

90461



904610



NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA



For Supervisor's use only

Level 2 Biology, 2009

90461 Describe concepts and processes relating to ecology

Credits: Three

2.00 pm Wednesday 18 November 2009

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should answer ALL the questions in this booklet.

If you need more space for any answer, use the page(s) provided at the back of this booklet and clearly number the question.

Check that this booklet has pages 2–9 in the correct order and that none of these pages is blank.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

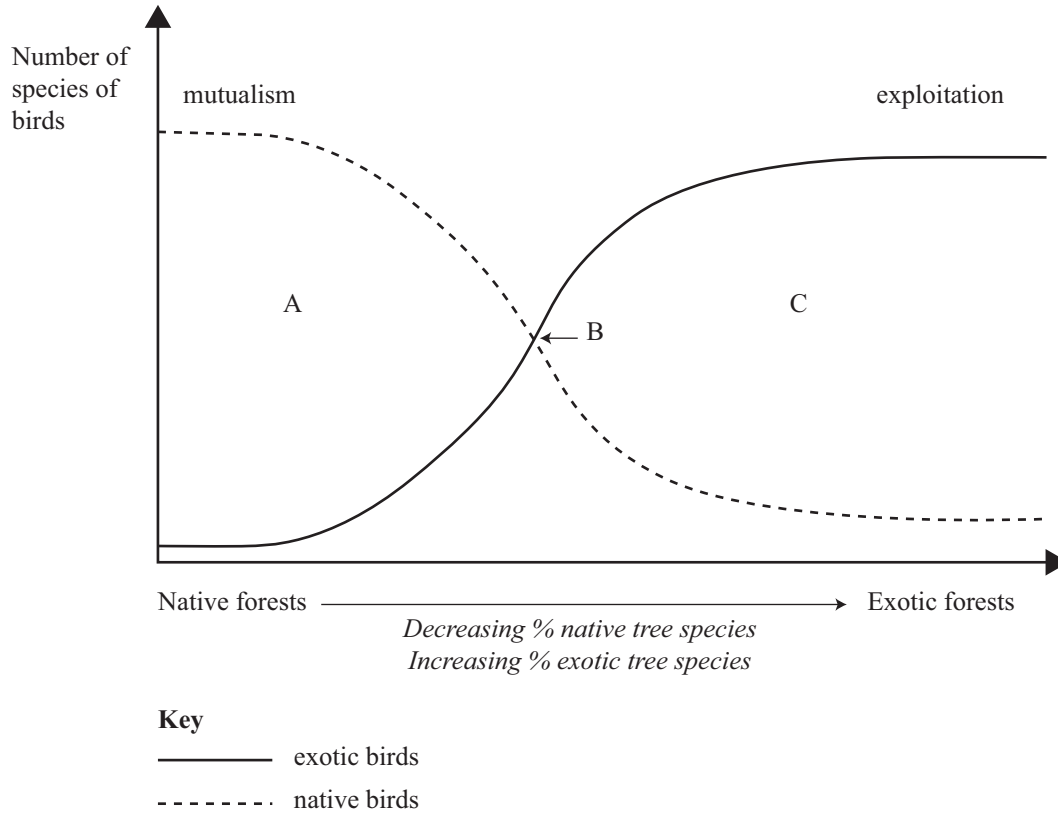
For Assessor's use only		Achievement Criteria	
Achievement		Achievement with Merit	Achievement with Excellence
Describe biological concepts and processes relating to ecology.	<input type="checkbox"/>	Explain biological concepts and processes relating to ecology.	<input type="checkbox"/>
Overall Level of Performance		<input type="checkbox"/>	

You are advised to spend 35 minutes answering the questions in this booklet.

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QUESTION ONE

The diagram below shows the number of native bird species versus introduced (exotic) bird species found in native plant areas, compared with those in areas planted with introduced species.



- (a) Mutualism and exploitation are two interrelationships between different species.

Define these two terms.

Mutualism: _____

Exploitation: _____

- Explain**, with reasons, which type of competition is occurring in each of the zones A, B and C in the diagram on the facing page.

[illegible]

In your answer consider:

- Give appropriate examples for each type of adaptation.

[illegible]

Discuss how the ecological pattern of succession is different from the patterns of zonation and stratification.

- a **description** and **example** of each pattern
- an **explanation** of how each pattern occurs.

[illegible]

QUESTION THREEAssessor's
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Estuary food webs are amongst the richest in New Zealand. An example of one is shown in the diagram below.

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<http://www.teara.govt.nz/NR/rdonlyres/67693D26-9E1F-4C3E-AE75-15CED2EA24C4/207537/di4620enz.gif>

- (a) Describe what is meant by the following terms, and identify, **from the diagram**, an example of each.

Producer: _____

Example: _____

Primary consumer: _____

Example: _____

Secondary consumer: _____

Example: _____

- (b) Explain why **food chains** are usually limited to only four or five steps.

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**Question Three (c) is
on the following page.**

- (c) Discuss the importance of decomposers in an ecosystem. Include what would happen if decomposers were unavailable or inactive.

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[illegible]