

Aquatic Macroinvertebrate Identification Key

Common aquatic macroinvertebrates that may be found in the south-eastern region of Australia.

Very Sensitive

Caddis Flies

Alderfly

Mayfly

Stoneflies

Sensitive

Horse Hair Worm

Water mites

Moderately Tolerant

Freshwater Shrimp

Water boatman

Backswimmer

Hydra

Yabby

Clams and Mussels

Side Swimmers

Beetle Larva

Very Tolerant

Snails

Daphnia

Water Flea

Mosquito Larva

Flat Worm

Freshwater Slater

Leach

Indicates high phosphate levels

Indicate good emergent vegetation

Dobson Fly

Fly Larva

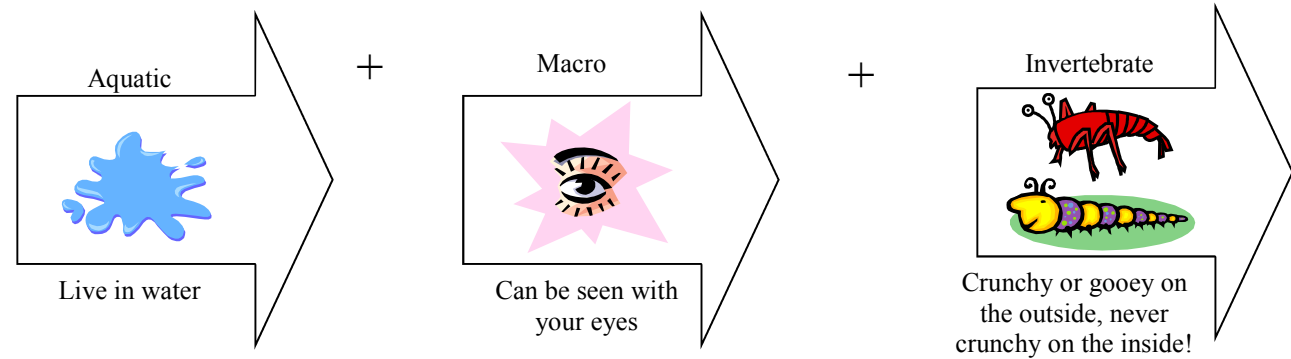
Dragon Fly

Damselfly

5mm

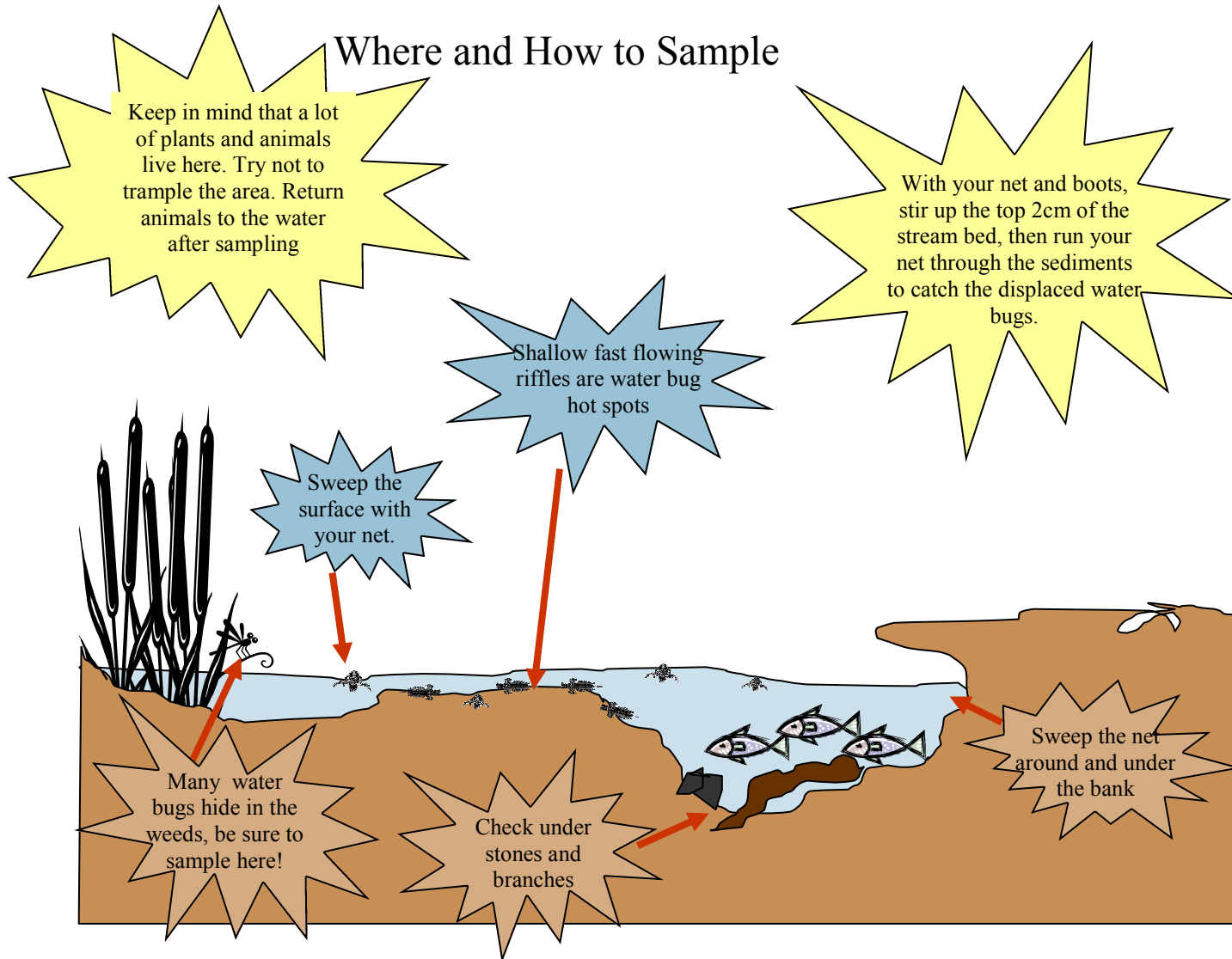
Aquatic Macroinvertebrate Sampling Guide

What is an Aquatic Macroinvertebrate?



We know that different macroinvertebrates have different needs. Some need clean fast flowing cold water, others are quite content to live in polluted lakes and streams. By discovering what lives in a body of water, you can draw conclusions about its health.

Where and How to Sample



Water Bug Survey Results Sheet

Group name: Site Code:
 Survey site:
 Date sampled:

- Step 1: Enter the number of specimens (i.e. how many) of each bug found in column 1
- Step 2: Refer to the weight table for the correct weight factor for the number found
- Step 3: Enter the correct weight factor for each bug in column 2
- Step 4: Multiply the weight factor (column 2) by the bug grade (column 3) and enter the answer in column 4
- Step 5: Add up column 2 (weight factors)
- Step 6: Add up column 4 (bug value x weight factor)
- Step 7: Divide total column 4 by total column 2 to calculate your SIGNAL score
- Step 8: Add up the total number of bug types you found (NOT specimens)
- Step 9: Use the interpretation chart to get an indication of the likely condition of your sampling area

Weight table	
Number of specimens of bug type	Weight factor
1 - 2	1
3-5	2
6-10	3
11-20	4
>20	5

Water Bug Type	Column 1 # of specimens	Column 2 Weight factor	Column 3 Bug Grade	Column 4 Weight factor x Bug Grade
Very sensitive to most pollutants				
Stonefly Nymph			10	
Mayfly Nymph			9	
Alder Fly larva			8	
Caddis fly larva			8	
Sensitive to most pollutants				
Horsehair worm			6	
Water mite			6	
Moderately tolerant of most pollutants				
Beetle or beetle larva			5	
Yabby or shrimp			4	
Dragon fly or damselfly			3	
Fly larvae or midge			3	
Mussel or clam			3	
Nematode			3	
Side swimmer			3	
Very tolerant of most pollutants				
Flatworm			2	
Fresh Water Slater			2	
Moth caterpillar			2	
Segmented worm			2	
Leach			1	
Snail			1	
Totals				

$$\text{SIGNAL Score} = \frac{\text{Total Column 4}}{\text{Total Column 2}}$$

Bug types found not on the list = _____

Total # of bug types = _____

Interpretation Chart

SIGNAL Score	> 5.5	Poor habitat	Good habitat
	< 5.5	Pollution	High salinity or nutrients

<7 >7

Number of bug types