

RIVER HABITAT SURVEY 2003 VERSION: SITE HEALTH AND SAFETY ASSESSMENT

Site Number ¹ :	Site Ref:	River Name:	Date:
Grid References/Co-ordinates:	Spot 1 ² :	Mid-site:	End of site ² :
Surveyor Name:		Accredited Surveyor Code:	
<small>¹ Leave blank if new site.</small>		<small>² Optional</small>	

Weather Conditions:

Flow Conditions:

Site details: (enter comments or circle if applicable and give details)	Risk Level (Low/Mod/High)
Access and Parking: (entry & exit)	
Conditions: comment on ground stability, footing, exposure/remoteness	
Obstacles/Hazards: fencing, stiles, dense vegetation, steep bank	
Occupied/Unoccupied: people, livestock, animals	
Activities/Land-use: agriculture, woodland, residential, industrial, construction, recreational	
Risk if lone-working	

**IF THERE ARE ANY HIGH RISKS OR MORE THAN THREE MODERATE RISKS
DO NOT CONTINUE WITH THE SURVEY.**

Weil's Disease (Leptospirosis)

Instructions to card holders

1. As infection may enter through breaks in the skin, ensure that any cut, scratch or abrasion is thoroughly cleansed and covered with a waterproof plaster.
2. Avoid rubbing your eyes, nose and mouth during work.
3. Clean protective clothing, footwear and equipment etc. after use
4. After work, and particularly before taking food or drink, wash hands thoroughly.
5. Report all accidents and/or injuries, however slight.
6. Keep your card with you at all times.

Lyme Disease

1. Dress appropriately with skin covered up.
2. Regularly inspect for ticks when in the field.
3. Check for, and remove, any ticks as soon as possible after leaving the site.
4. Seek medical attention if bitten by a tick.

PHYSICAL ATTRIBUTES (SECTION E)

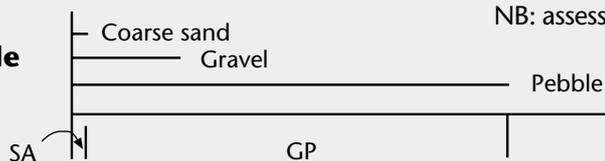
BANKS		CHANNEL	
<p>Predominant bank material</p> <p>NV = not visible</p> <p>BE = bedrock BO = boulder CO = cobble GS = gravel/sand EA = earth (crumbly) PE = peat CL = sticky clay</p> <p>CC = concrete SP = sheet piling WP = wood piling GA = gabion BR = brick/laid stone RR = rip-rap TD = tipped debris FA = fabric BI = bio-engineering materials</p>	<p>Bank modifications</p> <p>NK = not known NO = none</p> <p>RS = resectioned (reprofiled) RI = reinforced PC = poached PC(B) = poached (bare) BM = artificial berm EM = embanked</p> <p>Marginal and bank features</p> <p>NV = not visible (e.g. far bank) NO = none</p> <p>EC = eroding cliff (EC if sandy substrate) SC = stable cliff (SC if sandy substrate)</p> <p>PB = unvegetated point bar VP = vegetated point bar</p> <p>SB = unvegetated side bar VS = vegetated side bar</p> <p>NB = natural berm</p>	<p>Predominant substrate</p> <p>NV = not visible</p> <p>BE = bedrock BO = boulder CO = cobble GP = gravel/pebble (G or P if predominant) SA = sand SI = silt CL = clay PE = peat EA = earth AR = artificial</p> <p>Predominant flow-type</p> <p>NV = not visible FF = free fall CH = chute BW = broken standing waves (white water) UW = unbroken standing waves CF = chaotic flow RP = rippled UP = upwelling SM = smooth NP = no perceptible flow DR = no flow (dry)</p>	<p>Channel modifications</p> <p>NK = not known NO = none</p> <p>CV = culverted RS = resectioned RI = reinforced DA = dam/weir/slucice FO = ford (man-made)</p> <p>Channel features</p> <p>NV = not visible NO = none</p> <p>EB = exposed bedrock RO = exposed boulders VR = vegetated rock MB = unvegetated mid-channel bar VB = vegetated mid-channel bar MI = mature island TR = trash (urban debris)</p>

FLOW-TYPES

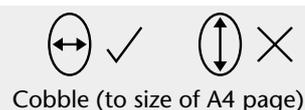
DESCRIPTION

FF: Free fall	clearly separates from back-wall of vertical feature ~ associated with waterfalls
CH: Chute	low curving fall in contact with substrate ~ often associated with cascades
BW: Broken standing waves	white-water tumbling waves must be present ~ mostly associated with rapids
UW: Unbroken standing waves	upstream facing wavelets which are not broken ~ mostly associated with riffles
CF: Chaotic flow	a chaotic mixture of three or more of the four fast flow-types with no predominant one obvious
RP: Rippled	no waves, but general flow direction is downstream with disturbed rippled surface ~ mostly associated with runs
UP: Upwelling	heaving water as upwellings break the surface ~ associated with boils.
SM: Smooth	perceptible downstream movement is smooth (no eddies) ~ mostly associated with glides
NP: No perceptible flow	no net downstream flow ~ associated with pools, ponded reaches and marginal deadwater
DR: No flow (dry)	dry river bed

Scale



NB: assessed by intermediate axis



LEFT

Banks are determined by looking downstream

RIGHT

CHANNEL MODIFICATION INDICATORS

One or more of the following may be indicative of resectioning:

- | | |
|--|---|
| 1. Uniform bank profile | 4. Uniform/low energy flow-types |
| 2. Straightened planform | 5. No trees/uniformly-aged trees along bank |
| 3. Bankfull width/bankfull height ratio <4:1 | 6. Intensive/urban land-use |

LAND-USE WITHIN 5m OF BANKTOP (SECTION F) & 50m (SECTION H)

BL = Broadleaf/mixed woodland (semi-natural)	AW = Artificial open water	TL = Tilled land
BP = Broadleaf/mixed plantation	OW = Natural open water	IL = Irrigated land
CW = Coniferous woodland (semi-natural)	RP = Rough unimproved grassland/pasture	PG = Parkland or gardens
CP = Coniferous plantation	IG = Improved/semi-improved grassland	NV = Not visible
SH = Scrub & shrubs	TH = Tall herb/rank vegetation	
OR = Orchard	RD = Rock, scree or sand dunes	
WL = Wetland (e.g. bog, marsh, fen)	SU = Suburban/urban development	
MH = Moorland/heath		

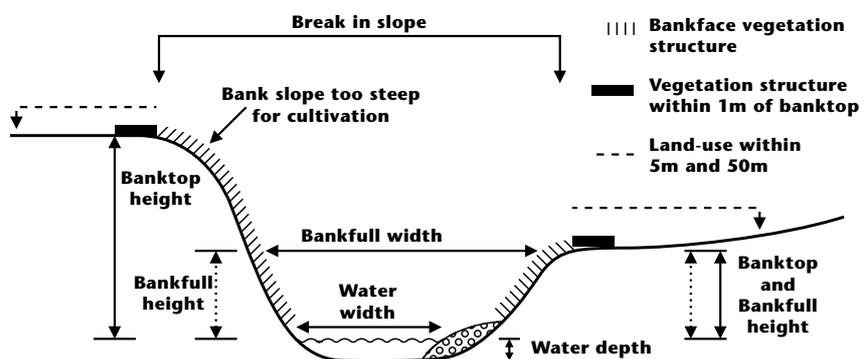
BANKTOP AND BANKFACE VEGETATION STRUCTURE To be assessed within a 10m wide transect (SECTION F)

bare	B	bare earth/rock etc.	vegetation types
uniform 	U	predominantly one type (no scrub or trees)	bryophytes short/creeping herbs or grasses
simple 	S	two or three vegetation types	tall herbs/grasses scrub or shrubs
complex 	C	four or more types	saplings and trees

Channel dimensions guidance (Section L)

- Select location on uniform section.
- If riffle is present, measure there. If not, measure at straightest and shallowest point.
- **Banktop** = first major break in slope above which cultivation or development is possible.
- **Bankfull** = point where river first spills on to floodplain.

Cross-section of channel showing definitions used to define where spot-check recording and channel dimensions measured



EMERGENCY HOTLINE 0800 80 70 60

24 hour free emergency telephone line for reporting all environmental incidents relating to air, land and water.

A FIELD SURVEY DETAILS

Site Number:

Site Reference:

Spot-check 1 coord:

Spot-check 6 coord:

End of site coord:

Reach Reference:

River name:

Date / /20 Time:

Surveyor name:

Accredited Surveyor code:

Is the site part of a river or an artificial channel? River Artificial

Are adverse conditions affecting survey? No Yes

If yes, state

Is bed of river visible? barely or not partially ±entirely

Is health and safety assessment form attached? Yes No

Number of photographs taken:

Photo references:

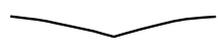
Site surveyed from: left bank right bank channel

When options shown with 'shadow boxes', tick one box only

LEFT banks determined by facing downstream RIGHT

B PREDOMINANT VALLEY FORM (within the horizon limit) (tick one box only)

(tick one box only)

	<input type="checkbox"/> shallow vee		<input type="checkbox"/> concave/bowl
	<input type="checkbox"/> deep vee		<input type="checkbox"/> asymmetrical valley
	<input type="checkbox"/> gorge		<input type="checkbox"/> U-shape valley
			<input type="checkbox"/> no obvious valley sides

Distinct flat valley bottom? No Yes Natural terraces? No Yes

C NUMBER OF RIFFLES, POOLS AND POINT BARS (enter total number in boxes)

Riffle(s)	<input type="text"/>	Unvegetated point bar(s)	<input type="text"/>
Pool(s)	<input type="text"/>	Vegetated point bar(s)	<input type="text"/>

D ARTIFICIAL FEATURES (indicate total number of occurrences of each category within the 500m site)

If none, tick box <input type="checkbox"/>	Weirs/slucices			Outfalls/intakes		
	Major	Intermediate	Minor	Major	Intermediate	Minor
	Other - state <input type="text"/>					

Is channel obviously realigned? No Yes, <33% of site ≥33% of site

Is channel obviously over-deepened? No Yes, <33% of site ≥33% of site

Is water impounded by weir/dam? No Yes, <33% of site ≥33% of site

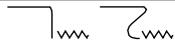
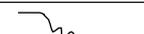
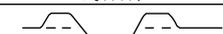
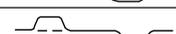
SITE REF.	RIVER HABITAT SURVEY: TEN SPOT-CHECKS					Page 2 of 4						
Spot-check 1 is at: upstream end <input type="checkbox"/> downstream end <input type="checkbox"/> of site (tick one box)												
E PHYSICAL ATTRIBUTES (to be assessed across channel within 1m wide transect)												
When boxes 'bordered', only one entry allowed												
	1	2	3	4	5	6	GPS	7	8	9	10	GPS
LEFT BANK	Ring EC or SC if composed of sandy substrate										↑ Enter channel substrate(s) not occurring as predominant in spot-checks but present in >1% of whole site.	
Material NV, BE, BO, CO, GS, EA, PE, CL, CC, SP, WP, GA, BR, RR, TD, FA, BI												
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM												
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB												
CHANNEL	GP- ring either G or P if predominant											
Channel substrate NV, BE, BO, CO, GP, SA, SI, CL, PE, EA, AR												
Flow-type NV, FF, CH, BW, UW, CF, RP, UP, SM, NP, DR												
Channel modification(s) NK, NO, CV, RS, RI, DA, FO												
Channel feature(s) NV, NO, EB, RO, VR, MB, VB, MI, TR												
For braided rivers only: number of sub-channels												
RIGHT BANK	Ring EC or SC if composed of sandy substrate											
Material NV, BE, BO, CO, GS, EA, PE, CL, CC, SP, WP, GA, BR, RR, TD, FA, BI												
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM												
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB												
F BANKTOP LAND-USE AND VEGETATION STRUCTURE (to be assessed over a 10m wide transect)												
Land-use: choose one from BL, BP, CW, CP, SH, OR, WL, MH, AW, OW, RP, IG, TH, RD, SU, TL, IL, PG, NV												
LAND-USE WITHIN 5m OF LEFT BANKTOP												
LEFT BANKTOP (structure within 1m) B/U/S/C/NV												
LEFT BANK-FACE (structure) B/U/S/C/NV												
RIGHT BANK-FACE (structure) B/U/S/C/NV												
RIGHT BANKTOP (structure within 1m) B/U/S/C/NV												
LAND-USE WITHIN 5m OF RIGHT BANKTOP												
G CHANNEL VEGETATION TYPES (to be assessed over a 10m wide transect: use E (≥ 33% area), ✓(present) or NV (not visible))												
None (✓) or Not Visible (NV)												
Liverworts/mosses/lichens												
Emergent broad-leaved herbs												
Emergent reeds/sedges/rushes/grasses/horsetails												
Floating-leaved (rooted)												
Free-floating												
Amphibious												
Submerged broad-leaved												
Submerged linear-leaved												
Submerged fine-leaved												
Filamentous algae												
Use end column for overall assessment over 500m, including types not occurring in spot-checks (use ✓, E or NV) ————— ↑												

Riffles:

Pools:

PB:

VP:

SITE REF.	RIVER HABITAT SURVEY : 500m SWEEP-UP				Page 3 of 4		
H LAND-USE WITHIN 50m OF BANKTOP Use ✓ (present) or E (≥ 33% banklength)							
	L	R		L	R		
Broadleaf/mixed woodland (semi-natural) (BL)			Natural open water (OW)				
Broadleaf/mixed plantation (BP)			Rough/unimproved grassland/pasture (RP)				
Coniferous woodland (semi-natural) (CW)			Improved/semi-improved grassland (IG)				
Coniferous plantation (CP)			Tall herb/rank vegetation (TH)				
Scrub & shrubs (SH)			Rock, scree or sand dunes (RD)				
Orchard (OR)			Suburban/urban development (SU)				
Wetland (e.g. bog, marsh, fen) (WL)			Tilled land (TL)				
Moorland/heath (MH)			Irrigated land (IL)				
Artificial open water (AW)			Parkland or gardens (PG)				
			Not visible (NV)				
I BANK PROFILES Use ✓ (present) or E (≥ 33% banklength)							
Natural/unmodified	L	R	Artificial/modified	L	R		
Vertical/undercut 			Resectioned (reprofiled) 				
Vertical with toe 			Reinforced - whole 				
Steep (>45°) 			Reinforced - top only 				
Gentle 			Reinforced - toe only 				
Composite 			Artificial two-stage 				
Natural berm 			Poached bank 				
			Embanked 				
			Set-back embankment 				
J EXTENT OF TREES AND ASSOCIATED FEATURES *record even if <1%							
TREES (tick one box per bank)			ASSOCIATED FEATURES (tick one box per feature)				
	Left	Right		None	Present	E (≥33%)	
None	<input type="checkbox"/>	<input type="checkbox"/>	Shading of channel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Isolated/scattered	<input type="checkbox"/>	<input type="checkbox"/>	*Overhanging boughs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Regularly spaced, single	<input type="checkbox"/>	<input type="checkbox"/>	*Exposed bankside roots	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Occasional clumps	<input type="checkbox"/>	<input type="checkbox"/>	*Underwater tree roots	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Semi-continuous	<input type="checkbox"/>	<input type="checkbox"/>	Fallen trees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Continuous	<input type="checkbox"/>	<input type="checkbox"/>	Large woody debris	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
K EXTENT OF CHANNEL AND BANK FEATURES (tick one box for each feature) *record even if <1%							
	None	Present	E(≥33%)		None	Present	E(≥33%)
*Free fall flow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed bedrock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chute flow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed boulders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Broken standing waves	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated bedrock/boulders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unbroken standing waves	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unvegetated mid-channel bar(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rippled flow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated mid-channel bar(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*Upwelling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mature island(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smooth flow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unvegetated side bar(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No perceptible flow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated side bar(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No flow (dry)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unvegetated point bar(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marginal deadwater	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated point bar(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eroding cliff(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Discrete unvegetated silt deposit(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stable cliff(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Discrete unvegetated sand deposit(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				*Discrete unvegetated gravel deposit(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

L CHANNEL DIMENSIONS (to be measured at one location on a straight uniform section, preferably across a riffle)

LEFT BANK		CHANNEL		RIGHT BANK
Banktop height (m)		Bankfull/top width (m)		Banktop height (m)
Is banktop height also bankfull height? (Y or N)		Water width (m)		Is banktop height also bankfull height? (Y or N)
Embanked height (m)		Water depth (m)		Embanked height (m)
If trashline lower than banktop, indicate: height above water (m) = _____ width from bank to bank (m) = _____				
Bed material at site is: consolidated <input type="checkbox"/> unconsolidated (loose) <input type="checkbox"/> unknown <input type="checkbox"/>				
Location of measurements is: riffle <input type="checkbox"/> other <input type="checkbox"/> (state)				

M FEATURES OF SPECIAL INTEREST Use ✓ or E (> 33% length) *record even if <1%

None <input type="checkbox"/>	Very large boulders (>1m) <input type="checkbox"/>	Backwater(s) <input type="checkbox"/>	Marsh(es) <input type="checkbox"/>
Braided channels <input type="checkbox"/>	*Debris dam(s) <input type="checkbox"/>	Floodplain boulder deposits <input type="checkbox"/>	Flush(es) <input type="checkbox"/>
Side channel(s) <input type="checkbox"/>	*Leafy debris <input type="checkbox"/>	Water meadow(s) <input type="checkbox"/>	Natural open water <input type="checkbox"/>
*Natural waterfall(s) > 5m high <input type="checkbox"/>	Fringing reed-bank(s) <input type="checkbox"/>	Fen(s) <input type="checkbox"/>	Others (state) <input type="checkbox"/>
*Natural waterfall(s) < 5m high <input type="checkbox"/>	Quaking bank(s) <input type="checkbox"/>	Bog(s) <input type="checkbox"/>	
Natural cascade(s) <input type="checkbox"/>	*Sink hole(s) <input type="checkbox"/>	Wet woodland(s) <input type="checkbox"/>	

N CHOKED CHANNEL (tick one box)

Is 33% or more of the channel choked with vegetation? No Yes

O NOTABLE NUISANCE PLANT SPECIES Use ✓ or E (> 33% length) *record even if <1%

	bankface	banktop to 50m		bankface	banktop to 50m
None <input type="checkbox"/>	*Giant hogweed <input type="checkbox"/>	<input type="checkbox"/>	*Himalayan balsam <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	*Japanese knotweed <input type="checkbox"/>	<input type="checkbox"/>	*Other (state)..... <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

P OVERALL CHARACTERISTICS (Circle appropriate words, add others as necessary)

Major impacts: landfill - tipping - litter - sewage - pollution - drought - abstraction - mill - dam - road - rail - industry - housing mining - quarrying - overdeepening - overwidening (P or E) - realignment - afforestation - fisheries management - silting - waterlogging - hydroelectric power

Evidence of recent management: dredging - bank mowing - weed cutting - enhancement - river rehabilitation - gravel extraction - other (please specify)

Animals: otter - mink - water vole - kingfisher - dipper - grey wagtail - sand martin - heron - dragonflies/damselflies

Other significant observations: if necessary use separate sheet to describe overall characteristics and relevant observations

Q ALDERS (tick one box in each of the two categories) *record even if <1%

*Alders? None <input type="checkbox"/> Present <input type="checkbox"/> Extensive <input type="checkbox"/>	*Diseased Alders? None <input type="checkbox"/> Present <input type="checkbox"/> Extensive <input type="checkbox"/>
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R FIELD SURVEY QUALITY CONTROL (✓ boxes to confirm checks)

Have you taken at least two photos that illustrate the general character of the site and additional photos of any weirs/ sluices and major/intermediate structures across the channel?	<input type="checkbox"/>
Have you completed all ten spot-checks and made entries in all boxes in E & F on page 2?	<input type="checkbox"/>
Have you completed column 11 of section G (and E if appropriate) on page 1?	<input type="checkbox"/>
Have you recorded in section C the number of riffles, pools and point bars (even if 0) on page 1?	<input type="checkbox"/>
Have you given an accurate (alphanumeric) grid reference for spot-checks 1, 6 and end of site (page 1)?	<input type="checkbox"/>
Have you stated whether spot-check 1 is at the upstream or downstream end of the site (top of page 2)?	<input type="checkbox"/>
Have you cross-checked your spot-check and sweep-up responses with the channel modification indicators given on page 2 of the spot-check key?	<input type="checkbox"/>