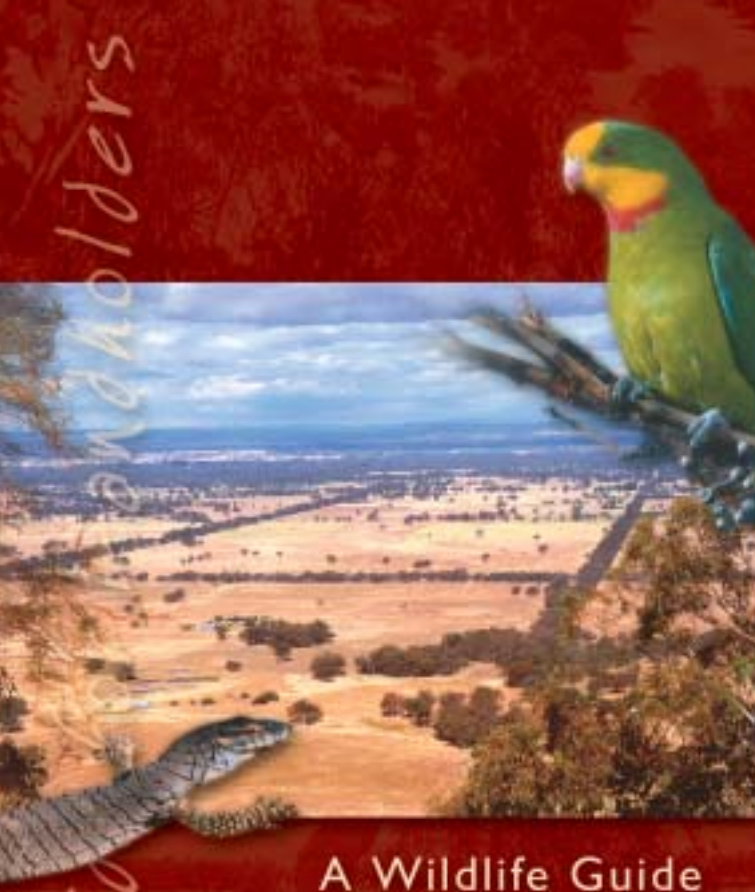

A Wildlife Guide for Landholders

in the plains and box-ironbark regions of the Goulburn Broken Catchment

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Contents

Figure 1: *Goulburn Broken Catchment highlighting the plains and box-ironbark forest regions. The species listed in this booklet are found in the darkened area of the catchment (but may not be exclusive to this area).*

1. About this booklet

Over 200 years ago the plains and low hills area, of what is now the Goulburn Broken Catchment (see Figure 1), supported a diversity of vegetation and habitats. Open woodlands of box and gum, wetlands and floodplains occurred on the plains country, whilst open forests of box, ironbark, stringybark and Blakelys Red Gum occurred on the differing geologies of the low hills. Marsupial kangaroo-rats fed on tussock grasses and a diverse bird fauna occupied the wide range of available habitats. European occupation led to the introduction of domestic stock, extensive clearing for agriculture, a spate of gold-mining through the box and ironbark forests and post-wartime timber harvesting for firewood and timber. The impact has been large and the effects are continuing. Kangaroo-rats no longer roam the plains, many wetlands have been drained and more than 40 per cent of the native land-bird species found in the area are in decline.

Species threatened in the Goulburn Broken Catchment:

- 47 of 282 birds
- 13 of 51 mammals
- 6 of 57 reptiles
- 5 of 24 amphibians
- 7 of 19 fish

Despite the changes of the past 200 years, many species of native wildlife have coped and continue to contribute to the health of the natural environment. For the health of our future landscapes we need to ensure these animals do not become threatened as the result of current management practices.

This booklet provides details on some of the species of wildlife found in the plains and box-ironbark regions, a summary of the major threats facing many of our wildlife species and some of the general management actions that can help.

If, in twenty years time, we still want to see goannas lumbering along the road or a vivid Red-capped Robin perched on a branch WE NEED TO ACT NOW.

2. Why so many threatened species?

The main reason so many species have declined or become threatened is loss of habitat and decline in the quality of remaining habitat. On average 89% of native vegetation has been cleared from this part of the Goulburn Broken catchment, and in some areas as much as 97% has been lost. The small portions of vegetation remaining (remnants) often exist as isolated fragments subject to a wide range of pressures and threats (Figure 2.). Many of the remaining remnants, even larger blocks of bush, are of poor habitat quality. Research shows many bird species require a minimum of 10% and up to 30% tree and shrub cover to survive (Figure 3.)

Figure 2: *The process of fragmentation leads to an overall loss of habitat and smaller, more isolated patches of remnant vegetation with little connectivity between patches.*

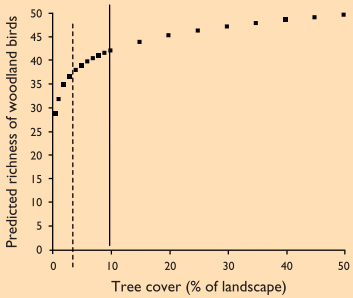


Figure 3: *The lower the proportion of native tree and shrub cover in the landscape the fewer woodland bird species are predicted to be found. Ten per cent cover is suggested as an absolute minimum to prevent serious decline and loss of woodland birds (adapted from Bennett & Ford 1997).The dotted line shows average existing tree cover.*

3. Threats to Wildlife and the Benefits of Conservation

To ensure the ongoing survival of wildlife in our area we need to recognise the threats they face and to learn more about how and why we should protect them. The following pages list some of the major threats facing our native wildlife, actions we can take to protect them, and how these actions can potentially benefit the farm environment.

Vegetation Clearing

including removal of remnant patches of trees, scattered paddock trees and understorey shrubs.

Consequences

- Reduces the area of native vegetation to below a critical size for particular animals.
- Reduces the quality of habitat so that animals can no longer obtain enough food.
- Increases the distances between remnants so that wildlife can no longer move to other areas.
- Increases the risk that local populations of woodland animals will disappear from a particular area.
- Increases stream bank erosion leading to poor water quality and lack of habitat for aquatic plants and animals.
- Causes rising watertables and salinity.

Suggested Actions

- Protect remaining remnant vegetation.
- Manage at least 10 per cent of your property for healthy habitat. In dryland areas, aim to maintain at least 30 per cent tree and shrub cover. [2,3]
- Undertake a whole farm planning approach to build nature conservation into farm management.
- Leave isolated trees in paddocks as important stepping stones for native wildlife.

Potential benefits for the property

- Increased shelter for stock, pasture and crops.
- Increased property values brought about by good remnant vegetation cover.
- Reduced salinity, waterlogging, wind and water erosion.
- Reduced insecticide use due to increased habitat for predators such as birds, mammals and insects.
- Improved property aesthetics.
- More family recreational opportunities, e.g. bird watching and nature walks.

Declining Vegetation Quality

including inappropriate grazing by stock, pest animals and kangaroos.

Consequences

- Reduces the quality of remaining habitat.
- Limits the regeneration of understorey species such as wattles, native peas, saltbushes and native grasses.
- Removes food sources and shelter for native wildlife.
- Reduces tree health through soil compaction and increased nutrient levels.
- Causes loss of lichen and mosses that hold the soil together.
- Reduces fish habitat through loss of logs and reduced shading over streams and wetlands.
- Increases nutrient build up in wetlands and waterways, potentially leading to algal blooms.

Suggested Actions

- Protect remaining patches of trees and native vegetation, including wetlands and native pastures.
- Allow trees, shrubs and native ground cover to naturally regenerate.
- Restore structural diversity by revegetating patches of trees with shrubs.
- Protect paddock trees with short-term fences to allow regeneration to occur.
- Protect wetlands and waterways by fencing and altering grazing management, promoting natural regeneration.

Potential benefits for the property

- Increased pollination by native insects (as much as 50% of pollination is carried out by native insects that fly from nearby bushland).[1]
- Increased habitat availability for wildlife that eat pest insects.
- Improved pasture growth. Studies show that sheltered areas of a property have an estimated 20% increase in average annual pasture growth.[1]
- Reduced water loss in pastures. Sheltered pastures lose 12mm less water than open pastures during the spring growing season.[1]
- Increased wool production. Sheep in sheltered areas produce 31% more wool, are 21% heavier and lose half the number of lambs compared with sheep with no shelter.[1]
- Increased yields in sheltered zones. A study has shown wheat and crop yields in sheltered zones increased between 22% and 47%.[1]

Firewood collection and 'tidying up'

including 'cleaning up' fallen logs, branches, twigs and other plant material.

Consequences

- Removes important habitat for ground-dwelling wildlife.
- Removes habitat for insects and reptiles that are the prey of many larger species.
- Removes natural protection for native plants that may be grazed by stock.
- Reduces soil structure and fertility promoted by decomposition of logs and leaf litter.

Suggested Actions

- Leave fallen logs and branches on the ground or move them to a more suitable area such as under remnants.
- Leave dead trees standing as they provide hollows for many wildlife species including bats.

Potential benefits for the property

- Increased soil nutrients.
- Increased numbers of insectivorous wildlife that reduce pest species of insects.
- More goannas to predate on Rabbits and young cockatoos.

Pest animals

including predators such as Foxes, Cats and Brown Trout and competitors such as Rabbits, Hares, Common Starlings, European Bees and European Carp.

Consequences

- Reduces numbers of wildlife species through predation by foxes and cats.
- Reduces the amount of food and shelter available for native species through competition.
- Degrades the quality of remaining habitat by removing native shrubs, herbs and grasses.
- Impacts on waterway species such as frogs and fish through predation by Brown Trout and other introduced species.

Suggested Actions

- Undertake co-ordinated Fox control programs with neighbouring properties.
- Control Cats, Rabbits and Hares.

Potential benefits for the property

- Increased productivity as a result of improved lambing success and better pastures.
- Return of native species to the property.

Pest plants and environmental weeds

including Paterson's Curse, Blackberry, Peppercorn Trees, Olives, Wild Oats, Chilean Needle Grass, Bridal Creeper and Willows.

Consequences

- Degrades native vegetation through competition and reduces the opportunity for natural regeneration.
- Increases the abundance of some pest animal species by providing food, eg. Foxes and Blackberries.

Suggested Actions

- Minimise the spread of invasive plants to neighbouring areas including roadsides.
- Remove undesirable invasive species. For more information refer to the booklet '*Weeds of the Goulburn Broken*' or the book *'Environmental Weeds'*.[4]

Potential benefits for the property

- Increased productivity by reducing competition from weeds.
- Improved property values and aesthetics.

Intensified landuse

including changing from native pasture to sown pasture and irrigation development.

Consequences

- Reduces available habitat for ground-dwelling plants and animals.
- Reduces structural diversity and therefore available habitat.
- Reduces moss and lichen that hold the soil together.
- Removes fallen timber that is important habitat.
- Causes the loss of paddock trees through root disturbance, stubble burning or waterlogging.
- Turbid and high nutrient waste water from irrigation drains reduces water quality in streams.

Suggested Actions

- Retain or establish an area on your farm that will be left less intensive for wildlife habitat.
- Avoid cultivation and irrigation around paddock trees.

Potential benefits for the property

- More habitat for wildlife that prey on farm pest species.
- Improved ecology, viability and long-term sustainability of the property.
- Areas for occasional stock shelter or drought refuge.

Alteration of wetlands and waterways

including cultivation of shallow wetlands and grazing river frontages.

Consequences

- Impacts on the natural flooding and drying cycle of wetlands.
- Reduces the amount of water reaching wetlands needed for breeding waterbirds, fish and other aquatic life.
- Decreases water flow in streams required by many native fish to breed.
- Erosion along waterways causes sediment to fill deep pools used as habitat by native fish.
- Cold water released from the bottom of large dams causes conditions unsuitable for many native species.
- Removal of large logs in waterways reduces habitat.
- Increases competition and predation by introduced species such as Brown Trout and Carp.

Suggested Actions

- Protect existing pools and in-stream habitat from sedimentation by managing stock grazing and revegetating stream banks.
- Fence waterways and alter grazing management to reduce erosion and encourage growth of aquatic and bank vegetation.
- Leave or add fallen timber and logs in the water.
- Consider the negative impacts of constructing large new farm dams, particularly on waterways in dryland areas of the catchment.
- Retain wetland areas on your property.
- Install off-stream watering for stock (incentives are available through the GB CMA).

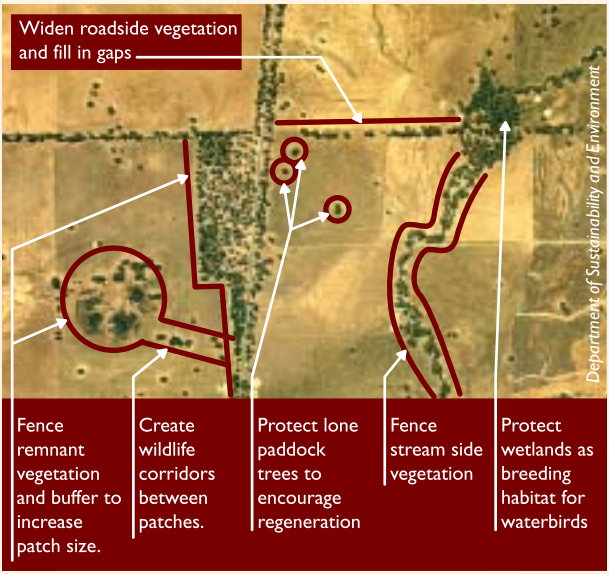
Potential benefits for the property

- More natural predators of pest invertebrates. For example, waterfowl eat the snail that hosts the liver fluke parasite in sheep.[1]
- Bank stabilisation.[1]
- Less stock fatalities.[1]
- Safer worker conditions.[1]
- Interception and use of nutrients before entering storages.[1]
- Cleaner water for stock and domestic use through natural filtration.[1]

1. Straker, A., and Platt, S. (2002). *Living Systems Resource Kit – Biodiversity in Property Management Planning*. Department of Natural Resources and Environment, Melbourne.
2. McIntyre, S., McIvor, J.G. and Heard, K.M. (eds) (2002). *Managing and Conserving Grassy Woodlands*. CSIRO, Melbourne.
3. Walpole, S.C. (1999). Assessment of the economic and ecological impacts of remnant vegetation on pasture productivity. *Pacific Conservation Biology* 5:28-35.
4. Blood, K. (2001). *Environmental Weeds: a field guide for SE Australia*. CRC Weed Management Systems, SA.

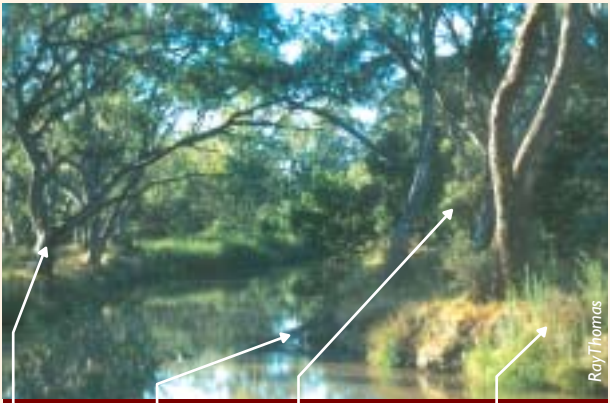
4. Planning Wildlife Habitat

Landscape Planning



Healthy Remnants

Along Waterways



In Paddocks

5. Wildlife Species in the Spotlight

The following pages contain information on some of the wildlife found on the plains and in the box and ironbark regions of the Goulburn Broken Catchment. The species were selected because they either have particular needs or are faced with particular threats. By managing and maintaining populations of the following species we will also help to protect many other wildlife species in our area.

Murray Cod

Maccullochella peelii peelii

Conservation Status: Nationally Vulnerable.

Description: Australia's largest freshwater fish, commonly measuring 60 cm long, but can be up to 180 cm. The maximum recorded size is 1.83 m long and 114 kg. The Murray Cod is very similar to the Trout Cod (*Maccullochella macquariensis*) but has a more concave head and equal length jaws (Trout Cod has a protruding lower jaw).

Habitat Needs: Murray Cod inhabit warm lowland rivers and streams with deep pools, abundant wooden debris, aquatic vegetation, riparian stream side vegetation, high flows in spring and no barriers to movement.

Threats:
- In-stream barriers;
- Cold-water pollution;
- Removal of snags;
- Loss of riparian (stream side) vegetation to provide food or future snags;
- Angling;
- Sedimentation of pools.

Things to note:
- Large predator fish that can eat European Carp.
- In winter and spring they move upstream (up to 80 km) for early summer spawning, later returning to their original downstream location. They have been known to return to the same log.
- Fallen logs from Red Gums can exist in rivers as fish habitat for up to 1000 years.
- In 1970s, 30,000 snags were actively removed from the River Murray below Lake Hume.
- To learn more about Murray Cod contact 'Codwatch' (contact details at the end of this booklet).

River Blackfish

Gadopsis marmoratus

Conservation Status: Declining.

Description: This species may be pale green, yellowish, brown or black in colour. They usually have a marbled pattern with larger dark blotches. The underside is pale yellow, blue or purple-grey. The upper jaw is longer than the lower. This species usually measures around 30 cm in length, but can be up to 60 cm long.

Habitat Needs: River Blackfish require slow-flowing, well oxygenated waters with abundant snags and aquatic vegetation. Shaded streams containing small hollow logs are needed for egg laying. Eggs may be smothered by sedimentation.

Threats:

- Removal of snags;
- Loss of riparian (stream side) vegetation to provide food or future snags;
- Sedimentation of pools;
- European Carp.

Things to note:

- A territorial fish with a limited home range that will only move about 10 metres from their home area.
- The presence of River Blackfish is a good indicator of stream health.

Common Spadefoot Toad

McCann Collection, Department of Sustainability and Environment

Neobatrachus sudelli

Conservation Status: Non-threatened.

Description: A medium-sized burrowing frog readily identified by its vertical eye pupil and fully webbed toes. Its skin is grey to dark brown above with numerous warts and is usually blotchy. The Common Spadefoot Toad is generally only active and visible after heavy spring and summer rains. Its call is a slowly pulsed musical trill given while floating in water.

Habitat Needs: Adults are usually found in dry woodland or grassland habitats, beneath the soil, rocks or timber. Eggs are laid in temporary water bodies after heavy rains.

Threats:

- Loss of woodland habitat and wetland modification by drainage and cultivation;
- Habitat degradation from salinity and nutrients;
- Use of herbicides and pesticides;
- Predation of eggs and tadpoles by introduced fish;
- Removal of fallen timber.

Things to note:

- Their musical call is a reminder of good rains.
- Frog numbers are declining across Australia. Avoid the use of chemicals around wetland areas to prevent contaminating frog habitat.
- Frogs are an important part of the food chain. They feed on invertebrates and provide a food source for birds such as herons and kingfishers.

Southern Bullfrog (Pobblebonk or Banjo Frog)

Limnodynastes dumerilii

Conservation status: Non-threatened.

Description: A large (up to 7 cm) grey to olive-green or dark brown coloured frog. Skin can be smooth to warty on the back and whitish below, often with yellow or white in the groin and black mottling on the belly. A prominent gland is visible on the hind leg. The call is a short single 'bonk', usually repeated every few seconds.

Habitat Needs: A widespread species found in many different vegetation types, dams, wetlands and streams. It is also found in gardens, where it may live below the ground. Calling males are usually found in still waters with aquatic vegetation.

Threats:

- Habitat loss, habitat modification by drainage and habitat degradation from grazing;
- Habitat degradation from salinity and nutrients;
- Use of herbicides and pesticides;
- Predation of eggs and tadpoles by introduced fish.

Things to note:

- Protecting wetlands on your property by fencing and encouraging reeds and sedges around the area will increase the available habitat for frogs.
- One in five frog species in the Goulburn Broken Catchment are now threatened with extinction, including the Nationally vulnerable Southern Bell Frog (*Litoria raniformis*).

Boulenger's Skink

McConn Collection, Department of Sustainability and Environment

Morethia boulengeri

Conservation Status: Non-threatened.

Description: A common skink found in most forest and woodland habitats in the region. The average length is about 9cm, including the tail. The skin is usually a copper-brown above, with broad black and white stripes along the sides. The tail is often flushed reddish-brown.

Habitat Needs: Lives in woodlands and forests, especially at sites with abundant fallen timber, leaf litter and grass cover. It and other reptiles are generally more common at sites with shrubs.

Threats:

- Habitat degradation from over-grazing, loss of vegetation litter; shrubs and groundcover;
- Removal of fallen timber.

Things to note:

- This skink is a generalist feeder and eats a range of insects and spiders.
- Remnant patches of vegetation on properties with fallen timber and native ground cover are ideal habitat for this species.

Eastern Bearded Dragon

McCann Collection, Department of Sustainability and Environment

Pogona barbata

Conservation Status: Non-threatened

Description: A large (40-60 cm) grey brown to tan-coloured lizard that is active during the day. Distinguished from the similar Tree Dragon (Jacky Lizard) by its larger size, shorter tail, 'beard' in adults and scattered spines on the tail. It lays clutches of 10 to 20 eggs.

Habitat Needs: The Eastern Bearded Dragon require woodlands and forests with plentiful fallen or standing timber (sometimes including wooden fence posts) and loose soil for egg-laying. It can often be seen perched on logs, stumps or fence posts.

Threats:

- Removal of fallen and standing timber;
- Fragmentation of remaining habitat;
- Intensification of land use from low-intensity grazing to high-input farming;
- Predation by Foxes and Cats.

Things to note:

- The defensive display of the Eastern Bearded Dragon is impressive. The beard is enlarged and the mouth opened to reveal the bright yellow interior and saw-like teeth.
- The camouflage of the Eastern Bearded Dragon allows it to hide from predators while keeping an eye out for grasshoppers, beetles and moths.
- Fallen logs, dead standing trees and stumps are crucial habitat for this species.

Inland Carpet Python

Geoff Brown

Morelia spilota variegata

Conservation Status: Endangered.

Description: A large snake up to 2.5 m in length, found in the River Red Gum forests along the Murray River and the Warby Range and Chesney Hills area. It was previously more widespread. The snake features a distinctive pattern of pale brown to olive green background, marked with numerous, dark-edged cream to yellowish blotches. It is non-venomous.

Habitat Needs: It requires large patches of forest and woodland with many hollow-bearing trees or rock outcrops to provide shelter and feeding opportunities. Individuals may occupy home ranges of more than 500 ha. Thick litter layer is important as well as understorey vegetation in the Warby Range/Chesney Hills district. It feeds primarily on mammals and birds, particularly rabbits in the Warby Range area.

Threats:

- Loss of hollow-bearing trees;
- Removal of rocks;
- Removal of fallen timber and vegetation litter;
- Predation by Foxes and Cats on young.

Things to note:

- Rocks and fallen timber are an important part of this species' habitat.
- This snake feeds on whole prey items, the choice of which is largely determined by the size of the snake.
- Snakes are an important part of the food chain and are natural pest controllers.

Marbled Gecko

Geoff Brown

Phyllodactylus marmoratus

Conservation status: Non-threatened.

Description: A medium-sized lizard (7 cm from snout to base of tail) with enlarged pads on the feet, and a large eye with a vertical pupil. Its skin is grey or brown above and whitish below with a series of blackish markings forming a network pattern across the back. The Marbled Gecko is nocturnal (active at night).

Habitat Needs: Mostly tree-dwelling, it will shelter under the bark or in cracks of live and dead standing trees, or under logs. It is found in a wide range of vegetation and remnant types in the area, and is often common at sites with large numbers of standing or fallen dead trees. Marbled Geckos are more common in sites that are only lightly grazed.

Threats:

- Intensification of land use from low-intensity grazing to high-input farming;
- Removal of fallen timber;
- Removal of large trees or dead standing trees.

Things to note:

- Geckos mostly live in the warmer regions of Australia, but a few species have adapted to colder districts.
- A complex arrangement of extremely fine hairs allows it to climb vertically on almost any surface and it is often found on windows at night.
- Geckos are able to cast off their tails if attacked by a predator.
- Keep an eye out around outside lights at night where you may encounter a hunting Marbled Gecko.

Tree Goanna (Lace Monitor)

Varanus varius

Conservation Status: Data deficient (possibly threatened).

Description: A large (approximately 1.5m) carnivorous, long-tailed lizard that is dark grey with varying pale marks arranged in bands from head to tail. Tree Goannas may grow up to 2m long. They are often seen on the ground and will take to a tree when disturbed.

Habitat Needs: Tree Goannas live in a range of vegetation types with large trees and fallen timber where they forage for carrion, invertebrates, reptiles, small mammals and nestling birds from the ground and trees. They lay six to eight eggs, often in a termite's nest and shelter in tree hollows or fallen logs. The Tree Goanna requires home ranges of about 65 ha, and is more common in areas with linked patches of bush.

Threats:
- Firewood collection and fallen timber removal;
- Loss of hollow-bearing trees;
- Habitat clearance and fragmentation;
- Predation by Foxes;
- Mortality from traffic.

Things to note:
- Tree Goannas lay their eggs in termite nests. The females will then return months later to excavate the nest and release the young. Protect termite mounds as breeding sites for this species.
- They can often be seen on roadsides where there are large trees and, as a result, are susceptible to being killed by passing traffic.
- They will prey on rabbits and young cockatoos.

Woodland Blind Snake

McCann Collection, Department of Sustainability and Environment

Ramphotyphlops proximus

Conservation status: Vulnerable.

Description: A small (50 cm average length), robust, worm-coloured snake with blunt head and tiny eyes. It is non-venomous.

Habitat Needs: It mostly lives underground or beneath rocks and logs, occurring in dry forests and box woodlands in the Catchment. The Woodland Blind Snake will occasionally emerge to the surface on warm humid nights. It is mostly found in sites with clay or loam soils, particularly in agricultural land that has not been grazed or ploughed too intensively, and has groundcover vegetation. It feeds exclusively on ants, termites and their eggs.

Threats:

- Intensification of land use from low-intensity grazing to high-input farming;
- Removal of fallen timber.

Things to note:

- This snake looks like a big earthworm, but on closer inspection scales can be seen. It is rarely seen in the wild, but is sometimes dug up unintentionally.
- Although they can probably distinguish light from dark, blind snakes move and locate food by a well-developed sense of smell.
- The Woodland Blind Snake is the sole food source for the threatened Bandy Bandy, a striking looking black and white snake occasionally found in the region.

Brush-tailed Phascogale (Tuan)

Phascogale tapoatafa

Conservation Status: Vulnerable.

Description: A nocturnal (active at night), carnivorous marsupial with a uniform deep grey on the head, back and flanks. It is pale cream underneath with large, naked ears and a black bottle-brush tail up to 23 cm long. Adults may grow to 40 cm in length. They are extremely fast and agile and feed on invertebrates on tree trunks, branches and the ground.

Habitat Needs: Brush-tailed Phascogales are found in dry forest and woodlands, especially those containing box trees, ironbarks or stringybark eucalypts. They need well-linked bush habitat and individual animals may range over 100 ha. However, in high quality habitat (often on roadsides), animals may only need about 5 ha to survive. Brush–tailed Phascogales require large trees and fallen timber for foraging and nest in hollows with small entrance holes in live and dead trees.

Threats:
- Habitat loss through clearing of native vegetation;
- Habitat degradation from over-grazing and cultivation;
- Fragmentation of remaining habitat;
- Predation by Cats and Foxes;
- Loss of older, hollow bearing trees;
- Removal of fallen timber.

Things to note:
- A single Brush-tailed Phascogale can use up to 40 different hollows in one year. Their preferred hollow size has an opening 3 to 4 cm wide, with a relatively large internal cavity for nesting.
- The Brush-tailed Phascogale is the largest mammal in which all males die when about one-year-old. They usually die of stress-related diseases after a brief mating season.
- This species will sometimes use nest boxes (see further reading on nest boxes at the back of this booklet).

Fat-tailed Dunnart

McCann Collection, Department of Sustainability and Environment

Sminthopsis crassicaudata

Conservation Status: Data deficient (possibly threatened); uncommon in the Goulburn Broken Catchment.

Description: A small (13 cm), insectivorous marsupial, easily recognisable by its large ears and eyes and short, swollen tail.

Habitat Needs: It is usually found in grassland and woodland areas with patches of bare ground for foraging and tussocks of grass for shelter. The Fat-tailed Dunnart is most common in areas with cracking soils and will nest in cavities beneath rocks and logs, or in soil cracks.

Threats:

- Removal of fallen timber;
- Changing land use from low-intensity grazing to high-input farming;
- Cultivation;
- Pesticide and herbicide use;
- Predation by Foxes and Cats.

Things to note:

- On cold, dry nights when insect activity is low, Fat-tailed Dunnarts will retreat to their nests and enter a starvation-induced torpor (a type of hibernation).
- These animals can be seen basking in the morning sun on a fallen log or bare ground.
- Areas suitable for dunnarts (containing fallen logs, rock outcrops and minimal predation from Cats and Foxes) are becoming increasingly rare.

Gould's Wattled Bat

Lindy Lumsden

Chalinolobus gouldii

Conservation Status: Non-threatened.

Description: A medium-sized, insectivorous bat that is mid-brown coloured with dark-brown head and shoulders. This species has a short muzzle and short, rounded ears. It typically forages just below, or at, tree canopy level, often emerging soon after sunset when there is still light in the sky.

Habitat Needs: It is found in a wide range of habitats, including scattered paddock trees. Colonies of five to 20 individuals typically roost in hollows of large, live trees with an average trunk diameter of more than one metre. Individuals need multiple roost trees, ultimately using 20 to 30 roost trees in the one area. When foraging, individuals may travel as far as 14 km from roosting sites, making extensive use of small clumps of trees in farmland areas.

Threats:

- Loss of large live and dead trees;
- Removal of fallen timber;
- Use of pesticides.

Things to note:

- Insect-eating bats, such as this one, can consume up to half their body weight (14 g) in food in one night. They feed on mosquitoes, moths, beetles, grasshoppers and spiders and are nature's nocturnal (active at night) insect controllers.
- Bats comprise approximately one third of the mammal fauna in the Goulburn Broken catchment. Most of the species found in the area roost in tree hollows or fallen timber.
- Large paddock trees (living and dead) are important hbitat for bats.

Platypus

Ornithorhynchus anatinus

Conservation Status: Non-threatened.

Description: An unusual looking and unique mammal that lives mainly in the water. Known as a monotreme, it is one of only two species of mammal (the other is the Echidna) that lays eggs. The Platypus has short dense fur, a duck bill and flattened tail.

Habitat Needs: Platypus inhabit a wide variety of streams and lakes but need permanent water. They prefer shallow water for access to bottom-dwelling invertebrates on which they prey. They also prefer steep vegetated banks with soft soils to build burrows for shelter and breeding. Platypus are most commonly found at sites with numerous native trees close to the water and abundant vegetation litter and logs in the water.

Threats:

- Poor water quality as a result of sedimentation and salinity;
- Entanglement in nets, fishing line and plastics, often leading to death;
- Removal of snags and logs from streams;
- Loss of riparian (stream-side) and in-stream native vegetation;
- Spread of willows along stream banks;
- Reduced natural stream flows.

Things to note:

- Few people get to see this unique animal in the wild and having a Platypus in your stream can result in a special and rare experience.
- To encourage Platypus to your streams, fence off waterways and establish continuous native vegetation along the banks. Remove willows and other exotic vegetation and leave logs and snags to encourage invertebrates as a food source.
- To learn more about this species, join 'Friends of the Platypus' (contact details at end of booklet).

Squirrel Glider

McCann Collection, Department of Sustainability and Environment

Petaurus norfolcensis

Conservation Status: Endangered.

Description: A distinctively-marked, medium-sized gliding possum with a long fluffy tail. It averages about 21 cm in body length, with a 27 cm long tail, making it considerably smaller than the Common Brushtail or Common Ringtail Possum. The fur on its underside is whitish. On top the fur is soft, blue-grey with a black stripe running from between the eyes down the spine. It is very similar in appearance to the Sugar Glider, except slightly larger, with a bushier tail and whiter underbelly. This species is mainly insect-eating, but also eats gum, sap, nectar, lerps, manna, honeydew, wattle seeds and eucalypt pollen. It can glide up to 50 m between trees.

Habitat Needs: Squirrel Gliders inhabit woodlands and open forests of the fertile plains, while its close relative, the Sugar Glider, occurs in the open forests of the less fertile low hills. They rely on hollow-bearing, living and dead trees for shelter and breeding sites. Well-linked vegetation with a combination of hollow trees and understorey wattles are very important for this species.

Threats:
- Loss of trees with hollows;
- Habitat fragmentation and degradation;
- Predation from Foxes and Cats;
- Barbed-wire fences.

Things to note:
- They consume approximately 10 % of their body weight (120 g) each night amounting to thousands of insects every year including caterpillars, weevils, beetles and moths.
- Squirrel Gliders are at risk of being caught on barbed wire fences when gliding, particularly across the corners of paddocks. Fences with a plain top wire will help to avoid this.
- Decreasing spaces between remnant patches and adding wattle understorey, especially Golden Wattle, will help this species to move and feed.
- This species will nest in many hollows, moving around to avoid predation by owls.

Yellow-footed Antechinus

McCann Collection, Department of Sustainability and Environment

Antechinus flavipes

Conservation Status: Non-threatened (regionally uncommon).

Description: A smallish (20 cm) carnivorous marsupial that is often seen during the day. It has a slate-grey coloured head with brownish-red ear patches and a pale eye-ring. The fur on its back is brownish-grey and the rump, belly and flanks are brownish-red.

Habitat Needs: It is most common in dry forests and box woodlands at lower altitudes, where it forages on the ground, on fallen timber and on the bark of trees. It primarily eats insects, but also feeds on nectar from eucalypts and shrubs. The Yellow-footed Antechinus shelters and nests in hollows in trees or logs and may also live in cavities in houses or sheds.

Threats:

- Habitat loss through clearing of native vegetation;
- Removal of fallen timber;
- Habitat degradation from over-grazing;
- Loss of hollow-bearing live and dead trees;
- Predation from Cats and Foxes.

Things to note:

- These mouse-sized marsupials can be mistaken for the introduced House Mouse, however the face is more pointed and more brownish-red than the plain grey of a House Mouse.
- As with the Brush-tailed Phascogale, all males die after a short mating season, leaving a population of pregnant females.
- The young of the Yellow-footed Antechinus are not weaned for three or four months, the longest time recorded for a carnivorous mammal.
- In areas where more timber is left on the ground, greater numbers of the Yellow-footed Antechinus are likely to occur.
- Although typically nocturnal, they are often seen active during the day.

Black-chinned Honeyeater

Melithreptus gularis

Conservation Status: Declining.

Description: A smallish (16 cm) canopy-dwelling honeyeater with olive-green upperparts, greyish-white underparts, black head and chin, and a whitish throat and nape. When this bird is seen at close range, a blue, cresent-shaped eye patch is visible.

Habitat Needs: A eucalypt-dependent species found most commonly in creek-line woodlands and patches of box and ironbark forest. It forages primarily on insects, nectar and lerps. In box and ironbark areas, it is mostly found in patches larger than 100 ha, or in districts with moderate tree cover that is well linked it is found in patches > 10 ha. It is also found on the plains in creek lines with vegetation wider than about 50 m. This species is rarely found in sites more than 1 km from other remnant vegetation.

Threats:

- Loss of large trees, including nectar-producing eucalypts;
- Loss of understorey and limited regeneration;
- Fragmentation of remaining habitat;
- Competition by Noisy Miners and egg predation by other bird species.

Things to note:

- Increasing the size of remnant vegetation patches to at least 10 ha or widening creek line vegetation to at least 50 m wide will benefit this species.
- Planting along creek lines benefits many species and maintains stream health.

Brown Treecreeper

McCann Collection, Department of Sustainability and Environment

Climacteris picumnus

Conservation status: Declining.

Description: A smallish (16-18 cm), mid-brown bird with fine streaking on its underside, pale eyebrow and a conspicuous buff wing band in flight. They are usually found in pairs or small groups, foraging by creeping or hopping on tree trunks, fallen timber or on the ground. Their call is a loud 'spink', uttered singly or repeated rapidly.

Habitat Needs: They prefer large patches of remnant bush (> 20 ha) or creek lines with vegetation wider than 50 m. They require well-linked vegetation with gaps between vegetation of less than 1 km. This species prefers sites with many large trees, fallen timber and some areas of open ground. They roost and nest in tree hollows or in fallen timber.

Threats:

- Small population size and isolation due to fragmentation of vegetation;
- Loss of large trees;
- Removal of fallen timber;
- Predation by Cats and Foxes.

Things to note:

- Populations of this species are quickly affected by fragmentation of vegetation, as they are unable to move across large areas of open land. Dispersing females are unable to reach other groups that are more than 2 km away. This can result in groups comprised of males only. Wide corridors linking populations will help overcome this problem of isolation.
- Studies have shown that in River Red Gum floodplains, Brown Treecreeper numbers increased substantially where fallen timber was added to sites.

Bush Stone-curlew

Jim Castles

Burhinus grallarius

Conservation Status: Endangered.

Description: A mainly nocturnal, large, ground-dwelling bird that is grey-brown in colour with dark brown streaks on the breast and a white belly. It has large eyes and a white forehead and chin.

Habitat Needs: It prefers dry open forest and woodlands with fallen branches, leaf litter and short (< 10 cm high) grass cover where it is able to see predators while foraging for insects.

Threats:
- Removal of fallen timber;
- Predation by Foxes;
- Weed infestation under remnant vegetation;
- Intensified land use.

Things to note:
- Bush Stone-curlews have an amazingly eerie call that is usually heard at night.
- They are often difficult to see during the day, as they camouflage remarkably well with their preferred daytime habitat of fallen logs and sticks.
- This species is extremely threatened by Fox predation, especially during breeding, as they nest on the ground.
- Historically Bush Stone-curlews have been recorded in groups of 50 to 100 birds.

Crested Shrike-tit

McCann Collection, Department of Sustainability and Environment

Falcunculus frontatus

Conservation Status: Non-threatened.

Description: A smallish (16 cm), sturdy bird with large head and stout beak. It features a distinctive black and white head and crest, a yellow breast and an olive-green back. Males have a black throat, while females feature an olive throat. They are usually seen in pairs or groups of three, often calling with quiet chuckling notes or a sad, slow descending 'peer, peer' whistle.

Habitat Needs: A eucalypt-dependent species found in most vegetation types in the Catchment, but especially common in woodlands along waterways and in mature box and ironbark forests. They prefer sites containing many mature trees with patches of understorey or saplings, occurring mostly in patches larger than 5 ha, along waterways with vegetation wider than about 50 m, or in well-linked roadside vegetation. Crested Shrike-tits are rarely found in sites more than 1 km from other suitable habitat.

Threats:

- Loss of large trees and understorey, and limited regeneration;
- Fragmentation of habitat leading to isolation;
- Competition from Noisy Miners;
- Egg predation by other bird species.

Things to note:

- Crested Shrike-tits are generally found in the tree canopy where they may be heard or seen tearing at bark or leaf bundles in search of insects.
- The male bird is attractive and inquisitive and can often be seen peering at his reflection in windows.
- This species will benefit from the linking of patches of vegetation over 5 ha, and widening of vegetation corridors along creeks to at least 50 m.

Diamond Firetail

McCann Collection, Department of Sustainability and Environment

Stagonopleura guttata

Conservation Status: Declining.

Description: A native finch with a crimson beak, black band across a white breast and white spots on its flanks. It also has a scarlet rump and black tail. Diamond Firetails live in groups and feed on the seeds of grasses and herbs.

Habitat Needs: These birds occur mostly in woodlands or open forests with sparse grass cover, herbs, and patches of understorey for nests. They are most often found in patches larger than 25 ha or along waterways with vegetation wider than 50 m. Diamond Firetails are rarely found in sites isolated by more than 1 km from other remnant vegetation. They need to drink several times a day and build bulky bottle-shaped nests made from grass.

Threats:

- Fragmentation and loss of vegetation;
- Intensified land use;
- Degradation of ground layer habitat from over-grazing;
- Predation by Cats and Foxes.

Things to note:

- Diamond Firetails are a beautifully marked bird and breathtaking to watch through binoculars.
- Because they largely feed on the ground, they are often preyed upon by feral and domestic Cats.
- Diamond Firetails have been found in revegetation that is nine years or older.
- They have been historically recorded in groups of up to 150 birds.
- They like to feed on the berries of salt bushes in the autumn as a protein source when moulting.

Grey-crowned Babbler

Pomatostomus temporalis

Conservation Status: Endangered.

Description: A medium-sized, dark-brown bird with a pale grey head, curved beak and white-tipped tail. They live in sociable groups of two to 15 members, with birds often chattering to one another or giving distinctive 'yahoo yahoo' calls.

Habitat Needs: These birds occur mostly in box woodlands or open dry forests with large trees, scattered understorey, a sparse ground layer and fallen timber. They occupy permanent territories ranging in size from 2 ha to 25 ha, foraging for invertebrates in leaf litter on the ground, or on the branches and trunks of trees. Grey-crowned Babblers build large stick nests for roosting and nest in small trees or in outer branches of older trees. They now mostly occur along roadsides.

Threats:

- Small population size and fragmentation of habitat leading to isolation;
- Intensified land use;
- Habitat degradation from over-grazing or rising groundwater;
- Predation by Foxes and Cats;
- Road works and tree clearing.

Things to note:

- Roadsides and woodlands on private property in the Goulburn Broken Catchment are strongholds for the continuing survival of this species in Victoria.
- The conservation of the Grey-crowned Babbler is a great local example of how on-ground works can help to protect threatened species.
- For more information join 'Friends of the Grey-crowned Babbler' (contact details at back of booklet).

Hooded Robin

McConn Collection, Department of Sustainability and Environment

Melanodryas cucullata

Conservation Status: Declining.

Description: A smallish (15 cm), ground-foraging, insectivorous bird. The adult males (main photo) are black and white with a black hood, white front and black back. The females and immature males (inset photo) are grey with white wing bars and white patches in the tail.

Habitat Needs: Hooded Robins are found in large (> 20 ha) patches of woodland or open forest and generally in districts with moderate remnant tree cover. They are rarely seen in sites isolated by more than 1 km from other patches of habitat. They prefer sites with a blend of scattered tree cover, clumps of understorey and open ground. The Hooded Robin favours sites with dead standing trees, fallen timber and sparse groundcover.

Threats:

- Isolation caused by fragmentation of remaining habitat;
- Loss of dead trees and fallen timber;
- Degradation of ground layer habitat from over-grazing;
- Intensified land use;
- Competition by Noisy Miners;
- Egg predation by Cats and other birds species.

Things to note:

- This species needs open ground for foraging.
- Hooded Robins have been found in revegetation that is greater than 25 metres wide and at least 10-years-old.
- Like many woodland birds, Hooded Robins prefer sites with a mixture of shrubs, trees and open spaces. Studies suggest open spaces should be at least 20 m wide.
- Where open spaces have closed over due to regrowth, many woodland birds are known to move territory.

Jacky Winter

Microeca fascinans

Conservation Status: Declining.

Description: A small (13 cm), tubby flycatcher, that is smooth brown above and white below. It has a white-edged tail which it wags from side to side when perched. This species is characterised by its frequent 'peter peter' call and habit of flying out from a perch to catch flying insects.

Habitat Needs: It requires open woodlands and forests, particularly sites with some understorey or regeneration and areas of open, almost bare ground. The Jacky Winter forages for insects from the air, tree trunks and the ground. It is most common in patches larger than 10 ha or along creeks with a wide band of native vegetation.

Threats:

- Small patch size, loss of understorey and limited regeneration;
- Fragmentation of remaining habitat;
- Removal of fallen timber;
- Competition from Noisy Miners and nest predation by other birds;
- Weed invasion;
- Predation by Cats.

Things to note:

- Jacky Winters are inquisitive little birds.
- Patches of non-eucalypts such as shrubs, Bulokes and sheoaks are a good, safe refuge from Noisy Miner attack.
- The more insect-eating birds on your property, the healthier any remnant vegetation and surrounding farmland will be. Understorey will help promote their presence.
- This species occurs mainly in patches of vegetation that are within 2 km of each other.

Regent Honeyeater

Xanthomyza phrygia

Conservation Status: Critically Endangered. Nationally endangered.

Description: A medium-sized (22 cm) honeyeater with vivid lace patterning of black and yellow on the wings and upperparts, and jet black head and throat. It has a pinkish eye patch of bare skin. The call of the Regent Honeyeater is complex, but includes a soft, warbling "quippa-plonk-quip, quip".

Habitat Needs: This species has declined significantly in range in the past 200 years. In the Goulburn Broken Catchment it is mostly associated with box and ironbark forests and fertile woodlands around Benalla and the Warby Ranges during winter and spring. In summer it usually found in foothill valleys in the mid and upper Goulburn areas. Its main habitat features flowering eucalypts, principally Mugga Ironbark, White Box or Yellow Box, and an abundance of larger trees.

Threats:

- Loss of large trees, fragmentation, and lack of regeneration of habitat;
- Exclusion by Noisy Miners, wattlebirds and friarbirds;
- Poor nesting success as a result of predation by other birds.

Things to note:

- It is estimated that there are only 1500 Regent Honeyeaters left in the world.
- Regent Honeyeaters are prone to attack by Noisy Miners and other aggressive birds.
- For more information contact the 'Regent Honeyeater Project' (contact details at back of booklet).

Red-capped Robin

Petroica goodenovii

Conservation Status: Declining.

Description: The adult male of the species (main photo) has a brilliant scarlet cap and breast. Immature males and females (inset photo) are a pale brown above and whitish below, with a small russet cap. Red-capped Robins are ground-feeding insect eaters.

Habitat Needs: They are most common in Black Box, Buloke and cypress-pine woodlands where they are often found in smallish patches (2+ ha) with no understorey. Where they occur in box-ironbark and box woodland sites, they are usually found in patches larger than 5 ha with understorey. They require low groundcover, perches about 1 m or less above the ground and some open areas for foraging.

Threats:

- Reduction in size of remnant patches;
- Loss of understorey and lack of regeneration;
- Isolation caused by fragmentation of remaining habitat;
- Competition from Noisy Miners;
- Egg predation by other bird species;
- Weed invasion of remnant patches.

Things to note:

- The Red-capped Robin is a strikingly marked bird and great for bird-watching beginners.
- Red-capped Robins have been found in revegetation that is several hectares in size and at least eight-years-old.
- Establishing or protecting patches (containing shrubs, Bulokes and sheoaks) that are at least 2 ha in size will encourage these birds to your property.
- This species occurs mainly in patches of vegetation that are within 2 km of each other and wide enough to allow adults to breed.

Restless Flycatcher (Scissors Grinder)

McConn Collection, Department of Sustainability and Environment

Myiagra inquieta

Conservation Status: Non-threatened.

Description: A smallish (18 cm) bird. Similar to a Willie Wagtail, the Restless Flycatcher is larger but more slender in the body, featuring a glossy blue-black back and entirely white or off-white undeparts. It is characterised by its habit of hovering low over the ground while uttering a stream of continuous whirring, hissing and grinding notes, hence its other name of Scissors Grinder.

Habitat Needs: This bird is found in most vegetation types in the plains area, mostly in patches larger than about 20 ha but occasionally in patches as small as 1 ha. It prefers sites containing clumps of understorey or regeneration as well as areas of open ground, sparse groundcover and fallen timber. Restless Flycatchers typically feed by hovering in the air and darting in to snatch prey from the ground, foliage or from trees.

Threats:

- Fragmentation and loss of vegetation;
- Loss of understorey and limited regeneration;
- Removal of fallen timber;
- Competition from Noisy Miners;
- Egg predation by other bird species;
- Invasion of suitable habitat by weeds;
- Predation by Cats.

Things to note:

- This species is one of nature's natural pest insect controllers.
- Restless Flycatchers have been found in revegetation older than five years.

Rufous Whistler

McCann Collection, Department of Sustainability and Environment

Pachycephala rufiventris

Conservation Status: Non-threatened.

Description: A smallish (17 cm) bird, with a wide range of loud, spirited songs. Adult males are grey above and reddish brown below, with a white throat edged in black. Females and young males feature brownish-grey above and pale buff underparts with dark streaks.

Habitat Needs: Rufous Whistlers are found in nearly all native vegetation types, particularly in patches larger than 10 ha or along widely vegetated creek-lines. They require patches of understorey or regeneration for nest sites, food and shelter.

Threats:

- Reduction of habitat and fragmentation of remaining bushland;
- Loss of understorey and limited regeneration;
- Egg predation by other bird species;
- Competition from Noisy Miners.

Things to note:

- The spirited song of this bird is a distinctive part of the Australian bush.
- This bird has been found in revegetation that is around five years of age or older. It is rarely found in narrow wind breaks.

Southern Boobook

McCann Collection, Department of Sustainability and Environment

Ninox novaeseelandiae

Conservation Status: Non-threatened.

Description: A small (30 cm) brown owl with conspicuous dark brown and white streaking on its underparts. Its face features pale marks bordering dark eye-patches. The Southern Boobook's call is a distinctive 'boobook' or 'morepork'.

Habitat Needs: These owls are found in most vegetation types in the Goulburn Broken Catchment. Pairs occupy territories of about 4 ha to 40 ha in size, depending on the quality of the habitat. Their territories are typically characterised by the presence of some large trees with hollows for breeding and roosting, and by clumps of trees or understorey with dense foliage for shelter. The preferred nest hollows measure 50-250 cm in depth and 20-30 cm in diameter. They are mostly insect-eating, taking prey from the ground, tree trunks and in the air, preferring to hunt along the edges of tree lines.

Threats:
- Loss of large trees;
- Pesticide use;
- Loss of understorey.

Things to Note:
- Boobooks can often be seen during the day perched in eucalypt trees.
- Owls provide natural pest control.

Southern Whiteface

McCann Collection, Department of Sustainability and Environment

Aphelocephala leucopsis

Conservation status: Declining.

Description: A small (10 cm), gregarious, grey-brown bird with a stubby bill and a mask of white edged with black above the bill. It has a black tail tipped with white. A ground-feeding seed and insect-eating bird, it is often seen in the company of thornbills. This species calls frequently with a loud, clear twittering 'tweet-tweeter'.

Habitat Needs: A shrub-dwelling species often found in Buloke woodlands, patches of eucalypt regeneration, or in wattle stands. It is always found at sites that include areas of open, bare ground. It is rarely found in sites more than 1 km from other native vegetation. The Southern Whiteface needs patches of understorey, dead or live trees with hollows for nesting, fallen timber and short, sparse groundcover for foraging.

Threats:

- Limited available habitat and continued fragmentation of vegetation;
- Intensified land use;
- Removal of dead trees and fallen timber;
- Loss of understorey;
- Predation by Cats.

Things to note:

- Establishing patches of indigenous, non-eucalypt species, such as Bulokes, sheoaks, wattles and peas will provide ideal habitat for this species.
- Patchy open spaces within woodlands are an important habitat element for woodland birds. Keep this in mind when revegetating areas.

Speckled Warbler

McCann Collection, Department of Sustainability and Environment

Chthonicola sagittata

Conservation Status: Vulnerable.

Description: A small (12 cm) speckled grey-brown bird featuring grey-brown feathers on the back and upper wings black-streaked. Its breast and belly are a pale grey to pale yellow-brown with black streaks. This species is usually found in pairs or small groups.

Habitat Needs: Speckled Warblers are most common in patches of box and ironbark forest, dry foothill forests or woodlands larger than about 100 ha. When they are found in smaller patches the patches tend to be well linked. They prefer sites with patches of understorey, abundant fallen timber and native grass tussocks.

Threats:

- Small population size and isolation due to fragmentation of vegetation;
- Loss of well-linked vegetation;
- Removal of fallen timber;
- Damage to ground layer vegetation caused by grazing stock;
- Predation by Cats and Foxes.

Things to note:

- The Speckled Warbler nests on the ground on grass tussocks, bushes or logs. Eighty per cent of nests fail as result of predation by Cats and Foxes.
- This bird has been found in revegetation sites, but only in those greater than 8 ha and at least eight-years-old.

Superb Parrot

Graeme Chapman

Polytelis swainsonii

Conservation Status: Endangered. Nationally vulnerable.

Description: A large, swift-flying, bright green parrot with a long, narrow tail. Its call is a distinctive, rolling 'currack, currack'. Males have a bright yellow face and red throat band. Females and immature adults have a greenish face. Both sexes have red beaks.

Habitat Needs: The Victorian distribution of this species is now restricted to the Barmah area and surrounding district, with occasional records from along the Murray, lower Ovens and lower Goulburn rivers. Breeding distribution is restricted to Barmah Forest, where pairs or small colonies nest in hollows in large River Red Gums. Superb Parrots feed on seeds from the ground and on the seeds of eucalypts and shrubs.
They need vegetated corridors to move between breeding areas in Red Gum forests and feeding grounds in nearby woodlands.

Threats:

- Loss of large Red Gums for nesting and woodlands for foraging;
- Lack of understorey and groundcover plants as food sources;
- Lack of vegetation corridors for movement;
- Road traffic while birds feed on spilt grain.

Things to note:

- Superb Parrots were once found in woodlands as far south as Melbourne.
- The revegetation of feeding habitat and corridors for Superb Parrots in the Barmah area is a great example of how the efforts of landholders can help ensure the ongoing survival of a species.
- The annual Superb Parrot count is held on the first Sunday in December each year (contact details at the back of this booklet).

Swift Parrot

Lathamus discolor

Conservation Status: Endangered. Nationally endangered.

Description: A medium-sized (25 cm), vivid-green parrot with crimson underwings, long crimson tail and red, yellow and blue face patches. They are usually found in small, tight flocks calling with a melodious chatter (rather than the screech of lorikeets).

Habitat Needs: Swift Parrots migrate from Tasmania to the mainland for autumn and winter, where they mostly occur in the woodlands and box and ironbark forests north of the Great Dividing Range. They are closely associated with sites with nectar-rich species of eucalypts, notably ironbarks, White Box, Grey Box and Yellow Gum, although they may visit other species of eucalypt and wattle in search of lerps, honeydew and buds. This species prefers sites with larger trees on fertile soils where Golden Wattle understorey is present.

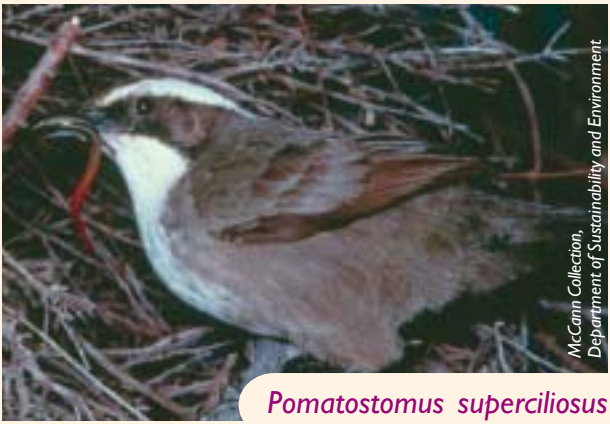
Threats:

- Loss of large trees (>50cm diameter at breast height);
- Lack of regeneration of trees and shrubs.
- Fragmentation of once-continuous fertile low-land woodlands, used for foraging during long migrations.
- Aggressive competition from Noisy Miners and other birds.

Things to note:

- Nectar-feeding birds are important pollinators of native plants.
- There is an annual main-land Swift Parrot survey held in Victoria, NSW and QLD (contact details at end of booklet).
- The Swift Parrot is the world's longest migrating parrot, moving from Hobart up to Toowoomba in QLD
- Superficially it resembles a lorikeet, but recent DNA analysis has indicated it is more closely related to rosellas and ring-necked parrots.
- Swift Parrot's fly exceedingly fast, up to 100 km per hour.

White-browed Babbler



Pomatostomus superciliosus

Conservation Status: Declining.

Description: A medium-sized (20 cm), brown bird with a dark eye, white eyebrows and white-tipped tail. It lives in sociable groups where birds continually chatter to one another.

Habitat Needs: They are mostly found in patches of woodland and dry forest larger than 20 ha, with a dense understorey of shrubs, and plentiful vegetation litter and fallen timber. White-browed Babblers are very sensitive to habitat isolation and are mostly found in sites within 1 km of other suitable habitat. They feed on invertebrates from leaf litter, tree trunks and branches, and fallen timber on the ground. They build bulky twig nests in understorey for nesting and roosting.

Threats:

- Habitat loss and fragmentation leading to isolation;
- Loss of understorey and reduced regeneration;
- Loss of fallen timber;
- Egg predation by other bird species;
- Predation by Cats.

Things to note:

- The White-browed Babbler is a smaller cousin of the Grey-crowned Babbler.
- Groups of these birds are capable of making an array of different sounds and are usually heard in thick shrubs or regenerating eucalypts.
- Narrow corridors of vegetation cannot properly sustain large, healthy groups of White-browed Babblers, and nest predation is more common in these circumstances.

6. Description of Conservation Status

'Threatened' is a general term to designate species whose survival is at risk. Threatened covers a range of categories including 'critically endangered', 'endangered' and 'vulnerable'.

The conservations status supplied for each species in this booklet is its current status in Victoria. A brief definition of each status is supplied below. There are different conservation rating systems at a National and State level. Where a species is also considered threatened at a National level that status has also been supplied.

Extinct: Where there is no reasonable doubt that the last individual has died.

Critically Endangered: Facing extremely high risk of extinction in the wild in the immediate future.

Endangered: Not critically endangered, but facing a very high risk of extinction in the wild in the near future.

Vulnerable: Facing a high risk of extinction in the wild in the medium-term future.

Data deficient: There is inadequate information to make a direct assessment of a species risk of extinction. Listing in this category indicates that more information is required and acknowledges that future investigations may possibly show the species is threatened.

Non-threatened: The species is currently considered secure at a State level, although it may be under threat and declining at regional or local scales.

Declining: Species that are known to be in decline through at least part of their range, but are still abundant enough or widespread enough that they are not listed as threatened at a State level.

For full listings of threatened species refer to:
Victoria - www.dse.vic.gov.au (select 'Plants and Animals')
National - www.ea.gov.au/epbc

7. Atlas of Victorian Wildlife

You can help monitor our wildlife by reporting any sightings of species to the Atlas of Victorian Wildlife database.

If you would like a kit to record the species you find on the Atlas of Victorian Wildlife, contact your local Department of Sustainability and Environment (DSE) office.

DSE also manages the State-wide flora database to which you can contribute records and obtain species lists and maps.

8. Useful Contacts

Department of Primary Industries / Department of Sustainability and Environment
Benalla: (03) 5761 1611 Tatura: (03) 5833 5222
www.dse.vic.gov.au and www.dpi.vic.gov.au

Goulburn Broken Catchment Management Authority
Shepparton: (03) 5822 2288
www.gbcma.vic.gov.au

Trust for Nature
Benalla: (03) 5761 1558
www.tfn.org.au

Land for Wildlife, Flora and Fauna Team
Department of Sustainability and Environment
Benalla: (03) 5761 1611
www.nre.vic.gov.au (select 'Plants and Animals' and then 'Native Plants and Animals' to find Land for Wildlife).

Goulburn Broken Indigenous Seedbank
Dookie College: (03) 5833 9279
dookwww.landfood.unimelb.edu.au (click on 'About Dookie')

Birds Australia
Melbourne: (03) 9882 2622
www.birdsaustralia.com.au

Bird Observers Club of Australia
Melbourne: (03) 9877 5342
www.birdobservers.org.au

Field Naturalists Club of Victoria
Melbourne: (03) 9877 9860
home.vicnet.net.au/~fncv

Gould League of Victoria Inc.
Melbourne: (03) 9532 0909
www.gould.edu.au

Codwatch
Arthur Rylah Institute, Melbourne: (03) 9450 8600
www.nre.vic.gov.au/ari (select 'Freshwater Ecology')

Friends of the Platypus
Whittlesea: (03) 9716 1626
www.totalretail.com/platypus

Superb Parrot Project
Sue Logie: (03) 5868 3317

Regent Honeyeater Project
Ray Thomas: (03) 5761 1515

Friends of the Grey-crowned Babbler
Doug Robinson: (03) 5761 1676
dougr@tfn.org.au

Swift Parrot Project
Parrot Project Officer: (03) 5430 4444

9. Further Reading

Revegetation and Planning for Wildlife:

- Platt, S. 2002. *How to Plan Wildlife Landscapes: a guide for community organisations*. DNRE, Melbourne.
- Viridans 2002. *Wild Animals on Victoria*. Viridans Biological Databases, Brighton East.
- Earl, G., Stelling, F., Titcumb, M. & Berwick, S (eds). 2001. *Revegetation Guide for the Goulburn Broken Catchment*. DNRE 2001.
- Bennett, A., Brown, G., Lumsden, L., Hespe, D., Krasna, S. & Silins, J. 1998. *Fragments for the Future: Wildlife in the Victorian Riverina (the Northern Plains)*. DNRE, Melbourne.
- Grant, J. 1997. *The Nestbox Book*. Gould League of Victoria.
- Lindenmayer, D., Claridge, A., Hazell, D., Michael, D., Crane, M., MacGregor, C. and Cunningham, R. 2003. *Wildlife on Farms – How to conserve native animals*. CSIRO Publishing, Collingwood.

Fish:

- Koehn, J.D. & O'Connor, W.G. 1990. Threats to Victorian native freshwater fish. *Victorian Naturalist* 107: 5-12.
- Koehn, J.D. & O'Connor, W.G. 1990. *Biological Information for Management of Native Freshwater Fish in Victoria*. Dept of Conservation and Environment, Melbourne.

Reptiles and Amphibians:

- Brown, G. & Bennett, A. 1995. *Reptiles in rural environments. A report to Murray Darling Basin Commission.* DCNR, Melbourne.
- Cogger, H.G. 1992. *Reptiles and Amphibians of Australia*. Reed, Sydney.
- Hero, J-M, Littlejohn, M. & Marantelli, G. 1991. *Frogwatch Field Guide to Victorian Frogs*. DCE, Melbourne.
- Coventry, A.J. & Robertson, P. 1991. *The Snakes of Victoria*. DCE and Museum of Victoria, Melbourne.

Mammals:

- Churchill, S. 1998. *Australian Bats*. Reed New Holland, Sydney.
- Menkhorst, P.W. (ed.). 1995. *Mammals of Victoria: Distribution, Ecology and Conservation*. Oxford University Press and DNRE, Melbourne.

Birds:

- Barrett, G. 2000. *Birds on Farms: Ecological Management for Agricultural Sustainability*. Supplement to *Wingspan* Vol. 10 (4). Birds Australia, Melbourne.
- Bennett, A.F. & Ford, L.A. 1997. Land use, habitat change and the conservation of birds in fragmented rural environments: a landscape perspective from the Northern Plains, Victoria, Australia. *Pacific Conservation Biology* 3: 244-261.
- Emison, W.B., Beardsell, C.M., Norman, F.I., Loyn, R.H. & Bennett, S.C. 1987. A*tlas of Victorian Birds*. DCFL and RAOU, Melbourne.
- Pizzey, G. & Knight, F. 2001. *Field Guide to the Birds of Australia*. Angus & Robertson, Sydney.
- Robinson, D. & Traill, B.J. 1996. *Conserving woodland birds in the wheat and sheep belts of southern Australia*. RAOU Conservation Statement No. 10. Birds Australia, Melbourne.

Notes

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