SHMAK Data Sheet – General Information

Site name:	Site name: Stream/river name:								
Site coordinates: Northing/Longitude Easting/Latitude: Site description - access, how to locate top and bottom of reach, etc.									
Date: Time started: Time finished:									
Names of monitoring team present:									
Direction of ph	Photopoint location marker Description: Direction of photo: Upstream Downstream Frame (notes):								
Weather now: Storm Rain (s Showe rain) Overce Clear/s Assessment no	☐ Storm (hea ☐ Rain (stead ☐ Intermitten showers	☐ Rain (steady rain) ☐ Slig ☐ Intermittent ☐ Nor showers ☐ Low		High Slightly raised Normal Low mflow (m³/s):	High Slightly raised Normal Low nflow (m³/s):				
Length of reac	h (m):	Ri	ver width (m):	Ma	ximum	n depth (m):			
Site Health Cl	heck		Circle all that apply						
Smell	nothing unusual	sewage		dead ani	mals	rotting vegetation	musty		
Obstruction	nothing unusual	weeds	wood	rubbis	sh	built structure			
Stream bed	nothing unusual	artificia	I mud/ sediment	slime	<u> </u>	scum			
Margin or bank	nothing unusual	erosion	livestock access	pollution s	ource	rubbish	no vegetation		
Appearance of the water	nothing unusual	murky	muddy	colou	r				
Rate of flow		fast	slow	none					
Top water surface	nothing unusual	oily film	n foam	Slime/alg scum	_				
Main land use in catchment (circle one) Exotic forest Native vegetation Crop Pasture Orchard Industrial Residential other Other land use in catchment (circle one) Exotic forest Native vegetation Crop Pasture Orchard Industrial Residential other Upstream catchment disturbances – note activities in the catchment that may impact the stream.									

SHMAK Data Sheet – Water Quality

Temperature (°C):						
Conductivity (μS/cm):						
	m y2 = m (y1 + y2)/2 = m					
second measurement y1 =	m y2 = m (y1 + y2)/2 = m					
(y1 = distance where disc disappears, y2 = dista	nce where disc reappears)					
Method: Clarity tube ☐ Black disc ☐						
Nu	utrients					
Nitrate-N: mg/L Nitrate metho	od: Aquaspex 🗆 Lab 🗆 Other 🗆					
Phosphate:mg/L Phosphate me	ethod: Hanna Checker 🗆 Lab 🗆 Other 🗆					
Phosphate-P*:mg/L						
*the Hanna Checker measures phosphate. To c	alculate phosphate-P, multiply phosphate by 0.326					
E. coli method Petrifilm MC M	edia Plates Lab* Other					
If analysed by lab: Lab method:						
Lab address:						
Sample 1	Sample 2					
Filtered: Yes \square If so, amount (mL)	Filtered: Yes ☐ If so, amount (mL)					
Diluted: Yes ☐ If so, dilution ratio	Diluted: Yes ☐ If so, dilution ratio					
Neither: Yes ☐ 1 mL	Neither: Yes □ 1 mL					
No. <i>E. coli</i> (CFU on plate)	No. <i>E. coli</i> (CFU on plate)					
No. E. coli (CELL per 100 ml.)	No. E. coli. (CELL por 100 ml.)					

SHMAK Data Sheet – Periphyton

Stone/view	Filaments >2 cm long	Mats**	Microcoleus	Didymo	Moss
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
Average %					
	icrocoleus or Didymo a	as these are recor	ded separately		
Poach longth	m Unet	tream and los	ation:	Downstream	end location

SHMAK Data Sheet - Macrophytes

				Column			Band
		1	2	3	4	5	(or column averages)
Cross	Water surface (%)						
section 1	Volume occupied (%)						
Cross	Water surface (%)						
section 2	Volume occupied (%)						
Cross section	Water surface (%)						
3	Volume occupied (%)						
Cross section	Water surface (%)						
4	Volume occupied (%)						
Cross	Water surface (%)						
section 5	Volume occupied (%)						
Average wat		Aver	age volun	ne occupi	ed (%):		

SHMAK Data Sheet – Benthic Macroinvertebrates

Stream bed:	Stony-bottom 🗌	Muddy/sandy-bo	ttom 🛮			
Sampling method:	Stone method	Kick net method:	Riffle only $\ \square$	Kick net meth	od: All-habitat 🛚	
(All-habitat method)	Range of habitat types	:	% present in	study area	No. of jabs with net	
	Aqua					
	Veget	ated banks				
	Roots	large wood				

^{*}R= rare (1-4 animals), C = common (5-19 animals), A = abundant (20 or more animals)

		If present, record R, C or A*	tolerance score	Copy tolerance score if present
Mayflies	Flat mayfly	OLA	8	Score ii present
iviayines	Spiny-gilled mayfly		9	
	Swimming mayfly		9	
	Tusked mayfly		8	
Stoneflies	Green stonefly		10	
Storiemes	Other stonefly		8	
Caddisflies	Free-living caddisfly		6	
Caddisines	Net-spinning caddisfly		6	
	Messy-net caddisfly		8	
	Stick-cased caddisfly		6	
	Stony-cased caddisfly		6	
	Smooth-cased caddisfly		9	
	Spiral-cased caddisfly		10	
			3	
Oth ar in seets	Micro-caddisfly			
Other insects	Dobsonfly		7	
	Dragonfly		6	
	Damselfly		5	
	Beetle		6	
	Water boatman/ backswimmer		5	
	Water treader		5	
True Flies	Crane fly		5	
	Sand fly		3	
	Mosquito		3	
	Midge		2	
	Other fly larva		3	
Spider-like	Dolomedes spider		5	
	Mite		5	
Crustaceans	Crayfish/koura		5	
	Amphipod		5	
	Isopod		5	
	Seed shrimp		3	
	Water flea		5	
	Shrimp		5	
Molluscs	Limpet		3	
	Mussel/kakahi		6	
	Fingernail clam		3	
	Flat spiral snail		3	
	Mud snail		4	
	Left-hand snail		3	
Worms	Leech		3	
	Segmented worm		1	
	Flatworm		3	
	TOTAL	+	<u> </u>	

SHMAK Data Sheet -Physical Habitat Visual Assessment

1. Amount of deposited fine sediment a) story-bottomed streams < 10% of the stream bed in run habitats covered by sand or silt. Some of the stream bed in run habitats is covered by sand or silt. Sediment deposits are >1cm deep b) soft-bottomed streams Sediment deposits in pools <1 cm deep b) soft-bottomed streams Sediment deposits in pools <1 cm deep b) soft-bottomed streams Sediment deposits in pools <1 cm deep c) 10 10% of max pool depth 8 7 6 5 4 3 2 1 0 2. Habitat for aquatic animals Circle all habit features that are present: Large wood root mats undercut banks overhanging vegetation macrophytes boulders coble abitat features present AND Large particles (cobbles, wood, roots) cover >75% bed 8 7 6 5 4 3 2 1 0 2. Habitat for aquatic animals Circle all habit features present features present should respect to the sea habitat features present and particles (cobbles, wood, roots) cover >75% bed 8 7 6 5 4 3 2 1 0 2. Habitat for aquatic animals Circle all habit features that are present: Large wood root mats undercut banks overhanging vegetation macrophytes boulders coble and particles cover at least of these habitat features present AND Large particles cover at least 50% of stream bed bed 8 7 6 5 4 3 2 1 0 2. Habitat for aquatic animals Circle all flow types present bed in run habitats is covered by sand or silt, score lower if deposits are >1cm deep To 10% of max pool depth and p	Excellent	Good	Fair	Poor
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Excellent	Good	Fair	Poor							
5. Bank vegetation (up	5. Bank vegetation (up to 10 m from stream) – rate each bank separately									
Mature native	Regenerating native	Shrubs or sparse tree	Heavily grazed/mown							
vegetation with intact	bush or mature with	cover with little	grass or bare ground or							
understorey and ground	damaged understorey	understorey vegetation	impervious artificial							
cover	or mature exotic trees,	or long grasses or	surfaces							
	flaxes, sedges	early-stage trees								
Left bank										
4	3	2	1							
Right bank										
4	3	2	1							
C D: 1 1 CC 1111	11									
6. Riparian buffer width										
Continuous trees/shrubs	Trees/shrubs mostly	Fence only or patchy	Few/no trees/shrubs and							
along stream and no	continuous and	trees/shrubs with	unlimited livestock access							
livestock access to	livestock access limited	grazed/mown grass	or obvious human impact							
stream AND wide (>10	AND moderate (5-10	AND narrow (<5 m	AND absent or infrequent							
m) buffer width	m) buffer width	wide) buffer width	buffer width							
Left bank										
4	3	2	1							
Right bank										
4	3	2	1							
7. Shade										
High shading (>70%)	Moderate shade (40-	Minimal shade (10-	Little or no shading (<10%)							
across stream	70%) of water surface	40%) of water surface	of water surface							
8 7	6 5	4 3	2 1 0							
	l									
8. Channel alteration										
Natural stream bed and	Natural stream had	Cignificant proportion	Stream bed or banks							
unmodified bank form	Natural stream bed,	Significant proportion or stream bed or banks								
	some evidence of bank		stabilised over most of							
OR Stream with natural	stabilisation (e.g. near	stabilised by man-	their length by man-made							
channel profile and	bridges). No	made material OR	materials OR stream flow							
meander	embankments or man-	embankments keep	altered by instream							
	made structures in	floodwaters within the	structures (weirs, culverts)							
	stream OR <20% of	channel OR 20-50% of	OR >50% of channel length							
0 7	channel straightened	channel straightened	straightened							
8 7	6 5	4 3	2 1 0							
TOTAL SCORE =										
How to interpret you	r score									
Excellent >55	Good 40-55	Fair 24-39	Poor <24							

Streambed Composition – Wolman Walk or Visual Assessment

	Example	Number of particles	% stream bed
Bedrock	Ш		
Boulders (>25 cm)	IIIII II		
Large cobbles (12-25 cm)	11111 11111 11111		
Small cobbles (6-12 cm)	11111 11111 11111		
Large gravel (1.6-6 cm)	IIIII		
Small gravel (2-16 mm)	11111 11111		
Sand/silt/mud (<2mm)	11111 11111 11111 11		
Man-made	Ш		
Large wood (>5 cm diameter			
Small wood (<5cm diameter)	Ш		
Water plants (rooted)			
TOTAL	75		

SHMAK Data Sheet – Rubbish/Litter Level 1

	Excellent	Good	Fair	Poor
Amount of rubbish	On first glance, no rubbish visible; after close inspection little or no rubbish evident.	On first glance, little or no rubbish visible; after close inspection small amounts of rubbish evident.	Rubbish is evident in low to medium amounts on first glance. Streambank contains litter.	Rubbish distracts the eye on first glance. Substantial litter in stream and along bank.
Score	8 7	6 5	4 3	2 1
Threat to aquatic life	Rubbish, if any, mostly paper or wood products or other biodegradable materials.	Little or no persistent or buoyant rubbish or small items. Rubbish is mainly degradable, settleable or non-toxic, e.g. wood, glass, or metal.	Medium amount of persistent (e.g. plastic, rubber), toxic (e.g. cigarette butts), or buoyant (e.g. bags) items; or large deposits of settleable rubbish such as glass or metal.	Large amount of persistent (e.g. plastic, rubber), toxic (e.g. cigarette butts), buoyant (e.g. Styrofoam), or small rubbish items
	8 7	6 5	4 3	2 1
Threat to human health	No bacterial/viral hazards (medical waste, diapers, pet/human waste), no toxic substances (batteries, chemicals), no puncture or laceration hazards.	No medical waste or sources of toxic substances, but some puncture or laceration hazards (e.g. broken glass, metal debris).	Presence of one of the following: needles or medical waste; diapers or pet waste; toxic substances such as batteries or chemicals.	Presence of more than one of the following: needles or medical waste; diapers or pet waste; toxic substances such as batteries or chemicals.
	8 7	6 5	4 3	2 1
Dumping and littering	Any observed rubbish is incidental litter (less than 5 items) or carried downstream from another location.	Some evidence of instream or shoreline littering; and/or evidence of dumping of material. Material dumped is paperbased debris (e.g., fast food).	Prevalent instream or shoreline littering; and/or the presence of one large item (e.g., furniture, appliance, rubbish bag).	Significant littering; and/or evidence of repeated dumping, with more than one large item (e.g., furniture, shopping trolley, bags of rubbish).
	8 7	6 5	4 3	2 1
Accumulation of rubbish from upstream Rubbish, if any, appears to have been directly deposited on the stream bed (no evidence of transport from upstream).		Less than 10 rubbish items. Items appear to be transported from upstream (based on evidence such as silt marks, faded colours or near high water mark).	10-50 items of rubbish items appear to be carried to the location from upstream, as evidence from location near high water mark or siltation marks.	Substantial quantities of rubbish (>50 items) appear to be carried from upstream and has accumulated at the site.
Total Score	8 7 e = /40	6 5	4 3	2 1

SHMAK Data Sheet – Rubbish/Litter Level 2

General Information								
GPS coordinates (upstream): GPS coordinates (downstream):								
Clean up start time:	Clean up finishing time:	No. of participants:						
Sampling area (check all that apply)	and measurements (in meters)							
☐ Left bank	☐ Right bank	☐ In stream						
Site length (A):Width right bar	nk (B):Width left bank (C):	Avg stream width (D):						
Total bank area = (A X B) + (A X C):	Total stream area = (A)	(D):						
Audit information (identifying the lit	ter)							
Audit start time:	Audit finish time:	No. of participants						
Did you take photos ☐ Yes ☐	No							
Notes about the assessment								
The Confidence column (H = high/L=low) refers to how confidence you are in the weight of the items you measure. If the items are wet or covered in dirt, the weight won't be accurate								

		In Stream		On Stream Bank				
	Material Category	Count	Weight	H/L	Count	Weight	H/L	Notes
	Backpacks & bags							
	Canvas, sailcloth & sacking							
	Carpet & furnishing							
H	Clothing, hats, gloves, towels							
сготн	Footwear							
	Other cloth							
	Rope							
	Unidentifiable cloth fragments							
	Baskets, crates, trays							
	Bottle caps, neck rings, tabs							
	Bottles (≤ 2 L)							
	Bottles, drums, jerrycans (> 2 L)							
	Cable ties & zip ties							
	Cigarettes, butts & filters							
	Cigarette lighters							
	Clothes pegs							
	Drink pack rings							
	Fiberglass fragments							
	Fishing gear							
	Fishing line							
	Fishing nets							
	Food containers							
	Food wrappers							
	Gardening & farming							
	Gloves							
PLASTIC	Lollipop sticks, cotton buds							
AS	Medical waste							
Ы	Mesh bags							
	Other plastic							
	Parking tickets and receipts							
	Pens							
	Plastic bags							
	Plastic buoys							
	Plastic sheeting							
	Plastic utensils							
	Plastic vehicle parts							
	Rope							
	Safety & construction related							
	Shotgun wadding & shells							
	Strapping bands & tape							
	Straws							
	Syringes •							
	Toys & sports							
	Unidentifiable hard fragments							
	Unidentifiable plastic fragments							
2	Ear plugs							
FOAMED PLASTIC	Foam buoys							
PL	Foam sponge					-		
ED	Other foamed plastic					-		
ΑM	Polystyrene food packaging					-		
FO,	Polystyrene insulation							
	Unidentifiable foam fragments					<u> </u>		

		In Stream		On Stream Bank				
	Material Category	Count	Weight	H/L	Count	Weight	H/L	Notes
	Balloons, toys, balls			·			•	
RUBBER	Condoms							
	Inner-tubes & rubber sheet							
	Other rubber							
	Rubber bands							
	Rubber footwear							
-	Rubber gloves							
	Tyres							
-	Other rubber							
	Bottles & jars							
	Construction material							
	Fluorescent light bulbs							
GLASS	Glass buoys							
3L/	Glass or ceramic fragments!							
	Light globes/bulbs							
	Other glass							
	Tableware							
	Cork							
۵	Fishing traps & pots							
WOOD	Matches, fireworks							
	Other wood							
-	Processed timber & pallet crate							
	Aluminium drink cans							
	Construction material							
	Fishing related							
	Foil wrappers							
	Gas bottles and drums (>4L)							
METAI	Metal caps, lids, pull tabs							
ME	Metal vehicle parts							
	Other cans (≤4L)							
	Other metal							
	Sharps, needles, lancets							
	Tableware							
	Unidentifiable metal fragments							
	Cardboard boxes & fragments							
2	Cups, food trays, wrappers							
PAPER	Fireworks							
A	Other paper							
	Paper (incl. magazines)							
	Appliances and electronics							
	Batteries (household)		1					
	Batteries (non-household)							
ER	Boat parts							
OTHER	Faeces (pet waste in bags) 🗢							
0	Paraffin or wax							
	Other							
	Personal care items							
	Sanitary items							