Freshwater Monitoring – Stream Health Monitoring Data Recording Sheet

Date _____

Use this handout to record the data you have collected.

The physical factors

Physical factor	Measurement result
Clarity y1 = _____ y2 = _____ y1+y2÷2 = _____	
Temperature	
pH	
Conductivity	

Water flow – Velocity

Velocity measurement	Result
1.	
2.	
3.	
Total	
Average time (total ÷ 3)	
Velocity (distance ÷ time)	

Invertebrate (bug) sampling

Record the number of invertebrates found in the stream. Take note of the pollution tolerance number – 4 being the most sensitive and 1 being the least sensitive.

Mayflies 4	4	4
Number found:	Number found:	Number found:
Large Stoneflies 4	4	**Small Stoneflies** 2
Number found:	Number found:	Number found:
Uncased Caddis 3	**Cased Caddis** 3	**Purse Caddis** 1
Number found:	Number found:	Number found:
Dobsonfly 3	**Beetles** 2	**Damselflies** 2
Number found:	Number found:	Number found:
Dragonflies 2	**Amphipods** 2	**Snails** 1
Number found:	Number found:	Number found:
Water Boatmen 1	**Worms** 1	**Flies** 1
Number found:	Number found:	Number found:

Visual habitat assessment – SOSMART

Record your observations:

Smell (of the water)

_____

_____

Obstructions (restricting the water flow)

_____

_____

Streambed (anything covering the streambed)

_____

_____

Margin or bank (stability, erosion, vegetation)

_____

_____

Appearance of the water (clarity, colour)

_____

_____

Rate of flow (fast or slow)

_____

_____

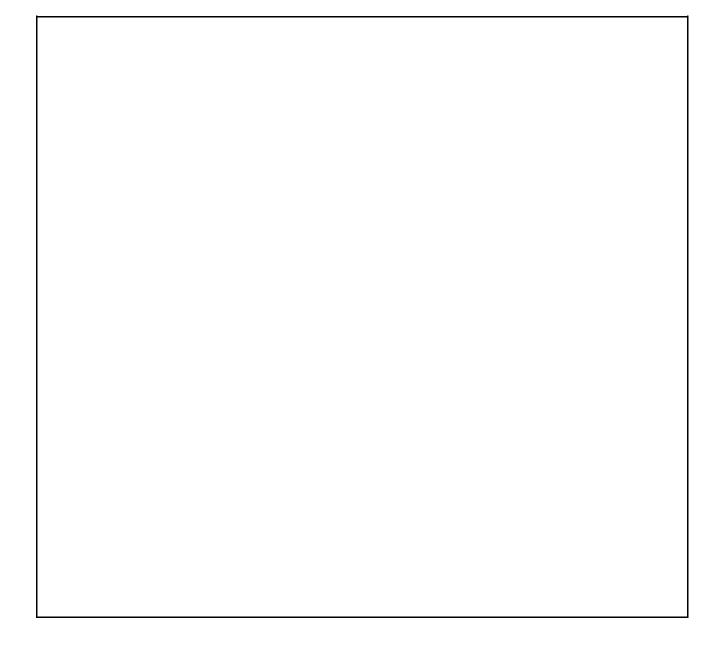**T**op surface of the water (bubbles, algae)

_____

_____

Visual habitat assessment – observational drawing of the stream

Make an observational drawing of the stream. Include and label:
- the photopoint – this should be at the same location, direction and frame each visit
- water quality (i.e. clarity) sampling point
- a safe entry point, this may change
- riffles – fast, shallow water flows that break the water surface
- runs – smooth unbroken water flow
- macroinvertebrate sampling area
- stream bed composition area
- direction of the water flow.

Level 1 factors – in the stream					
Habitat factors	**Score**				**Score**
	Excellent 8/7	**Good 6/5**	**Fair 4/3**	**Poor 2/1/0**	
Cover in the stream	Lots of different types of cover, including snags and logs under the water, undercut banks, cobbles and rocks of different sizes. Lots of plants overhanging and in the stream.	Up to half of the stream has cover of snags, logs, cobbles or rocks. Some plants overhanging and in the stream.	Less than a third of the stream has cover from snags, logs, cobbles or rocks. Not a lot of plants overhanging and in the stream.	There is very little or no cover provided in the stream and no plants overhanging or in the stream. The stream may have been cleared or altered by humans.	
The flowing water	Stream has lots of different sized pools and riffles (water running over rocks, cobbles etc.) of different widths and depths. Stream has both bends and straight parts.	Good variety of riffles, pools, bends and straight runs in the stream. The riffles and pools are of different widths and depths.	A few riffles and pools with some differences in depth of the stream.	The stream has very little variety with not much differences in stream depth.	
The stream bottom	The gravel, cobbles and rocks on the bottom of the stream are up to 1/4 covered with fine sediments.	The gravel, cobbles and rocks on the bottom of the stream are between 1/4 and 1/2 covered with fine sediments.	The gravel, cobbles and rocks on the bottom of the stream are between 1/2 and 3/4 covered with fine sediments.	The gravel, cobbles and rocks on the bottom of the stream are more than 3/4 covered with fine sediments.	

Level 2 factors – on the banks						
Habitat factors	**Score**				**Score**	
	Excellent 4	**Good 3**	**Fair 2**	**Poor 1**	**Left**	**Right**
Protection of the banks	More than 90% of the banks are covered with many different types of plants.	Between 70 and 90% of the banks are covered with different types of plants.	Between 50 and 70% of the banks are covered with only a few types of plants.	Less than 50% of the banks are covered with plants.		
How stable the banks of the stream are	The stream bank is stable with little or no erosion seen.	Stream bank appears stable, some evidence of past erosion which may now have new plants growing.	Stream bank unstable and examples of erosion easily seen.	Unstable stream bank which may crumble when walked on.		
Plants present on the stream banks	Many different types of plants grow in an area at least 20m wide back from the stream.	Plants cover between 10 and 20m back from stream. Some signs of human disturbance.	Plants cover only 5-10m back from stream. Signs of a lot of human disturbance of the vegetation.	Plants cover less than 5m back from the stream.		

Add up the total scores for each of the factors

Use the range below to assess the stream habitat rating of your site.

Level 1 factors		
Level 2 factors	Left bank	
	Right bank	
Total		

Rating	Score
Excellent	48 – 40
Good	39 – 30
Fair	29 – 20
Poor	19 – 12

Our stream is rated as _____