

SCIENCE YEARS 7-10

Microplastics Survey

Marine Science Fieldtrip



Student outcomes: The students will learn to:

- 5WS Produce a plan to investigate an identified question, before their fieldtrip.
- 6WS Undertake first-hand investigations to collect valid and reliable data.
Use standardised methodology to contribute to the AUSMAP citizen science national database.

Pre-Fieldtrip Prep: Watch the CEC Microplastics lecture so students can plan their scientific investigation.

Sample Program: This is suitable for one or two classes at Narrabeen Lagoon or at a sandy shoreline near your school. The survey needs a three hour session leaving time for an additional afternoon session.

Microplastics Survey based on the students pre-fieldtrip planning and using the CEC AUSMAP kits we will obtain accurate and reliable data on the presence of microplastic particles. Students will follow the standardised methodology to carefully sift, sort, identify and record on a national database their primary data. Microplastics particles will also be sent for further University analysis. A Microplastic Site Assessment will be undertaken as well as a Macro litter survey depending on the time available. All primary data will be recorded, compiled and included on either the AUSMAP or ADMI database.

Brief lunch break at the CEC where students can upload their data, clean the field equipment and interact with the CEC displays such as a flume tank and catchment models. Depending on the site and the time available, teachers may choose to continue after lunch with either Option A or B.

Option A: Rock Platform Ecology Session: If you have booked a fieldtrip date with a suitable low tide, we can walk to the Narrabeen Aquatic Reserve, then discuss intertidal ecology, safety, and management. Students can identify intertidal organisms, their niche habitats and compare the biodiversity in these habitats as they explore the intertidal area. If time, they may also examine animal adaptations.

Option B Water Quality Testing Session: Using our CEC aerial photos, students will describe the land-use within the lagoon catchment and infer how the lagoon has changed over time. Students can suggest a range of criteria and simple water quality tests to test whether it is safe for small children to swim. Working in pairs, they follow instructions to conduct one of ten indicative chemical or abiotic tests and report their results to the class. Finally, they will give their assessment of the current water quality conditions and suggest at least one management strategy to sustainably manage our coastal lagoons.



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Narrabeen

Students need to bring:

- Clipboard, Worksheet, Pens and Pencils
- Fieldtrip Planning Group Sheets
- Lunch, Morning Tea, Refillable **water bottle**
- Hat, Sunscreen and Raincoat (if necessary)
- Old Sandshoes (that can get wet)**



<https://www.northernbeaches.nsw.gov.au/environment/coastal-environment-centre/high-school-programs>