



### **ADOPT A BUSHLAND - TOPIC 7**

### **BUSHLAND CRITTERS**

### HABITAT THREATS

The natural habitat of bushland fauna is increasingly under threat due to urban sprawl. A loss of habitat can lead to a reduction in the variety of fauna species and population numbers. If an animal's population decreases enough it will become endangered, which can ultimately lead to extinction.

The most devasting threats to fauna habitats include:

- 1. Land clearing this is one of the most common causes of local and regional extinction of bushland fauna.
- Removal of dead wood, large and old trees and leaf litter this results in a loss of food, nesting sites and perching sources.
- 3. Bush fires fires destroy food, shelter and nesting sources.
- 4. Predation by feral animals foxes and cats seriously decrease population numbers.
- 5. Competition for shelter and nesting hollows rainbow lorikeets, pink and grey galahs and bees are among the worst animals competing with native bushland fauna for nesting hollows. A decline in bushlands means that there is less shelter options for fauna.

# WHAT DOES ENDANGERED AND VULNERABLE REALLY MEAN?

Many factors are considered when deciding if an animal (or plant species) is under threat from extinction. They can be considered vulnerable, endangered, critically endangered or extinct depending on the level of threat against their survival.

The main difference between critically endangered, endangered and vulnerable is the probability of extinction. The probability of extinction is determined using the criteria listed below from factors available on the species.

The factors considered include:

- Likelihood of population (size) numbers decreasing.
- Restriction of geographical distribution.
- Low estimated total number of individuals.



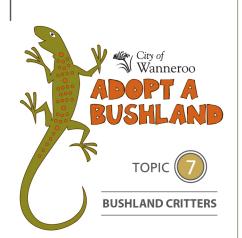
Extinction means no more individuals of a species exist!! A famous extinct bird is the Dodo!!

The Barking Owl listed as extinct for the Swan Coastal Plain was sighted at Lake Gnangara in 2000!!

In Australia, 25 bird species are extinct, 30 birds are critically endangered, 42 are endangered and 32 are vulnerable!!

(Garnet & Crowley, 2000; Birds Australia, 2003).

Availability of nesting sites and materials is very important to birds. Without nests they can not lay their eggs!



- Very low numbers of mature individuals.
- Probability of extinction.

If fauna is critically endangered the probability of extinction in the wild is at least 50% in the immediate future.

The probability of extinction for an endangered animal in the wild is at least 20% in the near future.

If fauna is vulnerable the probability of extinction in the wild is at least 10% in the medium-term future.

Go to www.environment.gov.au and follow the links for more detailed information on specific criteria used to determine threatened status.
(EBPC Act, 1999)

### TYPES OF BUSHLAND FAUNA

Bushland fauna come in all different shapes, sizes and colours. There are the larger and more recognisable flauna, such as kangaroos and snakes, but there are also the smaller creatures, including butterflies and spiders.

The bushland animal kingdom includes the following fauna:

- Arachnids (eg: Golden Orb Spider and Scorpions).
- Insects (eg: Sand Wasp and Rose Jewel Beetle).
- Amphibians (eg: frogs).
- Reptiles (eg: Dugite snake and Shingleback lizard).
- Birds (eg: Carnaby's Black Cockatto and Willie Wagtail).
- Mammals (eg: Western Grey Kangaroo and Quenda).

Some bushland fauna have a versitile diet and will eat many things from its surrounding habitat. The Shingleback lizard will eat snails, spiders, grasshoppers, other insects and invertebrates as well as some plant material. The role of a Shingleback in the bushland is to act as a regulator. They help to stop the population of insects and other creatures from getting too high.

Other bushland fauna are specificly designed to carry out only one task, such as the Morrison Bee. The Morrison Bees only eats the nectar of the Morrison Featherflower (*Verticordia nitens*) and is the only pollinator of this flower. A mutually beneficial relationship and balance has been formed between the two organisms, which if interrupted result in both becoming extinct.



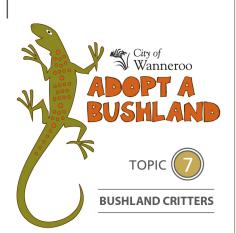
The City of Wanneroo is home to reptiles, birds, amphibians, insects, arachnids, marsupials and mammals!

Beetles hatch as grubs and go through full metamorphose, like a butterfly.

Native bees are solitary and don't form hives like the introduced European Honey Bee.

The Rose Jewel Beetle love white flowers!

Hover flies are one of the main pollinators of spring orchids.



The following are some bushland critters which can be found in your local area:

Common name: Dugite or Spotted Brown Snake

Species name: Pseudonaja affinis

Description: a Dugite's colour can vary from pale to dark brown, yellow, redish brown, olive, green or black. The scales are speckled with darker spots, leading it to also be called the Spotted Brown Snake. Dugites can grow to over 200cm long and is the most common snake found in Perth backyards. It hunts at night time and preys on mice, lizards, other snakes and birds.

The females lay between 10-30 eggs in the warm months between November and February, with hatchlings emerging in February to May. Dugites are being seen more frequently in suburban areas due to urban sprawl taking over their bushland homes. They are quick to avoid people, but will bite if feeling threatened. Dugites are poisonous so if bitten it is important to seek medical help. Dogs should be kept on the leash at all times when walking in the bushland. You will protect your pet from being bitten and stop your dog from harrassing native animals.

Dugites are a protected species and you should not kill them. If there is a Dugite or another snake near your house contact a professional snake removalist by calling 9474 9055.

Common name: Bobtail, shingleback or sleepy lizard.

Species name: Tiliqua rugosa

Description: the average bobtail lizard will grow to 30cm. They have large triangular shaped heads and short blunt tails. The scales on their backs are dark in colour, ranging from pale to dark brown, olive, grey or black. Their bellies tend to be very pale with white or cream scales marked with light greyish brown bands or blotches.

Bobtail lizards are one of the most common and easily recognisable lizards in Perth. It eats both plants and animals, meaning this lizard is an *omnivore*. They eat a varity of insects, slugs, snails, fruits and flowers. Bobtail females give birth to one or two live young a year. The babies are born already a third to half their adult length.

The shape of a bobtail's jaw means they have a powerful bite so do not try to pick up these lizards. They will let you know they feel threatened by opening their mouths wide and hissing. Many a curious dog runs up to these strange looking lizards to investigate and find themselve receiving a sharp bite on the nose, so keep your dog on a leash when walking them in bushlands.





Dugite found in Koondoola Regional Bushland.

Dugites are attracted to areas with mice infestations.

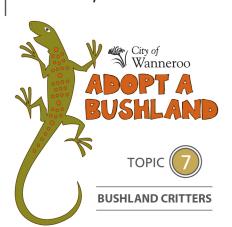
To prevent Dugites around your home, make sure not to leave out uncovered pet food which could attract mice.



A bobtail found near Lake Joondalup.

Bobtail lizards mate for life. A male and female will pair up when young and find each other at the beginning of each mating season for the rest of their lives.

The rest of the year they are solitary animals.

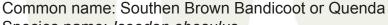


Common name: Gould's Monitor Species name: Varanus gouldii

Description: a large lizard which grows to 150cm long. It has a dark leathery skin which is decorated with pale cream or yellow spots and bands. The monitor's belly is paler in colour, ususally a yellow or dirty white with some grey spots.

The Gould's monitor is an incredibly fast runner and is sometimes referred to as a 'Racehorse Goanna'. It hunts during the day time and preys on mice, insects and smaller reptiles. It is often seen near the road eating the carrion from roadkill.

These lizards are mostly unconcerned with the presence of people but you should not approach them. If they feel threatened they will normally run and hide, but some of the larger lizards may decide to stand their ground. They will hiss loudly, raise the front of their bodies into the air so they appear larger and show their large sharp claws. It is best to observe these lizards from a distance so as to not disturb their activity.



Species name: Isoodon obesulus

Description: A small marsupial, the Quenda has a brindle brown coat with paler cream or yellow fur down it's paws, under its belly and neck. They grow to 42cm on average, from nose to tail.

These little creatures are mostly solitary and nocturnal, meaning they are active during the night time, but are seen during the day also. They are omnivorous and feed on insects, fungi, plant roots, fruit and seeds. Their front legs are shorter than the hind legs and have curved claws for digging up plant roots and burrowing insects.

Quenda like to live where there is thick vegetation to build nests under, but will sometimes make their homes in the abandoned burrows of other animals. Generally the Quenda females give birth to three babies in the late summer.

The introduction of foxes, cats and dogs into Australia has had a serious impact on the population of the Quenda. Both feral and domesticated pets can hunt and kill these little marsupials, so be sure to keep your cat and dog inside at night time. Make sure your cat has two bells on its collar so the Quenda will hear it coming and when walking your dog in our natural areas, keep it on a leash at all times.





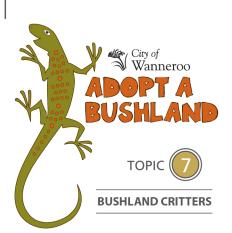
Photo courtesy of Paul Sexton

The icon lizard for Adopt a Bushland is actually styled after the Gould's Monitor.



© K. Long

While the Quenda gives birth to an average of three young per year, only one of the babies is expected to survive to adulthood.



Common name: Western Brush Wallaby or Black-gloved Wallaby Species name: *Macropus irma* 

Description: this wallaby had a very interesting coat. It's fur is mostly gunmetal grey with a black face and black and white ears. There is a distinctive bold white stripe which travels down the sides of the wallaby's face, from it's ears to its nose. It's tail and feet and front paws are tipped with black fur, this leads to its name the Black-gloved Wallaby.

Standing at approximately 120cm tall and with a tail about 170cm long, this marsupial is only found in the south west of Western Australia. They like to live in open woodlands and open grass flats. They eat grasses and young seedlings, grazing throughout the day and resting in the shade when it becomes too hot.

The babies emerge from their mothers pouch during October and November. The young are at serious risk from foxes during their first few months out of the pouch, until they grow large and fast enough to escape the preditor. Since foxes have been introduced into Australia the numbers of Black-gloved Wallabies has declined dramatically.

Common name: Western Grey Kangaroo Species name: *Macropus fuliginosus* 

Description: contrary to their name, this kangaroo has a brownish coat with grey fur under its neck, belly and down its legs. Darker fur marks their muzzle and paws. They can stand anywhere from 91cm to 213cm tall and weigh as much as 55kg.

These kangaroos have very close social bonds with each other and live in mobs. Females are called a 'doe' or 'flier' while the males are referred to as a 'boomer' or 'stinker' becauase of the strong curry-like smell they emit during mating season. A young kangaroo still dependent on its mother is called a 'joey'.

When travelling, the Western Grey Kangaroo moves by hopping with its strong back legs, the long thick tail helping them balance as they move at fast speeds. They will generally travel at about 20km/hour, but if frightened can get up to speeds of 60km/hour for short times.

The Western Grey Kangaroo is the most vocal of Australia's kangaroos. They will growl like a dog if they feel threatened and give a warning call which sounds like a loud cough. In a social setting they often click and cluck to each other while grazing for food, almost as if they were talking over dinner.

Their diet consists mostly of grazing on grasses and herbs, but they will also eat the bark and lower leaves of trees.





Menkhorst & Knight

The Black-gloved Wallaby gets its name because of the black fur tipping the front paws.

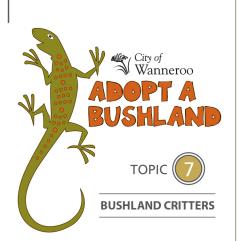
It looks like it's wearing a pair of black gloves.



Western Grey Kangaroo and her joey in Yanchep National Park.

When kangaroos fight each other they lean back on their muscular tails and kick with their strong legs.

A large group of kangaroos is called a 'Mob'.



### **BIRDS**

Birds are one of the more obvious fauna of our bushland, and will be the main focus for this topic. They are mostly active during the day, relatively noisy and easy to identify once you know how. They are considered an excellent indicator of the level of biodiversity and health of the bushland.

Over 160 bird species inhabit the forests, woodlands, coastal habitats, sedge-beds, fringing woodlands and wetland mudflats within our reserves. Birds need the basic nessecities of food, shelter, water and nesting sites provided by their natural habitat. A bushland area in good condition will have a diversity of vegetation cover including trees, understorey and ground litter and importantly large old trees with hollows that can be used for nesting.

Bushland not only supports mobile bird species such as honeyeaters that can move from bushland to bushland following food sources, but also resident bird species such as fairy wrens that occupy a territory all year round and have very specific food requirements.

Birds play a vital role in the bushland ecosystem by pollinating plants and spreading plant seeds. They feed on fruits and terrestrial invertebrates, acting as lower and higher order consumers in the food webs of the bushland.

### **HOW TO IDENTIFY BUSHLAND BIRDS**

When identifying birds in the bushland there are several physical and behavioural features to look out for. These include:

- 1. Shape and size birds come in all shapes and sizes. The shape of a birds beak will show you what the bird eats.
- 2. Colour the colour of bird feathers and distinctive patterns can help to distinguish between male and female birds.
- 3. Habitat birds can be ground dwellers, tree perchers or inhabit sedge-lands. Where they live can help identify them.
- 4. Behaviour the way birds interact with each other, distinctive behaviours they perform can also help to identify them.
- 5. Bird Calls a bird's call is very distinctive and unique to particular species.



Q: What can you do to help save our native birds??

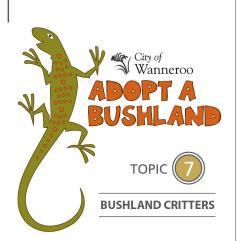
A: Join a bird group!!

You can help save the Carnaby's Cockatoo by participating in the Great Cocky Count!! www.birdsaustralia.com.au for more details!!



Carnaby's Black Cockatoo at the Koondoola Regional Park.

Get involved in the Cockatoo Care Program!! Go to the Water Corporation website for more details: www.watercorporation.com. au



### **Common Bushland Birds**

There are many bird species that live in the City of Wanneroo. Common bird species found living in local bushland reserves are the:

- Willie Wagtail
- New Holland Honeyeater
- Singing Honeyeater
- Australian Magpie
- Ring neck Parrot
- Carnaby's Black Cockatoo this bird is endangered!

Information on many birds living in the City of Wanneroo can be found in the City's publication Birds and Reserves of the City of Wanneroo.



Banksias flower all year round and provide a constant source of nectar for birds.

Honeyeaters pollinate red flowers, like Running Postment (Kennedia prostrata).

### SOME LOCAL BIRDS FOUND NEAR YOUR HOME

Common name: Willie Wagtail

Species name: Rhipidura leucophrys

Colour: striking black and white plumage

Bird call: attractive musical whistle and harsh metallic chatter, which it utters as it wags its long fanned tail from side to side

The Willie Wagtail makes its nest of spider webs and small sticks. Pairs mate for life and may rear several clutches of young each season.

Common name: New Holland Honeyeater Species name: *Phylidonyris novaehollandiae* 

Colour: mostly black and white, with a large yellow wing patch and yellow sides on the tail. It has a small white ear patch, a thin white whisker at the base of the bill and a white eye. This honeyeater is an active bird, and rarely sits still long enough to give an extended view.

Bird call: loud 'chiks' and softer whistles with some chatter noises. When in a group and threatend by a preditor the birds will all give a loud alarm call.

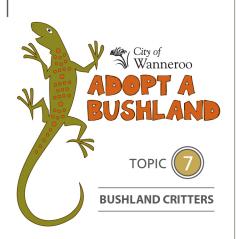
Sexes are similar in looks, but females are slightly smaller in size. Young birds are browner and have a grey eye. They feed on nectar as well as fruit, insects and spiders. They make a nest of grass and sticks bonded together with spiderwebs and may rear several clutches of chicks in a year.



A Willy Wagtail resting on a branch.
(www.waratahsoftware.com.au)



A New Holland Honeyeater (www.waratahsoftware.com.au)



Common name: Singing Honeyeater Species name: *Lichenostomus virescens* 

Colour: medium size and brownish in colour, they have a black and yellow stipe through the eye.

Bird call: clear loud song though not very tuneful

The Singing Honeyeater is the most widespread honeyeater in Australia. They feed on nectar as well as fruit and insects, and have strong legs and shape claws which allow them to manoeuvre around flowers and feed upside down on pendent blossoms.

Common name: Ringneck Parrot or Twenty-eight Parrot Species name: *Barnardius zonarius semitorquatus* 

Colour: yellow and green with dusty black faces

Bird call: three syllable call that almost sounds like it is saying "28, 28" over and over.

They nest in tree hollows from August to February and feed on the ground as well as in trees and shrubs taking nectar, insects and seeds.

Common name: Australian Magpie Species name: *Gymnorhina tibicen* 

Colour: males are a striking white and back, while females have more of a mottled grey plumage.

Bird call: these birds have a very pretty call. It is a loud flute-like song and they sometimes perform in groups or duets.

The Magpie is very territorial and live in family groups from three to twenty. They are ground feeders and eat insects and their larve, worms and grubs.

Nests are built on the outer branches of trees, approximately 15m off the ground. The nest is made of a platform of twigs and sticks with small interior bowl of grass and hair. They breed between August and October.





Singing Honeyeater (www.waratahsoftware.com.au)



Tenty-eight Parrot (www.waratahsoftware.com.au)



The Australian Magpie can live as long as 20 years!!



Common name: Carnaby's Black Cockatoo Species name: Calyptorhynchus latirostris

Colour: black feathers cover the body except for white tail pannels and white patches on their cheeks.

Bird call: loud squarks and screeches.

Carnaby's Black-Cockatoo's mainly eat the seeds of banksias, hakeas, grevilleas and eucalypts, and sometimes they eat insects and their larvae. They are also partial to a bit of fruit and can devastate some orchard crops.

Nests are built in the hollows of Eucalypts. Cockatoos will mate for life and lay only one or two eggs in a season so it takes a long time for the population to replenish itself. In the last 50 years over 50% of the Cockatoos home range has been destroyed due to agriculture and development.

### **BRINGING FAUNA TO SCHOOL**

By learning what fauna live in your local bushland reserves and knowing what they need to survive you can assist in creating more homes for them at school and in your own backyard.

To attract native fauna to your school and home you will need to do the following things:

- 1. Design your garden to have a large variety of plants to provide a range of food choices, dense thickets for shelter and nest sites or nest building materials for smaller birds.
- 2. Make sure the garden is chemical-free to maintain a high diversity of insect and bacteria life. This will provide food for fauna as well as promoting healthy soils.
- 3. Spread thick leaf litter or mulch over the garden beds, which will encourage worms, insects and grubs to thrive. You will be providing food and improving the soil at the same time.
- Lots of fresh water for drinking and bathing needs to be available for all birds. Bird baths and shallow containers on the ground that have their water changed regularly are ideal.





Carnaby's Black Cockatoo eating Banksia nuts at the Koondoola Regional Bushland.

The Carnaby's Black Cockatoo eggs are sometimes stolen and sold illegally overseas!!

Carnaby's Cockatoos are only found in the southwest of Western Australia!!





### **GET INVOLVED!**

If you would like to become more involved in researching native birds and helping them survive in urban environments, a good start is becoming a member of the Birds In Backyards program. Information is available on creating bird-friendly environments in your school, home garden and local community. Visit the below website for more details and to find out more about the native birds in your area:

http://www.birdsinbackyards.net

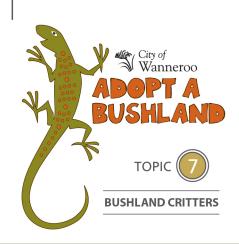
To learn more about the Carnaby's Black Cockatoo and other endangered Australian birds visit the website http://www.birdsaustralia.com.au and learn how you can help protect these beautiful and unique birds before they all dissappear.



You can help conserve the Carnaby's Cockatoo and encourage it to visit your school!! Go to http://www.hotgecko.com/carnabys/Carnabys.htm for more details!!

The City of Wanneroo runs Night Stalks around local bushlands. You and your family can come and discover the nocturnal creatures living near you!!

The City of Wanneroo runs conservation events through out the year. All these events are advertised in your local newspaper, so keep an eye out.



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### **TOPIC 7 – BUSHLAND CRITTERS**

### TEACHER INFORMATION SHEET

### Aims:

- to learn to identify birds in their local bushlands; and
- to understand how birds interact with their natural environment

# **Activity 1: Bird Hunt – Outdoor Activity**

- 1. Refresh the students with the Bushland Code of Conduct before entering the bushland area.
- 2. Map out a path to take through the bushland.
- 3. Let the students know they will need to keep noise to a minimum so as not to scare the birds away.
- 4. Walk through the bushland as a group and mark off the birds spotted on the Bushland Birds work sheet.
- 5. At the end of the walk let students share how many and what kinds of birds they spotted.
- 6. Speak with students about the importance of protecting local bushlands so birds will have a place to live.
- 7. Go back to the class room and let the students finish the Bushland Birds worksheet by completing a graph of which birds were seen and how many there were.

### What you will need?

Out door section – the Bushland Birds worksheet and pens to mark off which birds are found.

Class room section – graph paper and colourful pencils to colour in graphs.

# **Activity 2: Bushland Critters Quiz**

Test the students knowledge with the 'Bushland Critters' quiz. The answers to the quiz are as follows: 1(b); 2(a); 3(c); 4(c); 5(c); 6(b).

### What you will need:

Each student will require a copy of the guiz and a pencil/pen.

# CURRICULUM FRAMEWORK LEARNING OUTCOMES

### Society and Environment

Aspect: Investigation,
Communications and
Participation.

Aspect: Place and Space

Aspect: Resources

Aspect: Culture

Aspect: Time, Continuity and Change

Aspect: Natural and Social Systems

Aspect: Active Citizenship

### Science

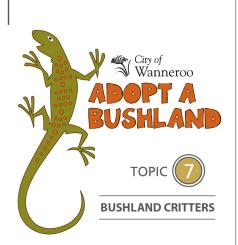
Aspect: Investigating

Aspect: Earth and Beyond

Aspect: Life and Living

Aspect: Acting Responsibly

Aspect: Life and Living



# **Activity 3: Bushland Critters Crossword**

Let students finish the 'Bushland Critters' crossword.

The answers for the crossword are as follows:

- (1) Native; (2) Southwest; (3) Magpie; (4) Cockatoo; (5) Bird;
- (6) Flowers; (7) Nest); (8) Wagtail; (9) Endangered; (10) Honeyeater.

# What you will need:

Each student will require a copy of the crossword and a pencil/pen.

# CURRICULUM FRAMEWORK LEARNING OUTCOMES

# Society and Environment

Aspect: Investigation,
Communications and
Participation.

Aspect: Place and Space

Aspect: Resources

Aspect: Culture

Aspect: Time, Continuity and Change

Aspect: Natural and Social Systems

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### Science

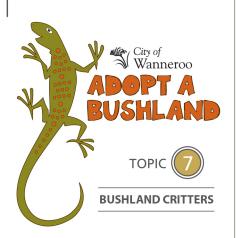
Aspect: Investigating

Aspect: Earth and Beyond

Aspect: Life and Living

Aspect: Acting Responsibly

Aspect: Life and Living



### **ADOPT A BUSHLAND - TOPIC 7**

# **Activity 1: Bird Hunt**

Remember to be very quiet or the birds will all be frightened away.

- 1. Look at the bushland around you and try to spot places where birds might like to stop and rest or build their nests.
- 2. What sorts of places can you see?

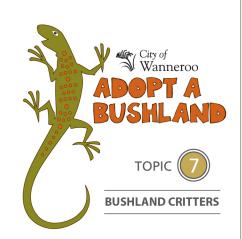
3. As you walk quietly through the bushland, look out for the following birds and mark off how many you see in the section below.

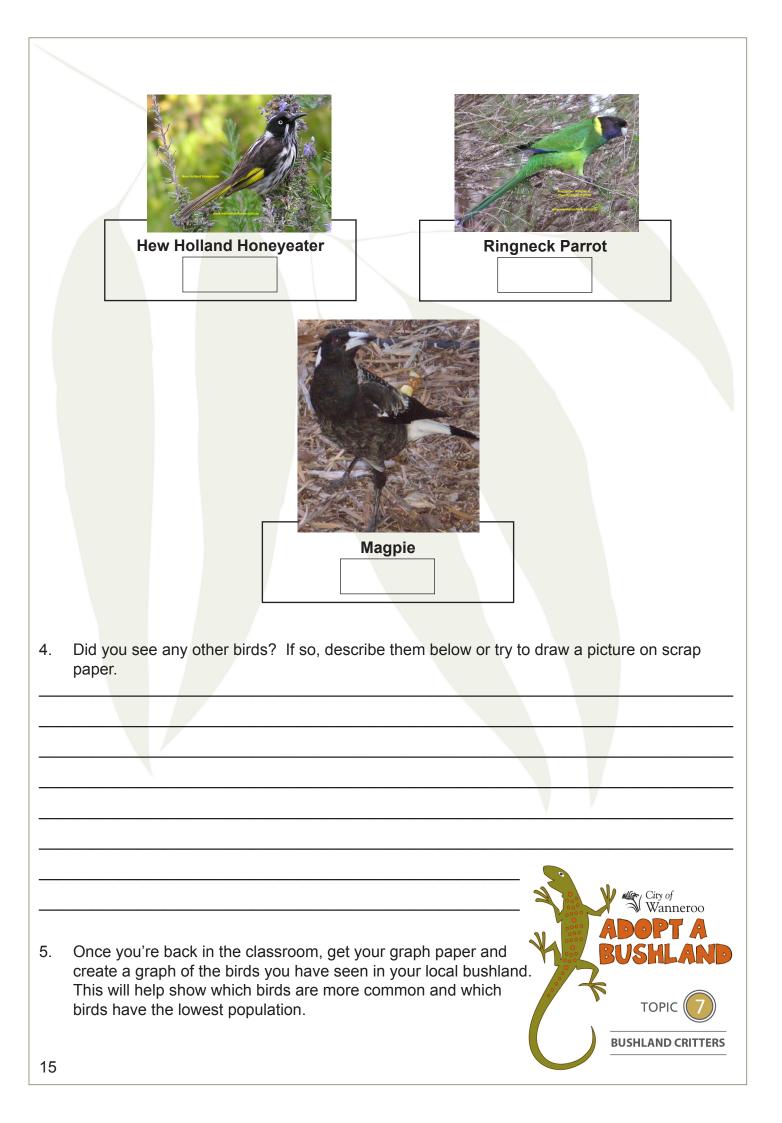






Carnaby's Cockatoo





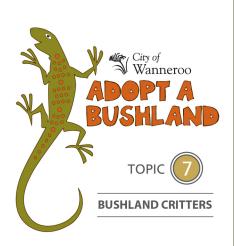
### **ADOPT A BUSHLAND – TOPIC 7**

# **Activity 2: Bushland Critters Quiz**

- 1. How many bird species live in the City of Wanneroo?
- a) 66.
- b) 166
- c) 1066
- 2. What is the purpose of birds in bushlands?
- a) They act as pollinators for flowering plants and transport seeds.
- b) They chase out feral cats and dogs.
- c) They are a food source for marsupials.
- 3. What are some ways to identify bushland birds?
- a) What colour the Banksia flowers are at the end of winter.
- b) What types of weeds there are in a bushland.
- c) Shape, size, colour and call.
- 4. What does 'endangered' mean?
- a) The bird is dangerous.
- b) The population for that species is very high.
- c) The population for that species is very low.
- 5. Which Cockatoo lives only in the southwest of Western Australia??
- a) Pink and Grey Cockatoo.
- b) Clayton's White Cockatoo.
- c) Carnaby's Black Cockatoo.

### **BONUS QUESTION!**

- 6. Birds use dead wood and trees to:
- a) Eat.
- b) Nest in.
- c) Clean their feathers.



### **ADOPT A BUSHLAND – TOPIC 7**

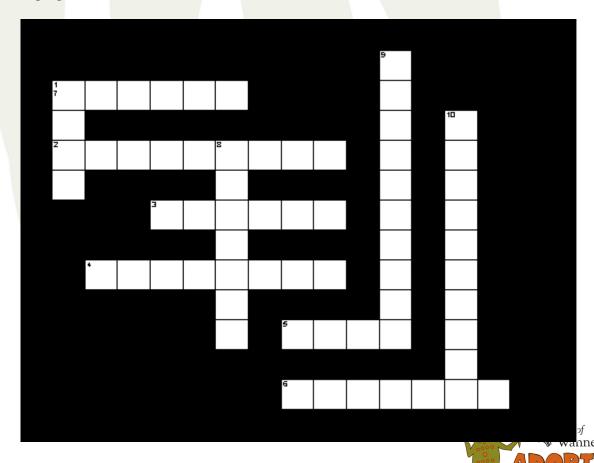
# **Activity 3: Bushland Critters Crossword**

### Across

- 1 A bird that is only found in Australia is said to be ...
- 2 The Carnaby's Black Cockatoo is said to only be found in the ... of Western Australia.
- This black and white bird can live as long as 20 years and will sometimes swoop people if they walk to close to the nest.
- The ... Care Program is designed to raise awareness of and help protect the Carnaby's Black Cockatoo.
- 5 This animal is a flying pollinator and you've just done a whole topic on it!
- 6 this part of the plant is colourful and produces nectar to attract pollinators.

### Down

- 7 A bird builds this to lay eggs in and hatch the chicks.
- 8 This black and white bird likes to shake it's tail-feathers.
- 9 If a bird, or any plant or animal, has a very low population and is under threat of extinction they are said to be ...
- 10 This type of bird has a sweet tooth and include the New Holland ... and the Singing ...



**BUSHLAND CRITTERS**