

Why was the woylie or the brush tailed bettong so important to sandalwood trees in the Australian desert?  
Is it still doing its important work there?

Do you know?



Creating a shadow box habitat as the setting for a woylie narrative about the connection between woylies and sandalwood trees:

An inquiry based Science and Art and craft program.

**Equipment needed for this project:**

*A large cardboard box*

*Scissors*

*Glue, tape or a glue gun*

*Felt tip pens, crayons or pencils.*

*Coloured card*

*Black card board*

*Baking paper or large white or white paper.*

*Stands to stand up animals in scene*

*A torch light*

*Access to wepublish app or Book creator or other technology*

*Camera or iphone*

**The WOYLIE:**

**1. A woylie is a small marsupial, endemic to Australia** [notes from WWF Australia]

This means they're only found in this country and nowhere else in the world. They're also known as the **brush-tailed bettong** (*bettongia penicillata*) or **brush-tailed rat kangaroo**. They have grey-brown coloured fur that covers their entire body and a furry tail that ends in a dark brown/black tail.

While they might be small, these **little nocturnal diggers are extremely important for our Australian ecosystem.**

**2. They can fit in the palm of your hand**



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

### 3. Their tail acts like a fifth limb

Their long tails are **prehensile**, meaning they can use it like an extra limb to pick up and carry objects like grass and branches that help build their dome-shaped nests.

**4. They communicate via pee** Woylies have a well developed sense of smell. They'll communicate with each other through scent using **urine, faeces** and **rubbing scent glands**.

### 5. Short, but very productive lives



The average lifespan of a woylie is around **6-8 years** (though some can live longer in Zoos). Despite their short lives, they sure make the most of it. They breed all-year round and following the birth of the juvenile, a mother will mate again straight away. A joey will remain in their mother's pouch for up to 110 days, and they'll reach sexual maturity by 180 days. Once sexually mature, female woylies can produce **an average of 3 babies a year!**

### 6. They love their truffles!

A woylie's diet consists of an array of roots, legume pods, tubers, bulbs, seeds, insects and carrion. But the bulk of their nutrients come from **underground fungi** - truffles - which they dig out using their strong foreclaws.



## 7. Woylies are soil engineers

Their love for fungi is extremely important for the health of the forest and woodland ecosystems. These little diggers help to **spread fungal spores and seeds** which creates a better home and environment for plants and other wildlife.

## 8. Sadly, they're critically endangered on the IUCN Red List

Woylie populations have declined from 225,000 to around 10,000 - 20,000 in the last 15 years. They once inhabited more than 60% of mainland Australia, ranging from Western Australia, Northern Territory, South Australia, Victoria and New South Wales

Now, they can only be found in **small pockets in Western Australia and offshore islands in South Australia.**

## 9. Predators and habitat destruction are huge threats to the woylie

In the past, extensive land clearing for agriculture led to the death of millions of woylies and other species of bettongs. They were considered pests. Now, they're also under immense threat by **introduced predators**, including foxes and feral cats.

**10. But with the help of WWF-Australia, they'll be making a huge comeback to the Yorke Peninsula.** WWF-Australia and our partners are working to **#RewildTheYorke** and bring back the woylie to the Yorke Peninsula in South Australia. These little soil engineers will be the **first native animals reintroduced in the Yorke** to help restore and rewild this spectacular landscape. It's an ambitious conservation project and the biggest rewilding effort ever undertaken in Australia.

Referenced from WWF Australia website June 2021:



## **Australian Curriculum:**

Year 3: Biological sciences: Living things can be grouped together on the basis of observable features and can be distinguished from non-living things

Science involves making predictions and describing patterns and relationships

Year 5: Biological sciences: Living things have structural features and adaptations that help them to survive in their environment

Science involves testing predictions by gathering data and describing patterns and relationships to develop explanations of events and phenomena

Geography: Develop geographical questions to investigate and plan an inquiry.

Literature: How texts reflect the context of culture and situation to describe the effect of ideas, text structures and language features

Personal responses to ideas, characters and viewpoints

Create literacy texts using realistic and fantasy settings and characters.

Literacy: Plan rehearse and deliver oral presentation for defined audiences incorporating accurate and sequenced content.

Connecting ideas to personal experiences: present a personal point of view

Language: Learn extended and technical vocabulary and ways of expressing opinions.

Understand how different types of texts vary in use of language choices, depending on their function and purpose.

Maths : Statistics and probability: Chance: List outcomes of chance experiments involving equally likely outcomes.

Collect data, organize into categories and create displays using tables, graphs.

Visual Arts: Use materials, techniques and processes to explore visual conventions when making art works:

Applying art and design techniques effectively and safely.

Manipulating and experimenting with combinations of various materials

Practicing a variety of techniques and materials to interpret a theme or subject

Tuning in:

Explore Fiction or Non- fiction texts about Woylies or Brush tailed bettongs to read with the students in class for a day or two.



Why was the woylie or the brush tailed bettong so important to sandalwood trees in the Australian desert?  
Is it still doing its important work there?  
Do you know?

Where do woylies live? They can only be found in **small pockets in Western Australia and offshore islands in South Australia**. Where are these? What do we know about these pockets of habitation? Who has seen them? Where do they build their nest made of sticks, bark, leaves and other litter? Who knows? What shares their habitat? What relies upon the woylie and what does the woylie rely upon? What was the connection between the woylie as a forager and digger and the sandalwood tree? Does it still exist? What is the process of the sandalwood seed dropping from the tree to its growth as a tree? What does the woylie do to support the success?

## How endangered is the woylie?

### How endangered is the Sandalwood tree?

Explore these ideas as **Finding out** questions... follow the ideas.

Do some woylie research AND then do some sandalwood research especially the information about the Dutjahn native sandalwood industry in Wongi country in the Gibson desert.

Find images of woylies and the other animals that share their desert habitat.



**Sorting out:**

Turn these images into black cardboard shapes:  
These will be used in a Woylie shadow story



Create a woylie desert habitat on the outside of a large cardboard box: Think about what this looks like.. do some more research on what will be in the habitat. Trees, grasses, bushes, rocks, weeds, leaf litter, logs, sand etc? Draw the habitat then think about recreating it on the cardboard box.





Leith Hogan Swan view : June 2021

Make grasses/ rocks and a large sandalwood tree etc., for shelter with coloured card and black outline pens.

Then:

Using recycled paper or baking paper create a screen to cover the front of the box.



Position a light at the back of the box... a little torch or a battery light or mobile phone light towards the top at the back will work!



Turn the light on and check the shadows that can be created inside the box. What creates the best light for the scenes. Remembering that woylies are nocturnal animals so the story will be played out in the shadows.

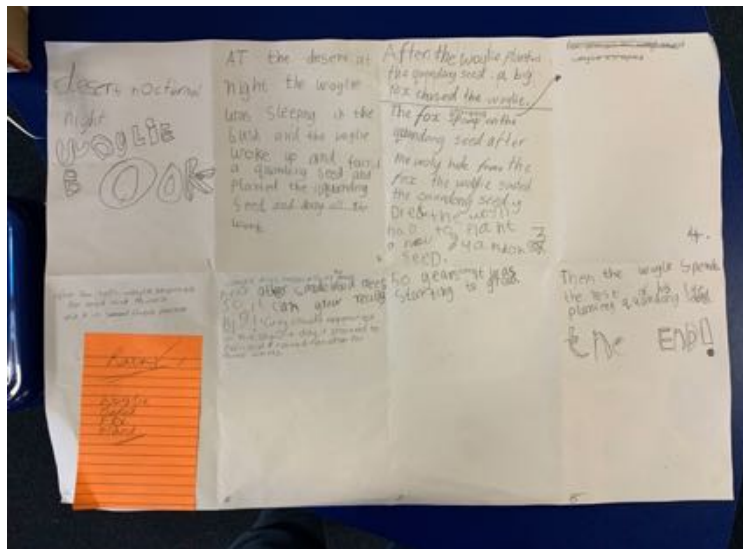
**Exhibiting:**

Now create an 8 page story board [or wepublish story] about a Woylie, ready to recreate as a Shadow story in the Shadow box.

**In the story there must be:**

Woylies, sandalwood seeds and a big sandalwood tree , a fox, a cat or a dingo or eagle or..

The story needs to show the connection between the Woylie and their role as foragers in the wild habitat.



When the story is written and edited, start to set up the shadow box to tell the story that has been written on the storyboard.

Create 8 scenes in the Shadow box to match each page of the Woylie story.

Then turn the light on in the shadow box and set up the first scene.

Pay attention to the light and the shadows and remember that the narrative will need to play out in the night as these animals are nocturnal, so, when the scene is photographed the scene tells the story that you want it to. Think about the Title of the woylie narrative.



Combine the best 8 images into the Woylie narrative on an app such as wepublish or Book creator or on a power point or visual story board.

Then transfer your written text from the storyboard to underneath the images. Now you have an electronic copy of your story, print it out and share it with your classmates.

**Hear their woylie stories whilst they hear yours!  
Celebrate the work you have all done!**

Once upon a time there lived a Mother wolly with her two babies. They all lived in the desert lands of the Wongi people.



One hot morning at dawn before the sun came up the little woylies left their Mother in the burrow and went hopping away to explore nearby.

The littlest wolly was very tired so they both hopped home to their burrow and left the sandalwood seed to nature to look after that's how we should protect as that's how we should



The littlest wolly stopped after a while and said ' I am sooo hot... can we stop here for a minute?' 'Sure', said the brother wolly. So they stopped for a rest under the branches of a great big

They were very pleased with the spot that they had chosen. They thought it was perfect--just like a fairy garden. The wolly's gently placed the seed in the hole that they had dug, added the water and stood back and looked proudly.



'What about we dig for some nuts or seeds right here while you rest?' The wolly who wasn't tired, dug and dug and dug in the sand and then found something hiding in the leaf litter and grasses.

When he told his sister about the seeds he had discovered they decided that they needed to find the perfect spot for the seed. The littlest wolly went looking for water and the other wolly began to dig amongst the roots of the sandalwood tree where it was moist and protected.



It was a seed! The wolly went to find his sister to tell her the news but when he came along he saw a great big orange fox with a long bushy tail just about to pounce on her. Just at that moment a big bunch of sandalwood seeds fell from the branch of the tree above and just about knocked the fox out. He got such a shock. He raced away to his lair and forgot all about the wolly.