

MONARTO
ZOO



BOMA TRACK 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”.

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.

Activities and tasks in this resource relate only to the Boma Track. Should you require activities to do at the Rhino Boma, please also use the ‘Primary Cheetah and Rhino Activities’ booklet.

Estimated time to complete this entire activity: 1 hour

Key:



Observe carefully



Discuss and share ideas with your group



Write down your thoughts



Did you know?

Background notes for teachers, supervisors and students on the day.

This activity is designed for students to work in pairs or in small groups.

Groups are asked to **stay on the walking track**, as the soil in this habitat is shallow and fragile. A thin covering of dry moss is important in stabilizing the soil. For best results in assessing the local bird species quiet discussion is encouraged.

The walk commences at the bridge over Rocky Gully Creek and concludes at the Boma which houses Southern White Rhinoceros. The walking track passes through remnant mallee scrub, vegetation which was once very common in the area.

★ This activity can be completed **in reverse order**, though students should read through the first 2 tasks (Birds and Scats) at the start of the walk, so they can make ongoing observations. ★

The track is marked with small, numbered posts. At each Stop, refer to your worksheet, read through the information provided and carry out the activities described. **If you prefer, you may select the Stops and activities that are most suitable for your students to do rather than completing all of the activities at all Stops.**

The map below may help you to locate the stops.





Birds of Monarto



As you move along the walking track from the Bridge to the Boma (or Boma to Bridge), keep a tally of the number of different bird noises you hear.



Tally 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20



If you are able to identify any birds, either by sound or by sight, write down the names of these birds.



Scats along the track

Animal droppings are referred to as **scats**.



As you walk along the track, look for scats.

Draw sketches of any that you find and try to guess the animal from which each came.



Stop 1 (Can be seen from the Bridge, looking towards the Waterhole bus stop)



Rocky Gully Creek only flows in times of flood. The base of the creek bed consists of Blanchetown clay. The creek enters the River Murray on the northern outskirts of Murray Bridge.



Find some **lichen** (*pr.lie-ken*) growing on the rocks in the creek bed. Some large rocks near the number post have good examples! Lichen is a type of plant consisting of fungus and algae. Describe its appearance (colour, size, shape,...)





Find some **moss** also growing on the rocks where there is a little soil.



Compare its appearance (colour, size, shape, ...) with lichen.





Lichen causes the rock surface to crumble and soil gathers in the cracks.

Moss grows in this soil. Moss plants have simple roots which grow in the soil and into cracks in the rocks. This makes the rocks crack and crumble further.

The soil on the rocks gets deeper and small, shallow rooted plants are also able to grow in this soil.



Can you find some examples of each of these plant types growing on the rocks?

Draw some of the rocks you found with lichen and moss growing on them.



Walk for 30 metres to Stop 2.

Stop 2



Notice the bark being shed from the trunk of the **eucalypts** (Gum trees) at this point. What small animals might be found under the bark? (Clue: Think about invertebrates as well as vertebrates.)



Some of the eucalypts in this area have hollows in the trunks or branches.



Find the location of a hollow.



What insects are responsible for making these hollows?



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Why are these hollows important to the animal populations living here?



Sometimes there are Possum droppings at the base of the **native pine trees**. Can you find any? What is something in the trees that would attract the possums?



Would the native pine be a good tree for a possum to shelter in? Yes/No Why?



Compare the eucalypts with native pine trees.

Are there any hollows in the native pine trees?



Yes/No

Suggest a reason for your answer.





How would the lack of tree hollows affect the bird species that inhabit the areas where native pines are the main trees? _____



Notice of the number of rocks and trees that have lichen growing on them!

Walk for 35 metres to Stop 3.

Stop 3 You may need to leave the Track so *please* be careful where you tread!

The low spiky bushes at this point are ***Dagger leaf wattle*** (*Acacia rhigiophylla*) plants. Gently feel the leaves of a bush.

Describe the appearance and the feel of the leaves.



Draw a diagram of a small part of the branch of the ***Dagger leaf wattle*** bush.



The spiky leaves of the ***Dagger leaf wattle*** bush help to stop larger animals from eating the leaves.

They also provide protection to small animals that shelter from predators either in or underneath the bush.



Name some small animals that may use the ***Dagger leaf wattle*** bushes for shelter.



Walk for 15 metres to Stop 4.

Stop 4

The tufty tussocks of grass (not a true grass) at this point are ***Scented matrush*** (*Lomandra effusa*) or Farmer's bootlace.



Notice the long, thin, coarse leaves.



How does this leaf shape help the ***Scented matrush*** plant survive in dry conditions? (Clue: Think about water loss!)



Describe any evidence that larger animals have been present in this area previously.

Draw the evidence if possible!



Walk for 120 metres to Stop 5.

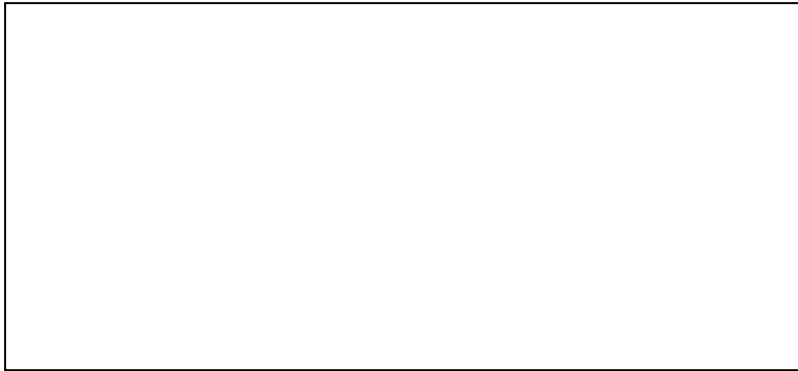
Stop 5



The bush in this location is a **South Australian Christmas bush** (*Bursaria spinosa*). It has been given this name because it produces a lush bloom of white flowers at about Christmas time each year.

Draw a diagram of a small section of a branch of a **South Australian Christmas bush**.

Label the thorns, the leaves and any flower buds, flowers or seeds present.



Walk for 20 metres to Stop 6.

Stop 6



The tree in this location is a **Native apricot** (*Pittosporum phylliraeoides*).

Native apricots produce fruit and seeds that birds like to eat.



Why are almost all Native apricot trees growing under larger trees?



Draw a Native apricot tree with birds feeding on the fruit and seeds. (Complete when you get back to School!)



Walk for 40 metres to Stop 7.



Stop 7



The ***vine*** growing at this location is “**Old man’s beard**” (*Clematis microphylla*). It is not parasitic, ie. it does not live off of the other plant!



What are the advantages to a plant of growing **as a vine**?



Walk for 150 metres to Stop 8.

Stop 8

The main rocks in this area are limestone.

The limestone forms a sheet or layer beneath the shallow topsoil.



The presence of this ‘sheet limestone’ suggests that at one time this entire area was **under the sea. WOW!!**



When farmers were working this land, many areas were not cleared for growing crops because of the shallow topsoil and the presence of the sheet limestone.



Discuss some features of the native vegetation which enable it to grow successfully on this type of soil? (Clue: Think about their ‘roots’ and water needs! Look at the roots of the fallen dead tree on the opposite side of the path to the number post!)



Walk for 15 metres to Stop 9.

Stop 9 You will need to leave the Track so *please* be careful where you tread!

The plants in this location are ***Turpentine bushes***.

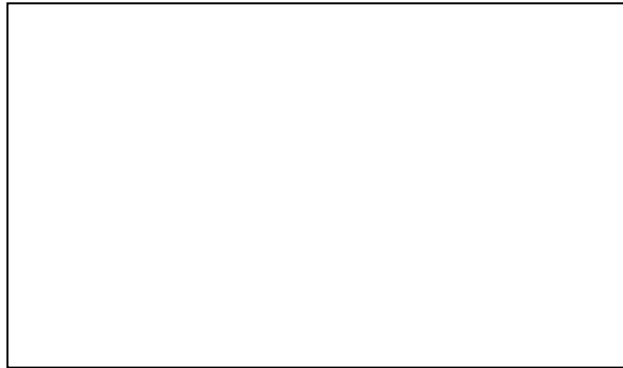
In this plant family there are male and female bushes.

The male plants produce pollen and the female plants produce fruit (small green or red berries) and seeds.



Look closely at the plants and try to identify which are male plants and which are female plants.

Draw a female Turpentine bush showing the features that show that it is a female.



Walk for 10 metres to Stop 10.

Stop 10

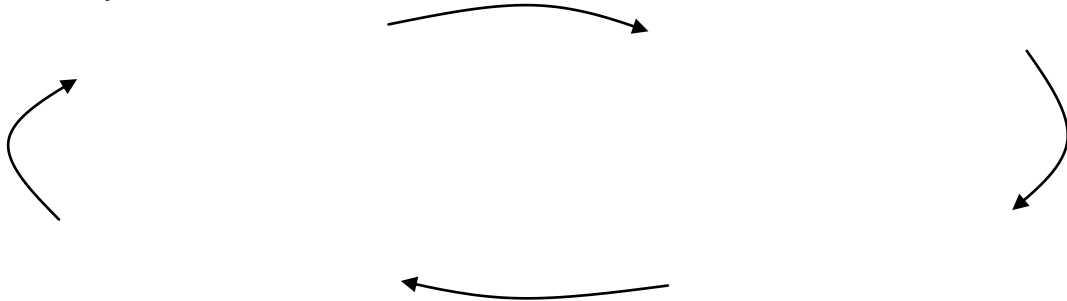


Growing on the **Box Mallee tree** at this location are ***Box mistletoe*** (*Amyema miquelii*) plants. Look for 'clumps' of a plant growing on the Mallee tree. **(One clump is at the top left and another at the far right!)**



Did You Know? The seeds of the mistletoe plant are spread by the *Mistletoe bird* after they have eaten them. They deposit their *droppings* near a crack or opening on the tree's branches. 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 and their fruit.

Draw the Lifecycle of the Box mistletoe.



Some Councils have 'Mistletoe Eradication Programs' to protect Eucalyptus trees. How could these programs affect other species living in the scrub?



Walk for 50 metres to Stop 11.

Stop 11

The shape, size and structure of gum nuts are often used to distinguish between different species of Eucalypts.



Draw the gum nuts of two different kinds of Eucalypts in this area. Pay particular attention to their size, how they are bunched together and how they are attached to the stem.



Notice a couple of Native apricot trees under the Eucalypt near the number post.

Walk for 200 metres to the cross road and turn to head towards the Rhino Boma to get to Stop 12.

Stop 12



The tree in this location is a **Golden wattle** (*Acacia pycnantha*). It produces Golden flowers from August to October. Tannic acid is obtained from the wattle bark and used in the tanning of leather.

This is Australia's National Floral Emblem.

Continue on to get to the Rhino lookout. Go back to the cross road to get to the Cheetah lookout.

Refer to the Primary '**Cheetah and Rhino Activities**' booklet for activities at the Rhino Boma and Cheetah lookouts.

