mature gall is broken open, a grub about 4cm long can be found attached to the inner wall. The wall is very thin at one attachment point and there is a small hole through to the exterior. The grub is eaten raw and the edible, white inner flesh is scraped out.

The Desert Bloodwood frequently features in Aboriginal mythology. For example, the crumbly bark of a certain sacred tree plays an important part in a particular Pitjantjatjara grass-seed increase ceremony, and some unusual trees with large bowls on the trunk sometimes represent mythological ancestors (There is a sacred tree growing near a certain Pitjantjatjara settlement. It is believed anyone falling asleep under this tree will soon die. (Latz 1995: 191)



Left: Vibrant Rock Fuschia *Eremophila freelingii* flowering after rain. It is an important medicinal plant for the Indigenous people of the area. A decoction of the laves is either drunk or used as a wash for sores and for the relief of headaches and chest pains. The leaves may be placed in the nasal septum or used as a pillow for people suffering from colds and other chest complaints. Inhalations from the bruised leaves are considered to have healing properties. Early European settlers also used the leaves to make a medicinal tea

The attractive flowers are sometimes places in headbands for decorative purposes during ceremonies

Below: *Halgania erecta*. The leaves are covered with stiff, flattened hairs and are only 3-10mm long. There are 1-3 flowers in a cluster. We found this species quite high on the range when walking above the transect line. This is surprising, as it's usually found on red sand plains. It's unlikely it was planted as it was found well above the boundary line.





Above: Rock Fern *Cheilanthes sieberi* ssp. *Sieberi*. This species occurs in pockets of soil amongst rocks, often along creek banks and in rocky ranges

Below: Potato Bush, Tomato Bush *Solanum ellipticum* As is often the case with widespread species, this has different forms in different parts of the country. It is most common on foothills and lower hill slopes. Fruits are produced whenever moisture conditions are suitable but severe frosts or heat can reduce the crop.

This is a staple food plant throughout the area. Although the fruits spoil rather quickly after ripening, relatively large amounts can be collected from this widespread and often abundant plant. (Latz 1995:276)



Species unobserved during the surveys but previously recorded on Lillecrapp Rd

Arboreal Snake Eyed Skink
Marbled Velvet Gecko
Perentie
Red Tree-Frog
Ridge Tailed Monitor
Tree Dtella
Central Bearded Dragon
Centralian Carpet Python
King Brown or Mulga Snake
Long-nosed Water Dragon
Sand Goanna
Western Brown Snake
Red-backed Spiders
Fire Tailed Skink

Cryptoblepharus plagiocephalus
Oedura marmorata
Varanus giganteus
Litoria rubella
Varanus acanthurus
Gehyra variegata
Pogona vitticeps
Morelia bredli
Pseudechis australis
Lophognathus longirostris
Varanus gouldii
Pseudonaja nuchalis
Latrodectus hasselti
Morethia ruficauda

Australian Magpie
Australian Ringneck Parrot
Black-faced Cuckoo-shrike
Yellow-rumped Thornbill
Diamond Doves
Major Mitchell Cockatoo
Red-tailed Black-cockatoo
Spinifex Pigeon
Tawny Frogmouth
Variegated Fairy-wren
Western Bowerbird

Gymnorhina tibicen
Barnardius zonarius
Coracina novaehollandiae
Acanthiza chrysorrhoa
Geopelia cuneata
Cacatua leadbeateri
Calyptorhynchus banksii
Geophaps plumifera
Podargus strigoides
Malurus lamberti assimilis
Chlamydera guttata

Fauna profiles

Due to the high number of bird species sighted during the survey, only some have been included.

Rock Ctenotus *Ctenotus saxatilis* A large dark olive-brown to reddish-brown skink. Black stripe down back, with narrow white stripes alongside it. Sides have broad pale stripes and blotches. Body length: 10cm. Tail length: 32cm.

Habitat: Rocky ranges and outcrops

Habits: Shelters below rocks or under low vegetation.



Rock Ctenotus



Bynoes Gecko

Bynoe's Gecko *Heteronotia binoei* A slender gecko with a long, tapering tail. Ground colour ranges from pale yellow- brown to reddish-brown. Prominent irregular broad to narrow bands with dark and pale spots. Bands are sharper on original tail with regenerated tail smooth and patternless. Lower surfaces are whitish, finely dotted with dark brown. Body length: 5cm. Tail length: 16.5cm.

Habitat: Widespread, however prefers compact rocky soils.

Habits: It is an extremely hardy species found throughout Northern Australia. Under severe conditions females are able to produce without male fertilization. A common gecko in Alice Springs gardens. Individuals are sedentary and have a home range within a radius of approx. 10m. Chiefly nocturnal when hunting for insects and other smaller geckoes

Rough Knob-tailed Gecko* *Nephrurus amylae

Gecko's of the genus *Nephrurus* have distinctly large and powerful heads used to eat large prey such as small geckos, spiders, crickets, centipedes and scorpions. Their short tail ends in a sensory knob, which is twitched back and forth if they're alarmed. All *Nephrurus* species are terrestrial and adapted to arid environments. The Rough Know Tailed Gecko has the largest head and smallest tail of all *Nephrurus* species. Its scales are rough to touch. It has rows of white spots and back narrow bands across its back. Juveniles have rapid growth rates and can reproduce at 12 months of age. Body length to 15cm.

Habitat: Found in rocky habitats in the Alice Springs district. Also commonly occurs in the lowlands on clay or calcareous soils.

Habits: Well camouflaged, walks with a jerky swaying motion. When alarmed or cornered, it displays by puffing up, and raising and lowering its body. If approached, or when catching prey, it can rush quickly with a snapping bite.



Spinifex Slender Blue-Tounge* *Cyclodomorphus melanops

A small, robust blue-tounge with short tail. Pale grey to brown on top; paler on flanks. Usually marked with black spots (one per scale) on body, limbs and tail. Juveniles are darkened with numerous whitish spots. Body length: 12cm, Tail 25cm.

Found on rocky hills and sandy soils with Spinifex. Feeds largely on arthropods and occasionally small lizards.



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Fat-tailed False Antechinus *Pseudantechinus macdonnellensis*

Between 7.5-9.4 cm in length, with a 7.5-8.5 cm tail; it weighs 20-45g the Fat-tailed False Antechinus is sturdily built with a short, sparsely furred, carrot shaped tail. It is gingery brown above, and whitish below. It has large, distinctive orange patches behind and below each ear, grading into a whitish throat. The upper surfaces of the feet are pale.

Habitat: Sparsely vegetated rocky slopes and adjacent plains.

Habits: Mostly nocturnal but will sun, primarily insectivorous. Litters of up to 6

young born July-September Photograph copyright: Michael Barritt & Karen May, Alice Springs, NT



Rainbow Bee-Eater *Merops ornatus*

The Rainbow Bee-eater is between 21-28cm, with a long slim curved bill and a long tail with distinctive tail-streamers. It has a golden crown and a red eye set in a wide black stripe from the base of the bill to the ears, which is edged with a thin blue line. The throat is orange-yellow, with a broad black band separating it from a green breast. The upperparts are green, with the flight feathers coppery and black tipped. The underwings are bright orange, with a black edge. The lower abdomen is blue. The tail is black, including the long tail streamers, with a blue tinge. Females have shorter, thicker tail streamers than males, but are otherwise similar. Young birds are duller and greener, lacking the black band on the chest and the long tail streamers.

The Rainbow Bee-eater is most often found in open forests, woodlands and shrublands, and cleared areas, usually near water. It will use disturbed sites such as quarries, cuttings and mines to build its nesting tunnels.

Rainbow Bee-eaters eat insects, mainly catching bees and wasps, as well as dragonflies, beetles, butterflies and moths. They catch flying insects on the wing and carry them back to a perch to beat them against it before swallowing them. Bees and wasps are rubbed against the perch to remove the stings and venom glands.

Rainbow Bee-eaters gather in small flocks before returning to summer breeding areas after overwintering in the .Both males and females select a suitable nesting site in a sandy bank and dig a long tunnel (average length: 89.4 cm) leading to a nesting chamber, which is often lined with grasses. Both parents incubate the eggs and both feed the young, sometimes with the assistance of auxiliaries (helpers).



Mistletoe Bird

Around 10cm long, the Mistletoebird is the only Australian representative of the flowerpecker family, Dicaeidae, and is also known as the Australian Flowerpecker. Males have a glossy blue-black head, wings and upperparts, a bright red throat and chest, a white belly with a central dark streak and a bright red undertail. Females are grey above, white below, with a grey streak on the belly, and a paler red undertail. Young birds resemble females but are paler and have an orange, rather than dark, bill. These birds are swift and erratic fliers, moving singly or in pairs, usually high in or above the canopy.

Habitat: Whereever mistletoe grows.



Habit: The Mistletoebird is highly adapted to its diet of mistletoe berries. It lacks the muscular gizzard (food-grinding organ) of other birds, instead having a simple digestive system through which the berries pass quickly, digesting the fleshy outer parts and excreting the sticky seeds onto branches. The seed can then germinate quickly into a new plant. In this way, the Mistletoebird ensures a constant supply of its main food. It will also catch insects, mainly to provide food for its young.

The Mistletoebird builds a silky, pear-shaped nest with a slit-like entrance, made from matted plant down and spider web, which is suspended from a twig in the outer foliage of a tree. The female alone builds the nest and incubates the eggs, while both sexes feed the young.

Wedgetailed Eagle *Aquila audax*

The Wedge-tailed Eagle is Australia's largest living bird of prey and one of the largest eagles in the world. It reaches 0.85-1.05 m in length and has a wingspan of 2.3 m. Females are larger than males, averaging 4.2 kg in weight and occasionally reaching 5.3 kg. Males usually weigh about 3.2 kg, although they may reach 4.0 kg.

Young Wedge-tailed Eagles are mid brown in colour with reddish-brown heads and wings. They become progressively blacker for at least the first ten years of their lives; adults are mostly dark blackish-brown. There are no differences in plumage between the sexes other than that a female adult is generally slightly paler than her mate. The bill is pale pink to cream, the iris brown to dark brown, and the feet off-white.

The Wedge-tailed Eagle has long wings, a characteristic long, wedge-shaped tail, and legs that are feathered all the way to the base of the toes.



Wedge-tailed Eagles build their nest in a prominent location with a good view of the surrounding countryside. It may be built in either a live or dead tree, but usually the tallest one in the territory. In some parts of Australia, where tall trees are

absent, small trees, shrubs, cliff faces or even the ground may be used. The nest is a large structure of dead sticks, usually reused for years, often reaching considerable size. Nests 1.8 m across, 3 m deep and weighing about 400 kg are known. Nests have a shallow cup on the top, lined with fresh twigs and leaves. Sticks are added by a bird while it stands in the nest. If these sticks are dropped outside the nest, no effort is made to retrieve them. Piles of dropped sticks 1.8 m high have been recorded under the nest trees.

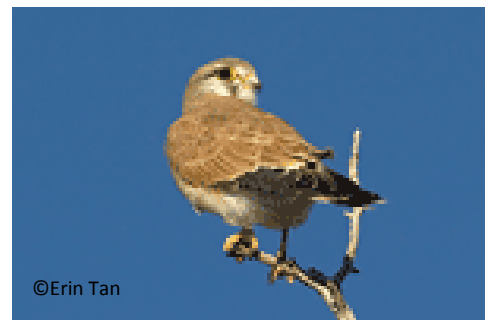
Wedge-tailed Eagles eat both live prey and carrion. Their diet reflects the available prey, but the most important live items are rabbits and hares. Rabbits usually comprise about 30-70% of the diet, but may comprise up to 92%. The introduction of the calicivirus has resulted in the decline of rabbits in many parts of Australia. It is not yet known how this will affect the Wedge-tailed Eagle. Other food items include lizards, birds (weighing over 100 g) and mammals (usually weighing over 500 g). Wedge-tailed Eagles will kill lambs, but these make up only a small percentage of their total prey.

Carrion is a major food source; roadkills and other carcasses are readily eaten. Many of the reports of predation on lambs result from birds scavenging already dead animals. Up to 20 birds may attend a carcass, although only two or three feed at any one time.

Wedge-tailed Eagles may hunt singly, in pairs or in larger groups. Working together, a group of eagles can attack and kill animals as large as adult kangaroos. This explains the scientific name of the Wedge-tailed Eagle which means 'bold eagle'. Under ideal conditions, an eagle can lift about 50% of its body weight. Often, eagles may catch food items on a branch near the nest area.

Nankeen Kestrel *Falco cenchroides*

The Nankeen Kestrel is a slender falcon. The upper parts are mostly rufous, with some dark streaking. The wings are tipped with black. The underparts are pale buff, streaked with black, and the under tail is finely barred with black, with a broader black band towards the tip. Females tend to be more heavily marked and have more rufous on the crown and tail. Males have a greyish crown and tail, although the extent varies between individuals. Birds measure 31cm - 36cm with females larger than males. Young Nankeen Kestrels closely resemble the adult female, with heavier markings.



The Nankeen Kestrel's success as a bird of prey can be largely contributed to its tolerance for a wide variety of habitats and its ability to feed on a variety of foods and nest in a range of sites. Some birds are partially migratory, others disperse in response to the availability of food and some are largely resident.

Extensive surveys placed the Nankeen Kestrel in the top ten most commonly seen birds; it was recorded in 95% of the survey sites located across the whole of Australia.

The Nankeen Kestrel's diet is varied. It mainly feeds on small mammals, reptiles, small birds and a variety of insects. Prey is located from a perch or by hovering a short distance above the ground on rapid wing-beats, using its fan-shaped tail as a rudder and keeping the head and body kept still. Once prey is spotted, the bird drops nearer to the ground until it is close enough to pounce. Some insects and birds may be caught in mid-air or snatched from tree branches.

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