Overview

**Freshwater Studies: Years 10-12**

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*Freshwater Studies* is a whole day program investigating the biotic and abiotic components of a freshwater ecosystem.

The program commences with students using maps to identify the geographic location of the catchment being studied.

A range of abiotic and biotic data is then collected in the field. Students use data loggers to measure and record information on physical and chemical properties of a waterway (e.g. temperature, turbidity, pH, dissolved oxygen). Aquatic animals and plants are collected using sampling nets and identified using stereo microscopes and classification keys. This data is analysed to determine patterns and relationships between abiotic and biotic data.

Human impacts on aquatic ecosystems are identified, with students ultimately proposing management strategies aimed at improving the health of the waterway.

Senior student groups have the option of visiting two freshwater sites to compare and contrast data.

*Freshwater Studies* has been assessed as medium risk and is able to be delivered at a range of sites in the Greater Brisbane region. A Curriculum Activity Risk Assessment is available on request. A student field booklet will be provided upon confirmation of your booking.

**Curriculum Intent**

**Biology**

- All systems are interrelated and interdependent (KI.7)
- Abiotic and biotic factors in an environment influence the size of populations and composition of communities (KI.12)
- Human actions have significant impacts on interactions within an environment (KI.14)
- Different organisms perform different interdependent roles in an ecosystem (KI.15)
- An organism has adaptations specific to its environment (KI.16)

**Science 21 – Living Systems**

- Biodiversity can be affected by changes in selection pressures in the environment (LS.3)
- Interactions in ecosystems exist between living and non-living components (LS.3)

**Geography – Managing the Natural Environment – Managing Catchments**

- River catchments are geographic units that vary in size and complexity of characteristics (KI.1)
- River catchments are changing continuously in response to natural processes and human activity (KI. 4)
- Individuals can contribute to the resolution of catchment management problems (KI.8)