



Wetlands Environmental Education Centre



Year 11

Geography - Biophysical Interactions, Inter-tidal Wetlands, Kooragang Island

Geography outcomes

Geography, Preliminary Course - Biophysical Interactions (P1, P2, P3, P8, P9, P10)

Content

Salt marsh and mangrove ecosystems, interactions, distribution and abundance, and management issues at this rehabilitated site

Students learn to:

investigate and communicate geographically by

- asking and addressing geographical questions such as
 - what are the biophysical interactions which occur between components of the biophysical environment?
 - what are the effects of human impacts on the functioning of the hydrosphere?
 - how is the biophysical environment changing in response to climatic variations?

use geographical skills and tools such as

- identifying, collecting and recording data
- analysing field data
- constructing a transect to describe the variety and distribution of plants in a specific area
- environmental mapping

Students learn about

- the variety and distribution of plants and animals
- the interactions between, and the human impacts on, the functioning of the atmosphere, hydrosphere, lithosphere and biosphere

biophysical processes and issues

- The investigation will include:
 - identification and explanation of the key biophysical processes which relate to the issue
 - scale of operation
 - interactions with other components of the biophysical environment
 - the sensitivity of the biophysical environment to change
 - the importance of understanding key biophysical processes for effective management

Program Description

Students will investigate an inter-tidal wetland environment and calculate some of the factors which affect plant and animal life, identify some aspects of change, and analyse and summarise those aspects of this environment which have been affected by people. Management of this environment and the various stakeholders involved will be examined.

Site introduction including history, current use and management

Fieldwork including:

- Biophysical factors: water and air temperature, humidity, wind speed and direction water depth, pH, turbidity.
- Distribution and abundance of pond animals and plants: Fixed transect , Quadrats
- Threats and management of vegetation
- Management issues are investigated throughout the day
- Issues relating to climate change and threats to this environment

This program is delivered over 4hrs.

The basic program will be changed to suit larger groups or weather conditions.

Location

Ash Island, Pacific Hwy, Hexham, Newcastle.

Site Description

The Kooragang Wetland Rehabilitation Project (KWRP) is located on Ash Island next to the Hunter River and a large urban area (Newcastle) in New South Wales. It is one of the largest active coastal rehabilitation projects in Australia. The wetlands feature expanses of mangrove and saltmarsh, and in non-tidal areas, riparian woodlands, remnants of lowland floodplain rainforest and ephemeral, freshwater wetlands.

Excursion information

What to bring: Printed student workbooks, clipboard and pencils, recess and lunch, refillable water bottle, hat, sunscreen, comfortable, covered walking shoes plus any special requirements of the group. (Wet weather gear when necessary). Non-aerosol insect repellent is advisable.

Transport is required throughout the day at this excursion.

Wetlands EEC is a NSW Department school and staff are trained DoE teachers specialising in Environmental Education.

Wetlands EEC teachers rely on the participation of visiting teachers to meet recommended supervision levels. Visiting teachers are ultimately responsible for behaviour of students, students with existing medical conditions or special needs.