Southern Cross University
National Marine Science Centre

Field Study: Investigation of Human Impact on a River system

Activity Outline

Year Level: 11-12

Aim

Clean fresh water is one of our most valuable resources. It is essential for sustaining aquatic environments and human health. The effect of human activities on the waterways is of paramount importance. In this activity, students will evaluate the health of a river by monitoring various water quality parameters at a number of locations along a river catchment. Students will then be able to analysis and discuss the results to ascertain the health of the river.

Key Understandings

- Ecosystems consist of both living and non-living components.
- Living things can be differentiated and identified using various characteristics.
- Energy continually flows through ecosystems.
- Matter cycles within ecosystems (i.e. carbon, oxygen and nitrogen)
- Human development and natural events can impact on the flow of energy and matter through different ecosystems.
- Appropriate ecosystem management relies upon an understanding of the varying relationships both within and between ecosystems.

Key terms

Aerobic, anaerobic, benthic, Biochemical Oxygen Demand (BOD), biomass, catchment, community, Dissolved Oxygen (DO), ecosystem, eutrophication, point/non-point source pollution, Riparian zone, water quality criteria

Curriculum Content:

Earth and Environmental Science
ASCES084, ACSES085, ACSES086, ACSES089, ACSES102, ACSES103

Chemistry
ACSCH041, ACSCH 042, ACSCH043, ACSCH052, ACSCH054

Geography
P1, P2, P3, P4, P5, P6, P7, P8, P9, P12
H1, H2, H3, H4, H5, H6, H7, H8, H9, H10, H12, H13

Key competencies

- Working scientifically and Using technology
- Collecting, analysing and organising information
- Communicating ideas and information
- Using mathematical ideas and techniques
- Working with others and in team

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