

Module 2 Biological Diversity & Module 3 Ecosystem

Dynamics or Depth Study Fieldtrip

Narrabeen Head Aquatic Reserve



Year 11 Biology Outcomes Students will learn to:

- BIO11/12-2 Design and evaluate investigations in order to obtain primary and secondary data and information
- BIO11/12-3 Conduct investigations to collect valid and reliable primary and secondary data and information
- Bio11-11 Analyse ecosystem dynamics and the interrelationships of organisms within the ecosystem

Sample Program:

Arrive at the Coastal Environment Centre and meet CEC Educators, plan to arrive three hours before low tide. Brief lecture on Rock Platform Ecology, safety and protection, view PowerPoint images. Walk towards the nearby Narrabeen Rock Platform, and enjoy a brief morning tea break on the way. Divide into smaller field groups if necessary, each class will be led by a CEC Educator with a teacher supervising. Begin the Rock Platform Ecosystem fieldstudy. If there are large waves, CEC Eds and teachers will discuss options.

For Module 3, students explore the biodiversity and abundance of the rock platform and identify the habitats and trophic levels of more than a dozen organisms. They predict which niche habitat will have the greatest species abundance and diversity and then design a simple practical investigation to test their prediction. Working in small groups they collect and interpret their first hand data and consider how to improve their reliability and validity. Individually students examine two organisms to discover their structural, physiological and behavioural adaptations.

A Depth Study Option may also be begun by prepared students after Module 3, instead of all or parts of Module 4. We are quite flexible and can help students begin collecting their own primary data for their research. Please discuss this option with Toni and confirm what sections or pages you wish to include or omit depending on your time and conditions.

For Module 4, students will use a transect technique to investigate how the abiotic factors of temperature, depth and salinity will affect the distribution of at least four species. Either during the fieldtrip or after it they have the option of graphing their data so they can explain the trends and patterns that they have observed. Instead of the depth study option students could plan and undertake a detailed study of the predator /prey interactions of the Mulberry shell to understand how population dynamics are affected by biotic interactions between species, if time and conditions allow.

Return all CEC equipment and leave Rock Platform for a lunch break at NN SLSC, where there is shade, toilets and nearby café's. After lunch interpret or graph primary data then conclude great fieldtrip and leave.



Please note: Please book early for low tides, there are only ~ 10 ideal dates available each year.

This is an enjoyable and productive program for the 2018 syllabus. The fieldtrip generally runs from 09:30 – 14:00 but we can fit in with your bus requirements and modify the program to suit your needs. It is not possible to complete all of Module 3, 4 and a Depth Study during a low tide cycle so please discuss your preferred options with Toni Wilson.



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Narrabeen