

THE TEACHER RESOURCE KIT

Background

The Lower Hunter Valley Threatened Species Teacher Resource Kit is part of a broader Hunter Valley Threatened Flora Recovery Plan. The Kit will contribute towards the objectives of the draft Recovery Plan for the Kurri Sand Swamp Woodland, an endangered ecological community (EEC), and also to the objectives of recovery plans currently being prepared for the threatened plants *Persoonia pauciflora*, *Acacia bynoeana* and *Eucalyptus parramattensis subsp. decadens*. It will also support strategies and actions in other environmental plans including:

- Recovery plans for threatened animals that live in the area.
- The Hunter Local Strategic Plan 2016 - 2021 of the Hunter Local Land Services

The Kit aims to promote awareness of, and increase involvement in, threatened species conservation in the Lower Hunter Valley area of NSW. It promotes experiential learning in the study of local threatened species through field work and other research such as surveying, mapping and computer activities. It targets school students and teachers but could also be used to help develop appropriate knowledge, skills, attitudes and practices in other groups and the broader community.

The Kit was specifically designed for primary schools in the Cessnock and Maitland Local Government Areas of the Lower Hunter Valley. It could also be used by schools in other areas with reference to their own local threatened species.

School programming

Central to the Kit's resources is this unit of work based on the [Stage 3 Factors That Shape Places](#) outcomes and indicators in the [NSW K- 10 Geography syllabus](#). Local threatened species and their ecosystems (such as woodlands, forests, and wetlands) can also be used to represent global environments and issues in Australia. They can help explain how various beliefs and practices influence the ways in which people interact with, change and value their environment and be used to identify how individuals and groups can act in an ecologically responsible manner.

The unit of work could be programmed by schools in several ways including as:

- A new Stage 3 Geography unit of eight lessons e.g. as a replacement for a non- local existing unit of work such as the previous 'Rainforest' unit or the previous environmental case study on Kosciuszko National Park in the HSIE component of the Stage 3 Connected Outcome Group (COG A) unit on Living Land.
- Part of a cross-KLA unit in schools that are not programming COG unit.



FROM THE GEOGRAPHY K-10 SYLLABUS (2015)

Outcomes

This unit of work helps students to achieve the following outcomes in the K-10 Geography Syllabus.

A student:

- **GE3-1** describes the diverse features and characteristics of places and environments
- **GE3-2** explains interactions and connections between people, places and environments
- **GE3-3** compares and contrasts influences on the management of places and environments
- **GE3-4** acquires, processes and communicates geographical information using geographical tools for inquiry.

Key Inquiry Questions:

How do people and environments influence one another?

How do people influence places and the management of spaces within them?

The following geographical **concepts** are to be integrated throughout stage 3:

- **Place:** the significance of places and what they are like eg characteristics of places on a global level.
- **Space:** the significance of location and spatial distribution, and ways people organise and manage spaces that we live in eg global patterns of spatial distribution; how people organise and manage spaces in their local environment.
- **Environment:** the significance of the environment in human life, and the important interrelationships between humans and the environment eg how the environment influences people and places; how people influence the environment; the effect of natural disasters on the environment.
- **Interconnection:** no object of geographical study can be viewed in isolation eg how environments influence where people live; ways people influence the characteristics of their environments; diversity of cultures and peoples around the world.
- **Scale:** the way that geographical phenomena and problems can be examined at different spatial levels eg environmental and human characteristics of places on local, regional and global scales; the effect of global events on people and places locally, regionally and globally.
- **Sustainability:** the capacity of the environment to continue to support our lives and the lives of other living creatures into the future eg extent of environmental change; environmental management practices; sustainability initiatives.
- **Change:** explaining geographical phenomena by investigating how they have developed over time e.g. changes to environmental and human characteristics of places.

The following geographical **inquiry skills** are to be integrated throughout stage 3:

- **Acquiring geographical information:**
 - develop geographical questions to investigate and plan an inquiry (ACHGS033, ACHGS040)
 - collect and record relevant geographical data and information, using ethical protocols, from primary data and secondary information sources, for example, by observing, by interviewing, conducting surveys, or using maps, visual representations, statistical sources and reports, the media or the internet (ACHGS034, ACHGS041)
- **Processing geographical information**
 - evaluate sources for their usefulness (ACHGS035, ACHGS042)
 - represent data in different forms, for example plans, graphs, tables, sketches and diagrams (ACHGS035, ACHGS042)
 - represent different types of geographical information by constructing maps that conform to cartographic conventions using spatial technologies as appropriate (ACHGS036, ACHGS043)
 - interpret geographical data and information, using digital and spatial technologies as appropriate, and identify spatial distributions, patterns and trends, and infer relationships to draw conclusions (ACHGS037, ACHGS044)
- **Communicating geographical information**
 - present findings and ideas in a range of communication forms as appropriate (ACHGS038, ACHGS045)
 - reflect on their learning to propose individual and collective action in response to a contemporary geographical challenge and describe the expected effects of their proposal on different groups of people (ACHGS039, ACHGS046)

The following geographical **tools** are to be integrated throughout stage 3:

Maps (M)

- large-scale maps, small-scale maps, sketch maps, political maps, topographic maps, flowline maps
- maps to identify location, latitude, direction, distance, map references, spatial distributions and patterns

Fieldwork (F)

- observing, measuring, collecting and recording data, conducting surveys and interviews
- fieldwork instruments such as measuring devices, maps, photographs, compasses, GPS

Graphs and statistics (GS)

- pictographs, data tables, column graphs, line graphs, climate graphs
- multiple graphs on a geographical theme
- statistics to find patterns

Spatial technologies (ST)

- virtual maps, satellite images, global positioning systems (GPS)

Visual representations (VR)

- photographs, aerial photographs, illustrations, flow diagrams, annotated diagrams, multimedia, web tools

Subject Matter:

The teaching and learning activities will help students learn about the following subject matter outlined in the K-10 Geography Syllabus:

- Geographical terminology
- Communities, regions and environments in Australia and in the world
- Patterns of human involvement and use of environments
- Effects of human and natural changes on environments
- Ecologically sustainable development of environments
- Different perspectives about the maintenance and improvement of environments

Lesson sequence:

There are seven lessons in this unit of work as follows:

1. Threatened species around the world
2. Our local threatened species
3. Threats to our local species
4. Location of our local threatened species (field excursion)
5. Findings from the excursion
6. Actions to protect local threatened species
7. Personal and school action actions

Teaching and learning activities are described for each lesson. Relevant outcomes and indicators, literacy and numeracy links, links with objectives in the NSW Environmental Education Policy for Schools and resources required are also provided for the lessons.

Literacy and Numeracy links

The unit of work provides opportunities for students to explore literacy through expositions, reports, explanations and recounts. It also provides opportunities in numeracy through activities such as mapping. Literacy and numeracy links are noted at the bottom of each lesson in italics.

Links with other Key Learning Areas

As a Geography unit of work it directly links to outcomes in other KLAs including:

- Science – ST3-10LW, ST3-11LW
- English EN3-1A, EN3-2A, EN3-3A
- Mathematics – MA3-17MG, MA3-18SP

Environmental Education Policy for Schools

The Environmental Education Policy for Schools is mandatory in all NSW government schools. This unit of work provides opportunities for students to develop knowledge, skills, values and attitudes related to the curriculum objectives in the Policy. If threatened species are found in or near schools, there may also be opportunities through Lesson 7 to address objectives related to the school's management of resources and management of school grounds. The unit of work could therefore be part of the School Environmental Management Plan (SEMP)

Resources for this Unit of Work

The Lower Hunter Valley Threatened Species Teacher Resource Kit is designed for the easy access of resources by both teachers and students. The following resources are included to support the lessons in this unit of work:

Teacher Information Sheets:

1. Threatened species
2. Habitats and Ecosystems
3. Biodiversity
4. Threats

Student Information Sheets:

5. Woodlands
 - 5A. Tiny Wattle
 - 5B. Dirty Gum
 - 5C. Woodland birds
6. Forests
 - 6A. North Rothbury Persoonia
 - 6B. Small-flower Grevillea
 - 6C. Heath Wrinklewort
 - 6D. Owls
 - 6E. Swift Parrot
 - 6F. Gliders
 - 6G. Spotted-tail Quoll
7. Wetlands
 - 7A. Black-necked Stork
 - 7B. Green and Golden Bell Frog

Student Activity Sheets

List of field excursion sites

Maps:

- Bushland areas in the Lower Hunter Valley Conservation Reserves in the Lower Hunter Valley
- Threatened Species records in the Lower Hunter Valley

Lists of actions to help conserve threatened species:

- For schools
- For individuals

Further Assistance

For more information and guidance related to threatened species in the Lower Hunter Valley contact the NSW Office of Environment and Heritage on (02) 4927 3119.