

# 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

**Very Tolerant**

Snails

Indicates high phosphate levels

Daphnia

Water Flea

Mosquito Larva

Flat Worm

Freshwater Slater

Leach

**Indicate good emergent vegetation**

Dobson Fly

Fly Larva

Dragon Fly

Damselfly

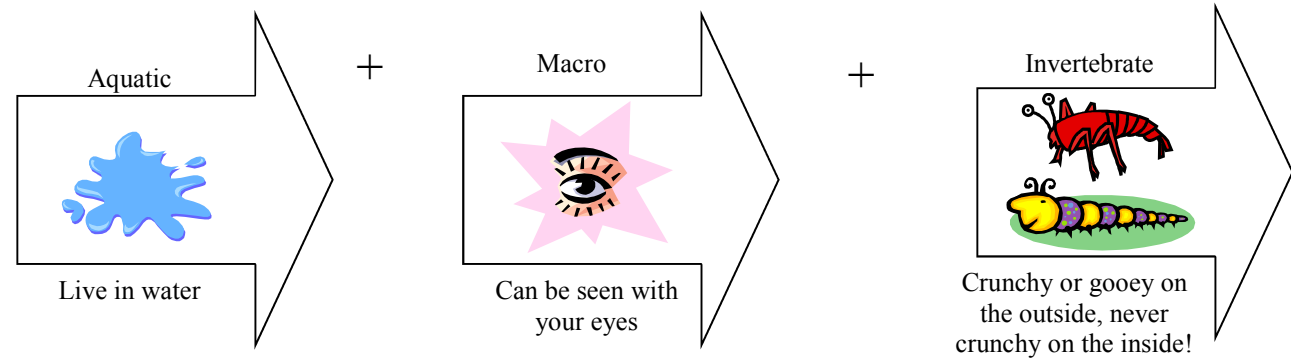
Clams and Mussels

Side Swimmers

Beetle Larva

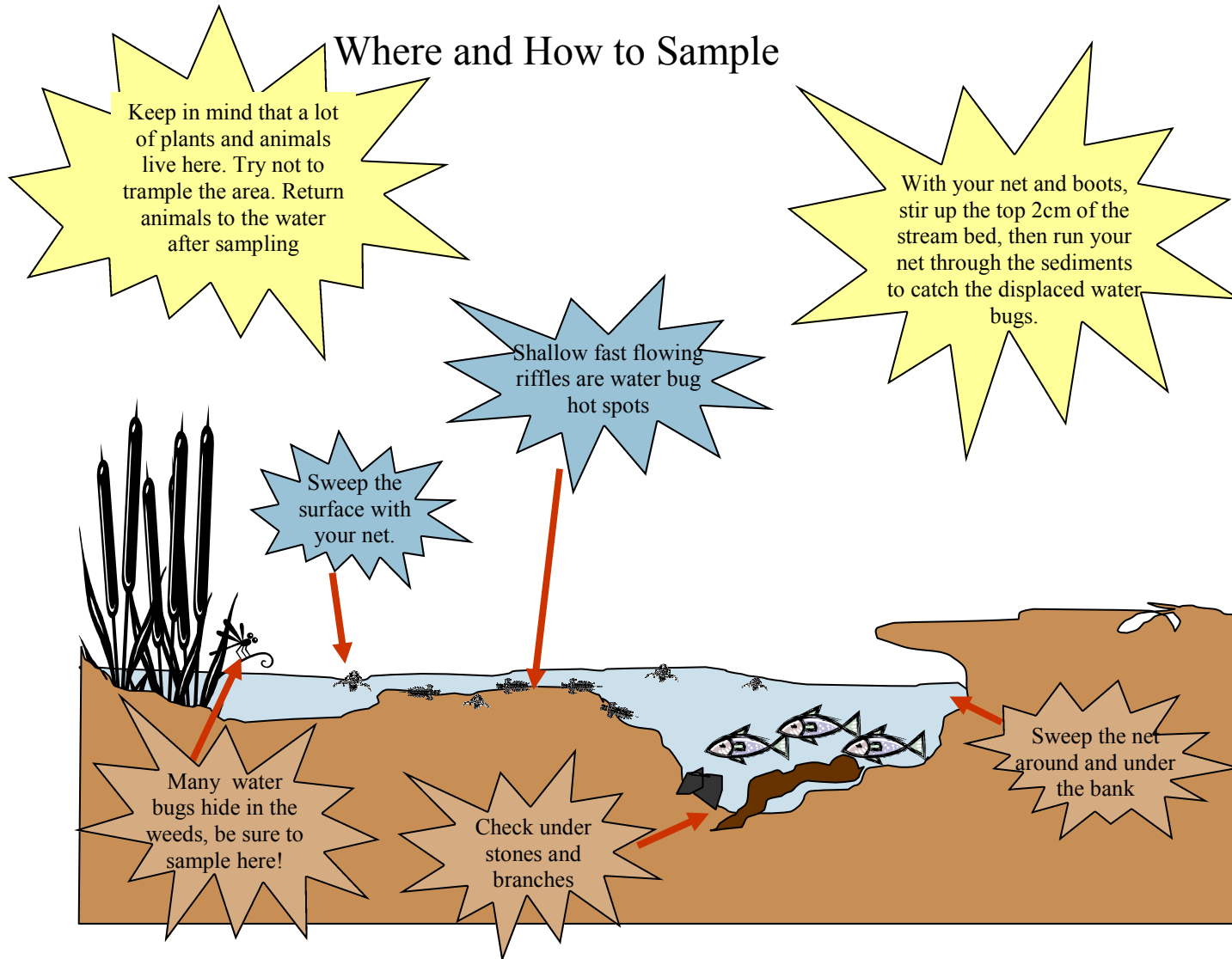
# Aquatic Macroinvertebrate Sampling Guide

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
<b>Very sensitive to most pollutants</b>				
Stonefly Nymph			10	
Mayfly Nymph			9	
Alder Fly larva			8	
Caddis fly larva			8	
<b>Sensitive to most pollutants</b>				
Horsehair worm			6	
Water mite			6	
<b>Moderately tolerant of most pollutants</b>				
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	
<b>Very tolerant of most pollutants</b>				
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