



Longneck Lagoon Environmental Education Centre

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Stage 5 Science

Home for a Bandicoot?

Ecology - Living World



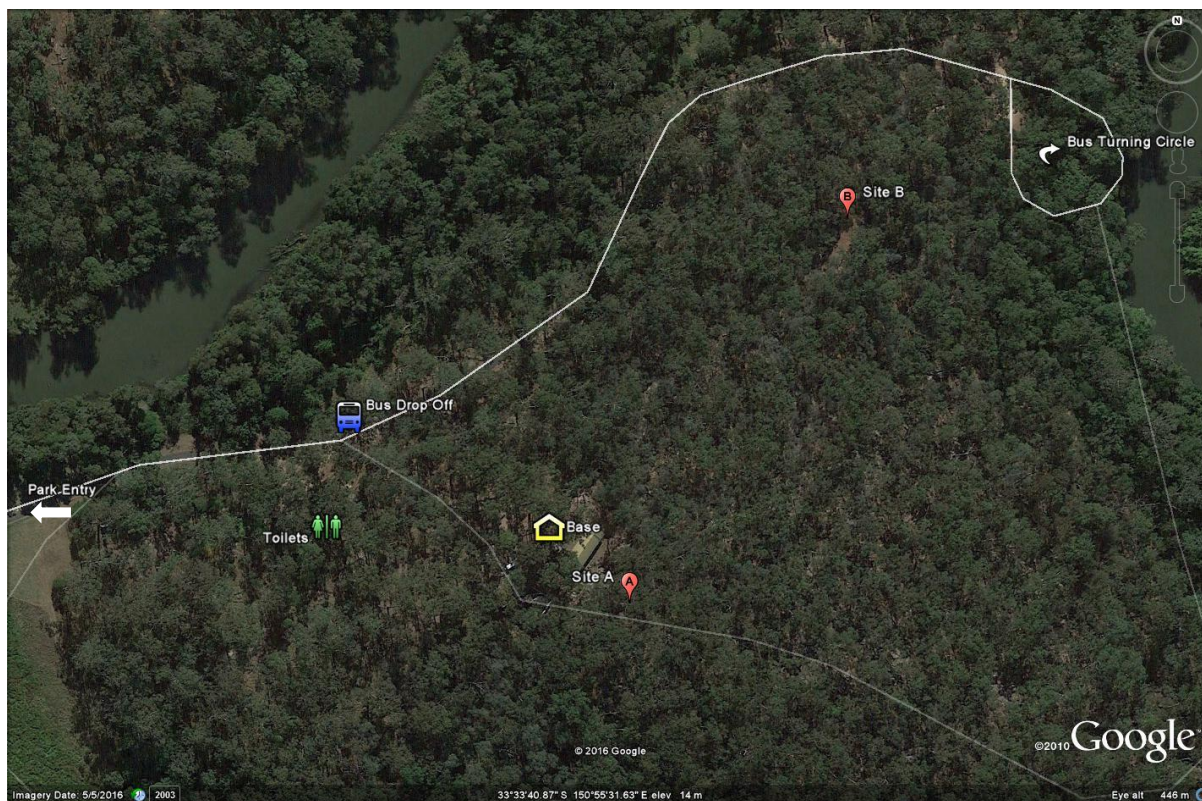
KLA outcomes: this fieldwork study will contribute to: Science - LW2 - Conserving and maintaining the quality and sustainability of the environment requires scientific understanding of interactions within, the cycling of matter and the flow of energy through ecosystems.

- recall that ecosystems consist of communities of interdependent organisms and abiotic components of the environment
- describe how energy flows through ecosystems, including input and output through food webs
- evaluate some examples in ecosystems, of strategies used to balance conserving, protecting and maintaining the quality and sustainability of the environment with human activities and needs.

Timetable

9:30 AM	Introduction & site briefing
10:00 AM	(1) Site A (2) Site B
11:00 AM	Recess
11:30 AM	(1) Site B (2) Site A
12:30 PM	Lunch
1:00 PM	Food web activity, National Park management, evaluate results
1:50 PM	Pack up
2:00 PM	Depart

Mitchell Park



Fieldwork

Parameter	Site A	Site B
Leaf litter % cover		
Leaf litter depth		
Soil temperature		
Soil texture		
Light levels		
Canopy cover		
Shrub density		


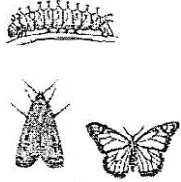

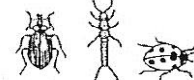
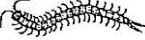





















See Appendix 1 for explanation of parameters

Notes:

Macroinvertebrate survey

Area:


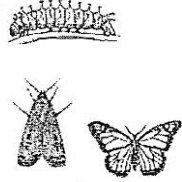

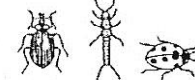






















Tally number of species (not individuals)

 Beetle Larvae	 Butterflies/Moths/ Caterpillars	 Millipedes
 Beetles		 Centipedes
 Ants	 Flies	 Mites
 Bees/Wasps	 Mosquitoes/Craneflies	 Pseudo Scorpions
 Bugs	 Praying Mantis	 Scorpions
 Cockroaches	 Stick Insects	 Earth Worms
 Earwigs	 Thrips	 Flat Worms/Leeches
 Grasshoppers/Crickets	 Termites	 Slugs/Snails
Others		 Spiders
		 Amphipods
		 Slaters

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Habitat assessment

Factor		Possible Score
Area	Small (< 1ha)	1
	Medium (1ha-20ha)	2
	Large (>20ha)	3
Layers	Trees	1
	Shrubs	1
	Herbs/ground cover	1
Native Plants	None	0
	Some	1
	Most	2
Weeds/Exotics	None	3
	Some	2
	Most	1
Habitat	Nests/hollows	2
	Water	2
	Leaf litter	1
	Logs	1
	Rocks	1
Total Score		

Ranking

Poor: 3-5 Moderate: 6-8 Good: 9-12 Excellent: 13-18

Human impact

Record evidence of human activity when observed.

Human activity	Environmental impact

Food web

Construct a food web and record it here.

Conclusions

Appendix 1

How parameters affect the ecosystem

Soil temperature

Soil temperature plays an important role in many processes which take place in the soil such as chemical reactions and biological interactions. Germination and plant growth are affected by soil temperature.

Soil texture

Soils are a combination of sand and clay and the percentages of each will determine the soil name. Soil texture is important in determining which plants grow in a particular area as it influences the retention of soil moisture and the availability of nutrients.

Leaf litter

In a terrestrial ecosystem leaf litter:

- provides nutrients to the ecosystem
- helps retain moisture
- provides homes for terrestrial animals
- promotes bushfires for regeneration.

Light

Light is needed for photosynthesis. If the tree canopy is open (such as in the woodland around Longneck Lagoon) there is enough light to allow shrubs, grasses and an understorey of trees. When the canopy is closed there is very filtered sunlight and consequently the vegetation would include ferns, lichens and mosses and shrubs would have large leaves.

Canopy density

The canopy level of a forest or woodland serves multiple purposes:

- important habitat zone
- provides protection from storm events
- controls available light to lower storeys
- dictates the local microclimatic conditions such as temperature and humidity.

Shrub density

The shrub layer in a woodland or forest provides both food and shelter.