

RIVER DATE..... LOCATION CODE

REACH: All information in this section refers to the entire reach.

SUBSTRATE DESCRIPTION (% cover): **USE % COVER AND PARTICLE SIZE DIAGRAMS.**

	<u>phi</u>
Bedrock[.....]	(-9.5)
Boulder (>256mm)[.....]	(-9.0)
Cobble (64-256mm)[.....]	(-6.5)
Pebble (16-64mm)[.....]	(-4.5)
Gravel (2-16mm).....[.....]	(-2.0)
Sand (0.06-2mm)[.....]	(2.0)
Clay/Silt (<0.06mm) [.....]	(8.0)

Total100%.....

OTHER STREAM FEATURES

% of reach covered by...	<u><1%</u>	<u>1-10%</u>	<u>10-35%</u>	<u>35-65%</u>	<u>65-90%</u>	<u>>90%</u>
Willow Roots	0	1	2	3	4	5
Moss	0	1	2	3	4	5
Filamentous algae	0	1	2	3	4	5
Loose silt lying on substrate (organic & inorganic)	0	1	2	3	4	5
Total macrophytes	0	1	2	3	4	5

(For macrophytes, include those which are out of the water but in the active channel.)

ORGANIC MATERIAL (% cover of organic material)

Coarse Particulate Organic Material (leaves and wood < 10cm diameter) **1.** = <5% **2.** = 5 – 20% **3.** = >20% []
Snags/Large Organic Material (wood >10cm diameter) **1.** = <5% **2.** = 5 – 20% **3.** = >20% []

CURRENT VELOCITY IN REACH: Choose one percentage category for each flow category in the reach:

	<u>0%</u>	<u>1-10%</u>	<u>11-40%</u>	<u>41-60%</u>	<u>>60%</u>
No obvious flow	0	1	2	3	4
Slow	0	1	2	3	4
Medium/moderate	0	1	2	3	4
Fast to very fast	0	1	2	3	4

VEGCAT (Land use category for AUSRIVAS.) This refers to land use beyond the riparian zone (30m).

1. Urban
2. Intensive agriculture
3. Mostly cleared, grazing
4. Significant patches of forest remaining, some forestry/agriculture (eg, grazing)
5. Native forest/natural vegetation []

SHADING of stream channel, as at mid day (shading category for AUSRIVAS). **USE % SHADING DIAGRAMS.**

- 1.** <5% **2.** 6-25% **3.** 26-50% **4.** 51-75% **5.** >76% []

LEFT BANK AND RIGHT BANK REFER TO DIRECTION FACING DOWNSTREAM.

LANDUSE: 1. Native forest 2. Forestry 3. Native heath/grassland 4. Grazing 5. Cropped
Left Bank 6. Residential 7. Industrial 8. Recreational 9. Intensive agriculture []

LANDUSE: 1. Native forest 2. Forestry 3. Native heath/grassland 4. Grazing 5. Cropped
Right Bank 6. Residential 7. Industrial 8. Recreational 9. Intensive agriculture []

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RIFFLE /RUN: All information in this section refers only to the riffle/run area sampled.

Invertebrates collected by Invertebrates picked/ sorted by
 Length of riffle/run sampled: 10 metres [] Other metres. Time taken to pick sample mins.
 Approx. # of invertebrates picked: 200[]...150[]...100[]...50[] If <150, why?.....

SUBSTRATE DESCRIPTION (% cover): USE % COVER AND PARTICLE SIZE DIAGRAMS.

Bedrock[.....]
 Boulder (>256mm)[.....]
 Cobble (64-256mm)[.....]
 Pebble (16-64mm)[.....]
 Gravel (2-16mm).....[.....]
 Sand (0.06-2mm)[.....]
 Clay/Silt (<0.06mm) [.....]
 Total100%.....

IF RIFFLE/RUN NOT SAMPLED, WHY NOT:

1. Not present []
2. Too shallow []
3. Too small []
4. Too dangerous []
5. Other []

Percentage of sampled area covered by:	<1%	1-10%	10-35%	35-65%	65-90%	>90%
Willow Roots	0	1	2	3	4	5
Moss	0	1	2	3	4	5
Filamentous algae	0	1	2	3	4	5
Macrophytes	0	1	2	3	4	5
Loose silt lying on substrate (organic & inorganic)	0	1	2	3	4	5

Coarse Particulate Organic Material (leaves and wood < 10cm diameter) 1. = <5% 2. = 5 – 20% 3. = >20% []

Snags/Large Organic Material (wood >10cm diameter) 1. = <5% 2. = 5 – 20% 3. = >20% []

DEPTH 1.....cm 2cm 3.....cm 4.....cm 5.....cm

Take 5 representative measurements from the riffle/run habitat over the range of depths in the kick sample.

CURRENT VELOCITY in sampled area. Tick boxes for each current velocity present; more than 1 box can be ticked:

Kick sample: 0=no flow [] 1=slow [] 2=medium/moderate [] 3=fast to very fast []

EDGE / BACKWATER: All information in this section refers only to the edge area sampled.

Invertebrates collected by Invertebrates picked/ sorted by
 Length of edge sampled: 10 metres [] Other metres. Time taken to pick sample mins.
 Approx. # of invertebrates picked: 200[]...150[]...100[]...50[] If <150, why?.....

Percentage of sampled area covered by:	<1%	1-10%	10-35%	35-65%	65-90%	>90%
1. Backwaters	0	1	2	3	4	5
2. Leaf packs/CPOM	0	1	2	3	4	5
3. Undercut banks	0	1	2	3	4	5
4. Roots	0	1	2	3	4	5
5. Bare edge	0	1	2	3	4	5
6. Logs (wood >10cm)	0	1	2	3	4	5
7. Trailing bank vegetation (including grasses)	0	1	2	3	4	5
8. Filamentous algae	0	1	2	3	4	5
9. Macrophyte	0	1	2	3	4	5
10. Moss	0	1	2	3	4	5
11. Loose silt lying on substrate (organic & inorganic)	0	1	2	3	4	5
12. Other.....	0	1	2	3	4	5

CURRENT VELOCITY in sampled area. Tick boxes for each current velocity present; more than 1 box can be ticked:

Sweep sample: 0=no flow [] 1=slow [] 2=medium/moderate [] 3=fast to very fast []

ALL LEFT BANK AND RIGHT BANK REFER TO DIRECTION FACING DOWNSTREAM.

RIPARIAN CHARACTERISTICS of surveyed reach

Width of riparian zone (to a maximum of 30 m perpendicular to flow)

Left bank m **Right bank** m

Structural composition of riparian zone Using the diagrams below as a guide, tick the box corresponding to the percentage category that best describes the percent cover of each vegetation category; evaluate left (L) and right (R) bank separately.

	(20%)	(50%)	(80%)	0 0%	1 < 20%	2 20-50%	3 50-80%	4 > 80%
Trees				L <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				R <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shrubs and bushes, including blackberries				L <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				R <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ground covers including grasses, ferns & herbs				L <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				R <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

EXOTIC VEGETATION what percentage of each of the following categories is made up of exotic vegetation:

	0 = 0%	1 = 1-10%	2 = 11-40%	3 = 41-60%	4 = >60%
Trees	[]	[]	[]	[]	[]
Shrub layer	[]	[]	[]	[]	[]
Ground cover	[]	[]	[]	[]	[]

Longitudinal extent of riparian vegetation:

Choose one category for each bank. Do not include ground cover layer except where site is in native grassland.

		Left bank	Right bank
None	0.		<input type="checkbox"/>
Isolated / scattered	1.		<input type="checkbox"/>
Regularly spaced	2.		<input type="checkbox"/>
Occasional clumps	3.		<input type="checkbox"/>
Semi-continuous	4.		<input type="checkbox"/>
Continuous	5.		<input type="checkbox"/>

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DIATOM SAMPLING FIELD NOTES

HARD SURFACE SAMPLE

Substrate type: 1. rock (preferred) 2. wood/bark 3. cement 4. macrophyte 5. other []

Substrate shaken before sampling: yes no

Approximate depth of substrate: 15cm (preferred) [] Other.....cm

Habitat type: 1. riffle (preferred) 2. run 3. other []

MUD/DETRITUS SAMPLE

Habitat type: 1. pool (preferred) 2. backwater 3. other []

Approximate depth of substrate: 5cm (preferred) [] Other.....cm

MACROPHYTES IN REACH

Indicate which macrophyte structural types are present in the reach with the following abundances:

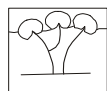
I = isolated, S = scattered, B = in beds, C = choking the stream:

Submerged



Feather like
Eg: Myriophyllum,
Ceratophyllum,
Chara

Floating



Attached lily like

Emergent



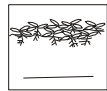
Reed like
Eg: Typha,
Phragmites



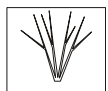
Unbranched,
broad leaf form
Eg: Curled dock,
Water plantain,
Arrowhead



Broad strap like
Eg: Vallisneria,
Triglochin



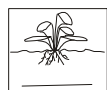
Free floating, small plant
Eg: Azolla,
Duckweed



Grass like
Eg: Paspalum



Grass like



Free floating, large plant
Eg: Salvinia,
Water hyacinth



Tussock/ rush like
Eg: Juncus,
Cyperus, Carex



Branched form
Eg: Elodea,
Potamogeton



Branched form
Eg: Ranunculus,
Polygonum

NONE PRESENT []

Other Structural Types?:

Vegetation samples collected for identification in the lab: Yes [] No []

ARE ALL SPACES FILLED IN ON ALL SHEETS? Yes [] No [] Checked by.....