

LINDSAY ISLAND
WILDLIFE
DETECTIVE
Activity Book



WELCOME TO LINDSAY ISLAND

The activities in the Wildlife Detective activity book are designed for primary school-aged children. Children are encouraged to pick and choose the activities in the book that interest them.

This book belongs to:

Date of your visit to Lindsay Island

The activities can be easier and fun to do with an adult so feel free to share your book and get started on your first challenge! Have fun!!

Remember when you visit Lindsay Island:

- Leave only footprints, take only pictures and memories.
- Let animals find their own food, do not feed them.
- Don't pick the plants, they provide food and shelter for animals.
- Do not disturb archaeological sites including shell middens, scar trees, hearths etc.
- There are no bins at Lindsay Island, please help keep this site beautiful by taking all your rubbish home with you.

Become a WILDLIFE DETECTIVE

Welcome (**nguldi arndu**) to Lindsay Island and the land of the Ngintait people!! Join Gina the Gould's Long-eared Bat and become a Wildlife Detective to learn more about environmental watering and the surrounding floodplain environment at Lindsay Island.

The activities in the Wildlife Detective book are designed for primary school-aged children. Children are encouraged to pick and choose the activities in the book that interest them.



Introducing Lindsay Island

Lindsay Island is located approximately 650 km north west of Melbourne, 300km east of Adelaide and 100 km from Mildura (Victoria) along the Sturt Highway. There are a number of access tracks into the Island; the Walla Walla Track off the Sturt Highway is located 90km from the Mildura Airport and approximately 20 km from the South Australian Border. Lindsay Island and its adjacent floodplain encompass 15,000 ha and extends 28 km from east to west.

Sheep and cattle grazing by early European settlers was once prevalent across the floodplain at Lindsay Island, however in 1991, Parks Victoria established Murray Sunset National Park and the Islands have since been managed for conservation purposes. Trust for Nature also privately manages an area adjacent to Lindsay Island (Neds Corner Station) for conservation which we discuss later in the book.



THE SIGNIFICANCE OF LINDSAY ISLAND

Lindsay Island is an environmental gem bordering South Australia, New South Wales and Victoria and needs to be cared for by amazing visitors like you. Lindsay Island holds many important environmental, cultural, social and economic values and because of these, the Island in conjunction with the Chowilla and Wallpolla floodplain system, was selected as one of six 'The Living Murray' (TLM) Icon Sites within the Murray Darling Basin.

ENVIRONMENTAL SIGNIFICANCE

The floodplain and associated anabranches at Lindsay Island supports a diversity of habitat types with a large number of plant and animal species listed as threatened in Victoria and Australia. Many of the bird species are migratory and protected under international migratory bird agreements with Japan, China and Korea. When inundated, the waterways and wetlands of the floodplain provide refuges (shelter) for a range of plants and animals and important waterbird and fish breeding habitat (homes).

The Mullaroo Creek supports one of the most significant Murray Cod populations in the Murray-Darling Basin along with essential habitat for other native fish including Australian smelt, Silver Perch, Golden Perch and Freshwater Catfish.



DID YOU KNOW?

The **Pondi** or Murray Cod (*Maccullochella peelii*) is Australia's largest freshwater fish! They can grow up to 1.8m in length, weigh over 100kg and live for over 50 years. This species experienced a population crash due to overfishing following early European settlement. Today the Murray Cod is listed as vulnerable both in Victoria and Australia and critically endangered on the International Union for Conservation of Nature's (IUCN) Red List. The survival of Murray Cod is still threatened by loss of suitable habitat (due to removal of fallen trees and branches in waterways), barriers to movement and changes to river flows.

CULTURAL SIGNIFICANCE

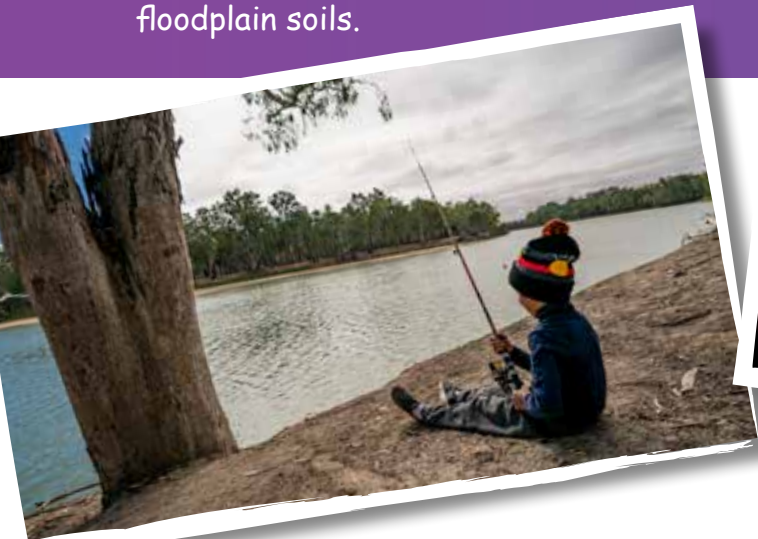
Lindsay Island holds great significance to the local Aboriginal community, the Ngintait and the First People of the Millewa-Mallee with indigenous occupation dating back to thousands of years. The rich productivity of the floodplain and associated woodlands provided reliable food sources of fish, yabbies, turtles and native fruits and vegetables. There are currently over 820 Aboriginal Cultural Heritage Places recorded in the Lindsay Island area with many more currently being investigated. These include scar trees, hearths, campsites, stone tool artefacts, shell middens, burial grounds and quarries.



SOCIAL AND ECONOMIC SIGNIFICANCE

Lindsay Island is a popular location for visitors to enjoy boating, camping, fishing, photography, bird and wildlife watching, motor biking and four-wheel driving. There are a number of designated picnic and camping areas and boat ramps for easy boat access. Tracks into the site are dry weather only with access restricted during wet weather due to the heavy clay floodplain soils.

Lindsay Island is surrounded by productive agriculture - namely dryland cropping and grazing. Visitation to the site is likely to benefit neighbouring areas of Lake Cullulleraine in Victoria and the townships of Paringi and Renmark in South Australia.



SOUTH AUSTRALIA BORDER

WHAT CAN YOU DISCOVER AT LINDSAY ISLAND? WITH SO MUCH INTERESTING BIODIVERSITY, CULTURAL HERITAGE, CAMPING AREAS, TRAILS, FISHING AND BOATING SITES, LINDSAY ISLAND IS A FANTASTIC PLACE TO VISIT WITH THE FAMILY. TICK THE BOXES SHOWING THE PLACES AND SITES YOU HAVE VISITED ON THE MAP. IF YOU DISCOVERED A SITE THAT IS NOT ON THE MAP, PLEASE WRITE OR DRAW IT IN THE BOX BELOW.


☐

DRY WEATHER ONLY DIRT ACCESS TRACKS

☐

LAKE WALLA WALLA

☐

BOAT RAMPS

☐

WEIR

☐

MURRAY RIVER

☐

LINDSAY RIVER

☐

MULLAROO CREEK

☐

TOUPNEIN CREEK

☐

WEBSTERS LAGOON

☐

PLANIGALE WETLAND

☐

BILLGOES BILLABONG

☐

BRIDGES

☐

WATER CROSSING

☐

REGULATORS

☐

PICNIC / BBQ AREAS

☐

WATERWAY MANAGEMENT UNIT

☐

NEDS CORNER HOMESTEAD

☐

BERRIBEE HOMESTEAD

TOUPNEIN CREEK

LINDSAY RIVER

BILLGOES BILLABONG

OLD MAIL RD

NEW SOUTH WALES



ADD YOUR OWN DISCOVERIES:

ENVIRONMENTAL WATERING AT LINDSAY ISLAND

Regulation of the Murray River (the locks and weirs controlling water volumes flowing downstream) has over a long period of time caused the floodplain environment at Lindsay Island to decline in health. Coupled with long periods of drought and the competition for water from irrigation and agriculture, the waterways and wetlands in Lindsay Island don't fill up as often or stay wet for as long as they would have naturally before European settlement.

As a result, many of the large River Red Gum and Black Box trees and other floodplain plants that require regular drinks are becoming unwell as they start to dry out. If these trees and plants are dying due to lack of water, the animals that rely on these plants for their food and homes will also either die or have to move away from the area to seek alternative homes.

HOW CAN WE HELP? ENVIRONMENTAL WATERING!

Weir pool levels can have an effect on flows in Mullaroo Creek and Lindsay River. When water levels in lock 7 are raised, flows to the Lindsay River increase; when weir pools are lowered, flows to Lindsay River are reduced. Mullaroo Creek is less-affected by weir pool levels, because flows can be managed through the Mullaroo Creek regulator which connects the creek and the Murray River. Water can also be pumped from Lindsay River to provide seasonal flushes in surrounding wetland systems, including Lake Walla Walla and Billgoes Billabong.



Infrastructure such as the installation of regulators, culverts, pipes and track raising all assist with the effectiveness of environmental watering efforts at Lindsay Island. Regulators can hold water into a waterway or wetland for a longer period of time or to help push the water higher up onto the floodplain to give surrounding trees and plants a drink. If fitted with carp screens, regulators can also be used to manage carp populations by preventing movement into and out of the wetland or waterway.

Why do we need environmental water?

The benefits of environmental watering to the environment at Lindsay Island are:

- River Red Gum and Black Box trees and floodplain plants have the water they need to drink;
- Wetland and floodplain trees and plants remain healthy and continue to provide food and habitat to native animals;
- Native animals are more likely to remain living at Lindsay Island because they have better access to water for drinking and breeding, and better access to food and habitat.
- We all get to enjoy the benefits environmental watering provides Lindsay Island!

KEY MESSAGE

Where there is healthy
water, there are healthy
plants and animals!

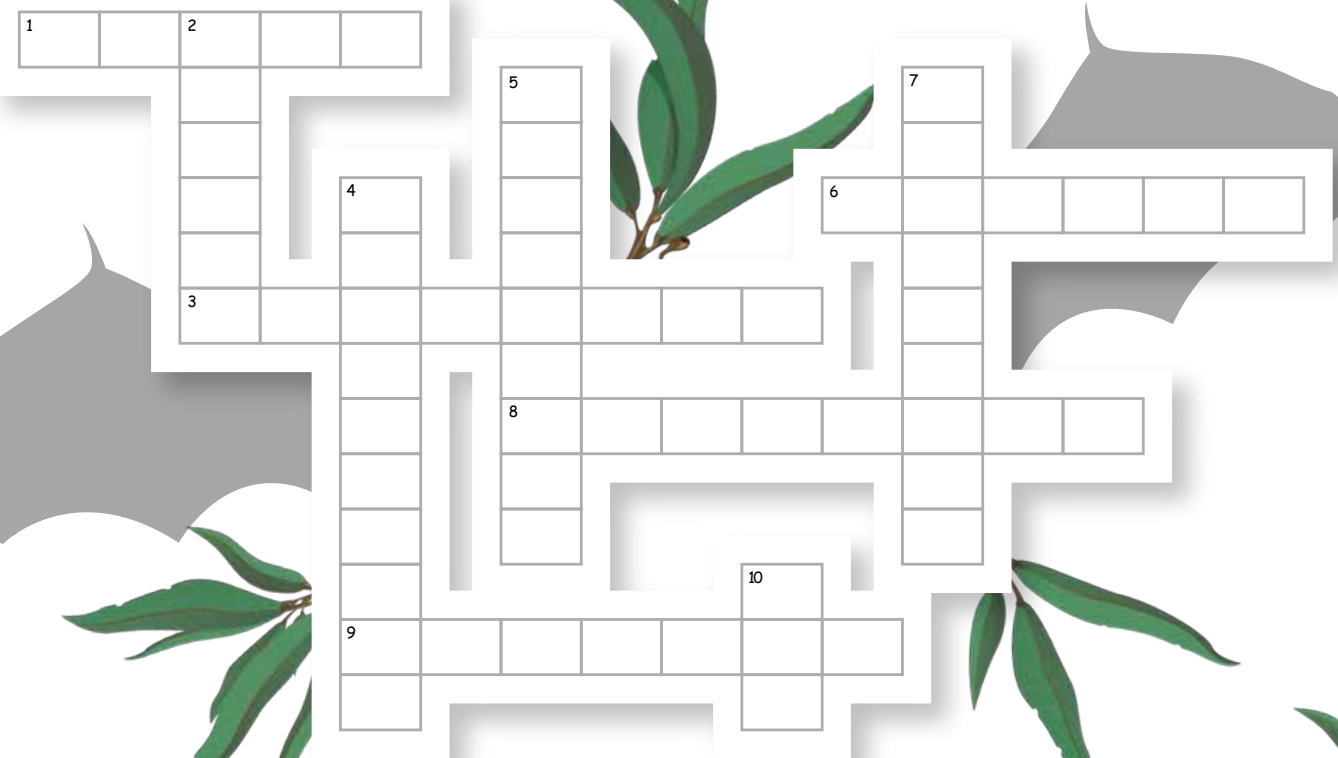


BATTY ABOUT BATS



The Gould's Wattled Bat (*Chalinolobus gouldii*) is found in every state of Australia with its size varying across its distribution (bats are larger in the south and west) but average 10cm long and weigh 15g. They have brown fur which can look almost black on the head and shoulders. These micro-bats use echolocation for navigation and roost in hollow River Red Gum trees and Cypress pine, but will use buildings in the absence of suitable tree cover.

When foraging for insects at night, they can travel more than 10km from their roosting site. Females give birth to twins and although not considered threatened in Victoria, their biggest threats are natural predators, loss of suitable hollows and wild fire.



ACROSS

1. The organisation responsible for managing Murray Sunset National Park within Lindsay Island is _____ Victoria?
3. The name of the Creek with the significant breeding population of native threatened fish.
6. Neds _____ Station is owned by Trust for Nature.
8. Large threatened invertebrate with two sharp claws (chelipeds).
9. The longest River system on the Island?

DOWN

2. The large Eucalyptus trees located along the river and wetland systems at Lindsay Island that will benefit from environmental watering events.
4. The name of the largest wetland on Lindsay Island.
5. Threatened fish species known to breed well in Mullaroo Creek.
7. A large white waterbird with a spoon-shaped bill.
10. The only mammal able to fly.

NATURE DETECTIVES

Go on a scavenger hunt at Lindsay Island. Look out for (but don't collect), the items in the boxes below. Remember to leave all plants and animals where you find them. Place a tick against the plants and animals you have seen.

Good luck.....can you help Pedro the Regent Parrot find them all?



FAUNA (Animals):



Frog
korpili



Duck/Waterbird
ngalthari



Turtle
thukubi



Spider
wakawi



Kangaroo
nurrari

FLORA (Plants):



River Red Gum tree
wuri



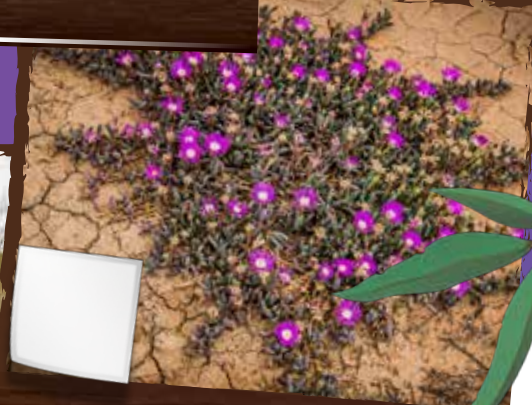
Black Box tree



Phragmites



Lignum



Pigface
mulumuldjeri

Did you know?

Did you know that introduced animals such as foxes and cats are responsible for killing millions of native Australian animals every year. An Australian Wildlife Conservancy report suggested that cats alone are responsible for killing over 75 million native Australian animals each day with a recent Four Corners documentary revealing cats kill 360 million birds each year! Land managers, environmental agencies, Landcare and Friends groups across the Mallee catchment work together to implement feral predator control programs in addition to rabbit and weed control.



What can we do to help?

Keep pet cats indoors, particularly at night to minimize or prevent them hunting our native wildlife!

LAKE WALLA WALLA

Lake Walla Walla is a nationally recognised wetland and when inundated is a sight to behold! Imagine an area the size of 425 Melbourne Cricket Grounds (MCGs) or 820 hectares, teeming with waterbirds both feeding and nesting, while also providing valuable breeding habitat for threatened frogs, reptiles, mammals and fish.

Like other ephemeral wetlands across the catchment, Lake Walla Walla undergoes natural wetting and drying phases. Pre European settlement the lake would have filled when large flood events occurred, however due to river regulation large floods are rare, resulting in a lake that is unlikely to receive water. Since 2009, environmental agencies have worked together to deliver environmental water to Lake Walla Walla from the Lindsay River via pumps. The water helps the growth of macroinvertebrates and crustaceans, which are an important food sources for native fish, frogs, turtles and birds and provides these species with an environmental cue to breed.

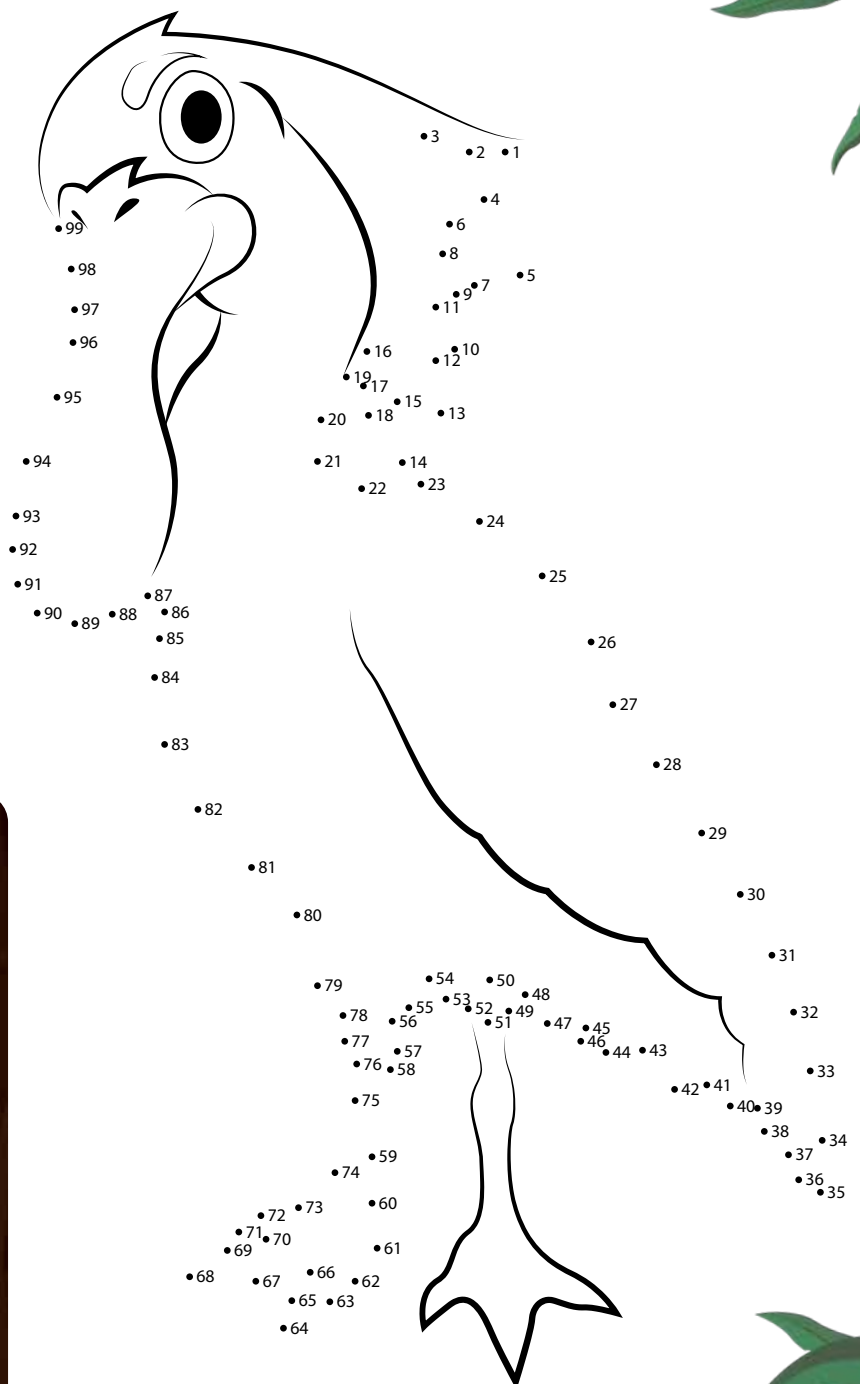


WILD ABOUT WATERBIRDS

Join the dots to reveal what spectacular species of waterbird 'Reginald' is?

A COUPLE OF CLUES....

Reginald is a large white waterbird with a black spoon-shaped bill. During the breeding season, he has a long crest of feathers on his head or neck called a nuchal which he likes to show off during mating displays. He is considered vulnerable in Victoria mainly due to loss of suitable feeding and breeding habitat.



Reginald = Tlopeti or Royal Spoonbill (*Platalea regia*)

NEDS CORNER STATION

'Neds Corner' is owned and managed by Trust for Nature and is the largest freehold property and conservation reserve in Victoria! Neds Corner was settled by Europeans in 1849 primarily for agriculture where cattle, sheep and brumbies were run. The property was named after a shepherd called Ned who used a loop in the river to keep sheep safe, which then became known as 'Neds Corner'. In 1991, some existing leases were added to the Murray Sunset National Park and Neds Corner Station was bought by Trust for Nature in 2002.

Today, Neds Corner provides home to almost 1,000 species of native flora and fauna having recovered from a heavily grazed agricultural past to now a nationally significant conservation reserve. Stock has been removed, extensive rabbit and fox control has been implemented and large-scale revegetation works have been undertaken with the help of field staff, project partners and volunteers.



2003



2016



2011

These three photos show positive changes over time following removal of domestic grazing pressures at Neds Corner. Note the bare ground in 2003 and all the ground cover in 2011 following the removal of stock! 2016 this site was in flood.

Following many years of predator control management, Trust for Nature have established a 500 hectare predator free enclosure which together with the placement of habitat logs into the enclosure will one day enable the reintroduction of regionally extinct animals to the property.



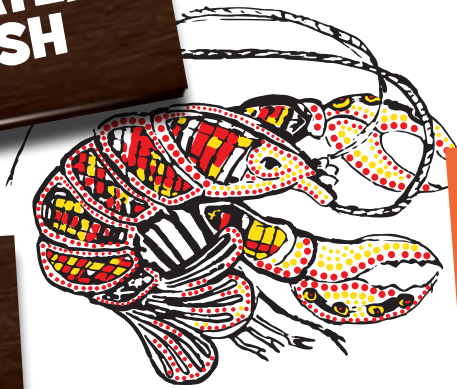
HEALTHY HABITATS

Habitat is the natural environment where an animal lives. Healthy habitats will provide an animal with food, water, shelter and space to move. Lindsay Island has a number of different habitat types ranging from woodlands with larger overstorey trees (generally located closer to waterbodies) through to shrublands with more ground to mid-level vegetation and freshwater ecosystems. A variety of different habitats helps to support a diversity of different plant and animal species in the one area.

Can you help Reginald the Royal Spoonbill (**kraurarli**) match the animal to its preferred habitat? Remember some animals may be adaptable to more than one habitat type!



**FRESHWATER
CRAYFISH**
kiringki



ECHIDNA
kalaingmaliwar



EMU
pinyali

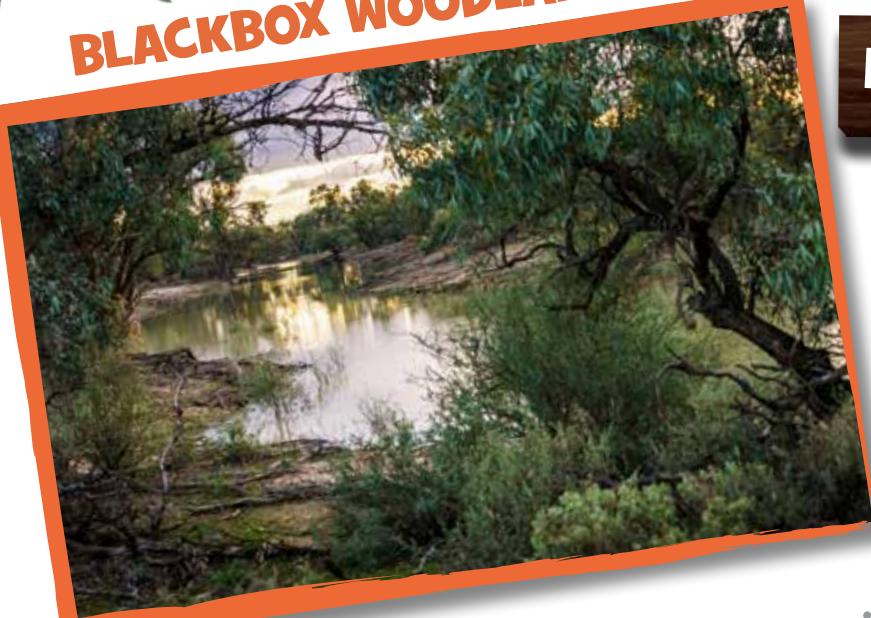
CHENOPOD SHRUBLAND



RED GUM WOODLAND



BLACKBOX WOODLAND

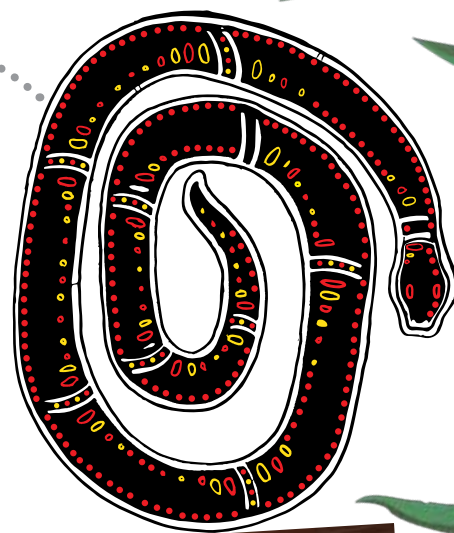


MACROINVERTEBRATES



LIZARD
lurki

WATERWAY



SNAKE
yalaki

THANK YOU FOR VISITING AND LEARNING ABOUT LINDSAY ISLAND



The Authors acknowledge the rich cultural diversity of north western Victoria and have utilised local knowledge, language as advised (Ngarrindjeri) and artwork in the development of this book. Language (where known) has been written within talking marks or another colour beside the English name. Thank you to the following people and organisations for their significant contributions:

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First People of the Millewa-Mallee

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Designed by
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