

Aquatic Macroinvertebrate Identification Guide

A visual reference to the more common Macroinvertebrate species found in the Upper Murray River and Wetlands.



Government of South Australia
South Australian Murray-Darling Basin
Natural Resources Management Board

Very Tolerant

Most of these common Macros are adaptable to their environment and can tolerate *some* pollution and can even sometimes live in very yucky water - they are strong & hardy!

Non-biting Midge larvae 3	Segmented Worm 2	Mosquito Larvae 1	Water Boatman 2	Backswimmer 1	Damselfly Nymph 3	Leech 1
Freshwater Shrimp 3	Isopod (Sow Bug) 2	Water Scorpion 3	Water Scavenger Beetle 2	Predacious Diving Beetle 2	Predacious Diving Beetle Larvae 2	Creeping Water Bug 3
Scavenger Beetle Larvae 2	Dragonfly Nymph 3	Scud (sideswimmer) 3	Needle Bug 3	Pouch Snail 1	Gilled Snail 1	Soldier Fly Larvae 2

Tolerant

These critters can handle a little bit of pollution.

Water Strider 4	Whirligig Beetle 4
Yabby 4	Whirligig Beetle Larvae 4
Pea Shell 5	Biting Midge Larvae 4

Interpreting your results

Counting the number of Macroinvertebrates that we find, and adding up their sensitivity scores can indicate the quality of the water they are living in! We can use a simple equation to get our "SIGNAL SCORE" which can then help us to estimate the health of the water we are monitoring. Here is an example:

Let's say we found the following bugs: Freshwater shrimp, Whirligig Beetle, Sow Bug, Damselfly Nymph, Water Boatman, Backswimmer, Caddisfly Larvae and a Yabby.

STEP ONE:

Add up the number of different Macroinvertebrates you found (our example above is 8 different bugs). This is your **TAXA RICHNESS** number: (8)

Add up all of the sensitivity numbers for those bugs that you found, this give you your **POLLUTION INDEX** number - in this example it would be: (27)

STEP TWO:

Calculate your **SIGNAL SCORE** by dividing your **POLLUTION INDEX** number by your **TAXA RICHNESS** number:

27 divided by 8 = 3.3 so your **SIGNAL SCORE** is 3.3

STEP THREE:

Use the **SIGNAL SCORE** Table to help estimate the health of your waterway.

So you see - the **MORE** different bugs we find, and the **MORE** sensitive bugs we find - the better the water quality must be!

SIGNAL SCORE	POLLUTION RATING
Higher than 5	Healthy Waterway
Between 4-5	Indicates Mild Pollution
Between 3-4	Indicates Moderate Pollution
Less than 3	Could Indicate Severe Pollution

Sensitive

These Macros are some of our more sensitive bugs, they are sensitive to any kind of pollution.

Riffle Beetle Larvae 7	Marsh Beetle Larvae 6	Watermite 7
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Very Sensitive

These Macros are some of our more sensitive bugs, they are sensitive to any kind of pollution.

Stonefly Nymph 10	Mayfly Nymph 9	Caddisfly Larvae 8
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Not Rated

These little critters have not been rated as to their pollution sensitivity.

Seed Shrimp NR	Copepod NR	Water Flea NR
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Pollution Sensitivity: NR = Not Rated 10-8 = Very Sensitive 7-6 = Sensitive 5-4 = Tolerant 3-1 = Very Tolerant

Which Critter did you Catch?

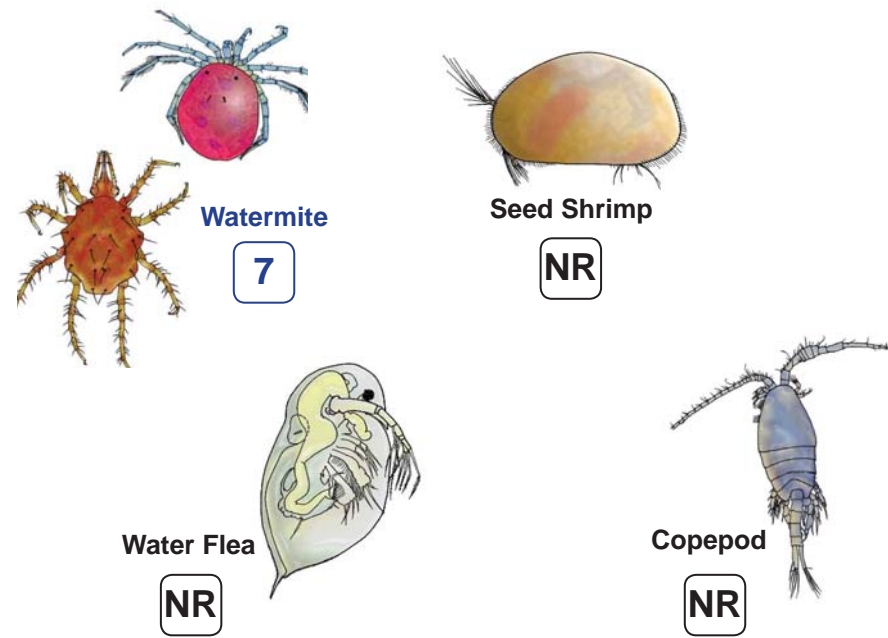
A visual guide to Macroinvertebrates for Early-Primary years.



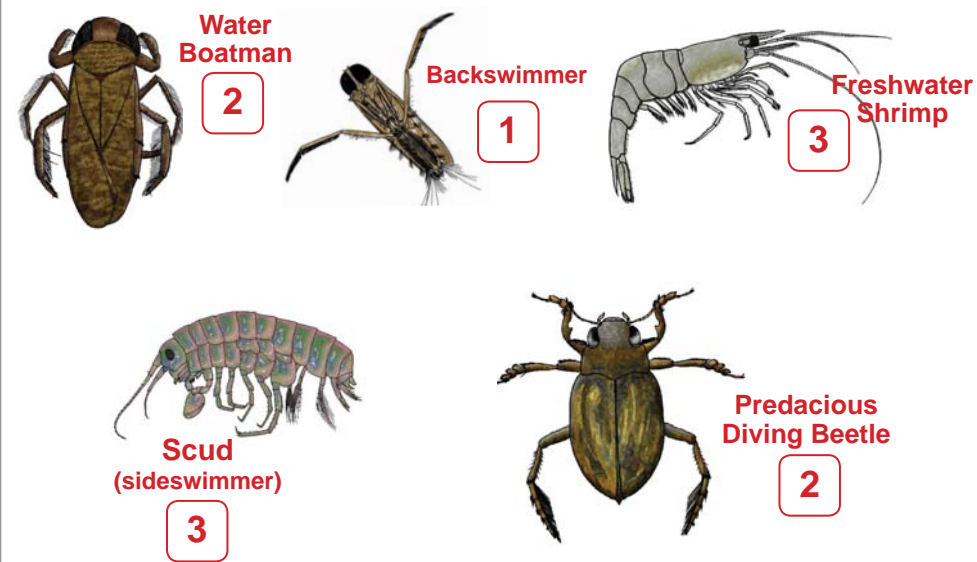
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Look very closely and see if you can work it out!

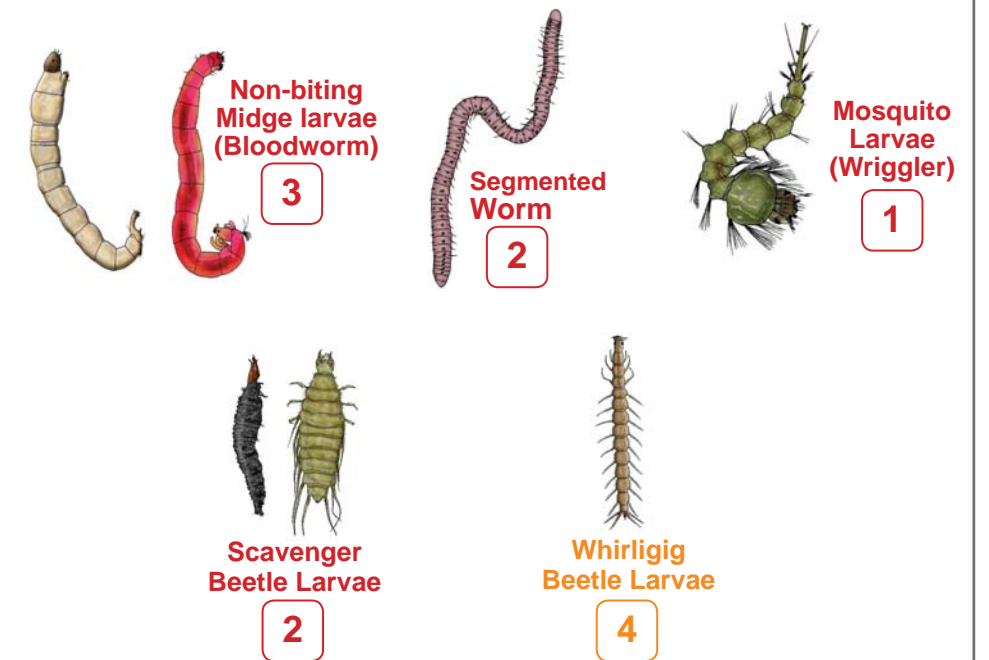
Is it Really Tiny? It could be a...



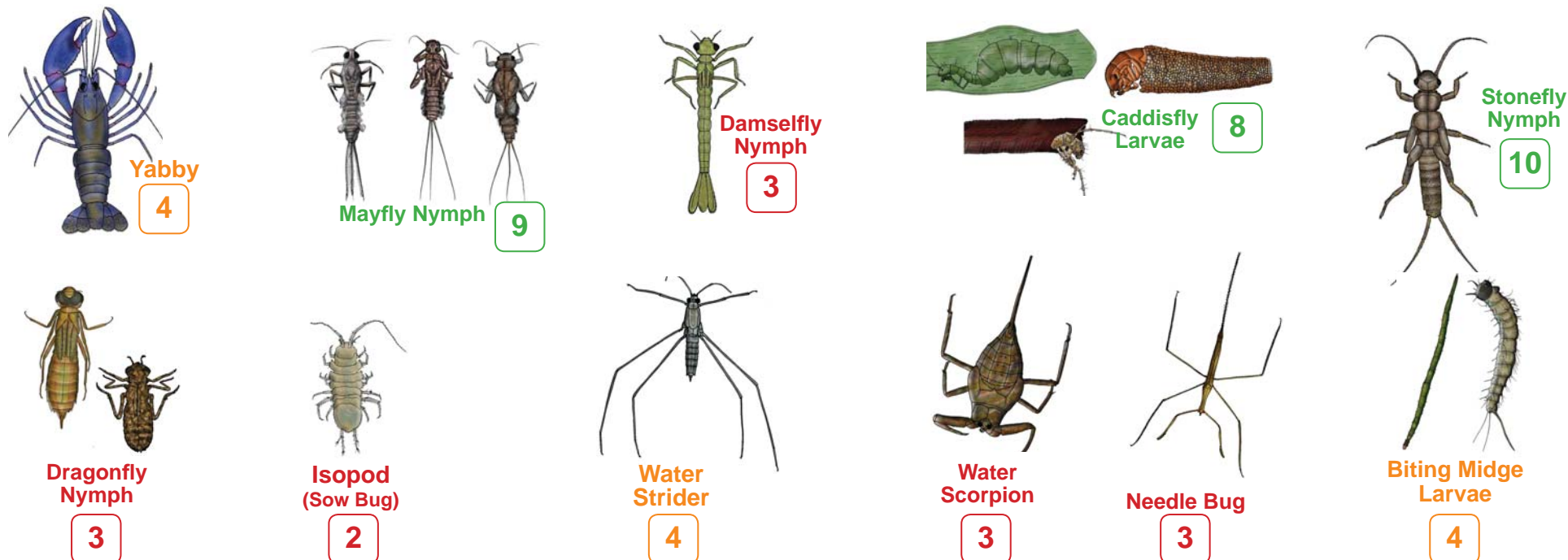
Does it swim Fast? It could be a...



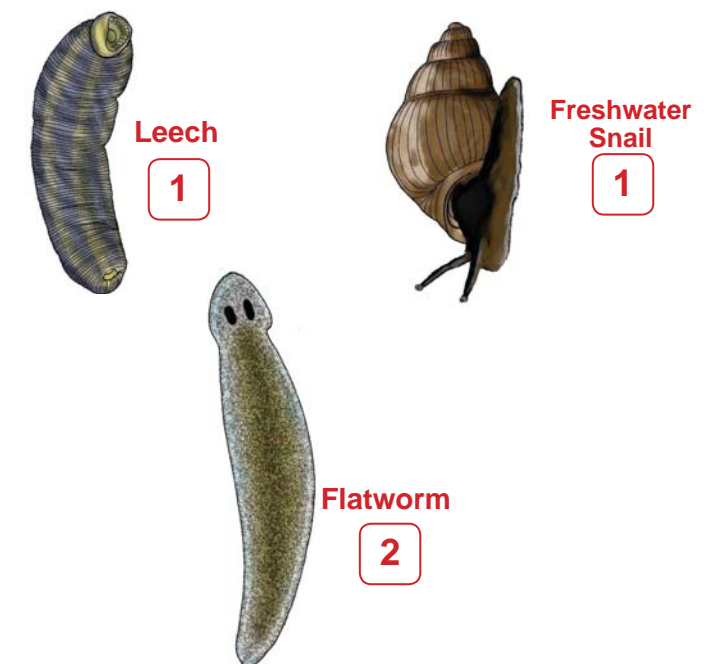
Does it Wriggle? It could be a...



Does it have Legs, Tails or Feelers? It could be a...



Does it slide? It could be a...



Pollution Sensitivity: **NR** = Not Rated **10-8** = Very Sensitive **7-6** = Sensitive **5-4** = Tolerant **3-1** = Very Tolerant