

# Student Passport to Lake Illawarra

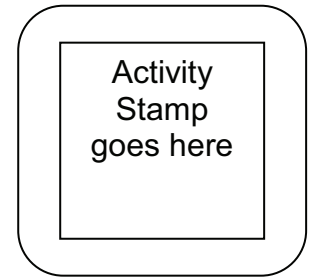


## Indigenous Heritage

What is the Dharawal name for Windang Island?

What was the name given to the Dreamtime by the Dharawal?

Draw a picture of Lake Illawarra and Windang Island from the first story



Draw a picture of Mount Keira and the Five Islands from the second story

## European Settlement

Activity  
Stamp  
goes here

Who were the first European Navigators to visit the Illawarra?

### Instructions:

In this field study, you will be walking around the Lake Illawarra wetland area and completing a keyword worksheet. Your group leader or teacher will be stopping you at the appropriate locations, where you will be required to answer the following questions in the spaces provided. On completing all of the questions, the highlighted letters in your answers will reveal a keyword which you will complete in the last question.

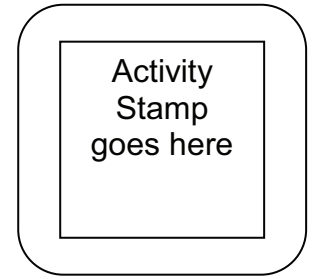
1. These hard coverings of small fleshy aquatic animals are often seen washed up along the shoreline.	— — — — ■ —
2. We don't go into the bush near here because these scaly reptiles could give us a poisonous bite.	— — ■ — — —
3. These birds are so funny that they really quack me up.	— — — — ■ —
4. What is the colour of the beak on a purple swamphen?	— ■ — —
5. If you went swimming in the Lake you might see one of these finned animals.	— ■ — — —
6. This cheeky little bird often follows you around to pick up the insects you disturb.	— — ■ — — <b>WAG TAIL</b>
7. These scaly reptiles can often be seen sunning themselves on the footpath.	■ — — — — — —
8. These long necked black birds are seen swimming in the wetland waterways.	— — ■ — — —
9. What is the main colour of the feathers on a pelican?	■ — — — — —
10. This plant is Australia's national flower emblem.	— ■ — — — — —
11. What is the name of the bay in which the wetlands are located?	— ■ — — — — — — <b>BAY</b>
12. The flower of this plant is often visited by honeyeaters to draw the nectar.	— ■ — — — — — — —
13. What is the name of the lake on which the wetlands are located?	— — — — — — — — — — ■

### Discussion Questions:

- What is the most interesting fact you have learnt from this worksheet?
- What differences could you see between the 1940s and 2010 photographs of Berkeley?

## Biodiversity

Copy the group picture from the sand dune story into your passport



Label the ocean, beach, wind and sand dunes

Do you have the rainforest, sun and clouds?

What stops the sand dunes from blowing away?

What might happen to the rainforest if the grasses and scrubby bushes on the sand dunes were damaged or pulled out?

Copy the group picture from the Boggle and Woggle stories

Did the Boggle or the Woggle do better?

What is biodiversity?

What is the importance of ecosystem diversity?

What is the importance of species diversity?

Why is genetic diversity important?

Human Influences

How can we protect biodiversity? (4 bullet points)

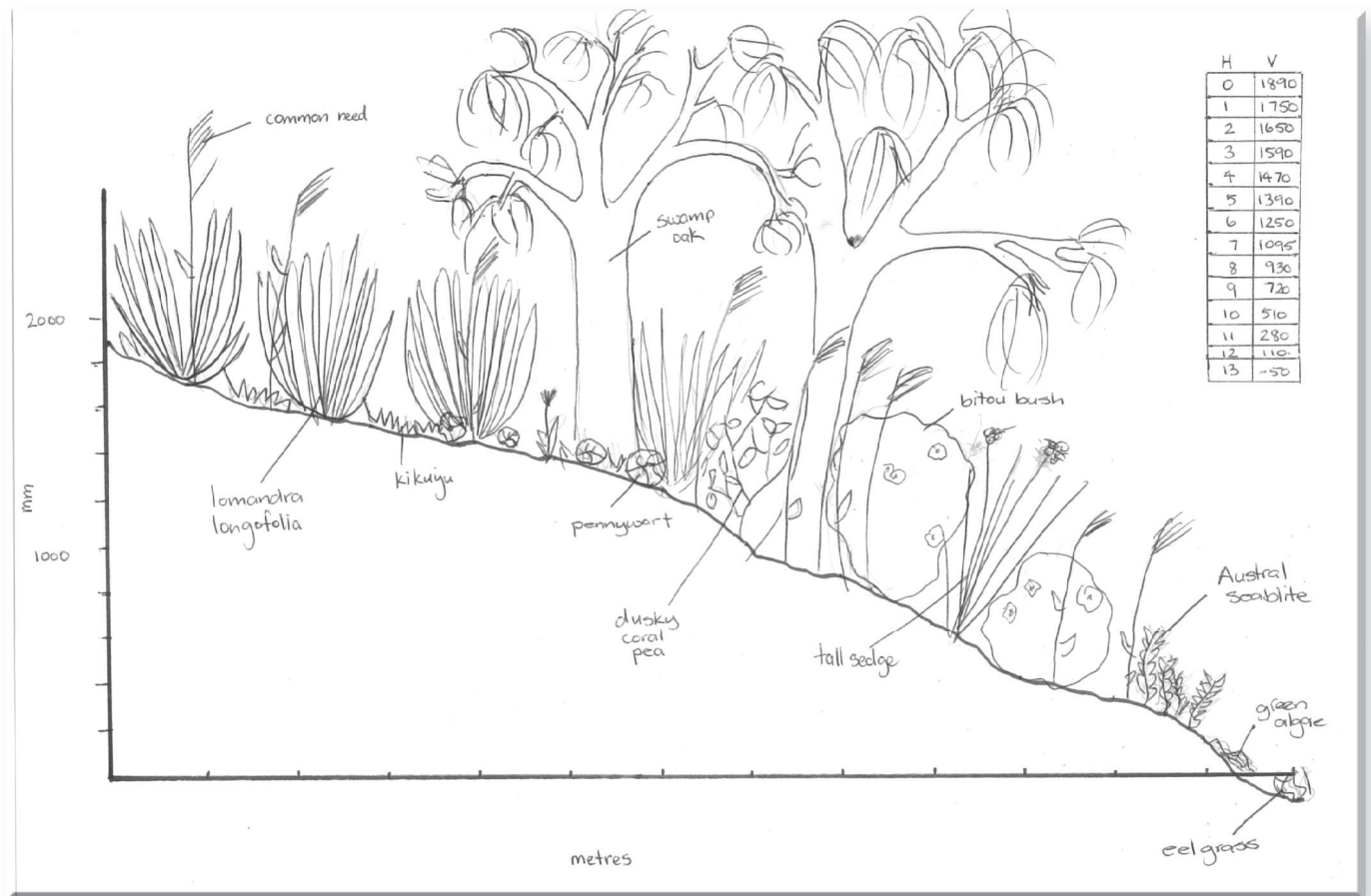
**Human Impacts on Biodiversity.** Discuss how the types of human activities in the table below could affect the number of plants and animals in an area. Complete the table with your guide, or research further back at school.

Human Influences	Positive Effect	Negative Effect
Fishing Industry		
Farming Industry		
Tourism/Recreation		
Urbanisation		

## Habitats and Vegetation

A **vegetation transect** is just a side-on drawing of plants along a measured line. The drawings don't need to be perfect, but it is important to clearly label the plants you can identify from the folder your guide has.

Activity  
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Sample vegetation transect

# Vegetation Transect





# Sound Map

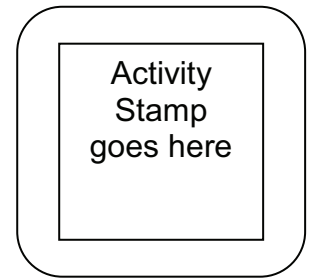
DATE: 1/1/2010  
TIME: 11am -11:10am  
KEY:

SYMBOL	SOUND
☆	People walking
△	Birds
○	Trucks/cars
⬠	The lake

Students can fill in the key with symbols representing what they might hear before starting this activity. They can always add new symbols for sounds that they were not expecting.

	DATE:	
	TIME:	
	KEY:	
	SYMBOL	SOUND

## Sustainable Fisheries



Fish Type	Total Number Caught	Biggest Fish Length

Species like mud crabs and flathead feed in the sediment at the bottom of the Lake, either directly or by feeding on other sediment sifters.

- Where does that sediment come from?
- What could be in the sediment?
- Could any of this be a problem?

Lake Illawarra is an important fish and prawn breeding area. What sorts of things do fish need to stay healthy?

It is especially important for baby fish to have the right kind of habitat and clean water.

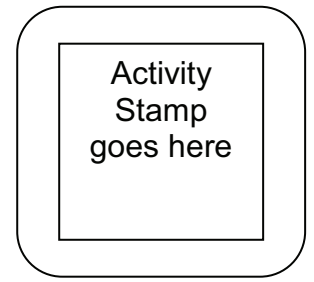
What kinds of things can we do to make sure there is a healthy fish population, both now and in the future?

- 
- 
- 
-



# Wetlands

Kully Bay Wetlands Area Map



Why is it important to keep our waters free of chemicals?

How will you make sure you and your friends and family keep our water supply clean?

How do wetlands help improve and maintain lake water quality?

What is Turbidity?

Draw a diagram of the apparatus we use to measure turbidity.

## Turbidity of samples

Sample	Turbidity (NTU)
A	
B	
C	

## Erosion

What is erosion?

Activity  
Stamp  
goes here

Effect of Flow rate on erosion

Flow rate	Sketch of soil surface	Measurement of deepest fissure (mm)	Total volume (mls)	Volume of settled sediment after 2 minutes (mls)

What is permeability?

Surface Type	Volume of water in 60 seconds?

## Discussion Questions:

What did the water appear to do when it hit the surface of each of the samples?

Which surface allowed the most water through in a 60 second period?

The different test surfaces represented different types of surface present in the catchment. List some different surface types that you may see in the catchment (e.g. concrete, grass) and classify them as either permeable or impermeable.

How would the flows be different in the creeks and rivers during rainfall events in a catchment that had surfaces that were mainly:

- a) permeable
- b) impermeable

Complete the table below. Identify which type of land has the highest, which one the medium amount, and which one the lowest permeability.

	High Permeability	Medium Permeability	Low Permeability

What could you do at your house to reduce the likelihood of sediment reaching the waterway?

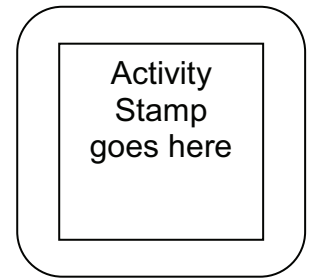
## Catchment Management

Why is it important to protect water quality and the health of our Lake?

Who benefits from a healthy Lake Illawarra?

Who should be responsible for protecting our waterways?

What can we can do as individuals to help improve catchment water quality?



Problem	Solution

What can we do as a community (including governments, councils and community organisations) to improve catchment water quality

Problem	Solution

Draw a labelled diagram, looking from above, of your completed catchment.