



MALLEE FOREST ACTIVITIES

PRIMARY



Government of South Australia
Department for Education and
Child Development

Acknowledgements

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For the Teacher

General Information

Welcome to Monarto Zoo!

Monarto Zoo is a fantastic educational resource. It is a 1450 hectare open range zoo located on former farming land. Large tracts of remnant Mallee scrub exist in the areas between animal enclosures, and this natural scrub is being extended annually through an on-going revegetation program which involves many community and school groups. A huge variety of native fauna roams freely in the scrub areas.

Monarto Zoo is involved in many animal conservation programs and these include both native and exotic species, with a heavy focus on threatened species from desert and arid habitats.

Experiencing Monarto Zoo and learning about animals, ecosystems and conservation can be undertaken via





- Observing and handling the huge range of prepared skins, bones and other animal biofacts at the Visitor Centre.
- A safari bus tour of animal enclosures with a commentary provided by a trained host (for groups of 22 or more students in your own bus).
- Walking through the Mallee scrub on signposted tracks.
- Taking as much time as you want to observe animals from viewing platforms around the Visitor Centre and at “Bus Stops”.

Activities and tasks in this resource relate to **one** of the walking tracks at Monarto, which pass through the Mallee Forest. Choose from the Mallee Fowl, Boma, Bretag or Ridge Tracks (marked on the map). Students can undertake these activities as they move along the Track using their observations to seek and suggest answers to questions that are posed.

Nearness to the animals will vary depending on the weather, time of day and other factors. A flexible approach to completion of these activities is therefore recommended.

In planning this excursion, please consider your schedule and how you would like to arrange the class' activities on the day. Discuss this with the Education Officer at the time of booking your visit.

Estimated time to complete the Mallee Forest Activities: 40 - 50 mins

- Key:**
-  Observe carefully
 -  Discuss and share ideas with your group
 -  Write down your thoughts
 -  Did you know?

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

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To Gate House
2.5 km
Alfred James
Memorial



J10	Addax		M11	Giraffe	
R4	African Lion		K13	Indian Antelope	
R2	African Painted Dog		E11	Meerkat	
K11	Barbary Sheep		J14	Mesopotamian Fallow Deer	
D17	Bison		G11	Ostrich	
H14	Black Rhinoceros		E13	Przewalski's Horse	
K13	Bongo		H11	Scimitar-horned Oryx	
L5	Cheetah		Q3	Spotted Hyaena	
G12	Chimpanzee		M6	White Rhinoceros	
J13	Chital Deer		F12	Yellow-footed Rock-wallaby	
N9	Eland		I14	Zebra	

Legend

- Lookout
- Bus Stop
- Car Park
- Toilets
- First Aid
- Cafe
- Zu-loop route
- Walking Tracks
- Creek

Monarto Zoo is smoke free.



Mallee Forest Activities



?

Forests are habitats with many trees.

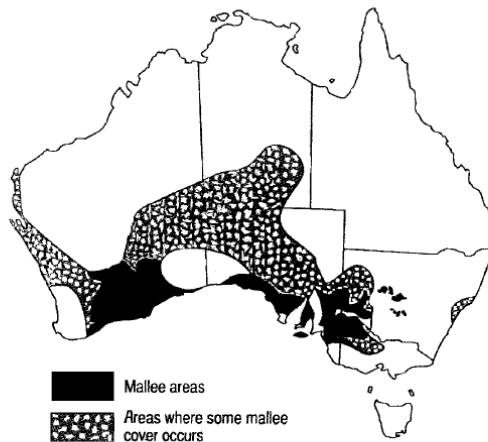
Many of the trees in a Mallee forest are Eucalyptus (gum) trees with many trunks. They grow in areas which have a low rainfall and long, hot, dry summers.

Mallee was the main forest type in South Australia before Europeans settled here in 1836.

Despite the harsh conditions, Mallee forests are home to a huge variety of plants and animals. There are many complex and amazing relationships linking the inhabitants to each other and to their non-living environment.

On your walk today, you will be able to witness some of these for yourself.

This map shows the Mallee forest areas in Australia 200 years ago.



Estimate the percentage of South Australia that was covered by Mallee forest. _____

Now, $\frac{3}{4}$ of the Mallee area in SA has been cleared of its natural habitat.

Why do you think this has happened?





While you are on the walking track, look out for **birds' nests**.

Tally the number of bird nests you see in the space below. If you are not sure how to tally, ask your teacher to show you.



Describe one of the birds' nests in words (size, material it is made of, how it looks, how high etc) and draw a picture of it.



Look out for old gum trees with **hollows**.

It takes over 90 years before good hollows are formed in Mallee gum trees.

What animals are responsible for making the hollows in the gum trees?



Can you think of one animal from each of these groups that would benefit from tree hollows?

Mammal _____

Bird _____

Reptile _____

Invertebrate _____



Moss is a very small, simple plant with small roots holding it on the soil.

Look on the ground near the path and see if you can see any.

After rain the moss becomes a green carpet for a while - a carpet of a million green stars! During the dry months the moss is dry and brown and looks dead....but it is just waiting for the next rain to burst into life again.



The topsoil in most Mallee forests is very thin. If there was no moss, what would happen after a heavy rain in these areas?

Why are visitors at Monarto asked to stay *on the walking track*, rather than walking through the bush?





On the path you may notice **animal scats** (poo).

Biologists can learn a lot about animals and how they live by studying their scats!



See if you can complete the table below for any scats you find on or near the track.
(Use a stick, not your fingers, to investigate the scats!)

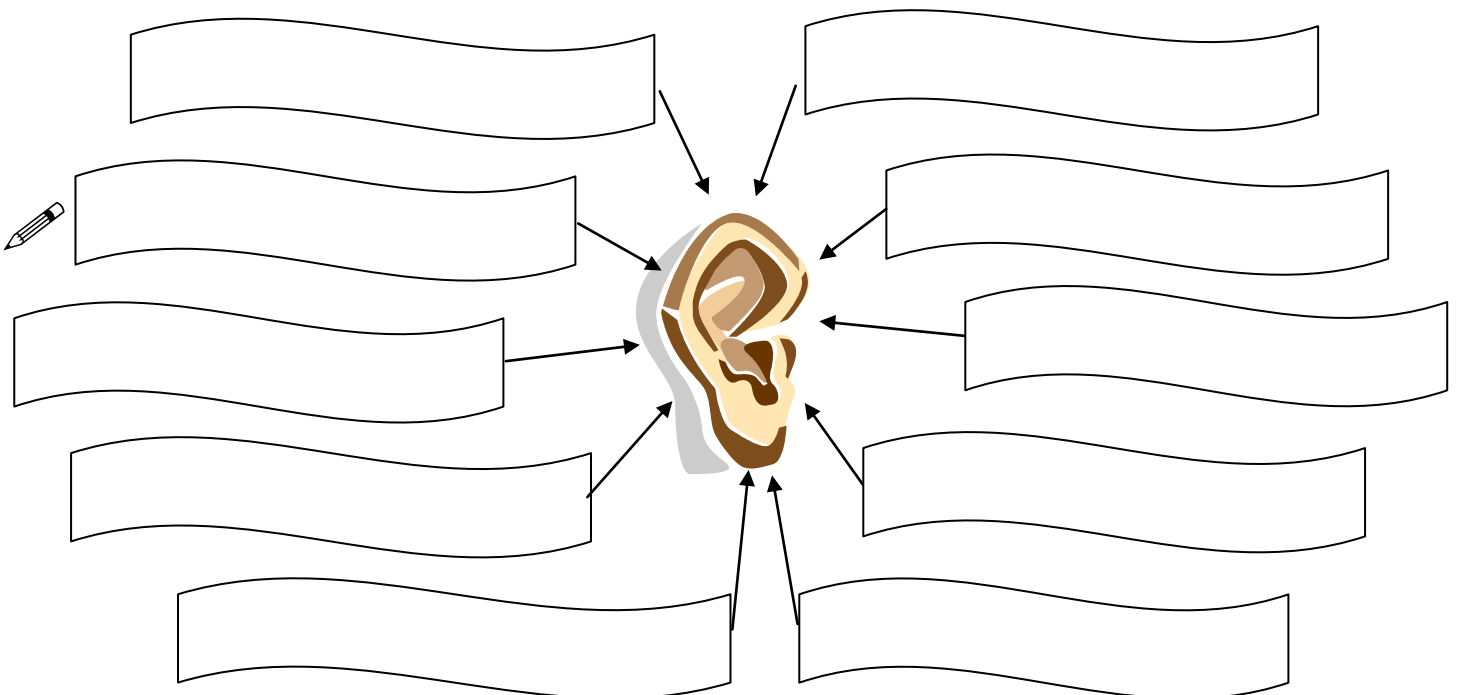


Animal	Scat description	Items seen in scat
Kangaroo	Looks like a dark brown Fruchoc	
Emu	Splat! Looks like a runny mixture dropped from a 1m height	
Possum	Capsule shaped, apx 2cm long, dark green to black	
Rabbit	Pea size and shape. Dark if fresh. Clustered in some areas.	
other		

Find a location where it is comfortable for your group to sit or crouch down.

Be very still and quiet for 5 minutes. Someone needs to be the Timer.

Write down the **noises** you hear in that time.





Look for 'clumps' of a plant that grows on the Mallee gum trees.

This plant is **Box Mistletoe**. The seeds of mistletoe plants are spread by the Mistletoe Bird. These birds eat the fruit, but don't digest the sticky seeds. They do their droppings on thin gum tree branches near a crack or opening in the branch. The seed germinates and the roots grow into the water-carrying veins of the tree to provide the mistletoe with water.

Many insects and birds feed on the nectar of mistletoe flowers or the fruit around their seeds. No other plants in the Mallee flower during the period when Box Mistletoe is flowering.



Some district councils have 'Mistletoe Eradication Programs' to protect Eucalyptus trees from this "parasitic" plant.

If all the Box Mistletoe plants were removed from the Mallee, what effect would this have on the animal species below?



Animal Species	Effect of removing all the Mistletoe
The Mistletoe Bird	
The Eucalyptus trees	
Insects that eat the nectar of the flowers	
Spiders, birds and reptiles that eat the insects that eat the nectar of the flowers!	
Possums that eat the Mistletoe fruit	



Tick the boxes if you see any of these things on your walk.



Lichen growing on trees

Bones of dead animals

Native Pine trees

Black birds with white wings and red eyes. (White-winged Choughs)

Pointy holes dug near ant nests by Echidnas

Lizards

Ants carrying food to their nests

Plants with water-storing leaves (succulants)