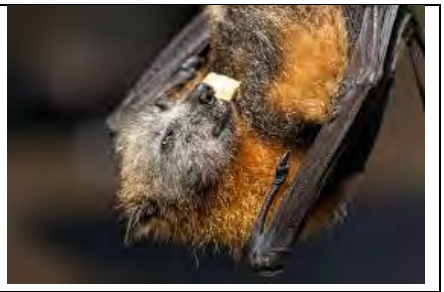
Grey-headed Flying-fox - profile

Scientific name: *Pteropus poliocephalus*
Conservation status in NSW: Vulnerable
Commonwealth status: Vulnerable



Description

The Grey-headed Flying-fox is the largest Australian bat, with a head and body length of 23 - 29 cm. It has dark grey fur on the body, lighter grey fur on the head and a russet collar encircling the neck. The wing membranes are black and the wingspan can be up to 1 m. It can be distinguished from other flying-foxes by the leg fur, which extends to the ankle.

Distribution

Grey-headed Flying-foxes are generally found within 200 km of the eastern coast of Australia, from Rockhampton in Queensland to Adelaide in South Australia. In times of natural resource shortages, they may be found in unusual locations.

Habitat and ecology

- Occur in subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops.
- Roosting camps are generally located within 20 km of a regular food source and are commonly found in gullies, close to water, in vegetation with a dense canopy.
- Individual camps may have tens of thousands of animals and are used for mating, and for giving birth and rearing young.
- Annual mating commences in January and conception occurs in April or May; a single young is born in October or November.
- Site fidelity to camps is high; some camps have been used for over a century.
- Can travel up to 50 km from the camp to forage; commuting distances are more often <20 km.
- Feed on the nectar and pollen of native trees, in particular *Eucalyptus, Melaleuca* and *Banksia*, and fruits of rainforest trees and vines.
- Important pollen and seed dispersal agent.
- Also forage in cultivated gardens and fruit crops.

Threats

- Loss and disturbance of roosting sites.
- Unregulated shooting.
- Electrocution on powerlines, entanglement in netting and on barbed-wire.
- Competition with Black Flying-foxes.
- Negative public attitudes and conflict with humans.
- Impacts from climate change.
- Disease.

Recovery strategies

A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Protect roost sites, particularly avoid disturbance September through November.
- Identify and protect key foraging areas.
- Manage and enforce licensed shooting.
- Investigate and promote alternative non-lethal crop protection mechanisms.
- Identify powerline blackspots and implement measures to reduce deaths; implement measures to reduce deaths from entanglement in netting and on barbed-wire.
- Increase public awareness/understanding about flying-foxes, and their involvement in flying-fox conservation.
- Monitor the national population's status and distribution.
- Improve knowledge on demographics and population structure to better understand ecological requirements of the species.

Glossy Black-Cockatoo – profile

Scientific name: *Calyptorhynchus lathami*
Conservation status in NSW: Vulnerable
Commonwealth status: Not listed

Description

The Glossy Black-Cockatoo is a small brown-black cockatoo with a massive, bulbous bill and a short crest. Males have a prominent red tail panel, while that of females is yellow to orange-red. The coloured tail panel is barred black in juvenile birds, with the extent of barring decreasing with age. The female usually has irregular pale-yellow markings on the head and neck, and may have yellow flecks on the underparts and underwing. They are usually seen in pairs or small groups feeding quietly in sheoaks.

Distribution

The species is uncommon although widespread throughout suitable forest and woodland habitats, from the central Queensland coast to East Gippsland in Victoria, and inland to the southern tablelands and central western plains of NSW, with a small population in the Riverina. An isolated population exists on Kangaroo Island, South Australia.

Habitat and ecology

- Inhabits open forest and woodlands of the coast and the Great Dividing Range where stands of sheoak occur. Black Sheoak (*Allocasuarina littoralis*) and Forest Sheoak (*A. torulosa*) are important foods.
- Inland populations feed on a wide range of sheoaks, including Drooping Sheoak, Allocasuaraina diminuta, and A. gymnathera. Belah is also utilised and may be a critical food source for some populations.
- In the Riverina, birds are associated with hills and rocky rises supporting Drooping Sheoak, but also recorded in open woodlands dominated by Belah (*Casuarina cristata*).
- Feeds almost exclusively on the seeds of several species of she-oak (*Casuarina* and*Allocasuarina* species), shredding the cones with the massive bill.
- Dependent on large hollow-bearing eucalypts for nest sites. A single egg is laid between March and May.

Threats

- Reduction of suitable habitat through clearing for development.
- Decline of hollow bearing trees over time due to land management activities.
- Excessively frequent fire which eliminates sheoaks from areas, prevents the development of mature sheoak stands, and destroys nest trees.
- Firewood collection resulting in loss of hollow bearing trees, reduced recruitment of hollow bearing trees, and disturbance of breeding attempts.
- Decline in extent and productivity of sheoak foraging habitat due to feral herbivores.
- Limited information on the location of nesting aggregations and the distribution of high quality breeding habitat.
- Disturbance from coal seam gas and open cut coal mining causing loss of foraging and breeding habitat as well as disturbing reproductive attempts.
- Forestry activity resulting in loss of hollow bearing trees, reduced recruitment of hollow bearing trees, degradation of foraging habitat, and disturbance of breeding attempts.
- Decline in extent and productivity of sheoak foraging habitat caused by moisture stress due to climate change.
- Grazing can degrade foraging habitat and limit the capacity of sheoak stands to regenerate follwing fire or drought.
- Illegal bird smuggling and egg-collecting.

Recovery strategies

A targeted strategy for managing this species has been developed under the Saving Our Species.

Activities to assist this species

- Reduce the impact of burning to retain diverse understorey species and in particular to permit the regeneration of she-oaks.
- Protect existing and future hollow-bearing trees for nest sites.
- Retain and protect areas of native forest and woodland containing she-oaks.
- Establish forested corridors linking remnant areas of habitat; include local she-oak species in bush revegetation works.

- Report suspected illegal bird trapping and egg-collecting to the OEH

Eastern Pygmy-possum – profile

Scientific name: *Cercartetus nanus*
Conservation status in NSW: Vulnerable
Commonwealth status: Not listed

Description

Eastern Pygmy-possums are tiny (15 to 43 grams) active climbers, with almost bare, prehensile (capable of curling and gripping) tails, and big, forward-pointing ears. They are light-brown above and white below. Adults have a head and body length between 70 - 110 mm and a tail length between 75 - 105 mm.

Distribution

The Eastern Pygmy-possum is found in south-eastern Australia, from southern Queensland to eastern South Australia and in Tasmania. In NSW it extends from the coast inland as far as the Pilliga, Dubbo, Parkes and Wagga Wagga on the western slopes.

Habitat and ecology

- Found in a broad range of habitats from rainforest through sclerophyll (including Box-Ironbark) forest and woodland to heath, but in most areas woodlands and heath appear to be preferred, except in north-eastern NSW where they are most frequently encountered in rainforest.
- Feeds largely on nectar and pollen collected from banksias, eucalypts and bottlebrushes; an important pollinator of heathland plants such as banksias; soft fruits are eaten when flowers are unavailable.
- Also feeds on insects throughout the year; this feed source may be more important in habitats where flowers are less abundant such as wet forests.
- Shelters in tree hollows, rotten stumps, holes in the ground, abandoned bird-nests, Ringtail Possum (*Pseudocheirus peregrinus*) dreys or thickets of vegetation, (e.g. grass-tree skirts); nest-building appears to be restricted to breeding females; tree hollows are favoured but spherical nests have been found under the bark of eucalypts and in shredded bark in tree forks.
- Appear to be mainly solitary, each individual using several nests, with males having non-exclusive home-ranges of about 0.68 hectares and females about 0.35 hectares.
- Young can be born whenever food sources are available, however most births occur between late spring and early autumn.
- Agile climbers, but can be caught on the ground in traps, pitfalls or postholes; generally nocturnal.
- Frequently spends time in torpor especially in winter, with body curled, ears folded and internal temperature close to the surroundings.

Threats

- Loss and fragmentation habitat through land-clearing for agriculture, forestry and urban development.
- Changed fire regimes that affect the abundance of flowering proteaceous and myrtaceous shrubs, particularly banksias.
- Declining shrub diversity in forests and woodlands due to overgrazing by stock and rabbits.
- Predation from cats, dogs and foxes.
- Loss of nest sites due to removal of firewood.

Recovery strategies

A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Control feral predators and rabbits.
- Avoid frequent burning of habitat.
- Protect habitat in proposed development areas and retain linkages across the broader landscape .
- Avoid overgrazing by stock and fire wood collection in areas of heathy understorey vegetation.
- Regenerate and replant local feed sources.

Eastern Bristlebird - profile

Scientific name: *Dasyornis brachypterus*
Conservation status in NSW: Endangered
Commonwealth status: Endangered

Description

Eastern Bristlebirds are medium-sized, long-tailed, brown and rufous birds. They are shy and cryptic and mostly occur in dense, coastal vegetation. Although secretive, they are occasionally seen scampering across open clearings and are easily located by their loud, melodic song and a harsh, sharp alarm-call. The plumage of the Eastern Bristlebird is dull brownish above and lighter grey below, with rufous wings. The tail comprises about half the bird's total length of 21 cm and may appear to be distinctively frayed. The wings are very short and rounded. The legs are long and strong. The face is paler and the eye is bright red. The strong 'bristles' at the base of the bill can be seen at close range. Given good views, this species should be distinctive, though given their cryptic nature they may be confused with the Rufous Scrub-bird (*Atrichornis rufescens*), Pilotbird (*Pycnoptilus floccosus*) or even juvenile Eastern Whipbirds (*Psophodes olivaceus*).

Distribution

The distribution of the Eastern Bristlebird has contracted to three disjunct areas of south-eastern Australia. There are three main populations: Northern - southern Queensland/northern NSW, Central - Barren Ground NR, Budderoo NR, Woronora Plateau, Jervis Bay NP, Booderee NP and Beecroft Peninsula and Southern - Nadgee NR and Croajingalong NP in the vicinity of the NSW/Victorian border. The estimated population size is less than 2000 individuals occupying a total area of about 120 sq km. There are now only four populations in the southern Queensland/northern NSW area with a total of 35 birds, compared to 15 years ago when 14 populations and 154 birds were recorded. This population once extended as far south as at least Dorrigo and has recently been identified as a separate ultrataxon (*monoides*) but further research is being undertaken to determine the validity of this. The remaining populations are the nominate ultrataxon (*brachypterus*) and once extended at least to what is now the Sydney urban area. The central population comprises an estimated 1600 birds, mainly from Barren Grounds Nature Reserve, Budderoo National Park and the Jervis Bay area. The southern population in Nadgee Nature Reserve and Howe's Flat is around 200 birds. Further surveys are required in parts of Ben Boyd National Park and Sydney Catchment Authority lands to determine whether further populations of the Eastern Bristlebird occur in these areas.

Habitat and ecology

- Habitat for central and southern populations is characterised by dense, low vegetation including heath and open woodland with a heathy understorey. In northern NSW the habitat occurs in open forest with dense tussocky grass understorey and sparse mid-storey near rainforest ecotone; all of these vegetation types are fire prone.
- Age of habitat since fires (fire-age) is of paramount importance to this species. The Illawarra and southern populations reach maximum densities in habitat that has not been burnt for at least 15 years; however, habitat in northern NSW requires frequent fires to maintain habitat condition and suitability. The northern fire regimes is between 3-6 years and of variable intensity depending on the habitat condition.
- Shy and cryptic and rarely flies, although can be seen scampering over the ground; when approached, may move to a lookout perch 1 m or more above the ground, then retreat into dense vegetation.
- Feeds on a variety of insects, particularly ants.
- Nests are elliptical domes constructed on or near the ground amongst dense vegetation.
- Two eggs are laid during August to February; producing more than one clutch a year is rare, and recruitment into the population is low.
- Males are strongly territorial

Threats

- Inappropriate fire regimes are a major threat to eastern bristlebird populations. A lack of frequent fires is the major threat to the northern population and too frequent fires are a threat to the central and southern populations.
- The very restricted size and distribution of the northern population makes it susceptible to local extinction via stochastic processes.
- Invasion of habitat by weeds such as Bitou Bush in the central population and Lantana, Crofton Weed and Mist Flowers in northern population habitat poses a significant threat.

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- Extensive and intense fire is a major threat to the central and southern populations and a threat to the northern population. Eastern Bristlebirds are semi-flightless and it is expected that few individuals would survive an intense fire event.
- Eastern Bristlebirds are prone to fox predation after wildfire events in the central and southern populations.
- Habitat loss and fragmentation from land being cleared for agricultural and residential developments is a threat in parts of the range of the species, particularly in the Jervis Bay area of the central population. The resultant fragmentation and isolation of populations may adversely affect the species because of their small size which makes them susceptible to catastrophic events and localised extinction.
- Eastern Bristlebirds may be prone to cat predation after wildfire events.
- Individuals are killed on roads in the Jervis Bay area of the central population.
- Increase in encroachment of woody shrubs and trees into grassy ecosystems for northern population due to effect of enhanced levels of carbon dioxide. Increased carbon dioxide levels promote woody plants through C3 photosynthesis and increased rates of photosynthesis.
- Dieback disease due to Phytophthora fungus may pose a potential threat to the heathy habitats of the southern and central populations.
- Heavy and sustained grazing pressure by livestock and trampling of habitat can be a threat to the northern population through loss of structure and density of tussock grasses.

Recovery strategies

A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Implement fire management strategies that enhance habitat for the Eastern Bristlebird. For the southern and central populations: if hazard reduction burning is necessary it should be carried out in a mosaic pattern at a frequency of no less than 10-15 years . Ecological asset protection burns may also be necessary to protect large amounts of habitat from too-frequent and intense fire events. Ensure that personnel planning and undertaking hazard reduction burns are able to identify the species and are aware of its habitat.
- Establish a captive breeding and release program for the northern population including the collection of eggs/chicks from the wild as per the recovery plan.
- Implement fire management strategies that enhance habitat for the Eastern Bristlebird.For the northern population a frequent fire regime of between 3-6 years is required and should include ecological and asset protection burns. Ensure that personnel planning and undertaking hazard reduction burns are able to identify the species and are aware of its habitat.
- For northern population, undertake control of Lantana, Crofton Weed and other invasive weeds and encroaching shrub species pre and post fire
- Support private landholders in the Border Ranges to protect, manage and enhance habitat and bristlebirds on their properties
- Prevent and suppress fire in southern and central population habitats. Conduct habitat management burns for nothern population at a frequency of every 3-6 years.
- Continue to control Bitou Bush, Lantana, Crofton Weed and other invasive weeds that pose a threat to Eastern Bristlebird habitats.
- In the event of a large-scale fire for southern and central populions: undertake fox control immediately after fire to reduce impact on Eastern Bristlebirds and other ground-dwelling fauna.
- Undertake research into the fire regimes required to maintain and enhance habitat in the grassy open forests in northern NSW/QLD
- For the northern population after an intense fire or wildfire more frequent ecological fires at less than 3 years may be required to control shrub/acacia recruitment triggered by the fire event.
- Ensure that full consideration is given in the assessment and mitigation of potential impacts to the Eastern Bristlebird from developments in or near known or potential habitat.
- Raise driver awareness through road signs about the presence of Eastern Bristlebirds.
- Liaise with landholders to encourage sustainable stock grazing pressure in Eastern Bristlebird habitat to maintain habitat structure and density.
- Continue the long-term population and vegetation monitoring for all three main NSW populations.
- Implement the national recovery plan
- Complete genetic studies to determine whether northern and southern populations are genetically similar or not.
- Determine locations of Eastern Bristlebird populations and prepare maps of known and potential habitats. Use this mapping to assign Environmental Protection Zones for important habitats and connective areas.
- Undertake translocation of birds from Bhewerre Peninsula to the Beecroft Peninsula. Consider further translocations of other populations in the future.

Spotted-tailed Quoll - profile

Scientific name: *Dasyurus maculatus*
Conservation status in NSW: Vulnerable
Commonwealth status: Endangered

Description

The Spotted-tailed Quoll is about the size of a domestic cat, from which it differs most obviously in its shorter legs and pointed face. The average weight of an adult male is about 3500 grams and an adult female about 2000 grams. It has rich-rust to dark-brown fur above, with irregular white spots on the back and tail, and a pale belly. The spotted tail distinguishes it from all other Australian mammals, including other quoll species. However, the spots may be indistinct on juvenile animals.

Distribution

The range of the Spotted-tailed Quoll has contracted considerably since European settlement. It is now found in eastern NSW, eastern Victoria, south-east and north-eastern Queensland, and Tasmania. Only in Tasmania is it still considered relatively common.

Habitat and ecology

- Recorded across a range of habitat types, including rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline.
- Individual animals use hollow-bearing trees, fallen logs, small caves, rock outcrops and rocky-cliff faces as den sites.
- Mostly nocturnal, although will hunt during the day; spends most of the time on the ground, although also an excellent climber and will hunt possums and gliders in tree hollows and prey on roosting birds.
- Use communal 'latrine sites', often on flat rocks among boulder fields, rocky cliff-faces or along rocky stream beds or banks. Such sites may be visited by multiple individuals and can be recognised by the accumulation of the sometimes characteristic 'twisty-shaped' faeces deposited by animals.
- A generalist predator with a preference for medium-sized (500g-5kg) mammals. Consumes a variety of prey, including gliders, possums, small wallabies, rats, birds, bandicoots, rabbits, reptiles and insects. Also eats carrion and takes domestic fowl.
- Females occupy home ranges up to about 750 hectares and males up to 3500 hectares. Are known to traverse their home ranges along densely vegetated creeklines.
- Average litter size is five; both sexes mature at about one year of age. Life expectancy in the wild is about 3-4 years.

Threats

- Loss, fragmentation and degradation of habitat.
- Competition with introduced predators such as cats and foxes.
- Deliberate poisoning, shooting and trapping, primarily in response to chicken predation.
- Roadkill

Recovery strategies

A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Consult with OEH/NPWS if Spotted-tailed Quolls are raiding poultry, rather than taking direct action.
- Consult with OEH/NPWS if poison baiting is planned in or near areas where Spotted-tailed Quolls are known or likely to occur.
- Undertake cat and fox control using poison-baiting techniques least likely to affect quolls.
- Retain and protect large, forested areas with hollow logs and rocky outcrops, particularly areas with thick understorey or dense vegetation along drainage lines.

Leatherback Turtle - profile

Scientific name: *Dermochelys coriacea*
Conservation status in NSW: Endangered
Commonwealth status: Endangered

Description

A very large sea-turtle up to 3 m long with heavy paddle-shaped limbs lacking claws. Adults are dark brown or black above, sometimes with paler marbling or longitudinal rows of fine dots on the back, while hatchlings are a rich blue-black trimmed with white, and pale below. The adult shell is covered by a thick, smooth, leathery skin. There is a series of seven prominent longitudinal ridges above the shell and four ridges along the lower half of the shell.

Distribution

Throughout the world's tropical and temperate seas and in all coastal waters of Australia. Most sightings are in temperate waters. Large numbers of Leatherback Turtles feed in coastal waters from southern QLD to the central coast of NSW.

Habitat and ecology

- Occurs in inshore and offshore marine waters.
- Rarely breeds in Australia, with the nearest regular nesting sites being the Solomon Islands and Malayan Archipelago. Occasional breeding records from NSW coast, including between Ballina and Lennox Head in northern NSW.
- Number of sightings in southern waters suggest species actively seeks temperate feeding grounds, rather than occurring only as stray vagrants.
- Feed on jellyfish.

Threats

- Risk of extinction because numbers are low.
- Accidental entanglement in shark nets, traps, longlines and other fishing gear.
- Predation at nest site by feral pigs and foxes.
- Collision with boats and other marine traffic.
- Marine debris, particularly plastic, which is mistaken for jellyfish and can cause asphyxiation, abrasion, infection and blockages in the turtle's system when swallowed.
- Disturbance to nest sites.

Recovery strategies

A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Take care to avoid hitting turtles with boats or propellers when at sea. Boats with propellors should maintain a safe distance from turtles at sea.
- Do not discard any debris at sea.
- Control feral pigs and foxes in coastal areas.
- Protect nesting turtles and nest sites from disturbance.
- Support the use of turtle-exclusion devices on trawling nets.
- Advise the OEH/NPWS of any illegal collection of eggs or hatchlings.
- Advise the OEH/NPWS of any sightings of this turtle on NSW beaches.

Black-necked Stork (Jabiru) - profile

Scientific name: *Ephippiorhynchus asiaticus*
Conservation status in NSW: Endangered
Commonwealth status: Not listed

Description

The Black-necked Stork is the only species of stork found in Australia. The distinctive black-and-white waterbird stands an impressive 1.3m tall and has a wingspan of around 2m. The head and neck are black with an iridescent green and purple sheen. The massive bill, short tail and parts of the wings are also black and the long legs are a conspicuous orange-red to bright red. The rest of the body is white. Females have a yellow eye, the males dark-brown. Juvenile birds are generally brown. Black-necked Storks are usually seen singly or in pairs in NSW, occasionally in loose family groups. In flight, they may intersperse their slow, heavy wingbeats with short glides, or soar on thermals. Storks are generally silent.

Distribution

The species *Ephippiorhynchus asiaticus*comprises two subspecies, *E. a. asiaticus* in India and south-east Asia, and *E. a. australis* in Australia and New Guinea. In Australia, Black-necked Storks are widespread in coastal and subcoastal northern and eastern Australia, as far south as central NSW (although vagrants may occur further south or inland, well away from breeding areas). In NSW, the species becomes increasingly uncommon south of the Clarence Valley, and rarely occurs south of Sydney. Since 1995, breeding has been recorded as far south as Buladelah.

Habitat and ecology

- Floodplain wetlands (swamps, billabongs, watercourses and dams) of the major coastal rivers are the key habitat in NSW for the Black-necked Stork. Secondary habitat includes minor floodplains, coastal sandplain wetlands and estuaries.
- Storks usually forage in water 5-30cm deep for vertebrate and invertebrate prey. Eels regularly contribute the greatest biomass to their diet, but they feed on a wide variety of animals, including other fish, frogs and invertebrates (such as beetles, grasshoppers, crickets and crayfish).
- Black-necked Storks build large nests high in tall trees close to water. Trees usually provide clear observation of the surroundings and are at low elevation (reflecting the floodplain habitat).
- In NSW, breeding activity occurs May - January; incubation May - October; nestlings July - January; fledging from September. Parents share nest duties and in one study about 1.3-1.7 birds were fledged per nest.
- The NSW breeding population has been estimated at about 75 pairs. Territories are large and variable in size. They have been estimated to average about 9,000ha, ranging from 3,000-6,000ha in high quality habitat and 10,000-15,000ha in areas where habitat is poor or dispersed.

Threats

- Powerlines, especially close to wetlands or over floodplains, are a significant cause of mortality of Storks and one of the most critical threats to the species in NSW.
- Modification or degradation of wetlands through changes in natural water flows. It is important to maintain or reintroduce flows to provide wetland habitats suitable for foraging by Storks as they require large amounts of vertebrate prey.
- Loss of wetland habitat through clearing and draining for development.
- Degradation of wetland habitats through pollution and salinity.
- Loss of paddock trees used for nesting.

Recovery strategies

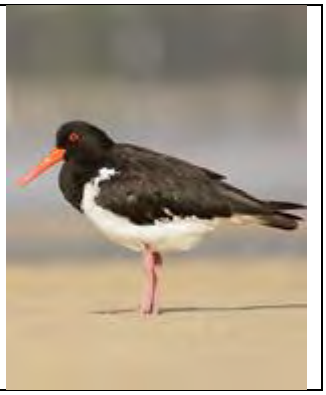
A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Prevent them flying into powerlines, by routing or re-routing powerlines away from wetlands and floodplains and potential nesting areas on floodplains, and by attaching discs to existing powerlines where Storks, and other birds, regularly fly.
- Manage wetlands and their catchments to ensure natural hydrological regimes are maintained to provide suitable habitat for Storks seasonally and annually, including during periods of drought.
- Avoid modification and degradation of wetland habitats or any reduction of levels of Black-necked Stork prey within them, as a result of grazing by stock, urban and argicultural run-off and pollution, including pesticides and herbicides.
- Prevent loss and degradation of wetlands within the range of the species.
- Prevent widespread clearance of of tall isolated paddock trees that provide or potentially provide suitable nesting sites for the species, and also avoid widespread clearance of floodplain vegetation.
- Minimise human disturbance around known and potential nesting sites and preferred wetlands.

Pied Oystercatcher - profile

Scientific name: *Haematopus longirostris*
Conservation status in NSW: Endangered
Commonwealth status: Not listed



Description

The Pied Oystercatcher is an unmistakable, large, black and white wader, reaching 50 cm in length. The sexes are similar, yet may be separable when together with the female having a slightly longer, more slender bill. When not in flight, the Pied Oystercatcher appears entirely black above, with white underparts. The back, head and breast are black, and the belly, rump and tail are white. The tail is tipped black. The wings are black with a narrow white bar on the upperwing and white underwing coverts. The eye-ring, iris and bill of the Pied Oystercatcher are brilliant scarlet and its legs are stout and coral pink. The most often heard call is a loud, sharp, high-pitched 'kurvee-kurvee-kurvee', usually given in alarm, which increases in pitch and rapidity when a nest site is approached. The South Island Pied Oystercatcher (*H. finschi*) has recently been recorded as a vagrant in NSW. This New Zealand native can be distinguished by a combination of subtle differences, including a shorter bill and legs and differences in the extent of white on the back and wings.

Distribution

The species is distributed around the entire Australian coastline, although it is most common in coastal Tasmania and parts of Victoria, such as Corner Inlet. In NSW the species is thinly scattered along the entire coast, with fewer than 200 breeding pairs estimated to occur in the State. 'Pied' Oystercatchers are occasionally recorded on Lord Howe island but it is uncertain which species is involved.

Habitat and ecology

- Favours intertidal flats of inlets and bays, open beaches and sandbanks.
- Forages on exposed sand, mud and rock at low tide, for molluscs, worms, crabs and small fish. The chisel-like bill is used to pry open or break into shells of oysters and other shellfish.
- Nests mostly on coastal or estuarine beaches although occasionally they use saltmarsh or grassy areas. Nests are shallow scrapes in sand above the high tide mark, often amongst seaweed, shells and small stones.
- Two to three eggs are laid between August and January. The female is the primary incubator and the young leave the nest within several days.

Threats

- Disturbance to coastal feeding, nesting and roosting areas through beach-combing, fishing, dog-walking, horse-riding and 4WD vehicles.
- Predation of eggs and chicks by foxes, dogs, cats, Australian Ravens, raptors and artificially high populations of Silver Gulls.
- Habitat destruction as a result of residential, agricultural and tourism developments.
- Hydrological changes to estuaries and similar water bodies causing modification or removal of important areas of suitable habitat.
- A key food source, the Pipi, has undergone long-term decline as a result of over-harvesting.
- Silver gulls / ravens depredating and disturbing nests, reducing reproductive success / recruitment.

Recovery strategies

A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Undertake fox, feral cat and Australian Raven control programs.
- Assess the appropriateness of dog and cat ownership in new subdivisions.
- Manage estuaries and the surrounding landscape to ensure the natural hydrological regimes are maintained.
- Install interpretive signs at major nesting sites.
- Protect and maintain known or potential habitat, including the implementation of protection zones around known habitat sites and sites of recent records

Giant Burrowing Frog - profile

Scientific name: *Heleioporus australiacus*
Conservation status in NSW: Vulnerable
Commonwealth status: Vulnerable

Description

The Giant Burrowing Frog is a large, rotund, slow-moving frog that grows to about 10 cm long. It is a powerfully built species with muscular hind limbs and enlarged tubercles on the feet well suited to burrowing. Adult males have enlarged forearms, with a large conical black spine and several small spines on their first finger. Females have reduced arm-musculature compared to males. Colouration tends to vary from a steely blue grey to black on the limbs and upper body but paler on the sides. The belly is white sometimes with a varying wash of bluish grey or brown. The body surface is granular to the touch and adorned with numerous warts. Along the flanks some of the warts are creamy white to canary yellow. It has prominent, large eyes with a vertically elliptical pupil and silvery iris. Males call from within or adjacent to breeding sites with a low pitched and plaintiff owl-like oop oop oop oop in rapid succession. Tadpoles are large (up to 75 mm) and very dark blue to black. The blue/grey ventral surface of the tadpoles allows them to be readily distinguished from tadpoles of other species by an experienced observer.

Distribution

The Giant Burrowing Frog is distributed in south eastern NSW and Victoria, and appears to exist as two distinct populations: a northern population largely confined to the sandstone geology of the Sydney Basin and extending as far south as Ulladulla, and a southern population occurring from north of Narooma through to Walhalla, Victoria.

Habitat and ecology

- Found in heath, woodland and open dry sclerophyll forest on a variety of soil types except those that are clay based.
- Spends more than 95% of its time in non-breeding habitat in areas up to 300 m from breeding sites. Whilst in non-breeding habitat it burrows below the soil surface or in the leaf litter. Individual frogs occupy a series of burrow sites, some of which are used repeatedly. The home ranges of both sexes appear to be non-overlapping suggesting exclusivity of non-breeding habitat. Home ranges are approximately 0.04 ha in size.
- Individuals move into the breeding site either immediately before or following heavy rain and occupy these sites for up to 10 days. Most individuals will not attempt to breed every year.
- The Giant Burrowing Frog has a generalist diet and studies to date indicate that they eat mainly invertebrates including ants, beetles, cockroaches, spiders, centipedes and scorpions.
- When breeding, frogs will call from open spaces, under vegetation or rocks or from within burrows in the creek bank. Males show strong territoriality at breeding sites. This species breeds mainly in autumn, but has been recorded calling throughout the year. Egg masses are foamy with an average of approximately 500-800 eggs and are laid in burrows or under vegetation in small pools. After rains, tadpoles are washed into larger pools where they complete their development in ponds or ponded areas of the creekline. Tadpole development ranges from around 12 weeks duration to up to 12 months with late developing tadpoles overwintering and completing development when warmer temperatures return.
- Breeding habitat of this species is generally soaks or pools within first or second order streams. They are also commonly recorded from 'hanging swamp' seepage lines and where small pools form from the collected water.
- This frog is a slow growing and long-lived species, living up to 10 years of age, possibly longer.

Threats

- Habitat loss through clearing for residential, agricultural and urban infrastructure development.
- Disease (chytrid fungus).
- Reduction of water quality generally in the vicinity of urban development.
- Forest disturbance associated with forestry operations.
- Climate change
- Populations appear fragmented and are consequently susceptible to stochastic events.

Recovery strategies

A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Retain native vegetation and minimise ground disturbance where the species occurs. This is essential within 300 m of known breeding sites.
- Protect breeding sites from disturbance, sedimentation and pollution.

Broad-headed Snake - profile

Scientific name: *Hoplocephalus bungaroides*
Conservation status in NSW: Endangered
Commonwealth status: Vulnerable

Description

The Broad-headed Snake is generally black above with yellow spots forming narrow, irregular cross-bands. Other yellow scales may link these cross-bands laterally to form a straight or zigzagged stripe along the body. These cross-bands help distinguish it from the similar-looking but harmless juvenile Diamond Python. Its head is flattened on top and distinct from the body. The belly is grey or greyish-black. The average length is about 60 cm, with a maximum of around 150 cm.

Distribution

The Broad-headed Snake is largely confined to Triassic and Permian sandstones, including the Hawkesbury, Narrabeen and Shoalhaven groups, within the coast and ranges in an area within approximately 250 km of Sydney.

Habitat and ecology

- Nocturnal.
- Shelters in rock crevices and under flat sandstone rocks on exposed cliff edges during autumn, winter and spring.
- Moves from the sandstone rocks to shelters in crevieces or hollows in large trees within 500m of escarpments in summer.
- Feeds mostly on geckos and small skinks; will also eat frogs and small mammals occasionally.
- Females produce four to 12 live young from January to March, which is a relatively low level of fecundity.

Threats

- Being hit by vehicles, with increasing human use and vehicular traffic leading to many deaths of adults and youngs.
- Removal of bushrock from sandstone escarpments.
- Unintentional or intentional killing of snakes discovered during bushrock collecting or other outdoor activities.
- Illegal collection of individuals by reptile collectors.
- Removal of large hollow-bearing trees adjacent to sandstone escarpments.
- Damage to habitat by feral goats.

Recovery strategies

A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Maintain colonies in captivity for future re-introduction to depleted sites or sites undergoing restoration.
- Undertake feral goat control programs in sandstone escarpment areas.
- Retain sandstone rock in bushland on escarpment areas; implement LEPs, DCPs with suitable restrictions on the removal of bushrock.
- Retain woodland adjacent to sandstone escarpments, particularly large hollow-bearing trees.
- Limit vehicle and pedestrian access to and recreational use of sandstone escarpments where this species occurs.
- Restore rocky habitat to escarpments that have been disturbed.
- Advocate the use of quarried sandstone or alternatives in preference to sandstone sourced from bushland on escarpments; implement a community and industry bushrock education strategy.
- Report suspected illegal reptile collection or sale.

Southern Brown Bandicoot (eastern) - profile

Scientific name: *Isoodon obesulus obesulus*
Conservation status in NSW: Endangered
Commonwealth status: Endangered

Description

Adult Southern Brown Bandicoots have a body length of about 300 mm, a short (120 mm), thin tail with a pointed end, and weigh between 400-1600 grams. The species has a relatively short nose and ears, dark grey or yellowish brown fur on its upper body, tail and feet and a creamy white belly. In contrast the more common Long-nosed Bandicoot has a long nose and ears, pink tail and white feet. Bandicoots may be confused with the slightly larger Potoroos, but the latter can be differentiated mainly by their thick 'wallaby-like' tails.

Distribution

The Southern Brown Bandicoot has a patchy distribution. It is found in south-eastern NSW, east of the Great Dividing Range south from the Hawkesbury River, southern coastal Victoria and the Grampian Ranges, south-eastern South Australia, south-west Western Australia and the northern tip of Queensland.

Habitat and ecology

- Southern Brown Bandicoots are largely crepuscular (active mainly after dusk and/or before dawn). They are generally only found in heath or open forest with a heathy understorey on sandy or friable soils.
- They feed on a variety of ground-dwelling invertebrates and the fruit-bodies of hypogeous (underground-fruiting) fungi. Their searches for food often create distinctive conical holes in the soil.
- Males have a home range of approximately 5-20 hectares whilst females forage over smaller areas of about 2-3 hectares.
- Nest during the day in a shallow depression in the ground covered by leaf litter, grass or other plant material. Nests may be located under Grass trees *Xanthorrhoea* spp., blackberry bushes and other shrubs, or in rabbit burrows. The upper surface of the nest may be mixed with earth to waterproof the inside of the nest.
- Mating occurs any time of the year, usually following heavy rain. Two or three litters of 2-4 young may be produced annually. The gestation period of 11-12 days is the shortest known of any marsupial while young remarkably become independent around 60 days after being born.

Threats

- Loss and fragmentation of habitat through land-clearing for agriculture and urban development and changes in forest structure.
- Burning regimes that impact on understorey species and floristic structure.
- Predation by introduced predators such as cats, dogs and foxes.
- Death or injury by fire and motor vehicles.
- Unsure of the species' localised distribution or abundance

Recovery strategies

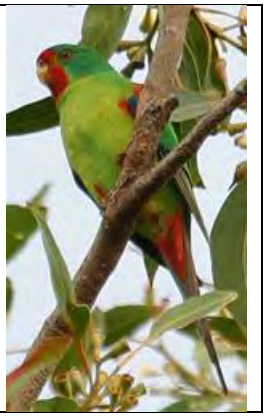
A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Undertake fox, feral dog and feral cat control programs.
- Apply fire regimes that maintain patches of dense ground cover and floristic and structural diversity in the habitat.
- Prevent domestic cats and dogs from roaming into habitat areas.
- Protect all known and potential habitat and include linkages across the broader landscape.

Swift Parrot – profile

Scientific name: *Lathamus discolor*
Conservation status in NSW: Endangered
Commonwealth status: Endangered



Description

The Swift Parrot is small parrot about 25 cm long. It is bright green with red around the bill, throat and forehead. The red on its throat is edged with yellow. Its crown is blue-purple. There are bright red patches under the wings. One of most distinctive features from a distance is its long (12 cm), thin tail, which is dark red. This distinguishes it from the similar lorikeets, with which it often flies and feeds. Can also be recognised by its flute-like chirruping or metallic "kik-kik-kik" call.

Distribution

Breeds in Tasmania during spring and summer, migrating in the autumn and winter months to south-eastern Australia from Victoria and the eastern parts of South Australia to south-east Queensland. In NSW mostly occurs on the coast and south west slopes.

You can help map Distribution and Habitat

Each year the Swift Parrot Recovery Team relies on the involvement of volunteers to identify areas the birds are visiting and what resources they are using. This information directly helps the recovery effort for this species. Surveys are conducted twice a year and aim to cover the migratory winter range of this species. Mainland surveys are held on the 3rd weekend in May and the first weekend in August every year.

All information helps and the Recovery Team is also very interested to receive sighting information of these birds outside the survey dates. Surveys are run in combination with the Regent Honeyeater survey effort, another Endangered migratory woodland bird. The Swift Parrot Volunteer Survey Coordinators is:

Chris Tzaros (Birds Australia) freecall 1800 66 57 66 or 03 9347 0757 e-mail c.tzaros@birdsaustralia.com.au

Habitat and ecology

- Migrates to the Australian south-east mainland between March and October.
- On the mainland they occur in areas where eucalypts are flowering profusely or where there are abundant lerp (from sap-sucking bugs) infestations.
- Favoured feed trees include winter flowering species such as Swamp Mahogany *Eucalyptus robusta*, Spotted Gum *Corymbia maculata*, Red Bloodwood *C. gummifera*, Mugga Ironbark *E. sideroxylon*, and White Box *E. albens*.
- Commonly used lerp infested trees include Inland Grey Box *E. microcarpa*, Grey Box *E. moluccana* and Blackbutt *E. pilularis*.
- Return to some foraging sites on a cyclic basis depending on food availability.
- Following winter they return to Tasmania where they breed from September to January, nesting in old trees with hollows and feeding in forests dominated by Tasmanian Blue Gum *Eucalyptus globulus*.

Threats

- On the mainland the main threat is loss of habitat through clearing for agriculture, and urban and industrial development.
- Collisions with wire netting fences, windows and cars, during the breeding season and winter migration (especially where such obstacles are in close proximity to suitable habitat).

Recovery strategies

A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Reduce collisions in areas where Swift Parrots are foraging by closing window blinds or letting windows get dirty. Alternatively hang wind chimes, mobiles etc in front of windows. Hang strips of fabric across wire mesh fences.
- Retain stands of winter-flowering feed-trees, particularly large mature individuals.
- Revegetate with winter-flowering tree species where appropriate.
- Participate in biannual surveys to locate the winter foraging areas for this species.

Stuttering Frog - profile

Scientific name: *Mixophyes balbus*
Conservation status in NSW: Endangered
Commonwealth status: Vulnerable

Description

The Stuttering Frog is relatively large and muscular, growing to about 8 cm in length. It has large, black eyes and vertical pupils, webbed feet, barred hind legs and a black line from the snout, through the eye and above the 'ear'. The body colour is brown to olive-green and may be broken into irregular blotches. The underside is creamy-white. The adult has a pale-blue crescent across the upper half of the eye; this, and the call - a stuttering 'ugh' or 'op', distinguishes the species from other barred frogs. The tadpole is dark brown to black and grows to 6.5 cm in length.

Distribution

Stuttering Frogs occur along the east coast of Australia from southern Queensland to north-eastern Victoria. Considered to have disappeared from Victoria and to have undergone considerable range contraction in NSW, particularly in south-east NSW. It is the only *Mixophyes* species that occurs in south-east NSW and in recent surveys it has only been recorded at three locations south of Sydney. The Dorrigo region, in north-east NSW, appears to be a stronghold for this species.

Habitat and ecology

- Found in rainforest and wet, tall open forest in the foothills and escarpment on the eastern side of the Great Dividing Range.
- Outside the breeding season adults live in deep leaf litter and thick understorey vegetation on the forest floor.
- Feed on insects and smaller frogs.
- Breed in streams during summer after heavy rain.
- Eggs are laid on rock shelves or shallow riffles in small, flowing streams.
- As the tadpoles grow they move to deep permanent pools and take approximately 12 months to metamorphose.

Threats

- Modification and loss of habitat.
- Disease - chytrid fungus.
- Changes to natural water flows and water quality.
- Predation of eggs and tadpoles by introduced fish.
- Damage to habitat and impacts on water quality from forestry activities.
- Damage to habitat by domestic stock

Recovery strategies

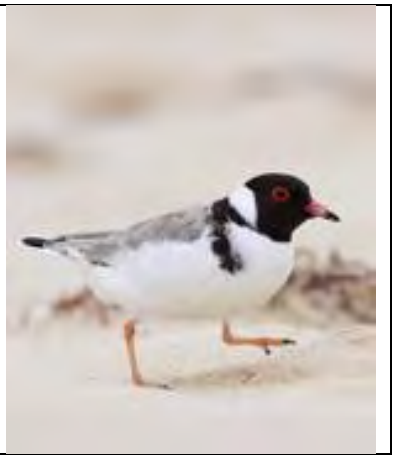
A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Prevent the introduction and reduce populations of non-native fish in streams where the species occurs.
- Minimise new development or clearing in catchments where the species occurs.
- Retain native vegetation , including groundcover and leaf litter, up to 300 m from creeks and streams where the species occurs.
- Maintain natural stream channel morphology and flows.
- Protect streams from pollution.
- Adopt the OEH/NPWS frog hygiene protocol to prevent the spread of chytrid fungus in amphibian habitat.

Hooded Plover - profile

Scientific name: *Thinornis rubricollis*
Conservation status in NSW: Critically Endangered
Commonwealth status: Not listed



Description

Hooded Plovers are small to medium-sized, stocky shorebirds with short bills, large eyes and rounded heads. The Hooded Plover is pale-coloured, 19 - 23 cm in length with a wingspan of 26 - 44 cm. It is unmistakable in having a prominent black hood and throat, a white collar, and a contrasting black-tipped red bill, a red eye-ring and short orange legs. In flight, the upperparts are predominantly pale brownish-grey with a black and white tail and broad white wing-barring with a black trailing-edge. The underparts are white. Sexes are alike.

Distribution

The Hooded Plover is endemic to southern Australia and is nowadays found mainly along the coast from south of Jervis Bay, NSW, south through Victoria and Tasmania to the western side of the Eyre Peninsula (South Australia). In south-west Western Australia the Hooded Plover is not restricted to the coast, and can also live and breed around inland salt lakes. The range of the Hooded Plover has declined in eastern Australia since European settlement. Southern coastal Queensland and northern NSW were probably once part of the range of the Hooded Plover, but the species has not been recorded there since the 1920s. In the late 1920s and early 1930s the species was recorded from Port Stephens but are now considered locally extinct. It has not been seen in the Sydney area since the 1940s. Presently the Hooded Plover occurs in NSW north to Sussex Inlet. Occasionally, individual birds are sighted slightly further north to the Shoalhaven River and Comerong Beach and one bird was sighted at Lake Illawarra in March 2001.

Habitat and ecology

- In south-eastern Australia Hooded Plovers prefer sandy ocean beaches, especially those that are broad and flat, with a wide wave-wash zone for feeding, much beachcast seaweed, and backed by sparsely vegetated sand-dunes for shelter and nesting. Occasionally Hooded Plovers are found on tidal bays and estuaries, rock platforms and rocky or sand-covered reefs near sandy beaches, and small beaches in lines of cliffs. They regularly use near-coastal saline and freshwater lakes and lagoons, often with saltmarsh.
- Hooded Plovers forage in sand at all levels of the zone of wave-wash during low and mid-tide or among seaweed at high-tide, and occasionally in dune blowouts after rain. At night they favour the upper zones of beaches for roosting. When on rocks they forage in crevices in the wave-wash or spray zone, avoiding elevated rocky areas and boulder fields. In coastal lagoons they forage in damp or dry substrates and in shallow water, depending on the season and water levels.
- Hooded Plovers are seen singly, in pairs, family groups or small flocks, with 16 birds at Cudmirrah Beach being the largest group recorded in NSW in recent years. During winter, very few birds are seen in pairs.
- The Hooded Plover diet consists mainly of marine worms, molluscs, crustaceans, insects, water plants and seeds.
- In eastern Australia, Hooded Plovers usually breed from August to March on sandy ocean beaches strewn with beachcast seaweed, in a narrow strip between the high-water mark and the base of the fore-dunes. They often nest within 6 m of the fore-dune, mostly within 5 m of the high-water mark, but occasionally among or behind dunes. The nest is a scrape in the sand near debris, making it vulnerable to predators and beach disturbance. Both parents incubate 2-3 eggs for a period of 28 days and share the care of the young. Hooded Plovers display high nest site fidelity and nest solitarily. On mainland Australia, nests may be 2-5 km apart.
- Hatching success is low, being reported at around 27% of eggs laid and only 0.1 young fledge per pair. However, in the last few years recovery efforts to reduce predation and other threats in conjunction with a monitoring program has revealed an increasing breeding success.
- Surveys conducted over the past 15 years to determine the total population in NSW have made a maximum count of 64 adults. The estimated population for all of Australia is approximately 5000 birds.

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Threats

- Disturbance to coastal feeding, nesting and roosting areas through increased human residence. Habitat is now regularly impacted by beach-combing, fishing, dog-walking, horse-riding and 4WD vehicles.
- Predation of eggs and chicks by foxes, dogs, and cats, Australian Ravens, Silver Gulls and raptors.
- Artificial opening of estuaries and coastal lake entrances can inundate and destroy summer breeding habitat, particularly on low-lying sand spits.
- King tides can naturally inundate breeding habitat.
- Kelp harvesting can destroy nests, kill eggs and chicks and reduce foraging habitat availability.
- Oil spills.
- Disturbance of breeding habitat by stray cattle.
- Silver gulls / ravens depredating and disturbing nests, reducing reproductive success / recruitment.

Recovery strategies

A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Keep domestic dogs and cats indoors at night. Desex domestic dogs and cats. Assess the appropriateness of dog and cat ownership in new subdivisions.
- Provide maps of threatened shorebird habitat and its requirements to agency representatives, local authorities and community groups and encourage them to take the necessary steps to protect it.
- Continue the intensive predator baiting program aimed at reducing foxes and feral cats. Monitor breeding sites for impacts of Australian Raven and other native predators.
- Proposed developments or activities must give adequate consideration to potential impacts on Hooded Plovers and their habitats.
- Minimise disturbance to Hooded Plover breeding habitat from artificial opening of estuaries and coastal lakes.
- Limit visitor movement and disturbance at Hooded Plover breeding sites by erecting warning and interpretive signs to inform beach users.
- Protect and maintain known or potential habitats, including the implementation of protection zones around known habitat sites and sites of recent records.
- Continue with surveys and monitoring at all known breeding sites.

Regent Honeyeater - profile

Scientific name: *Anthochaera phrygia*
Conservation status in NSW: Critically Endangered
Commonwealth status: Endangered

Description

The Regent Honeyeater is a striking and distinctive, medium-sized, black and yellow honeyeater with a sturdy, curved bill. Adults weigh 35 - 50 grams, are 20 - 24 cm long and have a wings-pan of 30 cm. Its head, neck, throat, upper breast and bill are black and the back and lower breast are pale lemon in colour with a black scalloped pattern. Its flight and tail feathers are edged with bright yellow. There is a characteristic patch of dark pink or cream-coloured facial-skin around the eye. Sexes are similar, though males are larger, darker and have larger patch of bare facial-skin. The call is a soft metallic bell-like song; birds are most vocal in non-breeding season. It has recently been placed in the genus*Anthochaera* along with the wattlebirds, and was formerly known by the name*Xanthomyza phrygia.*

Distribution

The Regent Honeyeater mainly inhabits temperate woodlands and open forests of the inland slopes of south-east Australia. Birds are also found in drier coastal woodlands and forests in some years. Once recorded between Adelaide and the central coast of Queensland, its range has contracted dramatically in the last 30 years to between north-eastern Victoria and south-eastern Queensland. There are only three known key breeding regions remaining: north-east Victoria (Chiltern-Albury), and in NSW at Capertee Valley and the Bundarra-Barraba region. In NSW the distribution is very patchy and mainly confined to the two main breeding areas and surrounding fragmented woodlands. In some years flocks converge on flowering coastal woodlands and forests.

Habitat and ecology

- The Regent Honeyeater is a flagship threatened woodland bird whose conservation will benefit a large suite of other threatened and declining woodland fauna. The species inhabits dry open forest and woodland, particularly Box-Ironbark woodland, and riparian forests of River Sheoak. Regent Honeyeaters inhabit woodlands that support a significantly high abundance and species richness of bird species. These woodlands have significantly large numbers of mature trees, high canopy cover and abundance of mistletoes.
- Every few years non-breeding flocks are seen foraging in flowering coastal Swamp Mahogany and Spotted Gum forests, particularly on the central coast and occasionally on the upper north coast. Birds are occasionally seen on the south coast.
- In the last 10 years Regent Honeyeaters have been recorded in urban areas around Albury where woodlands tree species such as Mugga Ironbark and Yellow Box were planted 20 years ago.
- The Regent Honeyeater is a generalist forager, which mainly feeds on the nectar from a wide range of eucalypts and mistletoes. Key eucalypt species include Mugga Ironbark, Yellow Box, Blakely's Red Gum, White Box and Swamp Mahogany. Also utilises: *Eucalyptus microcarpa, E. punctata, E. polyanthemos, E. moluccana, Corymbia robusta, E. crebra, E. caleyi, C. maculata, E.mckieana, E. macrorhyncha, E. laevopinea*, and *Angophora floribunda*. Nectar and fruit from the mistletoes *Amyema miquelii, A. pendula* and *A. cambagei* are also eaten during the breeding season. When nectar is scarce lerp and honeydew comprise a large proportion of the diet. Insects make up about 15% of the total diet and are important components of the diet of nestlings. A shrubby understorey is an important source of insects and nesting material.
- Colour-banding of Regent Honeyeater has shown that the species can undertake large-scale nomadic movements in the order of hundreds of kilometres. However, the exact nature of these movements is still poorly understood. It is likely that movements are dependent on spatial and temporal flowering and other resource patterns. To successfully manage the recovery of this species a full understanding of the habitats used in the non-breeding season is critical.
- There are three known key breeding areas, two of them in NSW - Capertee Valley and Bundarra-Barraba regions. The species breeds between July and January in Box-Ironbark and other temperate woodlands and riparian gallery forest dominated by River Sheoak. Regent Honeyeaters usually nest in horizontal branches or forks in tall mature eucalypts and Sheoaks. Also nest in mistletoe haustoria.
- An open cup-shaped nest is constructed of bark, grass, twigs and wool by the female. Two or three eggs are laid and incubated by the female for 14 days. Nestlings are brooded and fed by both parents at an average rate of 23 times per hour and fledge after 16 days. Fledglings fed by both parents 29 times per hour.

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Threats

- Historical loss, fragmentation and degradation of habitat from clearing for agricultural and residential development, particularly fertile Yellow Box-White Box-Blakely's Red Gum woodlands.
- Continuing loss of key habitat tree species and remnant woodlands from strategic agricultural developments, timber gathering and residential developments.
- Suppression of natural regeneration of overstorey tree species and shrub species from overgrazing. Riparian gallery forests have been particularly impacted by overgrazing.
- Inappropriate forestry management practices that remove large mature resource-abundant trees. Firewood harvesting in Box-Ironbark woodlands can also remove important habitat components.
- Competition from larger aggressive honeyeaters, particularly Noisy Miners, Noisy Friarbirds and Red Wattlebirds.
- The small population size and restricted habitat availabilty make the species highly vulnerable to extinction via stochastic processes.
- Egg and nest predation by native birds.

Recovery strategies

A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Maintain a captive population of Regent Honeyeaters.
- Provide landholders and other community members with information on the ecology and conservation requirements of the Regent Honeyeater. Use incentives on private land to encourage landholders to manage key areas.
- No loss of mature key nectar tree species. Minimise the removal of mistletoes at key sites.
- Encourage landholders/agistees to remove stock from sensitive riparian breeding sites.
- Protect and enhance key breeding and foraging habitats.
- Encourage natural regeneration and increase the remnant size of known and potential Regent Honeyeater habitats.
- Continue treeplanting programs at key breeding and foraging locations.
- No further loss of known woodland and forest habitat throughout the range of the Regent Honeyeater from developments.
- Conduct research into habitat selection in non-breeding season and long-distance movements.
- Investigate impacts of interspecific competition for resources and nest predation by native birds.

Southern Right Whale - profile

Scientific name: *Eubalaena australis*
Conservation status in NSW: Endangered
Commonwealth status: Endangered

Description

A large marine mammal up to 18 m long. It has a black body with white rough patches on the head and lower jaw to which whale lice and barnacles attach. Southern Right Whales lack a dorsal (back) fin and has two completely separate blowholes and a V shaped blow.

Distribution

Temperate and subpolar waters of the Southern Hemisphere, with a circumpolar distribution between about 20°S and 55°S with some records further south to 63°S.

Habitat and ecology

- Migrate between summer feeding grounds in Antarctica and winter breeding grounds around the coasts of southern Australia, New Zealand, South Africa and South America.
- They feed in the open ocean in summer.
- They move inshore in winter for calving and mating. Calving females and females with young usually remain very close to the coast, paticularly in the 5-10 m watermark.
- They feed on krill and copepods by filtering water through their baleen (plates of keratin that hang inside their upper-jaw).
- It appears Southern Right Whales may not feed at all in Australian waters.

Threats

- Collision with boats and other marine traffic.
- Accidental entanglement in nets, traps, longline and other fishing gear.
- Marine debris, particularly plastic, which can cause suffocation, abrasion, infection or blockages in the Whale's system when swallowed.
- Building or placing of infrastructure such as wharves or aquaculture equipment in the 5-10 m watermark of sheltered areas may impact upon females.

Recovery strategies

A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Boats should not approach within 300 m of any whale or within 400 m if in a jet ski.
- Boats should avoid cutting in front of travelling whales.
- Swimmers should not approach within 30 m of any whale.
- Planes should not approach within 300 m of any whale. Helicopters 400 m.
- Avoid discarding any debris at sea.
- Avoid placement of infrastructure in the 5-10 m watermark zone in areas where females are known to frequent.
- Protect coastal water quality.

Sooty Albatross - profile

Scientific name: *Phoebetria fusca*
Conservation status in NSW: Vulnerable
Commonwealth status: Vulnerable

Description

The Sooty Albatross is dark brown to black in colour, with a slightly darker head than breast. There is a thin white cresent surrounding the eye, and the bill is glossy black with a pale yellow-orange stripe along the sides of the lower jaw. The feet and legs are pale grey. Juveniles are similar to adults, with a less pronounced bill stripe. Individuals are generally silent at sea however in display they may scream 'pee-pooo'.

Distribution

The Sooty Albatross occurs in the South Atlantic and southern Indian Oceans, and has not been recorded in the Pacific Ocean between Australia and South America. In Australian waters, this species is generally recorded in winter off the south coast from Tasmania to Western Australia, while there are occasional sightings off the NSW coast, north of Grafton. The species has not been recorded in any NSW conservation reserves.

Habitat and ecology

- This pelagic or ocean-going species inhabits subantarctic and subtropical marine waters, spending the majority of its time at sea, and rarely occurs in continental shelf waters.
- While at sea, this agile species soars on strong winds and when calm, rests on the ocean.
- Individuals are generally solitary while at sea, although small groups of 2-3 birds have been recorded.
- The species feeds on fish, crustaceans, offal and squid and although solitary, individuals may forage at night in mixed-species flocks.
- The species is thought to capture food by seizing prey from the water's surface while swimming, by landing on top of prey, and the species may follow fishing vessels for short periods.
- This species nests in small breeding colonies of up to 100 nests, on subantarctic islands including Prince Edwards Island, Iles Crozet, Iles des Apotres and Iles Kerguelen.
- Nests are located amongst vegetation on steep cliffs and consist of a mound of mud and plant matter, lined with grass.
- Pairs bond for life and these bonds are re-established with complex displays at nest sites on arrival at breeding areas.
- The species is highly territorial and defends its nests with threat displays.
- Breeding occurs August-December, when a single egg is laid and incubated for 65-75 days by both parents.
- Both parents feed and guard the young for approximately 5 months before they fledge and become independent.
- Life bonds are made at 3-4 years and first breeding is at 9-15 years.

Threats

- Disturbance on breeding islands, including frequent fires and predation of young by rats.
- Longline fishing operations may threaten the species.
- Pollution from plastics, oil and chemicals.

Recovery strategies

A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Avoid throwing rubbish overboard from boats.
- Clean up rubbish along coastlines.
- Observe bag limits for recreational fishing activities.
- Implement predator control programs.
- Protect ocean and coastline from pollution.
- Preservation of areas where this species is known to breed and forage.
- Support commercial fishing limits to help achieve a sustainable industry.
- Support the replacement of longline fishing by other techniques.
- Encourage the use of fishing techniques that reduce the catch of seabirds, including the setting of lines for fishing operations at night and weighting of lines to ensure that they sink quickly.

Eastern Ground Parrot - profile

Scientific name: *Pezoporus wallicus wallicus*
Conservation status in NSW: Vulnerable
Commonwealth status: Not listed

Description

The Ground Parrot is a stunningly beautiful bird. It is a distinctive, bright grass-green, long-tailed, ground-dwelling parrot of the coastal and sub-coastal heaths, reaching 30 cm long. The green upperparts are heavily mottled with yellow and black, and the greenish-yellow underparts are barred brown. Sexes are alike. The forehead of individuals older than three or four months is orange-red. This species has a distinctive call, given at dawn and dusk, that consists of a series of piercing, resonating whistles, rising in steps, with each note flowing on almost unbroken, but abruptly higher than the preceding note. The species is rarely seen unless flushed, although birds can be seen fluttering low over heath at dusk.

Distribution

There are three recognised subspecies of the Ground Parrot in Australia, though the subspecies in Tasmania (*leachii*) is not always recognised. Recently, the possibility that the western subspecies (*flaviventris*) may be a separate species has been raised. The eastern subspecies (*wallicus*) inhabits south-eastern Australia from southern Queensland through NSW to western Victoria. It formerly occurred in South Australia, but was last recorded in 1945. In NSW populations have declined and contracted to islands of coastal or subcoastal heathland and sedgeland habitats. The species is found in small numbers on the north coast (Broadwater, Bundjalung, Yuraygir NPs) and Myall Lakes on the central coast. The largest populations occur on the NSW south coast, particularly Barren Grounds NR, Budderoo NP, the Jervis Bay area and Nadgee NR. Small numbers are recorded at Morton and Ben Boyd NP and other areas on the south coast. Estimated population size is about 2000 birds.

Habitat and ecology

- The Ground Parrot occurs in high rainfall coastal and near coastal low heathlands and sedgelands, generally below one metre in height and very dense (up to 90% projected foliage cover). These habitats provide a high abundance and diversity of food, adequate cover and suitable roosting and nesting opportunities for the Ground Parrot, which spends most of its time on or near the ground. When flushed, birds fly strongly and rapidly for up to several hundred metres, at a metre or less above the ground.
- The coastal and subcoastal heathland and sedgeland habitats of the Ground Parrot are particularly fire-prone. Ground Parrots can re-colonise burnt habitat after 1-2 years and reach maximum densities after 15-20 years without fire. Therefore, it is recommended that habitat be protected from extensive and intense fires.
- Home ranges of adult birds is typically 10 ha and overlapping with other birds, while juveniles have a significantly larger home range. There is no evidence of regular long-distance dispersal or migration events.
- Ground Parrots feed mostly on seeds from a large range of plant species, which varies seasonally. An individual bird may consume in the order of 8000 seeds per day from as many as 60 plant species. Other plant material and invertebrates may be ingested.
- Ground Parrots breed from September to December. Breeding is thought to be triggered by increasing seed availability in spring. 2-7 eggs are laid in a shallow bowl of fine sticks and grass, well hidden under overhanging tall, coarse grass, sedge or low, heathy shrubs. The nest is usually screened from above and sides, often with a tunnel in the surrounding dense plants. The female incubates the eggs for 21-24 days and on average a pair successfully fledges 2 young per season.
- Whilst the dense structure of Ground Parrot habitat makes it difficult for predators to hunt, birds are taken frequently in open habitats such as tracks, roads and fire breaks.

Threats

- Historical loss and fragmentation of habitat through clearing for agriculture and residential developments.
- Extensive and intense fires which temporarily remove habitat.
- The Eastern Ground Parrot occupies habitat that has not been burnt for between 2 and over 25 years. There is some evidence that too-frequent (< every 2 years) fire may be a threat to the species and that long unburnt (>30 years) habitat may start to lose structural complexity.
- Psittacine Circoviral Disease (PCD) may be a potential threat.
- Dieback of heathland habitats from *Phytophthora* fungus may be a potential threat.
- Predation by foxes and cats may be a threat.

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Recovery strategies

A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Keep domestic cats and dogs indoors at night. Desex domestic cats and dogs. Assess the appropriateness of cat and dog ownership in new coastal subdivisions.
- Undertake fox and feral cat control programs, particularly after fire events.
- Protect habitat from intense and extensive fire events.
- Undertake research on whether PCD is present in wild populations of the Ground Parrot.
- Continue long-term monitoring of populations of Ground Parrots to determine fire ecology of the species for fire management strategies.
- Mapping of known and potential habitats in NSW.
- Conduct surveys to determine the distribution and abundance of the Ground Parrot in NSW.
- Ensure that full consideration is given in the assessment and mitigation of potential impacts to the Ground Parrot from coastal developments in or near known or potential habitat.

Long-nosed Potoroo - profile

Scientific name: *Potorous tridactylus*
Conservation status in NSW: Vulnerable
Commonwealth status: Vulnerable

Description

Adult long-nosed potoroos weigh up to 1.6 kg (740 - 1640 grams) and have a head and body length of about 360 mm and a tail length between 200 - 260 mm. Its fur is greyish-brown above and light grey below. It is distinguished from the slightly larger, but very similar long-footed potoroo in a number of subtle ways including its shorter tail (less than 250 mm long) and smaller hind-foot (shorter than its head). Also, unlike the long-footed potoroo the long-nosed potoroo lacks a leathery pad on the sole of its foot, just behind the inner toe (a hallucal pad).

Distribution

The long-nosed potoroo is found on the south-eastern coast of Australia, from Queensland to eastern Victoria and Tasmania, including some of the Bass Strait islands. There are geographically isolated populations in western Victoria. In NSW it is generally restricted to coastal heaths and forests east of the Great Dividing Range, with an annual rainfall exceeding 760 mm.

Habitat and ecology

- Inhabits coastal heaths and dry and wet sclerophyll forests. Dense understorey with occasional open areas is an essential part of habitat, and may consist of grass-trees, sedges, ferns or heath, or of low shrubs of tea-trees or melaleucas. A sandy loam soil is also a common feature.
- The fruit-bodies of hypogeous (underground-fruiting) fungi are a large component of the diet of the Long-nosed Potoroo. They also eat roots, tubers, insects and their larvae and other soft-bodied animals in the soil.
- Often digs small holes in the ground in a similar way to bandicoots.
- Mainly nocturnal, hiding by day in dense vegetation - however, during the winter months animals may forage during daylight hours.
- Individuals are mainly solitary, non-territorial and have home range sizes ranging between 2-5 ha.
- Breeding peaks typically occur in late winter to early summer and a single young is born per litter. Adults are capable of two reproductive bouts per annum.

Threats

- Habitat loss and fragmentation from land clearing for residential and agricultural development.
- Predation from foxes, dogs and cats.
- Too frequent fires or grazing by stock that reduce the density and floristic diversity of understorey vegetation.
- Logging regimes or other disturbances that reduce the availability and abundance food resources, particularly hypogeous fungi, and ground cover.
- Removal of wild dogs and dingoes potentially exposes potoroos to other threats (competition from other species of wallaby / fox predation) due to removal of top order predator.
- Unplanned clearing in areas where the species occurs on private property is likely to degrade the species' habitat.

Recovery strategies

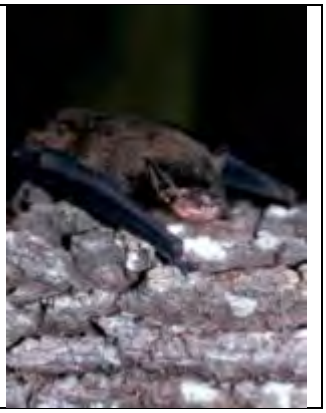
A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Desex domestic cats and dogs.
- Undertake fox, feral dog and cat control programs.
- Apply fire regimes that maintain dense understorey vegetation cover.
- Where fire control is necessary apply mosaic pattern hazard reduction burns to ensure the same areas are not burned continuously.
- Fence areas of habitat to avoid grazing and trampling by domestic stock.
- Prevent domestic cats and dogs from roaming into areas of habitat.
- Protect and maintain habitat, especially dense understorey. Provide linkages across the broader landscape.

Eastern False Pipistrelle - profile

Scientific name: *Falsistrellus tasmaniensis*
Conservation status in NSW: Vulnerable
Commonwealth status: Not listed



Description

The Eastern False Pipistrelle is relatively large with a head-body length of about 65 mm. It weighs up to 28 grams. It is dark to reddish-brown above and paler grey on its underside. It has long slender ears set well back on the head and some sparse hair on the nose.

Distribution

The Eastern False Pipistrelle is found on the south-east coast and ranges of Australia, from southern Queensland to Victoria and Tasmania.

Habitat and ecology

- Prefers moist habitats, with trees taller than 20 m.
- Generally roosts in eucalypt hollows, but has also been found under loose bark on trees or in buildings.
- Hunts beetles, moths, weevils and other flying insects above or just below the tree canopy.
- Hibernates in winter.
- Females are pregnant in late spring to early summer.

Threats

- Disturbance to winter roosting and breeding sites.
- Loss of trees for foraging and hollow-bearing trees for roosting.
- Application of pesticides in or adjacent to foraging areas.

Recovery strategies

A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Retain native vegetation that is floristically and structurally diverse.
- Minimise the use of pesticides within or adjacent to areas where insectivorous bats occur.
- Protect roost sites from disturbance.

Brush-tailed Rock-wallaby - profile

Scientific name: *Petrogale penicillata*
Conservation status in NSW: Endangered
Commonwealth status: Vulnerable

Description

The Brush-tailed Rock-wallaby has a characteristic, long and bushy, dark rufous-brown tail that is bushier towards its tip. It has long, thick, brown body-fur that tends to be rufous on the rump and grey on the shoulders. The fur on its chest and belly are paler. It also has a characteristic white cheek-stripe and a black stripe from its forehead to the back of its head. It is relatively small and muscular, which enables it to be fast and agile in its rocky habitat. The average weight of this species is about 8 kg for males and 6 kg for females.

Distribution

The range of the Brush-tailed Rock-wallaby extends from south-east Queensland to the Grampians in western Victoria, roughly following the line of the Great Dividing Range. However the distribution of the species across its original range has declined significantly in the west and south and has become more fragmented. In NSW they occur from the Queensland border in the north to the Shoalhaven in the south, with the population in the Warrumbungle Ranges being the western limit.

Habitat and ecology

- Occupy rocky escarpments, outcrops and cliffs with a preference for complex structures with fissures, caves and ledges, often facing north.
- Browse on vegetation in and adjacent to rocky areas eating grasses and forbs as well as the foliage and fruits of shrubs and trees.
- Shelter or bask during the day in rock crevices, caves and overhangs and are most active at night.
- Highly territorial and have strong site fidelity with an average home range size of about 15 ha.
- Live in family groups of 2 to 5 adults and usually one or two juvenile and sub-adult individuals.
- Dominant males associate and breed with up to four females.
- Breeding is likely to be continuous, at least in the southern populations, with no apparent seasonal trends in births.

Threats

- Loss, degradation and fragmentation of habitat.
- Predation by foxes, dogs and cats.
- Competition with feral goats.
- Fire regimes that reduce the abundance and diversity of ground forage.

Recovery strategies

A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Raise landowners' awareness about the presence of Brush-tailed Rock-wallabies and provide information to assist in their management.
- Undertake feral predator control around colony sites.
- Undertake feral goat control around colony sites.
- Retain rocky habitat and adjacent open forest or grassland areas.
- Retain habitat corridors between colony sites.
- Protect colony sites from human interference or disturbance.
- Join the *Friends of the Brush-tailed Rock-wallaby*

Sooty Owl - profile

Scientific name: *Tyto tenebricosa*
Conservation status in NSW: Vulnerable
Commonwealth status: Not listed

Description

A medium-sized owl to 45 cm long, with dark eyes set in a prominent flat, heart-shaped facial disc. Dark sooty-grey in colour, with large eyes in a grey face, fine white spotting above and below, and a pale belly. The plumage of the fledglings is similar to the adult, but has tufts of down on the head and underparts.

Distribution

Occupies the easternmost one-eighth of NSW, occurring on the coast, coastal escarpment and eastern tablelands. Territories are occupied permanently.

Habitat and ecology

- Occurs in rainforest, including dry rainforest, subtropical and warm temperate rainforest, as well as moist eucalypt forests.
- Roosts by day in the hollow of a tall forest tree or in heavy vegetation; hunts by night for small ground mammals or tree-dwelling mammals such as the Common Ringtail Possum (*Pseudocheirus peregrinus*) or Sugar Glider (*Petaurus breviceps*).
- Nests in very large tree-hollows.

Threats

- Loss of mature hollow-bearing trees and changes to forest and woodland structure, which leads to fewer such trees in the future.
- Clearing of habitat for grazing, agriculture, forestry or other development.
- A combination of grazing and regular burning is a threat, through the effects on the quality of ground cover for mammal prey, particularly in open, grassy forests.
- Secondary poisoning from rodenticides.

Recovery strategies

A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Retain and protect stands of rainforest and moist forest, especially those with hollow-bearing trees.
- Retain hollow-bearing trees as well as large, mature trees that will provide hollows in the future.
- Limit the use of pesticides used in suitable native habitat

Eastern Bentwing-bat - profile

Scientific name: *Miniopterus schreibersii oceanensis*
Conservation status in NSW: Vulnerable
Commonwealth status: Not listed

Description

The Eastern Bentwing-bat has chocolate to reddish-brown fur on its back and slightly lighter coloured fur on its belly. It has a short snout and a high 'domed' head with short round ears. The wing membranes attach to the ankle, not to the base of the toe. The last bone of the third finger is much longer than the other finger-bones giving the "bent wing" appearance. It weighs up to 20 grams, has a head and body length of about 6 cm and a wingspan of 30 - 35 cm.

Distribution

Eastern Bentwing-bats occur along the east and north-west coasts of Australia.

Habitat and ecology

- Caves are the primary roosting habitat, but also use derelict mines, storm-water tunnels, buildings and other man-made structures.
- Form discrete populations centred on a maternity cave that is used annually in spring and summer for the birth and rearing of young.
- Maternity caves have very specific temperature and humidity regimes.
- At other times of the year, populations disperse within about 300 km range of maternity caves.
- Cold caves are used for hibernation in southern Australia.
- Breeding or roosting colonies can number from 100 to 150,000 individuals.
- Hunt in forested areas, catching moths and other flying insects above the tree tops.

Threats

- Disturbance by recreational cave climbers and general public accessing the cave and adjacent areas particularly during winter or breeding.
- Loss of foraging habitat.
- Loss of food resources and indirect poisoning of individuals from nearby use of herbicides / insecticides.
- Predation by feral cats and foxes.
- Introduction of exotic pathogens, specifically known White-nosed fungus.
- Threat of cave entrances being blocked for human safety reasons. Also, vegetation encroaching and blocking cave entrances.
- Potential for large scale wildfire to impact on resource availability in surrounding habitat. Direct threats at caves from fire.
- Weeds (blackberry) encroaching over cave entrances restrict access; need to ensure sympthetic control techniques for blackberry.

Recovery strategies

A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Control foxes and feral cats around roosting sites, particularly maternity caves.
- Retain native vegetation around roost sites, particularly within 300 m of maternity caves.
- Minimise the use of pesticides in foraging areas.
- Protect roosting sites from damage or disturbance.

Yellow-bellied Glider - profile

Scientific name: *Petaurus australis*
Conservation status in NSW: Vulnerable
Commonwealth status: Not listed

Description

The Yellow-bellied Glider is a large, active, sociable and vocal glider. Adults weigh 450 - 700 grams, have a head and body length of about 30 cm and a large bushy tail that is about 45 cm long. It has grey to brown fur above with a cream to yellow belly, which is paler in young animals. The dark stripe down the back is characteristic of the group. It has a large gliding membrane that extends from the wrist to the ankle. It has a loud, distinctive call, beginning with a high-pitched shriek and subsiding into a throaty rattle.

Distribution

The Yellow-bellied Glider is found along the eastern coast to the western slopes of the Great Dividing Range, from southern Queensland to Victoria.

Habitat and ecology

- Occur in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils.
- Forest type preferences vary with latitude and elevation; mixed coastal forests to dry escarpment forests in the north; moist coastal gullies and creek flats to tall montane forests in the south.
- Feed primarily on plant and insect exudates, including nectar, sap, honeydew and manna with pollen and insects providing protein.
- Extract sap by incising (or biting into) the trunks and branches of favoured food trees, often leaving a distinctive 'V'-shaped scar.
- Live in small family groups of two - six individuals and are nocturnal.
- Den, often in family groups, in hollows of large trees.
- Very mobile and occupy large home ranges between 20 to 85 ha to encompass dispersed and seasonally variable food resources.

Threats

- Loss and fragmentation of habitat.
- Loss of hollow-bearing trees.
- Loss of feed trees.

Recovery strategies

A targeted strategy for managing this species has been developed under the Saving Our Species program.

Activities to assist this species

- Retain den trees and recruitment trees (future hollow-bearing trees).
- Retain food resources, particularly sap-feeding trees
- Retain and protect areas of habitat, particularly mature or oldgrowth forest containing hollow-bearing trees and sap-feeding trees.
- Maintain connectivity between habitat patches.
- In urban and rural areas retain and rehabilitate habitat to maintain or increase the total area of habitat available, reduce edge effects, minimise foraging distances and increase the types of resources available.

Key Threatening Processes

Alteration of habitat following subsidence due to longwall mining	Threat > Habitat Loss/Change
Alteration to the natural flow regimes of rivers and streams and their floodplains and wetlands	Threat > Habitat Loss/Change
Infection by Psittacine Circoviral (beak and feather) Disease affecting endangered psittacine (parrot) species and populations	Threat > Disease
Competition from feral honey bees, Apis mellifera L.	Threat > Pest Animal
Introduction of the Large Earth Bumblebee Bombus terrestris (L.)	Threat > Pest Animal
Bushrock removal	Threat > Habitat Loss/Change
Loss or degradation (or both) of sites used for hill-topping by butterflies	Threat > Habitat Loss/Change
Predation by the Feral Cat Felis catus (Linnaeus, 1758)	Threat > Pest Animal
Infection of frogs by amphibian chytrid causing the disease chytridiomycosis	Threat > Disease
Invasion of the Yellow Crazy Ant, Anoplolepis gracilipes (Fr. Smith) into NSW	Threat > Pest Animal
Removal of dead wood and dead trees	Threat > Habitat Loss/Change
Herbivory and environmental degradation caused by feral deer	Threat > Pest Animal
High frequency fire resulting in the disruption of life cycle processes in plants and animals and loss of vegetation structure and composition	Threat > Habitat Loss/Change
Predation by the European Red Fox Vulpes Vulpes (Linnaeus, 1758)	Threat > Pest Animal
Predation by Gambusia holbrooki Girard, 1859 (Plague Minnow or Mosquito Fish)	Threat > Pest Animal
Competition and habitat degradation by Feral Goats, Capra hircus Linnaeus 1758	Threat > Pest Animal
Invasion of native plant communities by exotic perennial grasses	Threat > Weed
Predation, habitat degradation, competition and disease transmission by Feral Pigs, Sus scrofa Linnaeus 1758	Threat > Pest Animal

Importation of Red Imported Fire Ants Solenopsis invicta Buren 1972	Threat > Pest Animal
Clearing of native vegetation	Threat > Habitat Loss/Change
Competition and grazing by the feral European Rabbit, Oryctolagus cuniculus (L.)	Threat > Pest Animal
Anthropogenic Climate Change	Threat > Habitat Loss/Change
Infection of native plants by Phytophthora cinnamomi	Threat > Disease
Invasion of native plant communities by Chrysanthemoides monilifera	Threat > Weed
Invasion and establishment of the Cane Toad (Bufo marinus)	Threat > Pest Animal
Invasion, establishment and spread of Lantana (Lantana camara L. sens. Lat)	Threat > Weed
Invasion and establishment of exotic vines and scramblers	Threat > Weed
Invasion and establishment of Scotch Broom (Cytisus scoparius)	Threat > Weed
Loss of Hollow-bearing Trees	Threat > Habitat Loss/Change
Forest eucalypt dieback associated with over-abundant psyllids and Bell Miners	Threat > Other Threat
Predation and hybridisation by Feral Dogs, Canis lupus familiaris	Threat > Pest Animal
Invasion of native plant communities by African Olive Olea europaea subsp. cuspidata (Wall. ex G. Don) Cif.	Threat > Weed
Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants	Threat > Weed

Gliding possums

What do they look like?

Gliding possums are marsupials. In size, they range from only 7 cm long in the body (feathertail gliders) to almost cat-sized (greater gliders). There are five species of gliding possums in NSW:

Feathertail glider

Feathertail glider
(Acrobates pygmaeus)

Feathertail gliders are small, measuring between 6.5 to 8 cm in length from head to body. They are mouse-shaped and have grey-brown fur on the back and a white underbelly. The distinctive tail is quill-like and hairless, except for a fringe of long stiff hairs down either side that resemble a feather. Their tail is about 7 to 8 cm long. Feathertail gliders only weigh between 10 to 15 grams. Their gliding membrane extends from elbow to knee and is thicker than other glider species.

Greater glider

Greater glider
(Petauroides volans)

The greater glider is the largest gliding possum with a head and body length of 350-450mm and a long furry tail measuring 450-600mm. The greater glider has thick fur that increases its apparent size. Fur colour is white or cream below and varies from dark grey, dusky brown through to light mottled grey and cream above. It has large ears and strongly reflective eyeshine in the beam of a spotlight making it easy to detect.

Squirrel glider

Squirrel glider
(Petaurus norfolcensis)

Adult squirrel gliders have a head and body length of about 20 cm. They have blue-grey to brown-grey fur above, white on the belly and the end third of the tail is black. There is a dark stripe from between the eyes to the mid-back and the tail is soft and bushy averaging about 27 cm in length. Squirrel gliders are up to twice the size of sugar gliders, and their facial markings are more distinct.

Sugar glider

Sugar glider
(Petaurus breviceps)

The sugar glider’s fur is a blue-grey to brown-grey, with a dark stripe that extends from the middle of the head to the mid-back region. They are about the size of a rat, and their tail is thick. Unlike the squirrel glider, the sugar glider's face is rounder and their tail is thinner, and may have a white tip.

Yellow-bellied glide

Yellow-bellied glider
(Petaurus australis)

The yellow-bellied glider is a large, active, sociable and vocal glider. Adults weigh 450 - 700 grams, have a head and body length of about 30 cm and a large bushy tail that is about 45 cm long. It has grey to brown fur above with a cream to yellow belly, which is paler in young animals. The dark stripe down the back is characteristic of the group. It has a large gliding membrane that extends from the wrist to the ankle.

How do they glide?

A gliding possum has a 'gliding membrane' - a thin sheet of skin which stretches between its forepaws and its ankles. When it leaps from a branch, its outspread limbs extend the membrane, allowing the animal to glide from tree to tree. At first the leap is downwards, but as the animal increases speed, the angle of flight flattens out. With its long, well-furred tail acting as a rudder, the glider can steer towards its next tree. Then, just before landing, it uses its tail to bring it into a 'nose up' position (much like an aircraft landing). Feet stretched out in front, it is ready to grasp the tree trunk on which it will land.

The yellow-bellied glider can cover distances of up to 140 metres in one leap. The sugar glider and squirrel glider can reach about 50 metres.

Where do they live?

Gliders generally live in a wide variety of eucalypt forests, most of which line the east coast and ranges of Australia. Sugar gliders have the widest distribution, as they can stand a greater variation in climate than the other species. They can be found in many different habitats, from the tropical parts of the Northern Territory to the cooler areas of Tasmania. Yellow-bellied gliders, on the other hand, are restricted to rich forest ecosystems that provide a continual supply of food.

Gliders usually make their nests in tree hollows, which they line with dry leaves. Some species, particularly the greater glider, mark out their territory by using scent glands. They rub the gland against the trees to warn off intruders.

What do they eat?

Gliders feed at night. Their diet includes nectar, pollen, insects and the sap of certain eucalypt or wattle trees (in collecting eucalypt sap, yellow-bellied gliders leave distinctive 'v'-shaped notches on trees). The greater glider, however, feeds almost entirely on eucalypt leaves.

Breeding and life cycle

The greater glider is the only gliding possum that does not live in a family or social group. These animals only come together for mating, and usually only one young glider is born. Other gliders have one or two at a time, although the feathertail glider can have a litter of up to four.

A naked, newborn glider (also called a neonate - a term which applies to all newborn marsupials) would fit on your thumbnail. Following birth, it crawls through its mother's fur to her pouch, where it attaches itself to a teat. Here it is kept warm and nourished with milk. After about three or four months it will come out into the nest and, with the adults, search for food.

When the young are big enough to look after themselves, they will usually leave the family and set up a group or territory of their own. Some females may stay with the original group, but males are often forced to leave.

Threats

Gliders are protected in NSW. The squirrel glider and the yellow-bellied glider are quite uncommon (they have been listed as vulnerable under the *Threatened Species Conservation Act 1995*), and are in need of special protection.

The greatest threat to gliders comes from the destruction and alteration of the forest habitats in which they live. Gliders need mature forests with lots of tree hollows to nest in. When forests are cleared they lose their home and food supply, and may become prey to other species such as owls, foxes and cats. The gliders are easy targets in cleared or opened-up areas.

OEH is protecting forests in national parks, but these form only a small part of the state. The future of gliders outside national parks and other wildlife protection areas is far from certain.