

Ecosystem Dynamics - Southern Brown Bandicoots

Stage 6 Biology Module 3, 4 and Depth Studies



Program Overview

To determine the suitability of a site to introduce fox mitigation, scientists must first learn about the animal and then find evidence of the presence of an endangered animal in an area.

During the fieldwork day, students will collect scientific data to determine which of two potential wildlife camera sites is the more suitable for a Southern Brown Bandicoot sampling.

Inquiry Questions

What effect can Southern Brown Bandicoots have on other species in a community?

How can human activity impact on an ecosystem?

Fieldwork Inquiry Question

How do scientists determine where fox mitigation should take place to protect endangered species?

Learning Experiences

Pre visit

Students are expected to complete pre-visit work to ensure they are able to complete the fieldwork. This includes an in-depth research of the Southern Brown Bandicoot features and niche. Once completed, students will use this information to plan an investigation.

Abiotic Investigation

Students will use scientific equipment to investigate and compare the abiotic features of two sites to determine the suitability for a Southern Brown Bandicoot population and therefore a targeted camera setup site.

Abiotic features to be measured include soil texture, soil pH, soil temperature, aspect, slope, light intensity, air temperature and humidity

Biotic Investigation

Students will use scientific equipment to investigate and compare the abiotic features of two sites to determine the suitability for a Southern Brown Bandicoot population and therefore a targeted camera setup site.

Biotic features to be measured include an invertebrate survey, scat and tracks identification, ground cover and vegetation survey

Aboriginal History

Students will learn about the local Aboriginal people and some of the traditional management strategies.

Students will also learn about the importance of the Koorawull (Bandicoot) to Guringai people and visit a traditional Aboriginal site.

Human Impacts

Students will learn about the human impacts on SBB populations in the park and discuss possible management strategies to limit the impact.

Key Syllabus Outcomes and Content

Outcomes

BIO11-1, BIO11-2, BIO11-3, BIO11-4, BIO11-5
BIO11-10, BIO11-11

Intended Learning

Students:

- investigate and determine relationships between biotic and abiotic factors in an ecosystem, including: (ACSBL019)
 - the impact of abiotic factors (ACSBL021, ACSBL022, ACSBL025)
 - the impact of biotic factors, including predation, competition and symbiotic relationships (ACSBL024)

- the ecological niches occupied by species (ACSBL023)
- predicting consequences for populations in ecosystems due to predation, competition, symbiosis and disease (ACSBL019, ACSBL020)
- measuring populations of organisms using sampling techniques (ACSBL003, ACSBL015)
- investigate changes in past ecosystems that may inform our approach to the management of future ecosystems, including:
 - the role of human-induced selection pressures on the extinction of Species (ACSBL005, ACSBL0128, ACSBL0095)