### KLA | Biology/Senior Science
---|---
**Outcomes** | Biology, Preliminary Course – A Local Ecosystem (P7, P8, P12, P15)
 | Senior Science, Preliminary Course – The Local Environment (P7, P12, P15)
**Content** | **Biology**: 8.2 A Local Ecosystem
1. The distribution, diversity and numbers of plant and animals found in ecosystems are determined by biotic and abiotic factors
2. Each aquatic and terrestrial ecosystem is unique
**Senior Science**: 8.5 Local Environment
1. The distribution, diversity and numbers of plants and animals found in ecosystems are determined by the biotic and abiotic factors
2. There is a flow of energy and matter in an ecosystem
3. Each local aquatic or terrestrial ecosystem is unique
4. The impact of humans on aquatic and terrestrial environments varies from place to place
**Location** | Hunter Wetlands Centre, 412 Sandgate Rd, Shortland, Newcastle
**Site Description** | Wetlands EEC is located at the Hunter Wetlands Centre, which is a managed wetland reserve with natural and artificial water features accessed by decks and established walking tracks. The site is classified as part of the Hunter Estuary Ramsar Site under the International Convention on Wetlands (Ramsar). The Wetlands EEC is a school and staff are trained teachers specialising in Environmental Education. Wetlands EEC have a purpose built education centre including theatre, wet room and classroom.
**Program Description** | Students engage in first hand investigations using a variety of sampling techniques to obtain data that will allow them to expand on their understanding of biological concepts whilst analysing the biotic and abiotic factors operating within the wetland ecosystem.
**PowerPoint Introduction**
**Fieldwork including:**
- **Measuring abiotic factors** - water and air temperature, humidity, water depth, pH, turbidity, dissolved oxygen and using data loggers in fresh and brackish systems
- **Recording biotic factors** - identification, distribution and abundance of pond animals and aquatic plants using quadrats, fixed transect, dip nets
- **Plant and macro invertebrate adaptations** including the use of microscopes and constructing food webs
**Conclusion** *Human impacts at this site*
This program is usually delivered over 4 ½ hrs.
**The basic program will be changed to suit larger groups or weather conditions.**
Wetlands EEC teachers rely on the participation of visiting teachers to meet recommended supervision levels. Visiting teachers are ultimately responsible for behaviour of students, students with existing medical conditions or special needs.
**Excursion information** | **What to bring:** Clipboard and pencils, recess and lunch, refillable water bottle, hat, sunscreen, comfortable, covered walking shoes plus any special requirements of the group. (Wet weather gear when necessary). Non-aerosol insect repellent is advisable. **Pre-ordered light lunches only** are available for purchase in The Wetlands Centre’s café.
**Contact** | **Website:** http://www.wetlands-e.schools.nsw.edu.au
 | **Email:** wetlands-e.school@det.nsw.edu.au
 | **Ph:** 02 49558673