

<b>Title</b>	<b>Demonstrate knowledge of ecosystems</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>4</b>

<b>Purpose</b>	People credited with this unit standard are able to describe: the relationship between biotic and abiotic components of an ecosystem; ecological flows and cycles; changes in a biological community; and population dynamics.
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<b>Classification</b>	Science > Biology
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 This unit standard could include some field work carried out in a local ecosystem.
- 2 Glossary  
*Ecosystem* refers to a defined area of an environment through which energy flows and nutrients are cycled.

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### Outcomes and performance criteria

#### Outcome 1

Describe the relationship between biotic and abiotic components of an ecosystem.

#### Performance criteria

- 1.1 The distribution of organisms is described in relation to the biotic and abiotic components of an ecosystem.  
  
Range interspecific, intraspecific.
- 1.2 The concept of ecological niche is described in terms of the interactions of the ecosystem components.

#### Outcome 2

Describe ecological flows and cycles.

#### Performance criteria

- 2.1 Movement of energy is described in terms of the ecosystem.

- 2.2 Cycling of nutrients within a biological community are described in terms of the ecosystem.

Range one of – carbon cycle, nitrogen cycle, phosphorus cycle.

### Outcome 3

Describe changes in a biological community.

#### Performance criteria

- 3.1 Ecological succession is described in terms of changes in a biological community.
- 3.2 The effect of pioneer and subsequent species is described in terms of changes in a biological community.

### Outcome 4

Describe population dynamics.

#### Performance criteria

- 4.1 Population dynamics are described in terms of the ecosystem.

Range population growth and density, K and R strategists, density dependent, density independent.

<b>Replacement information</b>	This unit standard replaced unit standard 9225.
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<b>Planned review date</b>	31 December 2020
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#### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	21 May 2010	N/A
Rollover and Revision	2	27 January 2015	N/A
Rollover and Revision	3	15 June 2017	N/A
Revision	4	26 October 2017	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0113
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

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**Comments on this unit standard**

Please contact NZQA National Qualifications Services [nqs@nzqa.govt.nz](mailto:nqs@nzqa.govt.nz) if you wish to suggest changes to the content of this unit standard.