

WA AUSRIVAS SITE INFORMATION SHEET



Government of **Western Australia**
Department of **Water**

SITE INFORMATION

SITE NAME _____ LOCATION CODE _____

RIVER SYSTEM _____ RIVER NAME _____

ALTITUDE _____ (m) SLOPE _____ (m/km) DFS _____ (km) STREAM ORDER _____

FLOW PATTERN CATEGORY _____ DISCHARGE CATEGORY _____ TEST/REFERENCE
(circle)

NEAREST RAINFALL STATION: _____ AV. ANN. RAINFALL _____ (mm)

GPS & MAP DETAILS

GPS DATUM (as set on the GPS at the time you recorded your position) _____

LATITUDE _____ LONGITUDE _____

ZONE ____ EASTING _____ NORTHING _____

MAP NAME _____ SCALE _____ NUMBER _____ EDITION _____

JOINING MAP NAMES/NUMBERS _____

ACCESS DETAILS

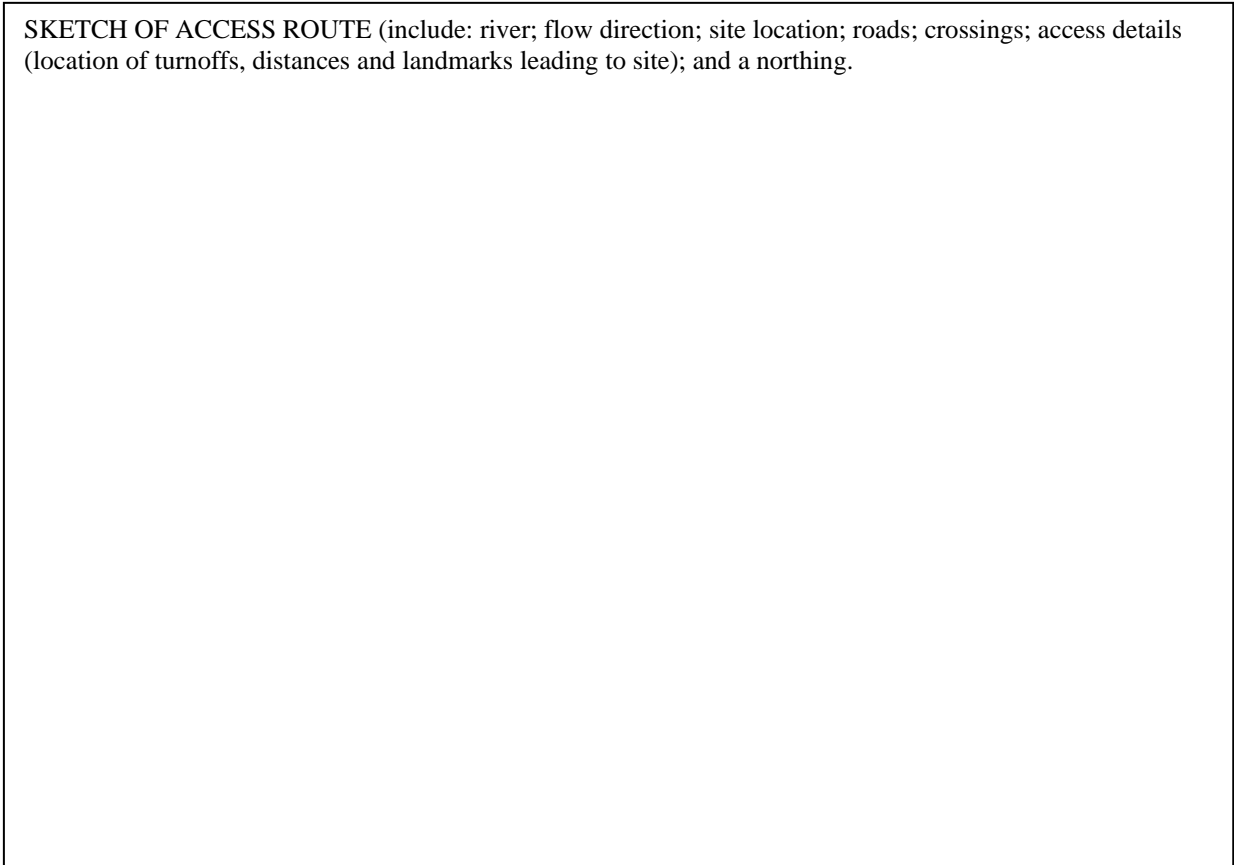
DIRECTIONS _____

PROPERTY OWNER _____ PHONE NUMBER _____

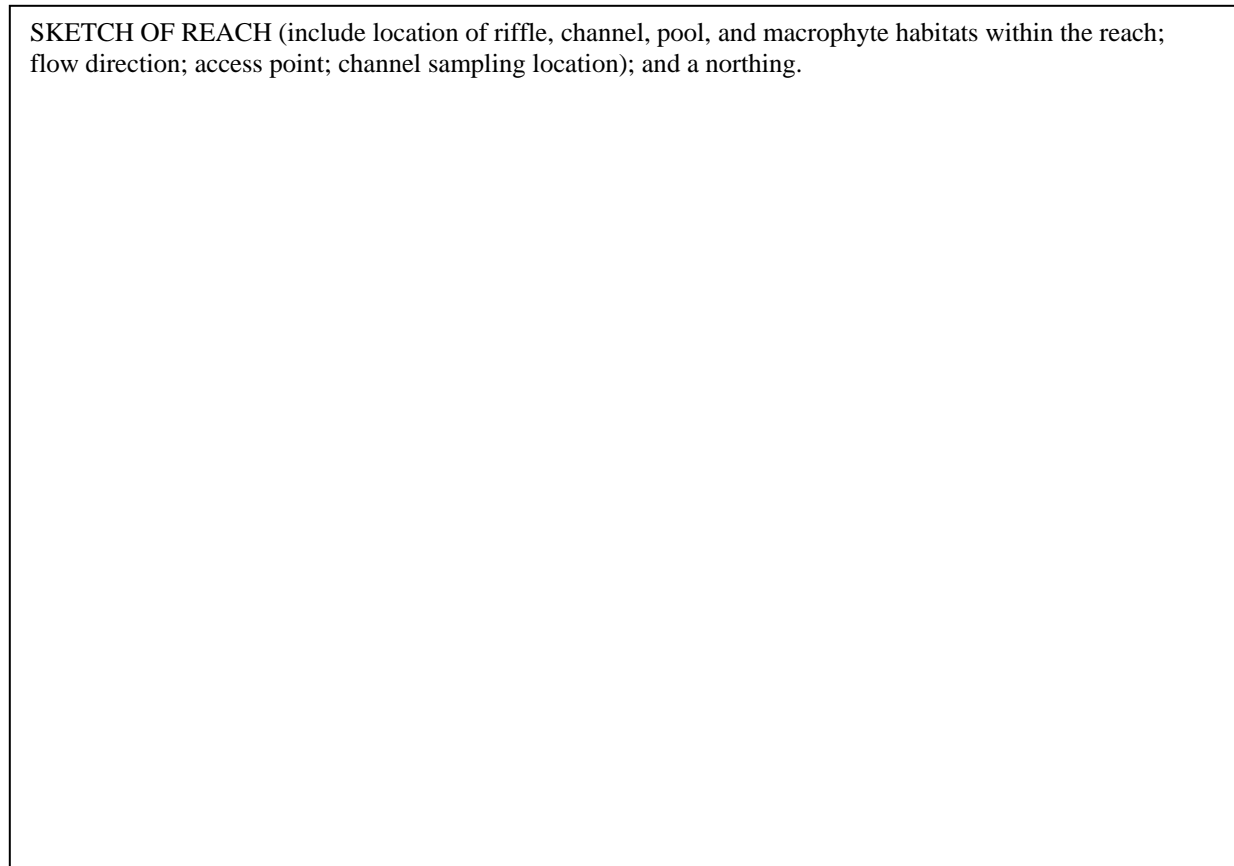
ADDRESS _____

Notify before each visit Y [] N []
Permission required Y [] N []
Key required Y [] N []
Key number/available from: _____

SKETCH OF ACCESS ROUTE (include: river; flow direction; site location; roads; crossings; access details (location of turnoffs, distances and landmarks leading to site); and a northing.



SKETCH OF REACH (include location of riffle, channel, pool, and macrophyte habitats within the reach; flow direction; access point; channel sampling location); and a northing.



WA AUSRIVAS FIELD SAMPLING CHECKLIST



Government of **Western Australia**
Department of **Water**

RIVER _____ DATE _____ LOCATION CODE _____

COMPLETION CHECKLIST

Check off each item before leaving sampling site

- Sketch of 100m reach to be sampled
- Photographs of sampling site; photo numbers _____
- Macroinvertebrate samples collected
- Macroinvertebrate samples preserved and labelled
- Macroinvertebrate residue sample transferred to container, preserved and labelled
- Water quality measurements taken
- Water quality samples for laboratory analysis collected, labelled and stored appropriately
- COC for water quality samples filled out correctly and sample number recorded on Field Sampling Sheet
- Macroinvertebrate Sampling Field Sheet filled in completely and checked (no blank spaces)
- Field Sampling Sheet filled in completely and checked (no blank spaces)
- GPS latitude and longitude recorded
- Other sampling field sheets completed Details: _____

INSTRUMENT CALIBRATION Instrument name: _____

Air pressure _____ hPa _____ mmHg

Pre – field calibration	Salinity	pH 7	pH 10	DO%	Conductivity
Reading					
Calibrated to					

Post – field calibration	Salinity	pH 7	pH 10	DO%	Conductivity
Reading					
Calibrated to					

Please circle:

Conductivity units	uncomp	Comp (25°C)	ppt	
Conductivity setting	fresh	salt	stdMthd	None
Salinity setting	2311	stdMthd		

RIVER _____ DATE _____ LOCATION CODE _____

EQUIPMENT CHECKLIST

Item	Quantity	Check
WA sampling and processing manual	1	
Kicknet 250µm mesh	1	
Sieve 16mm	1	
Sieve 2mm	1	
Sieve 500µm	1	
Sieve 250µm	1	
Bucket	2	
Medium white tray	4	
Ethanol 100%	As required	
Bug containers for QA/QC residue 500ml	As required	
Bug containers for live pick	Minimum two per site	
250mL water sample bottle	1 per site	
125mL water sample bottle	1 per site	
Box sub-sampler and collection flask	1 (if using)	
Filter tower	1 (if filtering in field)	
Filter papers	As required	
Hand vacuum pump	1 (if filtering in field)	
Flow meter	1	
Float (if flow meter fails)	1	
Waders	2	
Multiprobe (Hydrolab or other – calibrated)	1	
GPS	1	
Camera	1	
Mobile phone	1	
Site information sheets	One per site	
Field sampling sheets	One per site	
Macroinvertebrate sampling field sheet	One per site	
Sampling checklist	1 per site	
Clipboard	1	
Maps	As required to cover area	
Tweezers	3	
Pipettes	3	
Vial labels	Minimum two per site	
Pencils	3	
Pencil sharpener	1	
Eraser	1	
Mosquito repellent	1	
Chairs for live pick	2	
Table for live pick	1	
Water	For washing hands etc	
Sunscreen	1	
Chain of custody form	As required	
Field observation form	As required	
Esky	1	
Ice bricks or ice	To cover bottom of esky	
Keys	As required	
Tape measurer	1	
First aid kit	1	
Sample numbers	1	
Gloves for water quality sampling	As required	

WA AUSRIVAS FIELD SAMPLING SHEET



Government of **Western Australia**
Department of **Water**

SAMPLE INFORMATION

DATE _____ TIME _____ LOCATION CODE _____

RIVER NAME _____ SITE NAME _____

RECORDERS NAME _____ SAMPLE COLLECTED BY _____

HABITAT _____ % OF 100m REACH _____

SAMPLE NUMBER _____ COC NUMBER: _____

WATER QUALITY AND HABITAT IN REACH

Water samples taken¹

250mL unfiltered sample for alkalinity, turbidity, TN and TP

125mL filtered sample for colour, SRP, NO_x and NH₃

Instrument

Water temperature (°C) _____

Habitat area in 100m Reach (%)

Conductivity (µS/cm) _____

Channel _____

pH _____

Macrophytes _____

Dissolved oxygen (mg/L) _____

Riffle _____

Dissolved oxygen (%) _____

Pool _____

Turbidity (NTU) _____

Total (must add to 100%) _____

Wind direction _____

Stream width (mean width of water taken from three measurements):

Wind speed _____

_____ m _____ m _____ m _____ average

Comments _____

¹ Sample taken from sampling site prior to macroinvertebrate sample being collected

WEATHER

Rain in past week Y N Comments _____

Today: Rain _____ Cloud cover (%) _____ Comments _____

RIVER _____ DATE _____ LOCATION CODE _____

OBSERVATIONS (Circle appropriate category)

WATER ODOURS Normal Anaerobic Sewage Petroleum Chemical None

WATER OILS Slick Sheen Globbs Flecks None

TURBIDITY Clear Slight Turbid Opaque

PLUME Little Some Lots
(amount of fine sediment generated when kick sampling)

COLOUR Yes No

SEDIMENT OILS Absent Light Moderate Profuse

SEDIMENT ODOURS Normal Sewage Petroleum Chemical
 Anaerobic None Other _____

WATER LEVEL (Relative to 'water mark' ie normal inundation level shown by limit of terrestrial grasses, or by eroded area, or boundary in bank sediment types).

No Flow Low Moderate High Flood
(dry/isolated) (<water mark) (=) (>water mark)

SEDIMENT DEPOSITS None Sand Silt Other _____

Algae on substrate None Little Some Moderate Extensive
0% 1 – 10% 10 – 50% 50 – 75% > 75%

Algae in water column None Little Some Moderate Extensive

Are the undersides of stones which are not deeply embedded black? Yes No N/A

LOCAL CATCHMENT EROSION None Some Moderate Heavy

LOCAL PS POLLUTION No evidence Potential _____ Obvious _____

LOCAL NPS POLLUTION No evidence Potential _____ Obvious _____

DAMS/BARRIERS Present – upstream/downstream details _____ Absent

RIVER BRAIDING Yes – Number of braids _____ No

LANDUSE (Circle appropriate, may circle more than one)

Left Bank² AG AR CO FO IN MI PA RV TO UR VC WC

Right Bank² AG AR CO FO IN MI PA RV TO UR VC WC

² Facing downstream.

Landuse			
(AG) Agriculture	(FO) State Forest	(PA) Pastoralism	(UR) Urban
(AR) Aboriginal Reserve	(IN) Industrial	(RV) Remnant Vegetation	(VC) VCL
(CO) Conservation	(MI) Mining	(TO) Tourism	(WC) Water Catchment

RIPARIAN ZONE (To a maximum of 100m width)

Width of riparian zone Left Bank _____ m Right Bank _____ m

Bare ground* None Little Some Moderate Extensive

Grass* None Little Some Moderate Extensive

Shrubs* None Little Some Moderate Extensive

Trees < 10m high* None Little Some Moderate Extensive

Trees >10m high* None Little Some Moderate Extensive

Presence of exotic riparian species None Little Some Moderate Extensive

None = 0% Little = 1 – 10% Some = 10 – 50% Moderate = 50 – 75% Extensive > 75%

* Can add to greater than 100%

RIVER _____ DATE _____ LOCATION CODE _____

HABITAT ASSESSMENT

HABITAT PARAMETER	OPTIMAL CONDITION	SUB-OPTIMAL CONDITION	MARGINAL CONDITION	POOR CONDITION
Degree of naturalness	Pristine	Minimally disturbed	Moderately disturbed	Heavily disturbed
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
Catchment Condition	Pristine	Minimally disturbed	Moderately disturbed	Heavily disturbed
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
Landuse at site	Near Pristine	Minimally disturbed	Moderately disturbed	Heavily Disturbed
	Left bank 10 9	8 7 6	5 4 3	2 1 0
	Right bank 10 9	8 7 6	5 4 3	2 1 0
Physical substrate characterisation	Optimal mix of substrate types: Many interstitial spaces	Sub-optimal mix of substrate types	Minimal substrate diversity	Lack of substrate types and spaces: Bedrock only
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
Biological substrate characterisation	Optimal: decaying twigs, leaf litter, epiphytes etc	Sub-optimal: some leaf litter, epiphytes etc.	Minimal leaf litter, epiphytes etc.	Complete absence of detritus and epiphytes
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
Vegetative protection	Pristine	Minimally disturbed	Moderately disturbed	Heavily disturbed
	Left bank 10 9	8 7 6	5 4 3	2 1 0
	Right bank 10 9	8 7 6	5 4 3	2 1 0
Width of riparian vegetation	Pristine	Minimally disturbed	Moderately disturbed	Heavily disturbed
	Left bank 10 9	8 7 6	5 4 3	2 1 0
	Right bank 10 9	8 7 6	5 4 3	2 1 0
Bank stability	Pristine	Minimally disturbed	Moderately disturbed	Heavily disturbed
	Left bank 10 9	8 7 6	5 4 3	2 1 0
	Right bank 10 9	8 7 6	5 4 3	2 1 0
Sediment deposition	Optimal condition	Sub-optimal condition	Marginal condition	Poor condition
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
Impoundments, abstraction or channelisation	Optimal condition	Sub-optimal condition	Marginal condition	Poor condition
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0

TOTAL _____

**WA AUSRIVAS
MACROINVERTEBRATE SAMPLING
FIELD SHEET**



Government of **Western Australia**
Department of **Water**

SAMPLE INFORMATION

DATE _____ TIME _____ LOCATION CODE _____

RIVER NAME _____ SITE NAME _____

RECORDERS NAME _____ SAMPLE COLLECTED BY _____

LIVE PICK BY _____ AND _____

HABITAT _____ % OF 100m REACH _____

SAMPLE NUMBER: _____ COC NUMBER: _____

Sampling Conditions good [] average [] poor []

Picking Conditions good [] average [] poor []

HABITAT ASSESSMENT (Description of 10m sample area)

Mineral substrate	%	Breakdown of habitat surface area	%	Density (1 = sparse; 5 = dense)
Bedrock		Mineral substrate		
Boulders (> 256mm)		Emergent macrophyte		1 2 3 4 5
Cobble (64 to 256 mm)		Submerged macrophyte		1 2 3 4 5
Pebble (16 to 64 mm)		Floating macrophyte		1 2 3 4 5
Gravel (4 to 16 mm)		Algal cover		1 2 3 4 5
Sand (1 to 4 mm)		Detritus		1 2 3 4 5
Silt (<1 mm)		Riparian veg draped in water		
Clay		Other (i.e. woody debris)		
Total		Total (may be > 100%)		

DEPTH AND VELOCITY

DEPTH (Circle appropriate category) 1 (< 25cm) 2 (< 50cm) 3 (<100cm) 4 (< 200cm) 5 (> 200cm)

VELOCITY

Meter used _____ Max velocity = _____

Min velocity = _____

Examples – mineral substrate

Bedrock

Boulder (> 256 mm) > soccer ball

Cobble (64 – 256 mm) cricket ball to soccer ball

Pebble (16 – 64 mm) 5c piece to cricket ball

Gravel (4 – 16 mm) raw sugar to 5c piece

Sand (1 – 4 mm) < raw sugar

Silt or clay (< 1 mm)

RIVER _____ DATE _____ LOCATION CODE _____

LIVE PICK TALLY

Taxon	Log abundance	Live pick tally	Taxon	Log abundance	Live pick tally
Nematoda			Odonata		
Platyhelminthes			Anisoptera		
Oligochaeta			Zygoptera		
Hirudinea					
Bivalvia					
Gastropoda			Trichoptera		
Acarina			Leptoceridae		
			Ecnomidae		
Diptera					
Chironomidae					
Ceratopogonidae			Amphipoda		
Culicidae			Ceinidae		
Simuliidae			Perthiidae		
Stratiomyidae					
Tabanidae			Isopoda		
Plecoptera			Decapoda		
Gripopterygidae			Atyidae		
			Palaemonidae		
Ephemeroptera			Parastacidae		
Baetidae					
Caenidae					
Leptophlebiidae			Coleoptera		
			Dytiscidae		
			Hydrophylidae		
Hemiptera					
Corixidae					
Notonectidae					
Gerridae					

BOX SUB-SAMPLER TALLY

Number of cells picked: _____

Total number of cells in box: _____

Total number of macroinvertebrates picked: _____

MACROINVERTEBRATE IDENTIFICATION SHEET

River		Location code	
Site name		Date collected	
Identifier's name		Date identified	
Sample number		Habitat	
COC number			

QA/QC LIVE PICK

% Organisms remaining	Pass/fail (Pass ≤ 5%)	Name	Date	Error/action codes

QA/QC IDENTIFICATION

% Taxa error	% Incorrect ID	Pass/fail (Pass ≤ 5%)	Name	Date	Error/action codes

CLASS/ ORDER	FAMILY	SUB-FAMILY	COUNT	ABUN.	QA/ QC

TOTAL BUGS			
NUMBER OF TAXA			
NUMBER OF VIALS			