Streamwatch
A Greater Sydney Landcare Program

Streamwatch Freshwater Waterbug Fieldsheet

Survey Site Name_____

Group_____

Date_____ Time_____

Last Rainfall		☐ Within 24 hours	☐ 1-3 days	☐ 4-7 days	☐ >7 days
Rainfall description		☐ Light	☐ Medium	☐ Heavy	
Flow magnitude		☐ Not observed	☐ No flow	☐ Medium flow	☐ High flow
Observations (Visible pollution, wildlife, stream characterises)					
Macroinvertebrate types		***A***	***B***	***C***	***D***
Sensitivity rating	***Bug types***	***Sensitivity rating***	***Number of bugs found***	***Weight factor***	***Column A x Column C***
Very sensitive	Stone fly nymph	10			
	Mayfly nymph	9			
Sensitive bugs	Alderfly Larva	8			
	Caddisfly larva	8			
	Riffle Beetle & Larva	7			
	Water mite	6			
Tolerant bugs	Beetle larva	5			
	Dragonfly nymph	4			
	Water Strider	4			
	Whirligig beetle & larva	4			
	Freshwater yabby	4			
	Damselfly nymph	3			
	Fly larva & pupa	3			
	Midge larva & pupa	3			
	Freshwater mussel	3			
	Nematode	3			
	Freshwater sandhopper	3			

	Freshwater shrimp	3			
	Water scorpion/needle bug	3			
Very tolerant bugs	Diving beetle & larva	2			
	Flatworm	2			
	Hydra	2			
	Water treader	2			
	Freshwater worm	2			
	Freshwater slater	2			
	Water boatman	2			
	Backswimmer	1			
	Bloodworm	1			
	Leech	1			
	Mosquito larva & pupa	1			
	Freshwater snail	1			
	TOTALS				

How to calculate site health

Step 1: Tally Bug Counts

- Count the number of each bug type found in your sample and record the totals in **Column B**.

Step 2: Refer to Weight Table

- Use the Weight Table to find the **Weight Factor** corresponding to the number of bugs counted in **Column B** for each type.

Step 3: Record Weight Factors

- Write the correct **Weight Factor** for each bug type in **Column C**.

Step 4: Calculate Sensitivity x Weight Factor

- Multiply the **Bug Sensitivity Rating** (from **Column A**) by the **Weight Factor** (**Column C**) for each bug type.

WEIGHT TABLE	
No. of each bug found (Column B)	Weight factor (Column C)
1–2 →	1
3–5 →	2
6–10 →	3
11–20 →	4
>20 →	5

- Enter the result in **Column D**.

Step 5: Total Column C (Weight Factors)

- Add up all the values in **Column C** to get the **Total Weight Factor**.

Step 6: Total Column D (Sensitivity Rating x Weight Factor)

- Add up all the values in **Column D** to get the **Total Sensitivity Rating x Weight Factor**.

Step 7: Calculate SPI Value and Determine Stream Quality

Calculate the **SPI** = $\frac{\text{Total of column D}}{\text{Total column C}} = \frac{\square}{\square} = \text{SPI} = \square$

Stream Quality Rating = _____

- Match the calculated SPI value to the provided Stream Quality Rating scale (e.g., thresholds for "Good," "Fair," "Poor").
- Record the **Stream Quality Rating**.

What your Stream Pollution Index (SPI) score means	
Stream Pollution Index	***Stream Quality Rating***
Less than 3.0	Poor
3.0 to 4.0	Fair
>4.0 to 6.0	Good
>6.0	Excellent