

Waterbug Cards

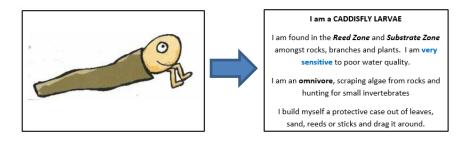
Each fact card includes:

- Image, name and habitat (see habitat terms below)
- Sensitivity level (very sensitive, sensitive, tolerant and very tolerant)
- Diet (carnivore, herbivore, omnivore, detrivore, parasite)
- Other interesting facts

Instructions:

Print and assemble cards with picture and information back to back (laminated will increase their longevity) and use with the <u>In Stream Habitat Poster</u>, placing bugs in their preferred habitat zone when introducing waterbugs to students, or

• print the pictures and information separately and match to each other.



- play celebrity head to 'guess the bug' with either the image, the name or the fact card displayed
- sort the bugs into groups; herbivores/carnivores, legs/no legs, habitat zones, sensitive/tolerant. How else could you classify them?
- print two sets (pictures only) and use for games of Concentration, Snap or Fish

Glossary of Zones:

Surface Zone: the top of the water column in a waterway

Deep Zone: Amid the water column of a waterway

Reed Zone: Among the aquatic vegetation and reeds of a waterway

Littoral Zone: Along the edge of a waterway

Substrate Zone: the gravel, rock, sand area at the bottom of a waterway

Benthic Zone: the sediment and mud at the very base of a waterway

These fact cards match the bugs and sensitivity levels found:

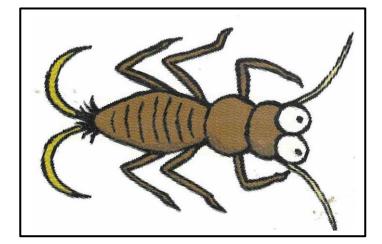
- on the Waterbug ID chart used in Macroinvertebrate Sampling sessions
- on the Waterbug Flip Chart and Data Portal found on the River Detectives website
- and on the <u>Waterbug Fact Sheets</u>

For more detail about these waterbugs refer to the <u>Now and Then booklet</u> or the <u>Agreed Level Taxonomy</u> (<u>ALT</u>) booklet found on the River Detectives website.



Very Sensitive Waterbug Cards

Very Sensitive Bugs

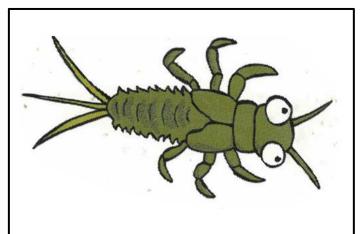


I am a STONEFLY NYMPH

I live in the *Substrate Zone* on stones in the fast flowing sections of creeks or amongst reeds in slow moving water. I am very sensitive to poor water quality.

I can be a **detrivore** or **omnivore**.

I can delay my development in drought conditions to wait for rain.

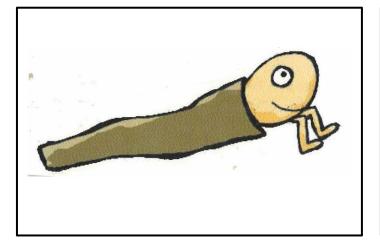


I am a MAYFLY NYMPH

I live in the *Substrate Zone* and I am very sensitive to poor water quality.

I can be a **detrivore** or **omnivore** eating algae, decaying organic matter and invertebrates.

I have gills on the sides of my abdomen that I flutter and I may only live for a few days or hours.



I am a CADDISFLY LARVAE

I am found in the *Reed Zone* and *Substrate Zone* amongst rocks, branches and plants. I am very sensitive to poor water quality.

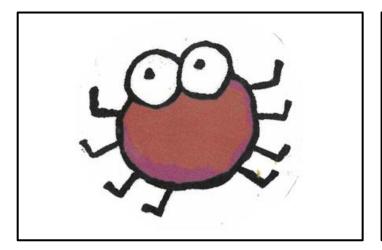
I can be a **detrivore** or **omnivore** eating plant material, fine organic matter and invertebrates.

I build myself a protective case out of leaves, sand, reeds or sticks and drag it around.



Sensitive Waterbug Cards

Sensitive Bugs



I am a WATERMITE

I am usually found in the *Reed Zone* amongst plants in sheltered waterways. I am **sensitive** to poor water quality.

I am a **parasite**, sucking juices from small aquatic organisms.

You might be able to see the blood I've sucked by my red colour.

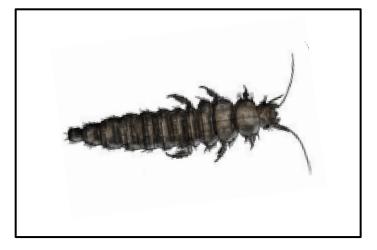


I am a BLACK FLY LARVAE

I cling onto logs, rocks and aquatic plants. I am sensitive to poor water quality.

I am a **detrivore** and **carnivore**, feeding on decaying organic matter and insect larvae.

I look like a 'chicken drumstick'. To move around I vomit up gluey silk then I use the hooks on my bottom to cling onto the silk.



I am a MARSH BEETLE LARVAE

I am found in the *Littoral Zone* in flowing water.

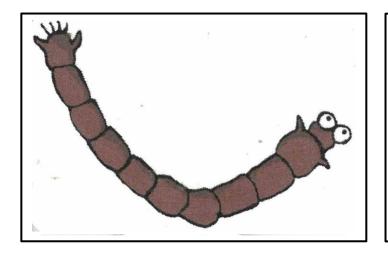
I am sensitive to poor water quality.

I can be a **detrivore** or **omnivore** eating small organisms, algae and decaying organic matter.

I eat by filtering food from the surface of leaves and stones using complex comb-like mouthparts.



Tolerant Bugs

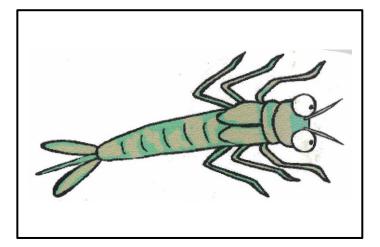


I am a BLOOD WORM

I live in the *Benthic Zone* and am tolerant to poor water quality.

I can be a **herbivore**, **detrivore** and **parasite**, feeding on algae, bacteria and organism juices.

I am often found in places with little oxygen available, such as among rotting leaves.



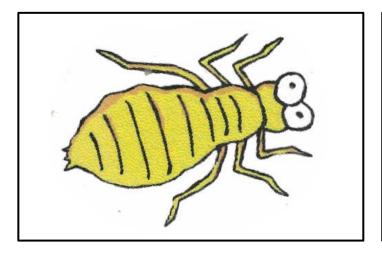
I am a DAMSELFLY LARVAE

I live in the *Reed Zone*, clinging to reeds or snags.

I am tolerant to poor water quality.

I am a **carnivore** emerging from eggs that were inserted into water plants.

The three tail feathers at the end of my body are actually gills that help me to breathe.



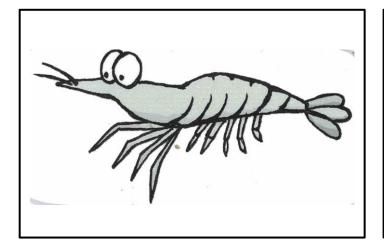
I am a DRAGONFLY LARVAE

I live in the *Reed Zone*, clinging to emergent plants. I am tolerant to poor water quality.

I am a **carnivore** and catch small creatures with my extending mouthparts.

I have gills on the inside of my body so I pump water in and out of my bottom to breathe.



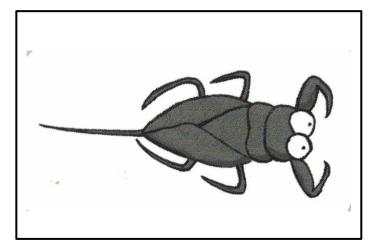


I am a GLASS SHRIMP

I live in the *Benthic Zone*, often close to the bank on rocks or among aquatic plants. I am tolerant to poor water quality.

I am a **detrivore** eating rotting plant matter.

I eat by using the first two pairs of legs to grab food and put it in my mouth.

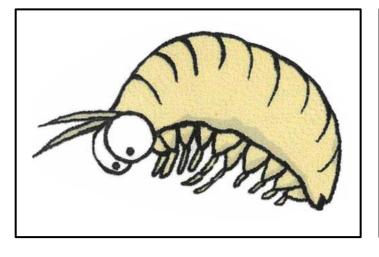


I am a LEAFY WATER SCORPION

I live in the *Reed Zone* and am tolerant to poor water quality.

I am a **carnivore**, feeing on decomposing matter.

My tail is a breathing tube that I use like a snorkel and I have excellent eyesight.



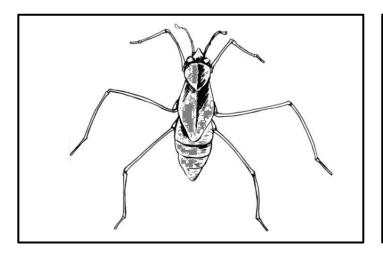
I am a SIDE SWIMMER (or SCUD)

I live in the *Reed Zone* in still or slow flowing water and am tolerant to poor water quality.

I am an **omnivore**, feeling on any algae or dead animals that will fit in my mouth!

Amphipods are related to crabs and can be green, red, grey or brown coloured.



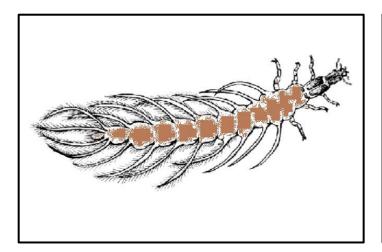


I am a WATER STRIDER

I am usually found in the *Surface Zone* and I am tolerant to poor water quality.

I am a carnivore.

My long and slender middle and hind legs enable me to 'skate' on the water surface.

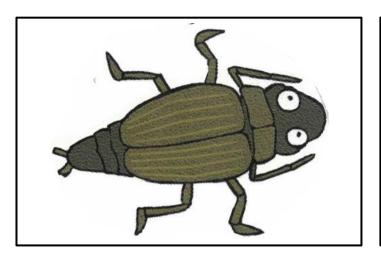


I am a WHIRLIGIG BEETLE LARVAE

I am usually found in the *Littoral Zone* and I am tolerant to poor water quality.

I am a **carnivore** and am covered in feathery projections.

I swim fast, sometimes swimming with my legs, sometimes undulating my abdomen.



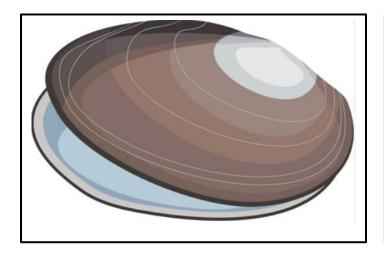
I am a WHIRLIGIG BEETLE

I am usually found in the *Surface Zone* and I am tolerant to poor water quality.

I am a **carnivore** and I like to eat dead insects, worms and insect larvae.

I whirl around on the surface of the water using my split eyes to see above and below the surface.





I am a FRESHWATER MUSSEL

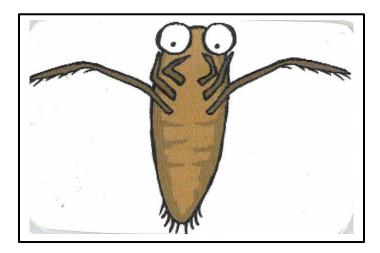
I am usually found in the *Substrate Zone* and I am tolerant to poor water quality.

I am a **detrivore**, eating decaying organic matter and bacteria trapped by my gills.

I don't move but are found in large groups dug into the sediment of still / slow moving waters.



Very Tolerant Bugs

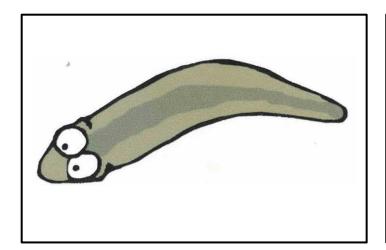


I am a BACKSWIMMER

I am usually found in the *Deep Zone* and I am very tolerant to poor water quality.

I am a **carnivore**. I like to suck the body juices of other insects, tadpoles and small fish!

I can even snatch bugs on the water surface, drag them under and eat them.

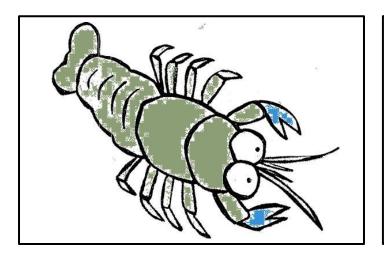


I am a FLATWORM

I live in the *Benthic Zone* and I am very tolerant to poor water quality.

I am a **detrivore** and **carnivore**, feeding on decomposing plant / animal matter and worms.

I can glide upside down on the under side of the water surface.



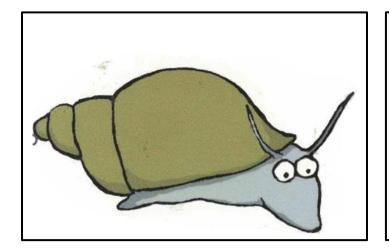
I am a YABBY

I live in the *Deep and Benthic Zones* and I am very tolerant to poor water quality.

I am a **detrivore** but will eat carrion too.

I can survive in drying waterways by burying deep into the moist mud and waiting for rain. I can also travel overland to other waterways.



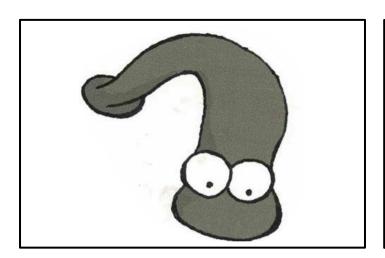


I am a FRESHWATER SNAIL

I live in the *Benthic Zone* in the sediment and sludge.

I am very tolerant to poor water quality.

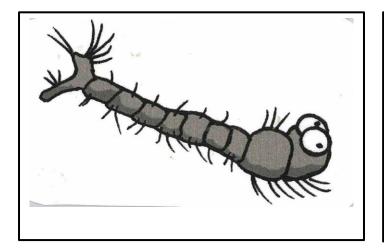
I am a **herbivore**. I eat leaves and I scrape algae from the surface of rocks and plants.



I am a LEECH

I am usually found in the *Benthic Zone* and I am very tolerant to poor water quality.

I am a **parasite** and mainly feed on the blood and juices of snails and other large aquatic animals. I have suckers at each end of my body that help me to move and latch onto my prey.



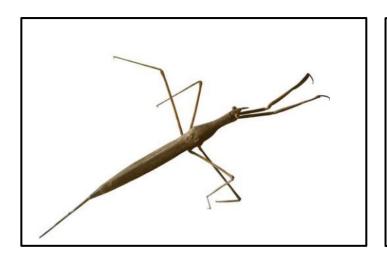
I am a MOSQUITO LARVAE

I am usually found in the *Surface Zone* and I am very tolerant to poor water quality.

I am an omnivore, filter feeding on smaller wrigglers, bacteria, fungi and algae.

As a pupa I do not eat at all so I rely on the diet of my larval stage to make it through to adulthood.

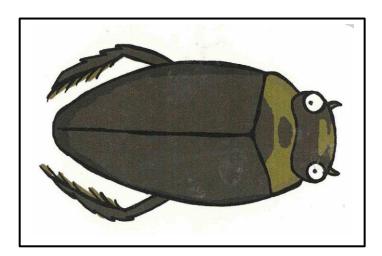




I am a SLENDER WATER SCORPIAN

I am usually found in the *Surface Zone* in still, shallow, densely vegetated water bodies and I am **very tolerant** to poor water quality.

I am a **carnivore**. I am a 'sit and wait' predator and use my straw-like mouthparts to pierce my prey and suck fluids from it's body.

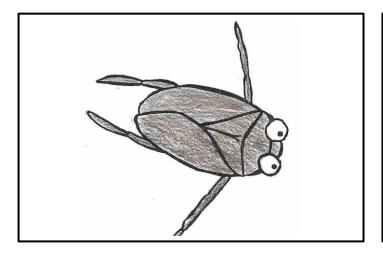


I am a DIVING BEETLE

I live in the *Surface Zone* and I am very tolerant to poor water quality.

I am a **carnivore** and I sometimes even attack small fish and tadpoles!

I can trap an air bubble under my wings so I can breathe underwater like a scuba diver.



I am a WATER BOATMAN

I live in the *Surface Zone*. I am common in all types of aquatic habitats and I am **very tolerant** to poor water quality.

I am a **carnivore** and **detrivore**, catching insect larvae and collecting decaying organic matter.

I can fly from one water body to another.