

# Threatened Species of Far South Western NSW



Can you name  
the species?



# Science and Technology Objectives

## Skills

Students develop and apply skills in:

- scientific inquiry through the process of working scientifically
- design and production processes in the development of solutions

## Knowledge and Understanding

Students develop knowledge and understanding of:

- the natural world including living things, materials, forces, energy, and Earth and space

## Values and Attitudes

Students: value the importance and contribution of science and technology in developing solutions for current and future personal, social and global issues and in shaping a sustainable future  
appreciate the importance of using evidence and reason to engage with and respond to scientific and technological ideas as informed, reflective citizens  
value developing solutions to problems and meeting challenges through the application of Working Scientifically, and Design and Production skills.

# Science and Technology Outcomes

**ST3-4LW-S** examines how the environment affects the growth, survival and adaptation of living things.

**ST3-2DP-T** plans and uses materials, tools and equipment to develop solutions for a need or opportunity

# Aim

The study of Science and Technology in K–6 enables students to explore scientific and technological concepts and develop knowledge and understanding of the world; enabling them to inquire, plan, investigate and develop solutions to problems. Through the application of Working Scientifically, and Design and Production skills, students develop an interest in and an enthusiasm for understanding nature, phenomena and the built environment. This unit of work focuses on the threatened species of the Murray Darling Basin. Many of whom would live in the habitat of the Gol Gol School Immersion Centre. Students will identify possible causes and threats to their existence and develop possible solutions to improve their chances of survival.



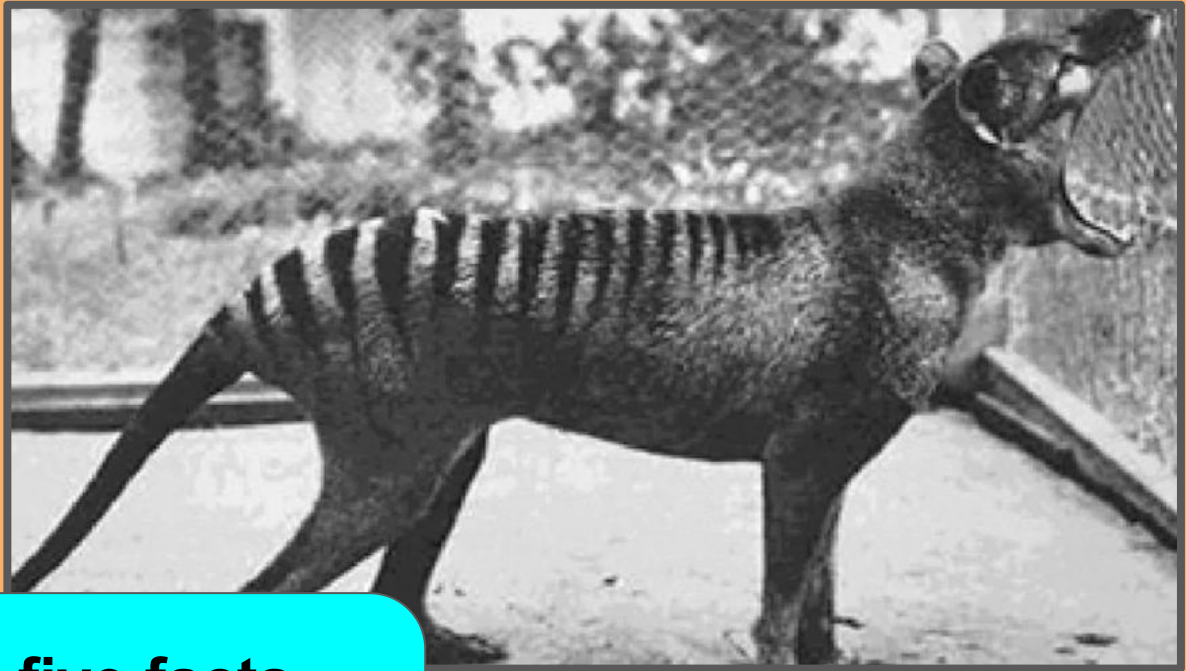
I have so many questions

# Threatened Species

What species are endangered in our local area?

How can we help preserve and increase our local biodiversity?





**List five facts  
you know about  
this animal?**



Watch: Can you imagine New South Wales without our beautiful plants and animals.

<https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/saving-our-species-program>



Click on the web page link and scroll down to locate the film



# YOUR TURN

Complete a mind map on the causes of wildlife endangerment and extinction (threats). Add more arrows if you need to. This is based on your prior knowledge and will be added to throughout the unit.



**THREATS**

# Environment Protection and Biodiversity Conservation

Biodiversity—the variety of plants, animals, micro-organisms and ecosystems that constitute our living environment—is not static; it is constantly changing. It can be increased by genetic change and evolutionary processes, and it can be reduced by threats which lead to population decline and extinction.

Australia's biodiversity is currently in decline; in Australia, more than 1,700 species and ecological communities are known to be threatened and at risk of extinction.

The key threats to species are loss, degradation and fragmentation of habitat, invasive species and altered fire regimes Other threats include unsustainable use and management of natural resources, changes to the aquatic environment and water flows and climate change

Ref <https://www.environment.gov.au/biodiversity/threatened/species>



A brown bird of prey, possibly a booby, is shown in flight, carrying a nest made of twigs in its talons. The bird is positioned in the center-right of the frame, with its wings spread wide. The background is a vibrant, abstract composition of blue and green brushstrokes and splatters, suggesting a natural or artistic environment. In the upper right corner, there is a small, colorful logo consisting of a semi-circle with red, yellow, and blue segments. A dark grey horizontal bar is located in the lower-left quadrant, containing the text "Threatened species need your help".

**Threatened species  
need your help**

# Endangered Animals

When the numbers of a certain species become very low, they face the risk of becoming extinct. That means there are **NO** more left. The NSW Scientific Committee decides what plants, animals and ecological communities are listed as threatened in New South Wales. When determining whether to classify a species, population or ecological community as threatened in New South Wales, the committee considers factors such as

- Decreases in population size
- Changes in geographical distribution and habitat quality
- Sensitivity to human activities
- The number of mature individuals in the wild

# Threatened Species Categories - EPBC Act

<https://www.environment.gov.au/biodiversity/threatened/species>

**Extinct** - not located in the wild for past 50 years

**Extinct In the Wild** - known to only survive in captivity

**Critically Endangered** - facing an extremely high risk of extinction in the wild in the near future 90% decline in population in over 10 years

**Endangered** - facing a very high risk of extinction in the wild in the near future 70% decline in population over 10 years

**Vulnerable** - facing a high risk of extinction in the wild in the near future 50% decline in population over 10 years

**Conservation Dependent** - survival depends upon ongoing conservation measures. Without these measures the species would be classified as vulnerable or endangered

## YOUR TURN - Student Activity



**Research Activity:** Identify one Australian mammal, insect, bird, fish or reptile that fits into each of the Threatened Species Categories (EPBC).

Include a brief description of the species and identify one threat to its existence. Make your own digital chart as per the next slide to include your research information

THREATENED SPECIES CATEGORY	NAME OF SPECIES	BRIEF DESCRIPTION	IMAGE	THREAT TO SPECIES
EXTINCT				
EXTINCT IN THE WILD				
CRITICALLY ENDANGERED				
ENDANGERED				
VULNERABLE				
CONSERVATION DEPENDENT				

All of the following species can be found in our local area.

Many people who live here do not realise that these animals live nearby and are in endangered, their future existence is in doubt.

Most of these animals don't have strong ambassadors fighting for them.

It is important that we do something about it. It is where we live and their home. They need our help.

- Regent Parrots (EPBC listed – Vulnerable, Vulnerable VIC, Endangered NSW)
- Red-tailed Black Cockatoo (EPBC listed – Vulnerable, Endangered VIC, Vulnerable NSW)
- Growling Grass Frog (EPBC listed – Vulnerable, Endangered VIC and NSW)
- Broad-shelled Turtle (Endangered in VIC, not threatened in NSW)
- Murray Darling Carpet Python (Endangered VIC; not recognised as separate subspecies of carpet python in NSW)
- Western Blue-tongue Skink (Vulnerable NSW)
- Stimson’s Python (Vulnerable NSW)
- Woma Python (Vulnerable NSW)
- Brush-tailed Bettong (Endangered AUS; Extinct NSW and VIC)
- Spotted-tailed Quoll (EPBC Listed – Endangered; Endangered VIC and Vulnerable NSW)
- Squirrel Glider (Endangered in VIC, Vulnerable NSW)
- Mallee Fowl - Vulnerable

Many thanks to EnviroEdu for sharing their knowledge with us



**YOUR TURN !!!**

**Click on the link below to access the Threats to Endangered Species Checklist. Complete the checklist to identify risks to each of the 13 species on the following 13 slides.**

[https://docs.google.com/document/d/1A3aNf7pvOSCuw7Pnf82fR5cZgHltz\\_feto6v4S0M5-l/edit?usp=sharing](https://docs.google.com/document/d/1A3aNf7pvOSCuw7Pnf82fR5cZgHltz_feto6v4S0M5-l/edit?usp=sharing)

**On completion -  
Identify the  
most dominant  
threat**





## Regent Parrot - *Polytelis anthopeplus*

EPBC listed – Vulnerable, Vulnerable VIC, Endangered NSW)



<https://ebird.org/species/regpar1>

### Description:

Large, slim, mostly yellow, long blue black tail, yellow shoulder patch, red bill

**Maximum size** - 42cm

**Diet** - Omnivore

**Habitat** - Found in open forest, woodland, mallee and floodplain

### Threats:

- Clearing of native vegetation - mallee woodland within 20km of Murray River  
Timber harvesting of mature river red gums  
Competition from other birds or feral bees for nest hollows
- Loss of habitat due to fire
- Grazing which reduces foraging habitat  
Quality
- Loss of habitat connectivity between river red gum breeding habitat and mallee foraging habitat

# South-eastern Red-tailed Black-Cockatoo *Calyptorhynchus banksii graptogyne*

(EPBC listed – Vulnerable, Endangered VIC, Vulnerable NSW)

[https://www.swift.net.au/cb\\_pages/sp\\_red-tailed\\_black-cockatoo.php#dis](https://www.swift.net.au/cb_pages/sp_red-tailed_black-cockatoo.php#dis)



## Description:

A large dark grey - black cockatoo. It has a rounded crest and a large bill. Males have a dark bill and obvious red tail band whilst females have fine yellow spots on the head and wings with yellow barring across the breast. Females also have a more yellow-orange-red barred tail band and a creamy coloured bill.

**Maximum size** - 63cm

**Diet** - Omnivore - feed on seeds

**Habitat** - Found in woodlands including River Red Gum forests. Different habitats are used for feeding, nesting and roosting.

## Threats:

- Loss of paddock trees due to clearing - this includes buloke and stringybark which are feeding trees.
- Fuel reduction burning and wildfire
- Loss of tree hollows
- Illegal birding - poachers taking eggs and chicks to sell as pets
- Fragmentation and loss of connectivity in habitat

# Growling Grass Frog - Southern Bell Frog

(EPBC listed – Vulnerable, Endangered VIC and NSW)



<https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10491>

**Description:** The growling grass frog is also commonly known as the southern bell frog. The striking colours on their backs range from olive to emerald green with irregular dark-brown or gold markings. Their backs are quite warty and a pale green stripe runs down the middle. In adult frogs the backs of their thighs are bright blue and their bellies are white. They have webbed feet with small toe pads.

**Maximum size** - 5.5cm to 11.0cm in length

**Diet** - adult frogs are not fussy about what they eat. Their diet mainly consists of insects and other invertebrates.

**Habitat** - Growling grass frogs are officially classified as a tree frog however spend most of their time on the ground. They can be found in a range of swams or billabongs along floodplains and river valleys.

## Threats:

Habitat loss and fragmentation

Habitat degradation

Altered flooding regimes

Disease

Predation by introduced fish

Drought

Chemical pollution of water bodies including biocides

# Broad-shelled Turtle *Chelodina expansa*

(Endangered in VIC, not threatened in NSW)



**Description:** Sometimes referred to as the broad-shell snaked-neck turtle. This is a freshwater turtle and is the largest of the long necked turtles. It is one of the oldest and longest living species of freshwater turtles. They can live to be It has a broad oval and flattened shell. They have a whitish to cream coloured belly.

**Maximum size** - approximately 50 cm

**Diet** - carnivorous - preys upon frogs, crustaceans, aquatic insects and small fish

**Habitat** - Found throughout the Murray Darling basin. Mostly found in turbid waters deeper than 3 metres. Mostly a river turtle, but can be found in floodplains, backwaters and billabongs.

## Threats:

Foxes are a major threat to the nests of broad shelled turtles. About 90% of turtle nests are raided by foxes. it difficult for hatchlings and young turtles to make it to adulthood. If you know where a turtle has nested cover it with a wide wire mesh and weigh down so a fox is unable to dig it up.

<https://apps.des.qld.gov.au/species-search/details/?id=62#>

# Murray Darling Carpet Python

*Morelia spilota metcalfei* (Endangered VIC; not recognised as separate subspecies of carpet python in NSW)



Ref: <https://museums.victoria.com.au/melbournemuseum/resources/wild/mallee/inland-carpet-python/>

**Description:** The Murray Darling Carpet Python has beautiful mottled skin with a pattern of dark grey and black patches. The underside of their bodies are pale grey or cream. They are most active at dusk, dawn and night but may also bask in the winter sun. The python is one of a few snakes that guard their eggs until hatching.

**Maximum size** - approximately 3m long

**Diet** - carnivorous. They hunt small to medium sized animals. These snakes are not venomous, they kill their prey by constriction.

**Habitat** - These pythons are semi-arboreal (spend half their life living in trees). They live in tree hollows and rock crevices. They are often associated with River Red Gum forests and Black Box forests. Due to urbanisation they are now also found around human dwellings such as in roofs or sheds feeding on mice and rats.

## Threats:

- Snakes are preyed upon by foxes
- Loss of habitat. Logging and firewood collection has reduced their natural habitat.
- Commonly killed by humans even though they are largely harmless and are natural enemies of pests such as introduced mice and rats.
- Illegal pet trade.

# Western Blue-tongue Skink *Tiliqua occipitalis*

(Vulnerable NSW)



**Description:** A large skink with a yellowish-brown body covered in 4-6 dark brown bands. They give birth to live young.

**Size** - 30 cm

**Diet** - omnivore - consisting of fruits and seeds, insect larvae and beetles.

**Habitat** - These skinks seek refuge in spinifex and fallen timber. Found in arid and semi-arid environments, and often in mallee-spinifex vegetation communities.

## Threats

- Clearing of native vegetation
- Reduced habitat condition from livestock
- Predation from foxes and feral cats
- Ripping of rabbit warrens may reduce shelter availability.

Ref: **SAVING OUR SPECIES**

Threatened species of far south-western NSW  
A pocket guide to their identification and conservation

# Stimson's Python

*Antaresia stimsoni* (Vulnerable NSW)



<https://australian.museum/learn/animals/reptiles/stimsons-python/>

Ref: <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10475>

**Description:** A small off-white to pale brown python, with darker brown blotches extending from the head down the body. A pale lower lateral stripe occurs along the anterior part of the body. The underside is whitish.

**Size** - average size 75cm max size - 1 metre

**Diet** - consists of small mammals, frogs, birds and lizards. Like many other snakes they can go for months without feeding. Birds of prey and large reptiles eat Stimson's Pythons.

**Habitat** - These pythons are found in a wide range of arid environments in topographic features such as rock outcrops and stony ranges.

## Threats

- Clearing of native vegetation including large trees with hollows
- Predation from foxes and feral cats
- Altered fire regime
- Fragmentation and loss of connectivity in habitat
- Catastrophic events such as drought
- Ripping or blasting of rabbit warrens may reduce availability of shelter.

# Woma Python

(Vulnerable NSW)



<http://www.arod.com.au/arod/reptilia/Squamata/Pythonidae/Aspidites/ramsayi>

**Description:** This non-venomous python grows to about 1.5 metres in length. It varies from pale brown to nearly black and has stripes that can appear olive, orange or even pink.

**Size** - Average size 150cm Species Max: 270 cm

**Diet** -.Woma pythons prey on a variety of lizards, ground birds and small mammals. They mostly catch their prey in burrows, using a loop of their body to pin the animal against a wall of the burrow.

**Habitat** - They are mostly nocturnal, spending the day resting in logs or under leaves They can be found in Sub-humid to arid interior, woodlands, shrublands and heath, often with spinifex. Found in NSW, NT, QLD, SA and WA

## Threats

- Clearing of native vegetation including large trees with hollows
- Predation from foxes and feral cats
- Altered fire regime
- Fragmentation and loss of connectivity in habitat
- Catastrophic events such as drought
- Ripping or blasting of rabbit warrens may reduce availability of shelter.



# Brush-tailed Bettong

(Endangered AUS; Extinct NSW and VIC)



<https://www.youtube.com/watch?v=gdzEHaTAR40&t=19s>

Watch Video: 5 facts about Woylies

**Description:** Also known as the Woylie. This is a small marsupial animal native to Australia. They have brown to grey coloured fur that covers their entire body and a furry tail that ends in a black brown colour.

**Size** - These very small marsupials are between 28 to 45 cm from their head to the base of their tail. Their hind feet are actually longer than the entire length of their head. Then their tail adds another 29 to 36 cm to their entire length.

**Diet** -.seeds, roots, plant shoots. They also eat fungus and underground truffles.

**Habitat** - Open forests and woodlands with understory of thick grass or dense low shrubs.

## Threats

- Clearing of native vegetation for agriculture
- Predation from foxes and feral cats
- Habitat loss and fragmentation
- Disease and Stress

# Spotted-tailed Quoll

Endangered; Endangered VIC and Vulnerable NSW)



<https://www.environment.nsw.gov.au/topics/animals-and-plants/native-animals/native-animal-facts/spotted-tail-quolla>

**Description:** .The spotted tailed quoll is a similar size to a domestic cat. It has dark reddish brown fur covered in white spots. These white spots continue onto the tail making it distinctive from other quoll species.

**Size** - Similar to a domestic cat. Weight: Males 3.5kg  
Females: 2kg

**Diet** - .They eat a variety of prey including gliders, possums, small wallabies, rats, birds, bandicoots, rabbits, insects and reptiles

**Habitat** -.They live in a range of environments including forests, woodlands, coastal heathlands and rainforests.They are solitary creatures and will make their dens in rock shelters, small caves, tree hollows and hollow logs.These are highly mobile creatures who can move up to several kilometres in a night.

## Threats

- Clearing of native vegetation including trees with hollows
- Predation from foxes and feral cats
- Altered fire regime - wildfire
- Fragmentation and loss of connectivity in habitat
- Disease - spread by feral cats
- Persecution by humans

# Squirrel Glider

Endangered in VIC, Vulnerable NSW



“Sugar glider” by Leo Reynold is licensed under CC BY-NC-SA 2.0

**Description:** The squirrel glider has blue/grey to brown/grey fur. Their underside is white. The last end third of the tail is black. They have a dark stripe which runs from in between their eyes to the middle of their back. Their tail is long, reaching up to 27 cm in length. Squirrel gliders are twice the size of sugar gliders.

**Size** - Adults are about 20cm in length (head and body)

**Diet** - Varies with the season. Consists of acacia gum, eucalypt sap, nectar, honeydew, invertebrates and pollen.

**Habitat** - Inhabits old growth forests including Box-Ironbark, River Red Gum and Blackbutt- Bloodwood. Dependent on tree hollows for refuge and nesting.

## Threats

Loss of hollow bearing trees

Predation from foxes and feral cats

Habitat loss and fragmentation

Inappropriate fire regimes

Loss of understorey food sources

Occupation of hollows from exotic species

<https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10604>

## Southern Ningai • *Ningai yvonneae*







**Description:** Ningais are small dasyurids (carnivorous marsupials) with a pointed muzzle and close-set eyes. They are sometimes mistaken for a dunnart or mouse. It has bristly fur that gives it a dishevelled appearance.

**Maximum size -**

**Diet -** carnivorous - preys on insects and small lizards. Is a big eater and can consume almost its own body mass in a single night.

**Habitat -** Ningai rely on old-growth mallee with plenty of leaf litter and spinifex.

### Threats

-  Clearing of native vegetation
-  Altered fire regime
-  Reduced habitat condition from livestock
-  Predation from foxes and feral cats

<https://www.australiangeographic.com.au/blogs/creatura-blog/2020/06/the-australian-ningai-is-small-and-mighty/>

### Ref: **SAVING OUR SPECIES**

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# Jewelled Gecko (*Strophurus elderi*)



<http://www.arod.com.au/arod/reptilia/Squamata/Gekkonidae/Strophurus/elderi>

**Description:** A small grey or black gecko with scattered black-edged white spots.

**Size** - 45 mm long

**Diet** - an insectivore which means its diet consists of a variety of insects including small crickets, caterpillars, grubs, termites, spiders, cockroaches and moths.

**Habitat** - Restricted to habitats containing spinifex on red, sandy dunes. Uses its semi-prehensile tail (a tail that can grasp or hold objects) to climb spinifex tussocks on which it relies for shelter and refuge from predators. A nocturnal species which can sometimes be seen foraging near or between clumps of spinifex.

## Threats

- Clearing of native vegetation
- Altered fire regime
- Reduced habitat condition from livestock
- Predation from foxes and feral cats

Ref: **SAVING OUR SPECIES**

Threatened species of far south-western NSW

A pocket guide to their identification and conservation

# Mallee Fowl - NSW- Endangered



**Description:** **Lelopo Ocellata** Large iconic bird. A ground-dwelling species that is a strong flier. Sometimes mistakenly considered flightless because they tend to run rather than fly from threats. It has robust powerful legs. Strikingly marked they camouflage in the mallee habitat. Parents incubate eggs in large mounds. See link for more information.

**Maximum size** - Up to 60cm, weighing around 25kg

**Diet** -omnivorous - wattle seeds, flower blossoms, buds, fruit and lerps. They also scratch leaf litter for insects.

**Habitat** - Large unfragmented areas of mallee scrub

## Threats

Clearing of native vegetation

Altered fire regimes

Reduced habitat condition from livestock

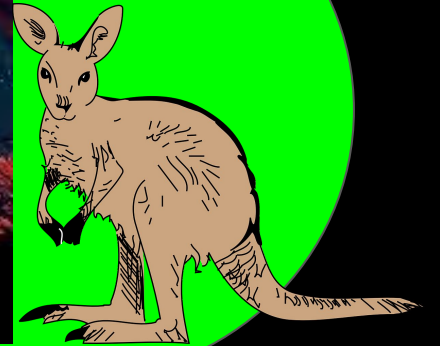
Predation by feral cats and foxes

Fragmentation and loss of connectivity in habitat

## Further Information

<https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10459>

Watch the following report on the actions being taken to save vulnerable desert species.



**TIME FOR ACTION!!!**

**What can  
I do?**

**YOU CAN  
DO IT!**





**Select a species from  
the list on Slide 13**

**Research and identify the  
threats and the causes of  
endangerment to this species.**

**Using the template on the following slide  
develop an Action Plan to help save your  
chosen species. Support your Action Plan  
with a short film or Google Slides  
presentation. Research ideas and actions.**



**CHAMPION  
A SPECIES  
TODAY**

**Action Plan:** Develop your own digital copy of the following template. The best option is to insert a table.

Objectives List four achievable goals	Tasks ( what do I need to do?)	Success Criteria (How will I know if I have achieved this)	Time Frame (How long will I need to complete this)	Resources (What do I need to achieve my goals)

**For Further Learning check the Australian Wildlife  
Conservancy Case Study (Coming Soon)**

