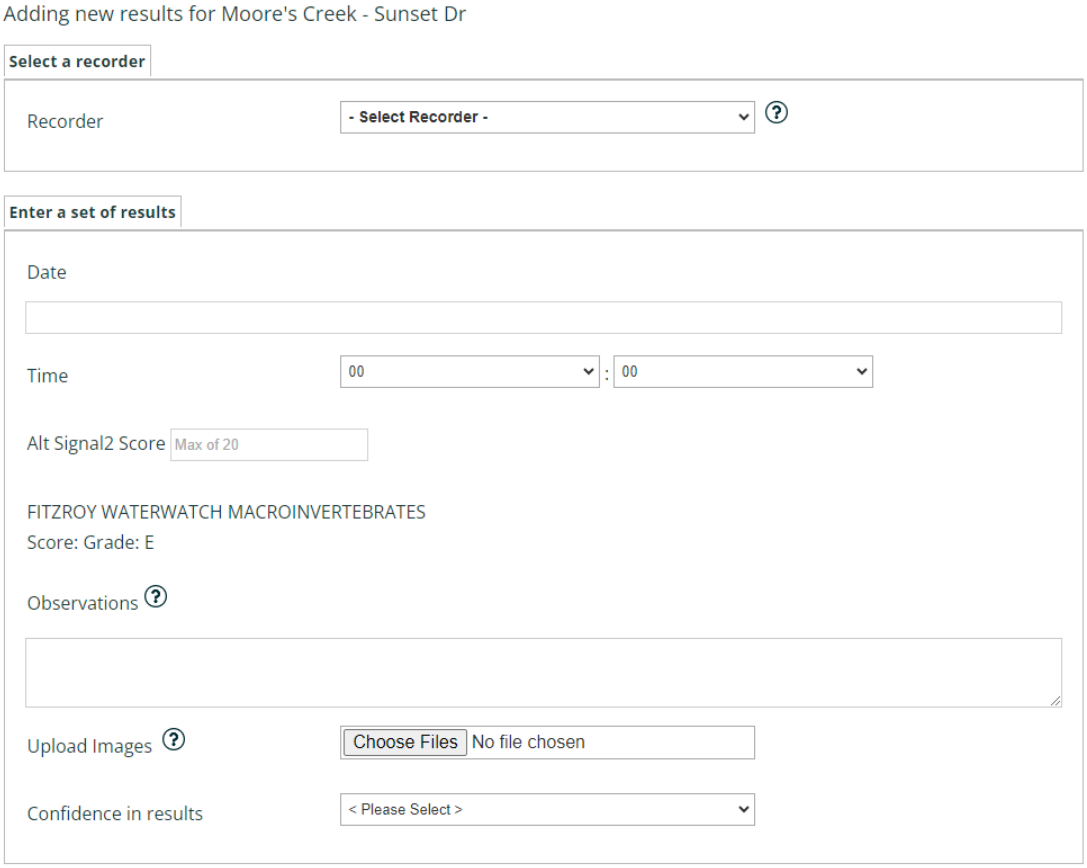
Fitzroy Waterwatch
Macroinvertebrate ID
ALT Signal2 Method

Once your sample is collected (using kick netting and sweep netting as instructed by training or found in the sampling manual) this method allows you to identify macroinvertebrates to Family or Order classification in a short time without a microscope.

Before you start, decide whether you will be identifying to Family level or Order. Order is quicker and much easier for beginners. Family level provides an extra level of detail for those interested and with a bit of experience identifying waterbugs. **The counting sheets and formulas you use will be different depending on whether you are identifying to Order or Family level.** If you're not sure, try Order identification first.

1. Pour your sample out into larval trays
2. Set up your live picking equipment – pipettes, forceps, ice cube trays, specimen dishes, or other accessible picking equipment to you.
3. Pick as many macroinvertebrates out of your larval tray sample as you can in 20-30mins
    a. Try to be 'fair' in your picking – don't target a single species, try to pick out a representative amount and diversity of the bugs that you collected in your sample, some bugs will be easier to catch than others but still do your best to catch every different species you can
4. Stop when you run out of bugs or you reach 30 mins
5. Now you need to sort and count your bugs into either Family or Order classifications
    a. Use the counting sheet provided to record your bugs (either Order or Family depending on the method you've chosen)
    b. Use an identification guide to help you – either the pdf ALT Key v1.5 available in our Waterwatch Resources or another reputable macroinvertebrate ID book/app/website
6. Once you have completed counting and sorting you need to record and calculate your Weight Factors and Totals – use the sheet provided
7. Calculate your ALTSignal2 score using the provided formula
8. Enter your ALTSignal2 score into the Waterwatch portal under Macroinvertebrates



a.
b. Follow normal processes to fill out the rest of the portal fields

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MACROINVERTEBRATE ID COUNTING SHEET – IDENTIFICATION TO ORDER

Site
Date
Time

Order	AltSignal Grade	Count (no. bugs you caught of each order)	Weight Factor (refer to Weight Factor table)	Grade x Weight Factor (AltSignal Grade multiplied by Weight Factor)
Turbellaria (Flat worms)	2			
Nermertea (probiscous worms)	3			
Nematoda (roundworms)	3			
Nematomorpha (horsehair worms)	6			
Polychaeta (segmented worms)	1			
Oligochaeta (worms)	2			
Hirudinea (leeches)	1			
Gastropoda (snails)	1			
Bivalvia (mussles)	3			
Acarina (mites)	6			
Amphipoda (scuds/side swimmers)	3			
Decapoda (shrimps/ yabbies, crabs)	4			
Mecoptera (scorpionflies)	10			
Ephemeroptera (mayflies)	9			
Odonata (damselflies and dragonflies)	3			
Plecoptera (stoneflies)	10			
Megaloptera (alderflies/dobsonflies)	8			
Hemiptera (true bugs)	2			
Neuroptera (lacewings)	6			
Coleoptera (beetles and beetle larvae)	5			
Diptera (true flies)	3			
Trichoptera (caddis flies)	8			
Lepidoptera (moths)	2			
			TotalWF*	TotalGWF**
Totals				

* Sum of all numbers in Weight Factor column

**Sum of all numbers in Grade x Weight Factor column

ALT Signal 2 Score	

ALT Signal 2 Score = TotalGWF / TotalWF

WEIGHT FACTOR TABLE	
Count of specimens	**Weight Factor**
1 - 2	1
3 - 5	2
6 - 10	3
11 - 20	4
>20	5

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MACROINVERTEBRATE ID COUNTING SHEET – IDENTIFICATION TO FAMILY

Site
Date
Time

Family (Fill in the family names and AltSignal Grades of identified waterbugs using Reference List Macroinvertebrates ALT Signal grade by Family available online)	**AltSignal Grade**	**Count** (no. bugs you caught of each order)	**Weight Factor** (refer to Weight Factor table)	**Grade x Weight Factor** (AltSignal Grade multiplied by Weight Factor)
			TotalWF*	TotalGWF**
Totals				

* Sum of all numbers in Weight Factor column

**Sum of all numbers in Grade x Weight Factor column

ALT Signal 2 Score	

ALT Signal 2 Score = TotalGWF / TotalWF

WEIGHT FACTOR TABLE	
Count of specimens	**Weight Factor**
1 - 2	1
3 - 5	2
6 - 10	3
11 - 20	4
>20	5