

## Achievement Standard

**Subject Reference** Biology 2.6

**Title** Investigate a pattern in an ecological community, with supervision

**Level** 2      **Credits** 4      **Assessment** Internal

**Subfield** Science

**Domain** Biology

**Status** Registered      **Status date** 17 November 2011

**Planned review date** 31 December 2020      **Date version published** 20 November 2014

This achievement standard involves the investigation of a pattern in an ecological community, with supervision.

### Achievement Criteria

| Achievement   | Achievement with Merit  | Achievement with Excellence   |
|---|---|---|
| <ul style="list-style-type: none"> <li>Investigate a pattern in an ecological community, with supervision.</li> </ul> | <ul style="list-style-type: none"> <li>Investigate in-depth a pattern in an ecological community, with supervision</li> </ul> | <ul style="list-style-type: none"> <li>Comprehensively investigate a pattern in an ecological community, with supervision.</li> </ul> |

### Explanatory Notes

Version 1 was republished in March 2012 to correct an error in the description of *investigate in depth* in Explanatory Note 2.

- 1 This achievement standard is derived from *The New Zealand Curriculum*, Learning Media, Ministry of Education, 2007, Level 7. It is aligned with the following achievement objective in the Living World strand:

Ecology

- Explore ecological distribution patterns and explain possible causes for these patterns

and is related to the material in the *Teaching and Learning Guide for Biology*, Ministry of Education, 2010 at <http://seniorsecondary.tki.org.nz>.

This standard is also derived from Te Marautanga o Aotearoa. For details of Te Marautanga o Aotearoa achievement objectives to which this standard relates, see the [Papa Whakaako](#) for the relevant learning area.

- 2 *Investigate* involves describing observations or findings, and using those findings to identify the pattern (or absence of a pattern) in an ecological community, relating this

pattern to an environmental factor, and describing how the environmental factor might affect chosen species within the community.

*Investigate in-depth* involves providing a reason for how or why the biology of one of the chosen species relates to the pattern (or absence of a pattern). The biology involves structural, behavioural or physiological adaptations of the organism which are related to the environmental factor and to an interrelationship with an organism of another species (eg competition, predation, or mutualism).

*Investigate comprehensively* involves using an environmental factor and the biology of interrelated organisms of different species to explain the pattern (or absence of a pattern). The explanation may involve elaborating, applying, justifying, relating, evaluating, comparing and contrasting, and analysing.

- 3 Investigation involves analysing, and interpreting information about the ecosystem. The information may come from direct observations, collection of field data, tables, graphs, resource sheets, photographs, videos, websites, and/or reference texts.
- 4 A community pattern may include: succession, zonation, stratification, or another distribution pattern in response to an environmental factor.
- 5 Environmental factors likely to affect patterns in a community include abiotic and/or biotic factors.
- 6 Biology of the organisms refers to any adaptations of organisms that relate to the pattern being investigated and may include interrelationships such as competition, predation, or mutualism.
- 7 Assessment against this standard may be based on a stand-alone or an individual investigation that can contribute findings to a larger group or class investigation. In a group or class investigation, individual findings may be discussed and individual students may interpret their own findings in the light of other students' investigations and findings. Findings from outside the group or class such as published information or historical findings relevant to the investigation may also be used.
- 8 It is intended that this investigation be carried out with supervision. This means that the teacher provides guidelines for the investigation such as the context for the investigation, instructions that specify the requirements for a comprehensive investigation, and broad conditions such as the availability of equipment and/or resource material. Students then develop and complete the investigation from the initial guidelines given by the teacher. Supervision may involve discussion between teachers and individual students in order to clarify the students' ideas and may also involve teachers managing the process of sharing findings.
- 9 Conditions of Assessment related to this achievement standard can be found at <http://ncea.tki.org.nz/Resources-for-Internally-Assessed-Achievement-Standards>.

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### Replacement Information

This achievement standard replaced unit standard 8929, 8930, and AS90460.

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**Quality Assurance**

- 1 Providers and Industry Training Organisations must have been granted consent to assess by NZQA before they can register credits from assessment against achievement standards.
- 2 Organisations with consent to assess and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.

Consent and Moderation Requirements (CMR) reference

0233