

Teacher's Note: Water Testing

This section of the module involves students undertaking practical activities to test the water quality at a site near to the school. It is suggested that ideally this would be a half-day excursion whereby students would walk to the site, conduct a habitat survey, Bug survey and chemical testing of the water. A Practical Manual outlining these activities is provided in the resources.

The emphasis is on the process of scientific investigation not the validity of the data. Activities outlined above should be modified to suit the constraints of your locality, school structure and class –eg the teacher may need to collect water samples and later conduct chemical tests during timetabled periods. Note, some tests eg oxygen can only be tested on site

SAFETY should be a prime consideration in conducting these activities.

Should you require assistance in organising these activities contact Rumbalara Environmental Education Centre, Donnison Street, Gosford. Ph. 4324 7200

Streamwatch is also an established water quality monitoring program for schools and community groups. For more information contact the Streamwatch Coordinator or visit the Streamwatch website at www.streamwatch.org.au



Teacher's Notes - Resources for Water Testing

Resources accompanying this module include the following resources for water quality testing:-

- turbidity tube x 3
- pH test kits x 3
- thermometer x 3
- Total Dissolved Solids (TDS) meters x 3
- Chemmet kit for Ammonia x 3
- Chemmet kit for Dissolved oxygen x 3
- Chemmet kit for Phosphates x 3

We suggest that teachers check to ensure that all items are functioning and adequately stocked before use.

Water Testing in the Local Area

Exercise 26: Testing Water Quality



Group Members:	
Date:	Time:
Location of site:	
Weather:	
Recent rainfall:	

Test	Result	Test	Result
turbidity		pH	
temperature		ammonia	
Total dissolved solids		phosphates	
dissolved oxygen			

Discussion:



Teacher's Notes - Habitat survey

Use the survey form in conjunction with water testing.

Explain the items to be assessed:

Vegetation – has it been mowed, underscrubbed, planted or is it undisturbed?

Weeds – point out the different weeds

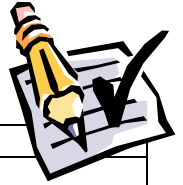
Rubbish - look for litter etc








Drains – are there any outlets nearby

Sewer – are there any pump stations nearby (that could fail and overflow)

Then ask students to reach agreement on where it fits on the sliding scale.

Exercise 27: Habitat Survey



Feature	Assessment	Description
VEGETATION	Original  Changed	
WEEDS	None  A Lot	
RUBBISH	None  A Lot	
SLICKS & FROTH	None  A Lot	
DRAINS	None  A lot	
SEWER POLLUTION RISK	Low  High	
EROSION	None  A Lot	
OTHER OBSERVATIONS		



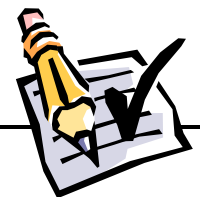
Teacher's Notes: Bio-Indicators

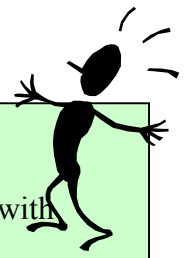
The Streamwatch Water Bug Detective Guide has been developed to provide a quick method of assessing the health of freshwater (not for use in marine/estuarine conditions)

The bugs are ranked according to their sensitivity to declining water quality. Those that are most sensitive receive the highest score. Using the sampling method described on the sheets in the appendix, an index of water quality is determined. The higher the index, the better the water.

Streamwatch conducts a spring and autumn 'bugwatch' each year. Students can download information from the streamwatch website to find out how to enter. The results from all schools are put onto the web.

Exercise 28: Water bug Survey





Science outcome 5.10 (c) and 5.27

Students will discuss strategies used to balance human activities and needs in ecosystems with conserving, protecting and maintaining the quality of the environment.

Acknowledge their responsibility to conserve, protect and maintain the environment for future generations.



Teacher's Note

(Individual or group) Students use magazines, newspapers etc to develop a collage using the template provided that illustrates their perception of human use of the catchment.





Exercise 29: Values

Develop a collage or mindmap using the template provided that illustrates your perception of human use of the catchment using the headings below.

