

Ecosystem Assessment

Monitor Measures

As well as being a fascinating animal, lace monitors are an important connection within the forest ecosystem at Brewongle. During this investigation you will:

- **Collect data on the physical and chemical features of the forest.**
- **Conduct a habitat assessment and make observations about human impacts.**
- **Draw conclusions as to the ability of the forest to support a population of lace monitors.**



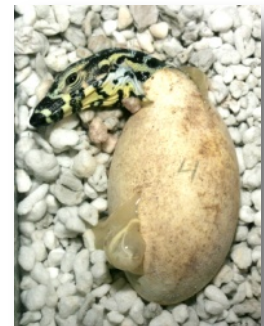
Health and Safety Issues

As you are working out in the field you need to be aware that:

- Ground material is often covered in moss and can be very slippery.
- Vines and dense undergrowth can trip.
- Fallen trees can be rotten and weak.
- Some animals can deliver painful or venomous bites.
- On slopes, rocks can be easily dislodged.

Outcomes

- 4.10:** A student identifies factors affecting survival of organisms in an ecosystem.
- 5.10:** A student assesses human impacts on the interaction of biotic and abiotic features of the environment.



Student Name: _____

HABITAT ASSESSMENT

Habitat Element						Gully 1	Gully 2	Ridge 1	Ridge 2
TREES	Trees	1- 3 large trees (> 6m) 1	More than 5 large trees 2						
	One or more trees native to Australia	2							
	A variety of 4 or more plant species	2							
	Healthy Tree Canopy / Plant Foliage	Healthy 2	Moderately Healthy 1	Defoliation Evident 0	Evidence of Dieback 0				
SHRUBS	Shrubs	None 0	Some 1	Many 2					
	Native Shrubs	None 0	Some 1	Most 2					
GROUND COVERS	Ground Cover	None 0	Some 1	Most 2					
	Native Grasses or Spreading Plants	2							
SHELTER	Hollows	Butt Hollows 1	Limb Hollows 1	Fallen Log Hollows 1					
	Rocks & Crevices	None 0	Some 1	Most 2					
	Leaf Litter	None 0	Some 1	Most 2					
	Loose Bark (attached or shed)	None 0	Some 1	Most 2					
	Logs & Fallen Branches	None 0	Some 1	Most 2					
WATER	Pond/Water	Yes 1	No 0						
FOOD	Plants with Fruits / Seeds	None 0	Some 1	Most 2					
HABITAT SPACE	Plants of Different Ages	None 0	Some 1	Most 2					
SURROUNDING LANDSCAPE	Joined or Located to Other Gardens / Bush by Gardens / Bush	Yes 1	No 0						

A LOW SCORE WILL INDICATE THE ZONE IS POOR HABITAT. This may be because it has been disturbed or requires additional habitat parameters to better support the amazing variety of living things.

TOTAL SCORE
/ 33

Lace Monitors require a total habitat assessment score of 18 or above to survive in a forested area.

Physical and Chemical Tests

A forest habitat needs to have a healthy balance of minerals and nutrients in the soil to support trees, shrubs, and ground cover. These layers support birds and small mammals which are a part of the lace monitor's diet.

Your task is to establish the health of the forest by testing some of the biotic and abiotic factors.

	Poor	Average	Healthy	Result
pH level	0 - 3	3 - 4	5 - 8	
Soil Moisture	0-1 Dry	2-3 Moist	4-5 Wet	
Leaf Litter Depth	0 cm	0.5 - 1cm	1 - 5cm	
Soil Temperature	< 4 °C	4 - 7 °C	7 – 28 °C	
Invertebrates	0	1 - 4	5 +	

Water Quality

	Poor	Average	Healthy	Result
pH level	0 – 3	3 – 4	5 - 8	
Salinity	>1000 ppm	>500 ppm	100-500 ppm	
Dissolved Oxygen	<2mg/L	2 - 4mg/L	>5mg/L	
Turbidity	>100NTUs	50 - 100NTUs	<50NTUs	

Where any issues identified? _____

Is the water of an acceptable standard for a lace monitor? _____

Nest Box and Natural Shelter Survey

The lace monitor is an arboreal lizard and is a major predator of nesting birds. For monitors to survive, a diverse range of nests and hollows should be available.

Station No.	Animal present	Signs of recent use	Nesting materials	Observation
1				
2				
3				
4				
5				

Did you identify any issues?

What is your overall assessment of the shelters at Brewongle?



Scats and Tracks

Mammals inhabit every corner of our vast continent, yet the great majority of species are seldom seen. The only clue to their presence might be a footprint left on a muddy track, a scat deposited on a rocky ledge, or bones scattered on a forest floor. Examine the myrtle forest floor for signs of life. *Sketch the scat or track and then classify the animals present in the forest.*



Species:



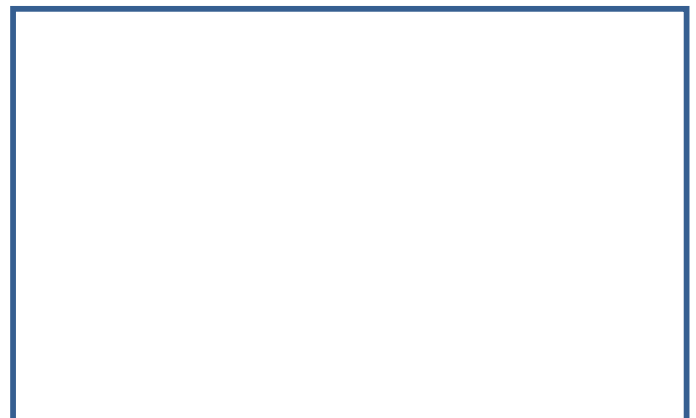
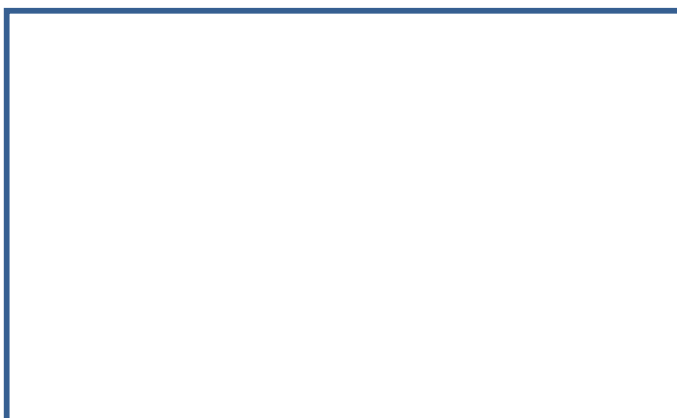
Species:



Species:



Species:



Results and Conclusion

Refer back to your data collected in the investigations to assist in completing this page.

	Poor	Average	Healthy	Comments
Habitat Assessment				
Physical & Chemical Features				
Water Quality				
Animals Present				

Please rate the ability of the forest ecosystem to support a population of Lace Monitors.

Low

Medium

High

Explain the reasons for your conclusion:

Science
