



## Program Overview

Students will conduct a Geographical Inquiry into contamination of the mangrove ecosystem at Bobbin Head by macro and micro plastics. They will acquire and process primary data through using fieldwork equipment and share data collected with AUSMAP (Australian Microplastic Assessment Project), a citizen science program mapping microplastics in Australian waterways. They will also view an Guringai midden site to understand Aboriginal worldview and management of mangroves.

## Inquiry Questions

1. How do mangrove environments function?
2. What evidence is there of human-induced change through contamination by plastics?
3. How can this change be managed into the future?
4. How could your school change human behaviours to reduce plastics entering waterways?

## Learning Experiences

### Mangrove Investigation

Students will investigate the features of the mangrove ecosystem, including crab and mangrove identification, to gain an understanding of how mangroves ecosystems function.

### Macro and Micro Plastic sample collection

Students will complete a site assessment and collect samples of macro and micro plastics in the mangroves using AUSMAP fieldwork protocols. They will also view maps and satellite images to determine the possible origins of the contamination.

### Aboriginal use and management

Students will visit an Aboriginal midden and investigate what it can tell us about Guringai uses and management of mangroves.

### Microplastic sorting, categorising and data sharing

Students will sort and categorise mud samples from the mangroves and share data collected with AUSMAP and Tangaroa Blue citizen science projects.

## Key Syllabus Outcomes and Content

### Geography 7-10

**Environmental Change and Management** GE5-2, GE5-3, GE5-4, GE5-5, GE5-7, GE5-8

#### CONTENT

##### **Environments**

Students:

- investigate the role and importance of natural environments, for example:
  - Identification of the function of natural environments in supporting life

##### **Environmental change**

Students:

- investigate human-induced environmental changes across a range of scales, for example: (ACHGK070)
- brief examination of types, and extent, of environmental change

##### **Environmental management**

Students:

- investigate environmental management, including different worldviews and the management approaches of Aboriginal and Torres Strait Islander Peoples, for example: (ACHGK071, ACHGK072)
- discussion of varying environmental management approaches and perspectives