

A FIELD SURVEY DETAILS

Site Number: Est 12 leave blank if new site

Site Reference:

Spot-check 1 Grid Ref: 036095, 44
213010, 12

Spot-check 6 Grid Ref: 036057, 34
212826, 56

End of site Grid Ref: 036158, 32
212681, 07

Reach Reference:

River name:

Date 02/07/2015 Time: 14h50min

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)

shallow vee

deep vee

gorge

concave/bowl

asymmetrical valley

U-shape valley

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) Unvegetated point bar(s)

Pool(s) Vegetated point bar(s)

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

If none, tick box	Major			Intermediate			Minor		
	Major	Intermediate	Minor	Major	Intermediate	Minor	Major	Intermediate	Minor
Weirs/sluices									
Culverts									
Bridges									
Other - state									

Outfalls/intakes

Fords

Deflectors/groynes/croys

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

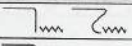
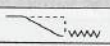





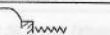






Is channel obviously over-deepened? No Yes, <33% of site ≥33% of site

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

Ripple - 11
Pool - 1

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 checked="" 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 GPS	2	3	4	5	6 GPS	7	8	9	10	GPS
LEFT BANK	Ring EC or SC if composed of sandy substrate										
Material NV, BE, BO, CO, GS, EA, FE, CL, CC, SP, WP, GA, BR, RR, TD, FA, BI	BO	BO	GA	EA	EA	EA	EA	EA	EA	EA	EA
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
CHANNEL	GP- ring either G or P if predominant										
Channel substrate NV, BE, BO, CO, GP, SA, SI, CL, PE, EA, AR	BO	BO	CO	CO	CO	CO	CO	BO	BO	BO	BO
Flow-type NV, FF, CH, BW, UW, CF, RP, UP, SM, NP, DR	RP	RP	SM	SM	NP	NP	NP	SM	SM	SM	SM
Channel modification(s) NK, NO, CV, RS, RI, DA, FO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Channel feature(s) NV, NO, EB, RO, VR, MB, VB, MI, TR	BO	RO	NO	NO	NO	NO	NO	NO	NO	NO	NO
For braided rivers only: number of sub-channels	0	0	0	0	0	0	0	0	0	0	0
RIGHT BANK	Ring EC or SC if composed of sandy substrate										
Material NV, BE, BO, CO, GS, EA, FE, CL, CC, SP, WP, GA, BR, RR, TD, FA, BI	EA	BO	BO	BO	BA	EA	EA	EA	EA	EA	EA
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB	NO	NO	NO	NO	NO	VS	NO	NO	NO	NO	NO
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	SH										
LAND-USE WITHIN 5m OF LEFT BANKTOP	SH	BL	BL	SH	SH	SH	SH	SH	SH	SH	SH
LEFT BANKTOP (structure within 1m) B/U/S/C/NV	B	S	S	S	C	S	S	S	S	S	S
LEFT BANK-FACE (structure) B/U/S/C/NV	B	S	S	S	C	S	U	U	S	S	S
RIGHT BANK-FACE (structure) B/U/S/C/NV	U	S	S	C	C	C	S	S	S	S	S
RIGHT BANKTOP (structure within 1m) B/U/S/C/NV	U	S	C	C	C	S	S	S	S	S	S
LAND-USE WITHIN 5m OF RIGHT BANKTOP	SH	BL	BL	SH	SH	SH	SH	SH	SH	SH	SH
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	✓	L	L	L	L	L	L	L	L	L	L
Emergent broad-leaved herbs		L									
Emergent reeds/sedges/rushes/grasses/horsetails	L	L		L	L	L	L				
Floating-leaved (rooted)											
Free-floating	L						L	L	L	L	
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)											

↑ Enter channel substrate(s) not occurring as predominant in spot-checks but present in >1% of whole site.

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 	E	✓	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 checked="" 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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Occasional clumps	<input type="checkbox"/>	<input type="checkbox"/>	*Underwater tree roots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Semi-continuous	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fallen trees	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Continuous	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Large woody debris	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed bedrock	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Chute flow	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Broken standing waves	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated bedrock/boulders	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unbroken standing waves	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rippled flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*Upwelling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mature island(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smooth flow	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated side bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No perceptible flow	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated side bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No flow (dry)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unvegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marginal deadwater	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eroding cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Unvegetated silt deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stable cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Discrete unvegetated sand deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				*Discrete unvegetated gravel deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SITE REF.		RIVER HABITAT SURVEY : DIMENSIONS AND INFLUENCES Page 4 of 4			
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)	0.5	Bankfull width (m)	10	Banktop height (m)	0.5
Is banktop height also bankfull height? (Y or N)	Y	Water width (m)	8	Is banktop height also bankfull height? (Y or N)	N
Embanked height (m)	0	Water depth (m)	0.7	Embanked height (m)	0
If trashline lower than banktop, indicate: height above water (m) = 0 width from bank to bank (m) = 0					
Bed material at site is: consolidated <input checked="" type="checkbox"/> unconsolidated (loose) <input type="checkbox"/> unknown <input type="checkbox"/>					
Location of measurements is: riffle <input checked="" 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 checked="" type="checkbox"/>	Backwater(s)	<input type="checkbox"/>
Braided channels	<input type="checkbox"/>	*Debris dam(s)	<input type="checkbox"/>	Floodplain boulder deposits	<input type="checkbox"/>
Side channel(s)	<input type="checkbox"/>	*Leafy debris	<input type="checkbox"/>	Water meadow(s)	<input type="checkbox"/>
*Natural waterfall(s) > 5m high	<input type="checkbox"/>	Fringing reed-bank(s)	<input type="checkbox"/>	Fen(s)	<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"/>
				Marsh(es)	<input type="checkbox"/>
				Flush(es)	<input type="checkbox"/>
				Natural open water	<input type="checkbox"/>
				Others (state)	<input type="checkbox"/>
N CHOKED CHANNEL (tick one box)					
Is 33% or more of the channel choked with vegetation? No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>					
O NOTABLE NUISANCE PLANT SPECIES Use ✓ or E (≥ 33% length) *record even if <1%					
None	<input checked="" type="checkbox"/>	bankface	banktop to 50m	bankface	banktop to 50m
*Giant hogweed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Himalayan balsam	<input type="checkbox"/>
*Japanese knotweed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Other (state)...	<input checked="" 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 - 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 checked="" type="checkbox"/> Extensive <input type="checkbox"/>			*Diseased Alders? None <input checked="" type="checkbox"/> Present <input type="checkbox"/> Extensive <input type="checkbox"/>		
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 checked="" type="checkbox"/>					
Have you completed all ten spot-checks and made entries in all boxes in E & F on page 2? <input checked="" type="checkbox"/>					
Have you completed column 11 of section G (and E if appropriate) on page 2? <input checked="" type="checkbox"/>					
Have you recorded in section C the number of riffles, pools and point bars (even if 0) on page 1? <input checked="" type="checkbox"/>					
Have you given an accurate (alphanumeric) grid reference for spot-checks 1, 6 and end of site (page 1)? <input checked="" type="checkbox"/>					
Have you stated whether spot-check 1 is at the upstream or downstream end of the site (top of page 2)? <input checked="" 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 checked="" type="checkbox"/>					

A FIELD SURVEY DETAILS

Site Number: Est 4
 Site Reference:
 Spot-check 1 Grid Ref: 204625.99
206453.35
 Spot-check 6 Grid Ref: 204836.88
206539.73
 End of site Grid Ref:
 Reach Reference: 204882.50
206519.11
 River name: Tamag
 Date 05/07/2015 Time: 11:54
 Surveyor name: David Evaradus
 Accredited Surveyor code: 28100








Is the site part of a river or an artificial channel? River Artificial
 Are adverse conditions affecting survey? No Yes
 If yes, state no consecuencias completas o RAS por si fuera posible
 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 checked="" 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) Unvegetated point bar(s)
 Pool(s) Vegetated point bar(s)

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

If none, tick box <input type="checkbox"/>	Major			Intermediate			Minor			
Weirs/sluices							Outfalls/intakes			
Culverts							Fords			
Bridges							Deflectors/groynes/croys			
Other - state										

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 checked="" type="checkbox"/>		downstream end <input checked="" 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 GPS	2	3	4	5	6 GPS	7	8	9	10	GPS
LEFT BANK											
Ring ^{GS} SC if composed of sandy substrate											
Material NV, BE, BO, CO, GS, EA, PE, CL, CC, SP, WP, GA, BR, RR, TD, FA, BI	BE	EA	EA	BE	BE	BE	BE				
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM	NO	NO	NO	NO	NO	NO	NO				
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB	NO	NO	NO	NO	NO	NO	NO				
CHANNEL											
GP- ring either G or P if predominant											
Channel substrate NV, BE, BO, CO, GP, SA, SI, CL, PE, EA, AR	NV	NV	NV	NV	NV	NV	NV				
Flow-type NV, FF, CH, BW, UW, CF, RP, UP, SM, NP, DR	SM	SM	SM	RP	SM	SM	SM				
Channel modification(s) NK, NO, CV, RS, RI, DA, FO	NO	NO	NO	NO	NO	NO	NO				
Channel feature(s) NV, NO, EB, RO, VR, MB, VB, MI, TR	NO	NO	NO	NO	NO	NO	NO				
For braided rivers only: number of sub-channels	0	0	0	0	0	0	0				
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	BE	BE	BE	BE	BE	BE	BE				
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM	NO	NO	NO	NO	NO	NO	NO				
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB	NO	NO	NO	NO	NO	NO	NO				
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	BL	BL	BL	BL	BL	BL	TH				
LEFT BANKTOP (structure within 1m) B/U/S/C/NV C	B	C	C	C	C	C	S				
LEFT BANK-FACE (structure) B/U/S/C/NV B	B	U	S	S	S	S	U				
RIGHT BANK-FACE (structure) B/U/S/C/NV B	B	U	S	S	S	S	U				
RIGHT BANKTOP (structure within 1m) B/U/S/C/NV C	B	U	S	S	S	S	S				
LAND-USE WITHIN 5m OF RIGHT BANKTOP	BL	BL	BE	SH	SH	SH	SH				
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)	NV	NV	NV	NV	NV	NV	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)											

Enter channel substrate(s) not occurring as predominant in spot-checks but present in >1% of whole site.

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)	E	✓	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)	✓	E	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		✓	E	Resectioned (reprofiled)			
Vertical with toe		E	✓	Reinforced - whole			
Steep (>45°)		✓	E	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 checked="" type="checkbox"/>	<input type="checkbox"/>
Isolated/scattered	<input type="checkbox"/>	<input type="checkbox"/>		*Overhanging boughs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Regularly spaced, single	<input type="checkbox"/>	<input type="checkbox"/>		*Exposed bankside roots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Occasional clumps	<input type="checkbox"/>	<input type="checkbox"/>		*Underwater tree roots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Semi-continuous	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Fallen trees	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Continuous	<input type="checkbox"/>	<input type="checkbox"/>		Large woody debris	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed bedrock	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Chute flow	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Broken standing waves	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated bedrock/boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Unbroken standing waves	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unvegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rippled flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*Upwelling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mature island(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smooth flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated side bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No perceptible flow	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated side bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No flow (dry)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unvegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marginal deadwater	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eroding cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Unvegetated silt deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stable cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Discrete unvegetated sand deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				*Discrete unvegetated gravel deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SITE REF.		RIVER HABITAT SURVEY : DIMENSIONS AND INFLUENCES				Page 4 of 4	
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)	0,9	Bankfull width (m)	12	Banktop height (m)	0,9		
Is banktop height also bankfull height? (Y or N)	N	Water width (m)	12	Is banktop height also bankfull height? (Y or N)	N		
Embanked height (m)	0,9	Water depth (m)	1,70	Embanked height (m)	0,9		
If trashline lower than banktop, indicate: height above water (m) = 0,4 width from bank to bank (m) = 14							
Bed material at site is: consolidated <input checked="" type="checkbox"/> unconsolidated (loose) <input type="checkbox"/> unknown <input type="checkbox"/>							
Location of measurements is: riffle <input type="checkbox"/> other <input checked="" 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 checked="" 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 <input checked="" type="checkbox"/> Yes <input type="checkbox"/>							
O NOTABLE NUISANCE PLANT SPECIES Use ✓ or E (≥ 33% length) *record even if <1%							
None	<input type="checkbox"/>	bankface	banktop to 50m	bankface	banktop to 50m		
*Giant hogweed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Himalayan balsam	<input type="checkbox"/>	<input type="checkbox"/>	
*Japanese knotweed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Other (state)...	<input type="checkbox"/>	<input checked="" 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 - 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 checked="" type="checkbox"/> Extensive <input type="checkbox"/>			*Diseased Alders? None <input checked="" type="checkbox"/> Present <input type="checkbox"/> Extensive <input type="checkbox"/>				
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 checked="" type="checkbox"/>							
Have you completed all ten spot-checks and made entries in all boxes in E & F on page 2? <input checked="" type="checkbox"/>							
Have you completed column 11 of section G (and E if appropriate) on page 2? <input checked="" type="checkbox"/>							
Have you recorded in section C the number of riffles, pools and point bars (even if 0) on page 1? <input checked="" type="checkbox"/>							
Have you given an accurate (alphanumeric) grid reference for spot-checks 1, 6 and end of site (page 1)? <input checked="" type="checkbox"/>							
Have you stated whether spot-check 1 is at the upstream or downstream end of the site (top of page 2)? <input checked="" 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 checked="" type="checkbox"/>							

A FIELD SURVEY DETAILS





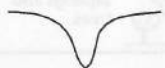


Site Number: Est 6
 Site Reference:
 Spot-check 1 Grid Ref: 035733,21
201817,49
 Spot-check 6 Grid Ref: 035758,17
201441,19
 End of site Grid Ref: 201601,15
 Reach Reference: 035842,80
201441,19
 River name: douredo
 Date 08/07/2015 Time: 14h54min
 Surveyor name: Sabri de Fernando
 Accredited Surveyor code: LB1004

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: 2
 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 checked="" 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) Unvegetated point bar(s)
 Pool(s) Vegetated point bar(s)

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

If none, tick box	Major			Intermediate			Minor			
	Major	Intermediate	Minor	Major	Intermediate	Minor	Major	Intermediate	Minor	
<input type="checkbox"/>	Weirs/slucices						Outfalls/intakes			
	Culverts						Fords			
	Bridges						Deflectors/groynes/croys			
	Other - state									





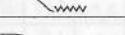
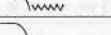
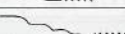



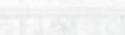


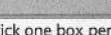
Is channel obviously realigned? No Yes, <33% of site ≥33% of site
 Is channel obviously over-deepened? No Yes, <33% of site ≥33% of site
 Is water impounded by weir/dam? No Yes, <33% of site ≥33% of site

page - 11
pool - 111

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 checked="" 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 GPS	2	3	4	5	6 GPS	7	8	9	10	GPS
LEFT BANK		Ring EC or SC if composed of sandy substrate										
Material NV, BE, BO, CO, GS, EA, FE, CL, CC, SP, WP, GA, BR, RR, TD, FA, BI		EA	EA	EA	BE	EA	EA	GA	EA	EA	EA	EA
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
CHANNEL		GP- ring either G or P if predominant										
Channel substrate NV, BE, BO, CO, GP, SA, SI, CL, PE, EA, AR		SA	SA	BO	BO	CO	BO	BE	SA	CO	SA	PE
Flow-type NV, FF, CH, BW, UW, CF, RP, UP, SM, NP, DR		NP	NP	NP	NP	NP	NP	NP	SM	NP	NP	NP
Channel modification(s) NK, NO, CV, RS, RI, DA, FO		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Channel feature(s) NV, NO, EB, RO, VR, MB, VB, MI, TR		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
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, FE, CL, CC, SP, WP, GA, BR, RR, TD, FA, BI		EA	EA	EA	EA	EA	EA	BE	EA	EA	EA	EA
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
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		SH	SH	SU	SH	RP	RP	SH	SH	SH	SH	SH
LEFT BANKTOP (structure within 1m) B/U/S/C/NV		S	S	S	S	U	C	S	S	S	S	S
LEFT BANK-FACE (structure) B/U/S/C/NV		S	S	S	S	U	C	S	S	S	S	S
RIGHT BANK-FACE (structure) B/U/S/C/NV		S	S	S	U	U	S	S	S	S	S	S
RIGHT BANKTOP (structure within 1m) B/U/S/C/NV		S	S	S	S	S	S	S	U	S	S	S
LAND-USE WITHIN 5m OF RIGHT BANKTOP		SH	SH	SH	SH	SH	MH	MH	SH	SH	SH	SH
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) →												

Enter channel substrate(s) not occurring as predominant in spot-checks but present in >1% of whole site.

284 243 257 289 261 275 297 298 300 302
 River Habitat Survey Manual: 2003 version 2.6
 285 286 288 290 292 295 296 299 301 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

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 checked="" type="checkbox"/>	<input type="checkbox"/>	
Isolated/scattered	<input type="checkbox"/>	<input type="checkbox"/>	*Overhanging boughs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Regularly spaced, single	<input type="checkbox"/>	<input type="checkbox"/>	*Exposed bankside roots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Occasional clumps	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	*Underwater tree roots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Semi-continuous	<input type="checkbox"/>	<input type="checkbox"/>	Fallen trees	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Continuous	<input type="checkbox"/>	<input type="checkbox"/>	Large woody debris	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed bedrock	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Chute flow	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Broken standing waves	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated bedrock/boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Unbroken standing waves	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unvegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rippled flow	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated mid-channel bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Upwelling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mature island(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Smooth flow	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated side bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No perceptible flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Vegetated side bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No flow (dry)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unvegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marginal deadwater	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eroding cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Unvegetated silt deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stable cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Discrete unvegetated sand deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				*Discrete unvegetated gravel deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

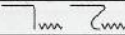



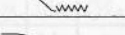
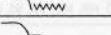

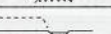

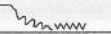



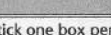
SITE REF.		RIVER HABITAT SURVEY : DIMENSIONS AND INFLUENCES				Page 4 of 4	
L CHANNEL DIMENSIONS (to be measured at one location on a straight uniform section, preferably across a riffle)							
LEFT BANK		CHANNEL		RIGHT BANK			
Banktop height (m)	1,5	Bankfull width (m)	15	Banktop height (m)	15		
Is banktop height also bankfull height? (Y or N)	Y	Water width (m)	12	Is banktop height also bankfull height? (Y or N)	Y		
Embanked height (m)	2	Water depth (m)	0,8	Embanked height (m)	2		
If trashline lower than banktop, indicate: height above water (m) = 1 width from bank to bank (m) = 15							
Bed material at site is: consolidated <input checked="" type="checkbox"/> unconsolidated (loose) <input checked="" type="checkbox"/> unknown <input type="checkbox"/>							
Location of measurements is: riffle <input checked="" 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 checked="" 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 <input checked="" type="checkbox"/> Yes <input type="checkbox"/>							
O NOTABLE NUISANCE PLANT SPECIES Use ✓ or E (> 33% length) *record even if <1%							
None	<input checked="" type="checkbox"/>	bankface banktop to 50m		bankface banktop to 50m			
*Giant hogweed	<input type="checkbox"/>	<input type="checkbox"/>		*Himalayan balsam	<input type="checkbox"/>	<input type="checkbox"/>	
*Japanese knotweed	<input type="checkbox"/>	<input type="checkbox"/>		*Other (state).....	<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 - afforestation - fisheries management - silting - waterlogging - hydroelectric power							
Evidence of recent management: dredging - bank mowing - <u>weed cutting</u> - enhancement - river rehabilitation - gravel extraction - other (please specify)							
Animals: otter - mink - water vole - kingfisher - dipper - grey wagtail - sand martin - heron - <u>dragonflies/damselflies</u>							
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 checked="" type="checkbox"/> Extensive <input type="checkbox"/>			*Diseased Alders? None <input checked="" type="checkbox"/> Present <input type="checkbox"/> Extensive <input type="checkbox"/>				
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 checked="" type="checkbox"/>							
Have you completed all ten spot-checks and made entries in all boxes in E & F on page 2? <input checked="" type="checkbox"/>							
Have you completed column 11 of section G (and E if appropriate) on page 2? <input checked="" type="checkbox"/>							
Have you recorded in section C the number of riffles, pools and point bars (even if 0) on page 1? <input checked="" type="checkbox"/>							
Have you given an accurate (alphanumeric) grid reference for spot-checks 1, 6 and end of site (page 1)? <input checked="" type="checkbox"/>							
Have you stated whether spot-check 1 is at the upstream or downstream end of the site (top of page 2)? <input checked="" 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 checked="" type="checkbox"/>							

Pools 11
Rifles 11

RIVER HABITAT SURVEY 2003 Version		Page 1 of 4					
A FIELD SURVEY DETAILS							
<p>Site Number: Est 08 <small>leave blank if new site</small></p> <p>Site Reference:</p> <p>Spot-check 1 Grid Ref: 022236,29 200414,01</p> <p>Spot-check 6 Grid Ref: 022377,66 200294,17</p> <p>End of site Grid Ref: 022571,79 200374,51</p> <p>Reach Reference:</p> <p>River name: <i>Rio Louredo</i></p> <p>Date: <i>4/07/2015</i> Time: <i>11h20 min</i></p> <p>Surveyor name: <i>Paulo Abres + Davide Evarades</i></p> <p>Accredited Surveyor code:</p>	<p>Is the site part of a river or an artificial channel? River <input checked="" type="checkbox"/> Artificial <input type="checkbox"/></p> <p>Are adverse conditions affecting survey? No <input checked="" type="checkbox"/> Yes <input type="checkbox"/></p> <p>If yes, state</p> <p>Is bed of river visible? barely or not <input type="checkbox"/> partially <input type="checkbox"/> ± entirely <input checked="" type="checkbox"/></p> <p>Is health and safety assessment form attached? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Number of photographs taken: 2</p> <p>Photo references:</p> <p>Site surveyed from: left bank <input type="checkbox"/> right bank <input checked="" type="checkbox"/> channel <input type="checkbox"/></p> <p><input type="checkbox"/> When options shown with 'shadow boxes', tick one box only</p> <p>LEFT banks determined by facing downstream RIGHT</p>						
B PREDOMINANT VALLEY FORM (within the horizon limit) (tick one box only)							
<p>(tick one box only)</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><input type="checkbox"/> shallow vee</p> <p><input type="checkbox"/> deep vee</p> <p><input type="checkbox"/> gorge</p> </div> <div style="width: 45%;"> <p><input type="checkbox"/> concave/bowl</p> <p><input checked="" type="checkbox"/> asymmetrical valley</p> <p><input type="checkbox"/> U-shape valley</p> <p><input type="checkbox"/> no obvious valley sides</p> </div> </div> <p>Distinct flat valley bottom? No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> Natural terraces? No <input checked="" type="checkbox"/> Yes <input type="checkbox"/></p>							
C NUMBER OF RIFFLES, POOLS AND POINT BARS (enter total number in boxes)							
Riffle(s) 2	Unvegetated point bar(s) 						
Pool(s) 2	Vegetated point bar(s) 						
D ARTIFICIAL FEATURES (indicate total number of occurrences of each category within the 500m site)							
If none, tick box <input type="checkbox"/>							
Weirs/sluices	Major	Intermediate	Minor	Outfalls/intakes	Major	Intermediate	Minor
Culverts				Fords			
Bridges				Deflectors/groynes/croys			
Other - state							
Is channel obviously realigned?		No <input checked="" type="checkbox"/>	Yes, <33% of site <input type="checkbox"/>	≥33% of site <input type="checkbox"/>			
Is channel obviously over-deepened?		No <input checked="" type="checkbox"/>	Yes, <33% of site <input type="checkbox"/>	≥33% of site <input type="checkbox"/>			
Is water impounded by weir/dam?		No <input checked="" type="checkbox"/>	Yes, <33% of site <input type="checkbox"/>	≥33% of site <input type="checkbox"/>			

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 checked="" 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 GPS	2	3	4	5	6 GPS	7	8	9	10	GPS	
LEFT 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	BR	BE	EA	BR	BR	BR	EA	EA	BO			
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM	RI	NO	NO	RI	RI	RI	RI	NO	NO			
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
CHANNEL	GP- ring either G or P if predominant											
Channel substrate NV, BE, BO, CO, GP, SA, SI, CL, PE, EA, AR	BO	PE	PE	SI	SA	CO	CO	CO	CO	CO		
Flow-type NV, FF, CH, BW, UW, CF, RP, UP, SM, NP, DR	BW	SM	SM	NP	NP	SM	SM	SM	SM	SM		
Channel modification(s) NK, NO, CV, RS, RI, DA, FO	DA	DA	DA	NO	NO	NO	NO	NO	NO	NO		
Channel feature(s) NV, NO, EB, RO, VR, MB, VB, MI, TR	VR	NO	MI	NO	NO	NO	NO	NO	NO	NO	MI	
For braided rivers only: number of sub-channels	1	1									EB	
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	BR	BR	EA	EA	EA	EA	EA	EA	EA	EA	EA	
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM	RI	RI	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB	VP	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
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	R	P	TH	TH	TH	TH	OR	OR	OR	OR	TH	
LEFT BANKTOP (structure within 1m) B/U/S/C/NV	V	S	S	S	S	S	S	S	S	S	S	
LEFT BANK-FACE (structure) B/U/S/C/NV	S	C	C	C	C	C	C	C	C	C	S	
RIGHT BANK-FACE (structure) B/U/S/C/NV	S	U	C	S	C	C	C	C	C	C	S	
RIGHT BANKTOP (structure within 1m) B/U/S/C/NV	V	V	S	S	S	C	S	S	C	C		
LAND-USE WITHIN 5m OF RIGHT BANKTOP	BP	BP	IL	BL	BL	IL	IL	IL	IL	IL	BL	
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	E		E									
Emergent reeds/sedges/rushes/grasses/horsetails	E		E								✓	
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)												

↑ Enter channel substrate(s) not occurring as predominant in spot-checks but present in >1% of whole site.

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)				E
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 checked="" type="checkbox"/>	<input type="checkbox"/>	
Isolated/scattered	<input type="checkbox"/>	<input type="checkbox"/>	*Overhanging boughs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Regularly spaced, single	<input type="checkbox"/>	<input type="checkbox"/>	*Exposed bankside roots	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	Fallen trees	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Continuous	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Large woody debris	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed bedrock	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Chute flow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Broken standing waves	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated bedrock/boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Unbroken standing waves	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rippled flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated mid-channel bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Upwelling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mature island(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Smooth flow	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	Vegetated side bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
No flow (dry)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unvegetated point bar(s)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Marginal deadwater	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated point bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Eroding cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Unvegetated silt deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stable cliff(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	*Discrete unvegetated sand deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				*Discrete unvegetated gravel deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SITE REF.		RIVER HABITAT SURVEY : DIMENSIONS AND INFLUENCES				Page 4 of 4	
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)	0.5	Bankfull width (m)	20	Banktop height (m)	0.5		
Is banktop height also bankfull height? (Y or N)	N	Water width (m)	13	Is banktop height also bankfull height? (Y or N)	N		
Embanked height (m)	/	Water depth (m)	0.6	Embanked height (m)	/		
If trashline lower than banktop, indicate: height above water (m) = 0.5 width from bank to bank (m) = 15							
Bed material at site is: consolidated <input checked="" type="checkbox"/> unconsolidated (loose) <input checked="" type="checkbox"/> unknown <input type="checkbox"/>							
Location of measurements is: riffle <input type="checkbox"/> other <input checked="" 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 checked="" type="checkbox"/>	Backwater(s)	<input type="checkbox"/>	Marsh(es)	<input type="checkbox"/>
Braided channels	<input checked="" type="checkbox"/>	*Debris dam(s)	<input type="checkbox"/>	Floodplain boulder deposits	<input type="checkbox"/>	Flush(es)	<input type="checkbox"/>
Side channel(s)	<input checked="" 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 <input checked="" type="checkbox"/> Yes <input type="checkbox"/>							
O NOTABLE NUISANCE PLANT SPECIES Use / or E (> 33% length) *record even if <1%							
None	<input checked="" type="checkbox"/>	*Giant hogweed	<input type="checkbox"/>	bankface	<input type="checkbox"/>	banktop to 50m	<input type="checkbox"/>
		*Japanese knotweed	<input type="checkbox"/>	bankface	<input type="checkbox"/>	banktop to 50m	<input type="checkbox"/>
				*Himalayan balsam	<input type="checkbox"/>		<input type="checkbox"/>
				*Other (state).....	<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 - <u>dam</u> - road - rail - industry - housing - mining - quarrying - overdeepening - afforestation - fisheries management - silting - waterlogging - hydroelectric power							
Evidence of recent management: dredging - bank mowing - <u>weed cutting</u> - enhancement - <u>river rehabilitation</u> - gravel extraction - other (please specify)							
Animals: otter - mink - water vole - kingfisher - dipper - grey wagtail - sand martin - heron - <u>dragonflies/damselflies</u>							
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 checked="" type="checkbox"/>	*Diseased Alders? None	<input checked="" type="checkbox"/>
						Present	<input type="checkbox"/>
						Extensive	<input type="checkbox"/>
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 checked="" type="checkbox"/>							
Have you completed all ten spot-checks and made entries in all boxes in E & F on page 2? <input checked="" type="checkbox"/>							
Have you completed column 11 of section G (and E if appropriate) on page 2? <input checked="" type="checkbox"/>							
Have you recorded in section C the number of riffles, pools and point bars (even if 0) on page 1? <input checked="" type="checkbox"/>							
Have you given an accurate (alphanumeric) grid reference for spot-checks 1, 6 and end of site (page 1)? <input checked="" type="checkbox"/>							
Have you stated whether spot-check 1 is at the upstream or downstream end of the site (top of page 2)? <input checked="" 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 checked="" type="checkbox"/>							

A FIELD SURVEY DETAILS

Site Number: Est99
 Site Reference:
 Spot-check 1 Grid Ref: 1038004,04
1002330,77
 Spot-check 6 Grid Ref: 1038168,64
1202405,28
 End of site Grid Ref: 1038261,64
1202539,68
 Reach Reference:
 River name: Louredo
 Date: 10/27/2015 Time: 17:30
 Surveyor name: P. Alves & David Fernandes
 Accredited Surveyor code: LB100





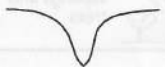


Is the site part of a river or an artificial channel? River Artificial
 Are adverse conditions affecting survey? No Yes
 If yes, state
 Is bed of river visible? barely or not partially ± entirely
 Is health and safety assessment form attached? Yes No
 Number of photographs taken:
 Photo references:
 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 checked="" 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) Unvegetated point bar(s)
 Pool(s) Vegetated point bar(s)

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














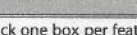
If none, tick box	Major			Intermediate			Minor		
	Major	Intermediate	Minor	Major	Intermediate	Minor	Major	Intermediate	Minor
<input type="checkbox"/> Weirs/sluices									
<input type="checkbox"/> Culverts									
<input type="checkbox"/> Bridges						2			
<input type="checkbox"/> Other - state									

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 checked="" 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 GPS 2 3 4 5 6 GPS 7 8 9 10 GPS													
LEFT 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	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA		
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		
CHANNEL													
GP- ring: either G or P if predominant													
Channel substrate NV, BE, BO, CO, GP, SA, SI, CL, PE, EA, AR	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA		
Flow-type NV, FF, CH, BW, UW, CF, RP, UP, SM, NP, DR	UP	UP	UP	UP	UP	UP	UP	UP	UP	UP	UP		
Channel modification(s) NK, NO, CV, RS, RI, DA, FO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		
Channel feature(s) NV, NO, EB, RO, VR, MB, VB, MI, TR	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		
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	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR		
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM	RI	RI	NO	NO	NO	NO	NO	NO	NO	NO	NO		
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB	NO	NO	SB	NO	NO	NO	NO	NO	NO	NO	NO		
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	RP	RP	RP	RP	RP	RP	RP	RP	RP	RP	BL		
LEFT BANKTOP (structure within 1m) B/U/S/C/NV	S	S	S	S	C	S	C	S	C	S	C		
LEFT BANK-FACE (structure) B/U/S/C/NV	C	C	C	C	C	C	C	C	C	C	C		
RIGHT BANK-FACE (structure) B/U/S/C/NV	S	C	C	C	C	C	C	C	C	C	C		
RIGHT BANKTOP (structure within 1m) B/U/S/C/NV	S	S	S	S	S	S	S	S	S	S	S		
LAND-USE WITHIN 5m OF RIGHT BANKTOP	RP	RP	RP	RP	RP	RP	RP	RP	RP	RP	RP		
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)													

↑ Enter channel substrate(s) not occurring as predominant in spot-checks but present in >1% of whole site.

5 ft → 270 272 273 275 276 278 279 281
 269 271 274 277 279 280
 River Habitat Survey Manual: 2003 version

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)	E	E		
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 		E	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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Isolated/scattered	<input type="checkbox"/>	<input type="checkbox"/>	*Overhanging boughs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Regularly spaced, single	<input type="checkbox"/>	<input type="checkbox"/>	*Exposed bankside roots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Occasional clumps	<input type="checkbox"/>	<input type="checkbox"/>	*Underwater tree roots	<input checked="" 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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Large woody debris	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed bedrock	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chute flow	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed boulders	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Broken standing waves	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated bedrock/boulders	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unbroken standing waves	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unvegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rippled flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated mid-channel bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Upwelling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mature island(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Smooth flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated side bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
No perceptible flow	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Vegetated side bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
No flow (dry)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marginal deadwater	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eroding cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Unvegetated silt deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stable cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Discrete unvegetated sand deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				*Discrete unvegetated gravel deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SITE REF.		RIVER HABITAT SURVEY : DIMENSIONS AND INFLUENCES				Page 4 of 4	
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)	1.8	Bankfull width (m)	4	Banktop height (m)	1.5		
Is banktop height also bankfull height? (Y or N)	Y	Water width (m)	3	Is banktop height also bankfull height? (Y or N)	N		
Embanked height (m)	0.8	Water depth (m)	0.7	Embanked height (m)	0.15		
If trashline lower than banktop, indicate: height above water (m) = 0 width from bank to bank (m) = 0.15							
Bed material at site is: consolidated <input type="checkbox"/> unconsolidated (loose) <input checked="" type="checkbox"/> unknown <input type="checkbox"/>							
Location of measurements is: riffle <input type="checkbox"/> other <input checked="" type="checkbox"/> (state) bank edge							
M FEATURES OF SPECIAL INTEREST Use / or E (> 33% length) *record even if <1%							
None	<input checked="" 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 <input checked="" type="checkbox"/> Yes <input type="checkbox"/>							
O NOTABLE NUISANCE PLANT SPECIES Use / or E (> 33% length) *record even if <1%							
None	<input checked="" type="checkbox"/>	bankface banktop to 50m		bankface banktop to 50m			
*Giant hogweed	<input type="checkbox"/>	<input type="checkbox"/>		*Himalayan balsam	<input type="checkbox"/>	<input type="checkbox"/>	
*Japanese knotweed	<input type="checkbox"/>	<input type="checkbox"/>		*Other (state).....	<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 - afforestation - fisheries management - silting - waterlogging - hydroelectric power							
Evidence of recent management: dredging - bank mowing - <u>weed cutting</u> - enhancement - river rehabilitation - gravel extraction - other (please specify)							
Animals: otter - mink - water vole - kingfisher - dipper - grey wagtail - sand martin - heron - <u>dragonflies/damselflies</u>							
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 checked="" type="checkbox"/>			*Diseased Alders? None <input checked="" type="checkbox"/> Present <input type="checkbox"/> Extensive <input type="checkbox"/>				
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 checked="" type="checkbox"/>	
Have you completed all ten spot-checks and made entries in all boxes in E & F on page 2?						<input checked="" type="checkbox"/>	
Have you completed column 11 of section G (and E if appropriate) on page 2?						<input checked="" type="checkbox"/>	
Have you recorded in section C the number of riffles, pools and point bars (even if 0) on page 1?						<input checked="" type="checkbox"/>	
Have you given an accurate (alphanumeric) grid reference for spot-checks 1, 6 and end of site (page 1)?						<input checked="" 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 checked="" type="checkbox"/>	

A FIELD SURVEY DETAILS

Site Number: Est 90
 Site Reference:
 Spot-check 1 Grid Ref: 1035420,48
120 2557,77
 Spot-check 6 Grid Ref: 1035546,23
120 26 96,60
 End of site Grid Ref: 1035677,70
120 25 25,89
 Reach Reference:
 River name:
 Date: 17/12/15 Time: 11:00
 Surveyor name: Paul Alves
David Fernandes
 Accredited Surveyor code: LB100








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 checked="" 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) Unvegetated point bar(s)
 Pool(s) Vegetated point bar(s)

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

If none, tick box	Major			Intermediate			Minor		
	Major	Intermediate	Minor	Major	Intermediate	Minor	Major	Intermediate	Minor
<input type="checkbox"/>	Weirs/sluiques			Outfalls/intakes					
<input type="checkbox"/>	Culverts			Fords					
<input type="checkbox"/>	Bridges			Deflectors/groynes/croys					
<input type="checkbox"/>	Other - state								

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. <u>726</u>		RIVER HABITAT SURVEY: TEN SPOT-CHECKS										Page 2 of 4	
Spot-check 1 is at: upstream end <input type="checkbox"/>		downstream end <input checked="" 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 GPS	2	3	4	5	6 GPS	7	8	9	10	GPS	
LEFT BANK		Ring EC or SC if composed of sandy substrate											
Material NV, BE, BO, CO, GS, EA, FE, CL, CC, SP, WP, GA, BR, BR, TD, FA, BI		EA	EA	EA	RP	EA	EA	EA	EA	EA	EA	EA	
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM		NO	NO	NO	RI	PC	NO	NO	NO	NO	NO	PC	
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
CHANNEL		C/P-ring either G or P if predominant											
Channel substrate NV, BE, BO, CO, GP, SA, SI, CL, PE, EA, AR		SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	
Flow-type NV, FF, CH, BW, UW, CF, RP, UP, SM, NP, DR		SM	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	
Channel modification(s) NK, NO, CV, RS, RI, DA, FO		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Channel feature(s) NV, NO, EB, RO, VR, MB, VB, MI, TR		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
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, FE, CL, CC, SP, WP, GA, BR, BR, TD, FA, BI		EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM		NO	NO	PC	RI	PC	NO	NO	NO	NO	NO	PC	
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
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		MH											
LEFT BANKTOP (structure within 1m) B/U/S/C/NV		U	S	U	U	U	C	U	S	S	U	U	
LEFT BANK-FACE (structure) B/U/S/C/NV		S	S	S	S	S	C	S	C	C	U	U	
RIGHT BANK-FACE (structure) B/U/S/C/NV		S	S	S	S	S	C	C	U	U	U	U	
RIGHT BANKTOP (structure within 1m) B/U/S/C/NV		U	U	U	U	U	C	S	U	U	U	U	
LAND-USE WITHIN 5m OF RIGHT BANKTOP		RP											
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							U	U	E	U	U	U	
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) ———— ↑													

↑ Enter channel substrate(s) not occurring as predominant in spot-checks but present in >1% of whole site.

229 321 334 332 338 340 343 342 345 351
 River Habitat Survey Manual: 2003 version 344 348 350 352 2.6
 330 332 331 335 341 345 353
 355 312 316
 226 311

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)	E	E		
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Isolated/scattered	<input type="checkbox"/>	<input type="checkbox"/>		*Overhanging boughs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Regularly spaced, single	<input type="checkbox"/>	<input type="checkbox"/>		*Exposed bankside roots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Occasional clumps	<input type="checkbox"/>	<input type="checkbox"/>		*Underwater tree roots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Semi-continuous	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Fallen trees	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Continuous	<input type="checkbox"/>	<input type="checkbox"/>		Large woody debris	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed bedrock	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>
Broken standing waves	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated bedrock/boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Unbroken standing waves	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unvegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rippled flow	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*Upwelling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mature island(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smooth flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated side bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
No perceptible flow	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Vegetated side bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
No flow (dry)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unvegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marginal deadwater	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eroding cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Unvegetated silt deposit(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Stable cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Discrete unvegetated sand deposit(s)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
				*Discrete unvegetated gravel deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SITE REF.		RIVER HABITAT SURVEY : DIMENSIONS AND INFLUENCES				Page 4 of 4	
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)	1.2	Bankfull width (m)	7	Banktop height (m)	1.2		
Is banktop height also bankfull height? (Y or N)	N	Water width (m)	5	Is banktop height also bankfull height? (Y or N)	N		
Embanked height (m)	0.8	Water depth (m)	0.5	Embanked height (m)	0.8		
If trashline lower than banktop, indicate: height above water (m) = 0.5 width from bank to bank (m) = 0.7							
Bed material at site is: consolidated <input type="checkbox"/> unconsolidated (loose) <input checked="" type="checkbox"/> unknown <input type="checkbox"/>							
Location of measurements is: riffle <input type="checkbox"/> other <input checked="" type="checkbox"/> (state) <u>bridge</u>							
M FEATURES OF SPECIAL INTEREST Use ✓ or E (≥ 33% length) *record even if <1%							
None	<input checked="" 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 <input checked="" type="checkbox"/> Yes <input type="checkbox"/>							
O NOTABLE NUISANCE PLANT SPECIES Use ✓ or E (≥ 33% length) *record even if <1%							
		bankface banktop to 50m				bankface banktop to 50m	
None	<input checked="" type="checkbox"/>	*Giant hogweed	<input type="checkbox"/>		<input type="checkbox"/>	*Himalayan balsam	<input type="checkbox"/>
		*Japanese knotweed	<input type="checkbox"/>		<input type="checkbox"/>	*Other (state).....	<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 - 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 - <u>dragonflies/damselflies</u>							
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 checked="" type="checkbox"/>		*Diseased Alders? None <input checked="" type="checkbox"/> Present <input type="checkbox"/> Extensive <input type="checkbox"/>					
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 checked="" type="checkbox"/>							
Have you completed all ten spot-checks and made entries in all boxes in E & F on page 2? <input checked="" type="checkbox"/>							
Have you completed column 11 of section G (and E if appropriate) on page 2? <input checked="" type="checkbox"/>							
Have you recorded in section C the number of riffles, pools and point bars (even if 0) on page 1? <input checked="" type="checkbox"/>							
Have you given an accurate (alphanumeric) grid reference for spot-checks 1, 6 and end of site (page 1)? <input checked="" type="checkbox"/>							
Have you stated whether spot-check 1 is at the upstream or downstream end of the site (top of page 2)? <input checked="" 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"/>							

A FIELD SURVEY DETAILS

Site Number: Est 11
 Site Reference:
 Spot-check 1 Grid Ref: 024580,08 W
202364,13 N
 Spot-check 6 Grid Ref: 024665,38 W
202576,39 N
 End of site Grid Ref: 024836,44 W
202502,04 N
 Reach Reference:
 River name: Do Prado
 Date 09/07/2015 Time: 17h 43min
 Surveyor name: David Fernandes
Paulo Aires
 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 checked="" 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) Unvegetated point bar(s)
 Pool(s) Vegetated point bar(s)

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

if none, tick box	Major			Intermediate			Minor		
	Major	Intermediate	Minor	Major	Intermediate	Minor	Major	Intermediate	Minor
<input type="checkbox"/>	Weirs/slucices								
<input type="checkbox"/>	Culverts								
<input type="checkbox"/>	Bridges								
<input type="checkbox"/>	Other - state								



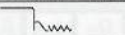
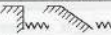


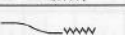
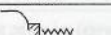
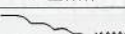
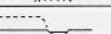

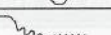


Is channel obviously realigned? No Yes, <33% of site ≥33% of site
 Is channel obviously over-deepened? No Yes, <33% of site ≥33% of site
 Is water impounded by weir/dam? No Yes, <33% of site ≥33% of site

Toof - 1
Riffle - 1

BR → RR
(Subs. nos pontos feitos)

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 checked="" 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																							
<table border="1"> <thead> <tr> <th></th> <th>1 GPS</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6 GPS</th> <th>7</th> <th>8</th> <th>9</th> <th>10</th> <th>GPS</th> </tr> </thead> </table>													1 GPS	2	3	4	5	6 GPS	7	8	9	10	GPS
	1 GPS	2	3	4	5	6 GPS	7	8	9	10	GPS												
LEFT BANK																							
Ring EC or SC if composed of sandy substrate																							
Material NV, BE, BO, CO, GS, EA, FE, CL, CC, SP, WP, GA, BR, RR, TD, FA, BI	EA	RR	BO	BO	BO	BO	EA	BO	BE	BE													
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM	NO	RI	NO	NO	NO	NO	NO	NO	NO	NO													
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO													
CHANNEL																							
GP- ring either G or P if predominant																							
Channel substrate NV, BE, BO, CO, GP, SA, SI, CL, PE, EA, AR	BO	BO	BO	BO	BO	BO	BO	BO	BE	BO	SA												
Flow-type NV, FF, CH, BW, UW, CF, RP, UP, SM, NP, DR	NP	SH	RP	RP	RP	RP	RP	NP	NO	NO	NO												
Channel modification(s) NK, NO, CV, RS, RI, DA, FO	DA	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO												
Channel feature(s) NV, NO, EB, RO, VR, MB, VB, MI, TR	NO	NO	VR	VB	VB	VB	VR	VR	BO	BO													
For braided rivers only: number of sub-channels	0	0	0	1	1	1	1	1	0	0													
RIGHT BANK																							
Ring EC or SC if composed of sandy substrate																							
Material NV, BE, BO, CO, GS, EA, FE, CL, CC, SP, WP, GA, BR, RR, TD, FA, BI	EA	RR	RR	BO	BO	BO	EA	RR	BE	BE													
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM	NO	RI	RI	NO	NO	NO	NO	RI	NO	NO													
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO													
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	BL	BL	BL	SH	BL	BL	BL	BL	BL	BL	BL												
LEFT BANK-FACE (structure) B/U/S/C/NV	C	C	C	S	C	C	C	C	C	C	C												
RIGHT BANK-FACE (structure) B/U/S/C/NV	C	C	C	C	C	C	C	C	S	C													
RIGHT BANKTOP (structure within 1m) B/U/S/C/NV	C	C	S	S	C	C	C	C	S	C													
LAND-USE WITHIN 5m OF RIGHT BANKTOP																							
BL BL RP RP BL BL BL BL BL BL																							
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	E	E	E	F	E	E	E	U	✓	✓													
Emergent broad-leaved herbs			✓	✓	✓	✓	✓	✓															
Emergent reeds/sedges/rushes/grasses/horsetails			E	E	E	E	E	U	U														
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)																							

Enter channel substrate(s) not occurring as predominant in spot-checks but present in >1% of whole site.

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)	E	E	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°) 	E	E	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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Isolated/scattered	<input type="checkbox"/>	<input type="checkbox"/>	*Overhanging boughs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Regularly spaced, single	<input type="checkbox"/>	<input type="checkbox"/>	*Exposed bankside roots	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Occasional clumps	<input type="checkbox"/>	<input type="checkbox"/>	*Underwater tree roots	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Semi-continuous	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Fallen trees	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Continuous	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Large woody debris	<input checked="" type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Exposed bedrock	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Chute flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Exposed boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Broken standing waves	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated bedrock/boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Unbroken standing waves	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rippled flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated mid-channel bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Upwelling	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Mature island(s)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Smooth flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated side bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No perceptible flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated side bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
No flow (dry)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marginal deadwater	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eroding cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Unvegetated silt deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stable cliff(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	*Discrete unvegetated sand deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				*Discrete unvegetated gravel deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SITE REF.		RIVER HABITAT SURVEY : DIMENSIONS AND INFLUENCES				Page 4 of 4	
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)	1.60	Bankfull width (m)	12	Banktop height (m)	3		
Is banktop height also bankfull height? (Y or N)	W	Water width (m)	11	Is banktop height also bankfull height? (Y or N)	Y		
Embanked height (m)	2.60	Water depth (m)	1	Embanked height (m)	2		
If trashline lower than banktop, indicate: height above water (m) = 1 width from bank to bank (m) = 25							
Bed material at site is: consolidated <input checked="" type="checkbox"/> unconsolidated (loose) <input type="checkbox"/> unknown <input type="checkbox"/>							
Location of measurements is: riffle <input type="checkbox"/> other <input checked="" 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 checked="" 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 checked="" 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 <input checked="" type="checkbox"/> Yes <input type="checkbox"/>							
O NOTABLE NUISANCE PLANT SPECIES Use ✓ or E (> 33% length) *record even if <1%							
None	<input checked="" type="checkbox"/>	bankface	banktop to 50m	bankface	banktop to 50m		
*Giant hogweed	<input type="checkbox"/>	<input type="checkbox"/>		*Himalayan balsam	<input type="checkbox"/>	<input type="checkbox"/>	
*Japanese knotweed	<input type="checkbox"/>	<input type="checkbox"/>		*Other (state).....	<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 - afforestation - fisheries management - silting - waterlogging - hydroelectric power							
Evidence of recent management: dredging - bank mowing - <u>weed cutting</u> - 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 checked="" type="checkbox"/>		*Diseased Alders? None <input checked="" type="checkbox"/> Present <input type="checkbox"/> Extensive <input type="checkbox"/>					
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 checked="" type="checkbox"/>							
Have you completed all ten spot-checks and made entries in all boxes in E & F on page 2? <input checked="" type="checkbox"/>							
Have you completed column 11 of section G (and E if appropriate) on page 2? <input checked="" type="checkbox"/>							
Have you recorded in section C the number of riffles, pools and point bars (even if 0) on page 1? <input checked="" type="checkbox"/>							
Have you given an accurate (alphanumeric) grid reference for spot-checks 1, 6 and end of site (page 1)? <input checked="" type="checkbox"/>							
Have you stated whether spot-check 1 is at the upstream or downstream end of the site (top of page 2)? <input checked="" 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 checked="" type="checkbox"/>							

A FIELD SURVEY DETAILS

Site Number: Est 12
 Site Reference:
 Spot-check 1 Grid Ref: 1028614, 79 W
2003121, 46 N
 Spot-check 6 Grid Ref: 1028795, 28 W
2003257, 79 N
 End of site Grid Ref: 1028966, 27
2003366, 10
 Reach Reference:
 River name: dourado
 Date 4/7/2015 Time: 15:10
 Surveyor name: David Fernandes
Paulo Almeida
 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: 2
 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 checked="" 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) Unvegetated point bar(s)
 Pool(s) Vegetated point bar(s)

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

If none, tick box	Major			Intermediate			Minor			
	Major	Intermediate	Minor	Major	Intermediate	Minor	Major	Intermediate	Minor	
<input type="checkbox"/>	Weirs/slucices						Outfalls/intakes			
<input type="checkbox"/>	Culverts						Fords			
<input type="checkbox"/>	Bridges	<u>2</u>					Deflectors/groynes/croys			
<input type="checkbox"/>	Other - state									

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

Disloca o TMG 12.1 disloca para a margem esquerda.

Right - 1111
Pool - 11

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 checked="" 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 GPS	2	3	4	5	6 GPS	7	8	9	10	GPS	
LEFT BANK <i>Right</i>	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	BO	BO	BO	BO	BO	BO	BO	BO	BO	BO	BO	
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
CHANNEL	GP- ring either G or P if predominant											
Channel substrate NV, BE, BO, CO, GP, SA, SI, CL, PE, EA, AR	BO	CO	BO	BO	CO	BO	BO	CO	BO	BO	BO	
Flow-type NV, FF, CH, BW, UW, CF, RP, UP, SM, NP, DR	RP	RP	RP	RP	NP	RP	RP	NP	SM	NP	RP	
Channel modification(s) NK, NO, CV, RS, RI, DA, FO	NO	NO	NO	NO	DA	NO	NO	NO	NO	NO	NO	
Channel feature(s) NV, NO, EB, RO, VR, MB, VB, MI, TR	VR	VR	VR	VR	VR	VR	VR	NO	VR	VR	VR	
For braided rivers only: number of sub-channels	0	0	0	0	0	0	0	0	0	0	0	
RIGHT BANK <i>Right</i>	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	BO	BR	BO	EA	BO	BO	BO	BE	BE	BO	BO	
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM	NO	RI	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
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 <i>Right</i>	BL	AP	AP	RP	RP	RP	TH	TH	RI	BL	BL	
LEFT BANKTOP (structure within 1m) <i>Right</i> B/U/S/C/NV	S	S	S	S	S	S	S	C	C	C	C	
LEFT BANK-FACE (structure) <i>Right</i> B/U/S/C/NV	C	C	S	S	C	C	S	C	C	C	C	
RIGHT BANK-FACE (structure) <i>Left</i> B/U/S/C/NV	C	C	C	C	C	C	C	S	C	C	C	
RIGHT BANKTOP (structure within 1m) <i>Left</i> B/U/S/C/NV	S	C	C	C	C	C	C	S	S	S	S	
LAND-USE WITHIN 5m OF RIGHT BANKTOP <i>Left</i>	TH	TH	TH	BL	BL	BL	TH	RP	RP	RP	RP	
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	E	E	E	E	E	E	E	E	E	E	E	
Emergent broad-leaved herbs	E	L	L	L	L	L	L	E	E	E	E	
Emergent reeds/sedges/rushes/grasses/horsetails	E	L	L	L	L	L	L	E	E	E	E	
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)												

↑ Enter channel substrate(s) not occurring as predominant in spot-checks but present in >1% of whole site.

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			Artificial/modified		
	L	R		L	R
Vertical/undercut			Resectioned (reprofiled)		
Vertical with toe			Reinforced - whole		
Steep (>45°)	E	E	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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Isolated/scattered	<input type="checkbox"/>	<input type="checkbox"/>	*Overhanging boughs	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Regularly spaced, single	<input type="checkbox"/>	<input type="checkbox"/>	*Exposed bankside roots	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Occasional clumps	<input type="checkbox"/>	<input type="checkbox"/>	*Underwater tree roots	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Semi-continuous	<input type="checkbox"/>	<input type="checkbox"/>	Fallen trees	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Continuous	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Large woody debris	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed bedrock	<input type="checkbox"/>	<input type="checkbox"/>
Chute flow	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed boulders	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Broken standing waves	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated bedrock/boulders	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Unbroken standing waves	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Rippled flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Upwelling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mature island(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Smooth flow	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Unvegetated side bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
No perceptible flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated side bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
No flow (dry)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unvegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Marginal deadwater	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Eroding cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Unvegetated silt deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Stable cliff(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	*Discrete unvegetated sand deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
				*Discrete unvegetated gravel deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SITE REF.		RIVER HABITAT SURVEY : DIMENSIONS AND INFLUENCES				Page 4 of 4	
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)	4	Bankfull width (m)	12	Banktop height (m)	3		
Is banktop height also bankfull height? (Y or N)	Y	Water width (m)	2.5	Is banktop height also bankfull height? (Y or N)	N		
Embanked height (m)	2	Water depth (m)	0.3	Embanked height (m)	2		
If trashline lower than banktop, indicate: height above water (m) = 0 width from bank to bank (m) = 0							
Bed material at site is: consolidated <input checked="" type="checkbox"/> unconsolidated (loose) <input type="checkbox"/> unknown <input type="checkbox"/>							
Location of measurements is: riffle <input checked="" 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 checked="" 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 <input checked="" type="checkbox"/> Yes <input type="checkbox"/>							
O NOTABLE NUISANCE PLANT SPECIES Use ✓ or E (> 33% length) *record even if <1%							
None	<input checked="" type="checkbox"/>	*Giant hogweed	<input type="checkbox"/>	bankface	<input type="checkbox"/>	banktop to 50m	<input type="checkbox"/>
		*Japanese knotweed	<input type="checkbox"/>				
				*Himalayan balsam	<input type="checkbox"/>		<input type="checkbox"/>
				*Other (state).....	<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 - 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 - <u>dragonflies/damselflies</u>							
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 checked="" type="checkbox"/>			*Diseased Alders? None <input checked="" type="checkbox"/> Present <input type="checkbox"/> Extensive <input type="checkbox"/>				
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 checked="" type="checkbox"/>							
Have you completed all ten spot-checks and made entries in all boxes in E & F on page 2? <input checked="" type="checkbox"/>							
Have you completed column 11 of section G (and E if appropriate) on page 2? <input checked="" type="checkbox"/>							
Have you recorded in section C the number of riffles, pools and point bars (even if 0) on page 1? <input checked="" type="checkbox"/>							
Have you given an accurate (alphanumeric) grid reference for spot-checks 1, 6 and end of site (page 1)? <input checked="" type="checkbox"/>							
Have you stated whether spot-check 1 is at the upstream or downstream end of the site (top of page 2)? <input checked="" 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 checked="" type="checkbox"/>							

A FIELD SURVEY DETAILS








Site Number: leave blank if new site
 Site Reference:
 Spot-check 1 Grid Ref:
 Spot-check 6 Grid Ref:
 End of site Grid Ref:
 Reach Reference:
 River name: *Tamega*
 Date *05/07/2015* Time: *14h50min*
 Surveyor name: *David Fernandez*
 Accredited Surveyor code: *LB100*

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 checked="" 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) Unvegetated point bar(s)
 Pool(s) Vegetated point bar(s)

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

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

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

Riffle - 111
Pool - 1111

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 checked="" 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 GPS	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		EA	EA	GS	GS	CO	CO	BO	EA	EA	EA		
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB		NO	NO	SB	SB	NO	NO	NO	NO	NO	NO		
CHANNEL		GP- ring EC or SC if predominant											
Channel substrate NV, BE, BO, CO, GP, SA, SI, CL, PE, EA, AR		BO	BO	CO	CO	CO	CO	SA	CO	CO	SI		SA
Flow-type NV, FF, CH, BW, UW, CF, RP, UP, SM, NP, DR		SM	SM	RP	SA	SM	NO	SM	SM	SM	NP		
Channel modification(s) NK, NO, CV, RS, RI, DA, FO		DA	NO	NO	NO	NO	NO	NO	NO	NO	NO		
Channel feature(s) NV, NO, EB, RO, VR, MB, VB, MI, TR		EB	EB	BB	NO	NO	VB	RI	NO	NO	NO		
For braided rivers only: number of sub-channels		0	0	0	0	0	0	0	0	0	0		
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		CO	BO	EA	BO	RR	BO	BO	BA	FA	EA		
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM		NO	NO	NO	NO	RI	RI	NO	NO	NO	NO		
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		
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		BL	BL	BL	BL	BL	BL	TH	BL	TH	TH		
LEFT BANKTOP (structure within 1m) B/U/S/C/NV		U	S	S	C	C	C	S	S	S			
LEFT BANK-FACE (structure) B/U/S/C/NV		U	S	B	S	C	C	C	S	S			
RIGHT BANK-FACE (structure) B/U/S/C/NV		B	B	U	S	C	C	C	C	C			
RIGHT BANKTOP (structure within 1m) B/U/S/C/NV		B	B	S	S	S	S	S	C	C			
LAND-USE WITHIN 5m OF RIGHT BANKTOP		TH	TH	RP	RP	RP	PA	SU	BL	BL	BL		
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) →													

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)	E	✓	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	E		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 checked="" type="checkbox"/>	<input type="checkbox"/>	Shading of channel	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Isolated/scattered	<input type="checkbox"/>	<input type="checkbox"/>	*Overhanging boughs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Regularly spaced, single	<input type="checkbox"/>	<input type="checkbox"/>	*Exposed bankside roots	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Occasional clumps	<input type="checkbox"/>	<input type="checkbox"/>	*Underwater tree roots	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Semi-continuous	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fallen trees	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Continuous	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Large woody debris	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed bedrock	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated bedrock/boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Unbroken standing waves	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated mid-channel bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Rippled flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated mid-channel bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Upwelling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mature island(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Smooth flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated side bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
No perceptible flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated side bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
No flow (dry)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unvegetated point bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Marginal deadwater	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated point bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Eroding cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Unvegetated silt deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stable cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Discrete unvegetated sand deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				*Discrete unvegetated gravel deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SITE REF.		RIVER HABITAT SURVEY : DIMENSIONS AND INFLUENCES				Page 4 of 4	
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)	1	Bankfull width (m)	46	Banktop height (m)	0.5		
Is banktop height also bankfull height? (Y or N)	Y	Water width (m)	36	Is banktop height also bankfull height? (Y or N)	N		
Embanked height (m)	1	Water depth (m)	0.3	Embanked height (m)	1		
If trashline lower than banktop, indicate: height above water (m) = 0.5 width from bank to bank (m) = 3.9							
Bed material at site is: consolidated <input type="checkbox"/> unconsolidated (loose) <input checked="" type="checkbox"/> unknown <input type="checkbox"/>							
Location of measurements is: riffle <input type="checkbox"/> other <input checked="" 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 checked="" 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 <input checked="" type="checkbox"/> Yes <input type="checkbox"/>							
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"/>
		*Japanese knotweed	<input type="checkbox"/>		<input type="checkbox"/>	*Other (state) <u>Accretion</u>	<input checked="" type="checkbox"/>
P OVERALL CHARACTERISTICS (Circle appropriate words, add others as necessary)							
Major impacts: landfill - tipping - litter - sewage - pollution - drought - abstraction - mill - dam - <u>road</u> - rail - industry - housing mining - quarrying - overdeepening - 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 - <u>dragonflies/damselflies</u>							
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 checked="" type="checkbox"/> Extensive <input type="checkbox"/>		*Diseased Alders? None <input checked="" type="checkbox"/> Present <input type="checkbox"/> Extensive <input type="checkbox"/>					
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 checked="" type="checkbox"/>							
Have you completed all ten spot-checks and made entries in all boxes in E & F on page 2? <input checked="" type="checkbox"/>							
Have you completed column 11 of section G (and E if appropriate) on page 2? <input checked="" type="checkbox"/>							
Have you recorded in section C the number of riffles, pools and point bars (even if 0) on page 1? <input checked="" type="checkbox"/>							
Have you given an accurate (alphanumeric) grid reference for spot-checks 1, 6 and end of site (page 1)? <input checked="" type="checkbox"/>							
Have you stated whether spot-check 1 is at the upstream or downstream end of the site (top of page 2)? <input checked="" 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 checked="" type="checkbox"/>							

A FIELD SURVEY DETAILS

Site Number: Est 14
 Site Reference:
 Spot-check 1 Grid Ref: 031171,57
007997,82
 Spot-check 6 Grid Ref: 031333,13
 End of site Grid Ref: 208070,05
031224,50
 Reach Reference: 208158,21
 River name: Buco
 Date 05/07/2015 Time: 19:10min
 Surveyor name: David Hernandez
 Accredited Surveyor code: LB100








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 checked="" 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) Unvegetated point bar(s)
 Pool(s) Vegetated point bar(s)

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


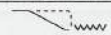

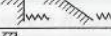










If none, tick box <input type="checkbox"/>	Major			Intermediate			Minor		
	Major	Intermediate	Minor	Major	Intermediate	Minor	Major	Intermediate	Minor
Weirs/slucices				Outfalls/intakes					
Culverts				Fords					
Bridges				Deflectors/groynes/croys					
Other - state									

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

Ripple HHHHHHHHHHHH
Pool - III

SITE REF.		RIVER HABITAT SURVEY: TEN SPOT-CHECKS										Page 2 of 4
Spot-check 1 is at: upstream end <input checked="" 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 GPS	2	3	4	5	6 GPS	7	8	9	10	GPS
LEFT BANK		Ring EC or SC if composed of sandy substrate										
Material NV, BE, BO, CO, GS, EA, FE, CL, CC, SP, WP, GA, BR, RR, TD, FA, BI		EA	RE	BE	BA	BO	BO	BO	BO	EA	EA	
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
CHANNEL		GP- ring either G or P if predom. GP										
Channel substrate NV, BE, BO, CO, GP, SA, SI, CL, PE, EA, AR		BO	BO	BO	CO	BO	PE	BO	BO	BO	CO	
Flow-type NV, FF, CH, BW, UW, CF, RP, UP, SM, NP, DR		SM	BW	RP	SM	RP	UW	UW	SM	SM	UW	
Channel modification(s) NK, NO, CV, RS, RI, DA, FO		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Channel feature(s) NV, NO, EB, RO, VR, MB, VB, MI, TR		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
For braided rivers only: number of sub-channels		0	0	0	0	0	0	0	0	0	0	
RIGHT BANK		Ring EC or SC if composed of sandy substrate										
Material NV, BE, BO, CO, GS, EA, FE, CL, CC, SP, WP, GA, BR, RR, TD, FA, BI		BO	BO	BO	EA	EA	BO	BO	BO	EA	EA	
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
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, TH, RD, SU, TL, IL, PG, NV												
LAND-USE WITHIN 5m OF LEFT BANKTOP		RP	SH	BL	BL	BL	RP	BL	RP	BL	RP	
LEFT BANKTOP (structure within 1m) B/U/S/C/NV		V	B	C	C	C	U	S	ES	C	S	
LEFT BANK-FACE (structure) B/U/S/C/NV		V	B	C	C	C	C	S	ES	S	S	
RIGHT BANK-FACE (structure) B/U/S/C/NV		S	U	C	S	U	C	C	C	C	C	
RIGHT BANKTOP (structure within 1m) B/U/S/C/NV		S	U	C	S	U	C	C	C	C	S	
LAND-USE WITHIN 5m OF RIGHT BANKTOP		BL	BL	BL	BL	TH	BL	BL	BL	BL	TH	
G CHANNEL VEGETATION TYPES (to be assessed over a 10m wide transect; use BL > 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)												

↑ Enter channel substrate(s) not occurring as predominant in spot-checks but present in >1% of whole site.

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°) 	✓	E	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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Isolated/scattered	<input type="checkbox"/>	<input type="checkbox"/>	*Overhanging boughs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Regularly spaced, single	<input type="checkbox"/>	<input type="checkbox"/>	*Exposed bankside roots	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Occasional clumps	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	*Underwater tree roots	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Semi-continuous	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Fallen trees	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Continuous	<input type="checkbox"/>	<input type="checkbox"/>	Large woody debris	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed bedrock	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Chute flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Exposed boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Broken standing waves	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated bedrock/boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Unbroken standing waves	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Rippled flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Upwelling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mature island(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Smooth flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Unvegetated side bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
No perceptible flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated side bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
No flow (dry)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Marginal deadwater	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Eroding cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Unvegetated silt deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Stable cliff(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	*Discrete unvegetated sand deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
				*Discrete unvegetated gravel deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SITE REF.		RIVER HABITAT SURVEY : DIMENSIONS AND INFLUENCES				Page 4 of 4	
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)	1	Bankfull width (m)	3	Banktop height (m)	1		
Is banktop height also bankfull height? (Y or N)	<i>Handwritten</i>	Water width (m)	1	Is banktop height also bankfull height? (Y or N)	<i>Handwritten</i>		
Embanked height (m)	0	Water depth (m)	0.1	Embanked height (m)	0		
If trashline lower than banktop, indicate: height above water (m) = 0.5 width from bank to bank (m) = 3							
Bed material at site is: consolidated <input checked="" type="checkbox"/> unconsolidated (loose) <input type="checkbox"/> unknown <input type="checkbox"/>							
Location of measurements is: riffle <input checked="" type="checkbox"/> other <input type="checkbox"/> (state)							
M FEATURES OF SPECIAL INTEREST Use <input checked="" type="checkbox"/> or E (> 33% length) *record even if <1%							
None	<input checked="" type="checkbox"/>	Very large boulders (>1m)	<input checked="" 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 <input checked="" type="checkbox"/> Yes <input type="checkbox"/>							
O NOTABLE NUISANCE PLANT SPECIES Use <input checked="" type="checkbox"/> or E (> 33% length) *record even if <1%							
None	<input checked="" type="checkbox"/>	bankface	banktop to 50m	bankface	banktop to 50m		
*Giant hogweed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Himalayan balsam	<input type="checkbox"/>	<input type="checkbox"/>	
*Japanese knotweed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Other (state).....	<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 - 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 - <u>dragonflies/damselflies</u>							
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 checked="" type="checkbox"/>			*Diseased Alders? None <input checked="" type="checkbox"/> Present <input type="checkbox"/> Extensive <input type="checkbox"/>				
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 2? <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"/>							

A FIELD SURVEY DETAILS








Site Number: 2115
 Site Reference:
 Spot-check 1 Grid Ref: } 026060,47W
 } 21 0216,11N
 Spot-check 6 Grid Ref: } 026125,95W
 } 21 0216,11N
 End of site Grid Ref: } 026297,27W
 } 21 0558,15N
 Reach Reference:
 River name: 3200
 Date 05/07/2015 Time: 14:50min
 Surveyor name: David Fernandes
 Accredited Surveyor code: LB100

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 checked="" 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) Unvegetated point bar(s)
 Pool(s) Vegetated point bar(s)



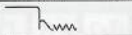

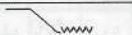
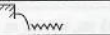
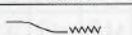
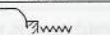

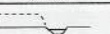

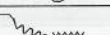

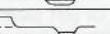
D ARTIFICIAL FEATURES (indicate total number of occurrences of each category within the 500m site)

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

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 checked="" 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 GPS	2	3	4	5	6 GPS	7	8	9	10	GPS	
LEFT BANK		Ring EC or SC if composed of sandy substrate											
Material NV, BE, BO, CO, GS, EA, FE, CL, CC, SP, WP, GA, BR, RR, TD, FA, BI		BO	BO	BO	BO	BO	BO	FA	BE	BO	BO		
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB		VP?	VP?	VP?	VP?	VP?	VP?	NO	NO	NO	NO		
CHANNEL		GP ring either U or P if predominant											
Channel substrate NV, BE, BO, CO, GP, SA, SI, CL, PE, EA, AR		BO	BE	BE	BE	BO	BO	BO	BO	BO	BO		
Flow-type NV, FF, CH, BW, UW, CF, RP, UP, SM, NP, DR		RP	RP	CA	BW	RP	BW	NP	SM	NP	NP		
Channel modification(s) NK, NO, CV, RS, RI, DA, FO		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		
Channel feature(s) NV, NO, EB, RO, VR, MB, VB, MI, TR		EB	EB	EB	EB	VR	NO	NO	VR	VR	VR		
For braided rivers only: number of sub-channels		0	0	0	0	VB	0	0	0	0	0		
RIGHT BANK		Ring EC or SC if composed of sandy substrate											
Material NV, BE, BO, CO, GS, EA, FE, CL, CC, SP, WP, GA, BR, RR, TD, FA, BI		BO	BE	BE	BE	EA	BO	FA	BE	BE	BE		
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB		VP?	NO	NO	NO	NO	VP?	NO	NO	NO	NO		
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		BL	BL	SA	SH	SH	PG	PG	BL	BL	BL		
LEFT BANKTOP (structure within 1m) B/U/S/C/NV		S	S	S	S	S	U	U	C	C	C		
LEFT BANK-FACE (structure) B/U/S/C/NV		S	S	S	S	S	U	U	B	U	S		
RIGHT BANK-FACE (structure) B/U/S/C/NV		S	B	U	U	B	U	U	U	C	U		
RIGHT BANKTOP (structure within 1m) B/U/S/C/NV		S	S	B	S	B	U	U	S	S	U		
LAND-USE WITHIN 5m OF RIGHT BANKTOP		SA	BL	SH	SH	SM	PG	PG	SH	SH	SH		
G CHANNEL VEGETATION TYPES (to be assessed over a 10m wide transect: use E (> 53% area), ✓ (present) or NV (not visible))													
None (✓) or Not Visible (NV)													
Liverworts/mosses/lichens		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Emergent broad-leaved herbs		✓	✓	✓	✓	✓	✓			✓	✓		
Emergent reeds/sedges/rushes/grasses/horsetails		E	✓	✓	✓	✓	✓			✓	✓		
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) →													

↑ Enter channel substrate(s) not occurring as predominant in spot-checks but present in >1% of whole site.

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)	✓	E	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 checked="" type="checkbox"/>	<input type="checkbox"/>	
Isolated/scattered	<input type="checkbox"/>	<input checked="" type="checkbox"/>	*Overhanging boughs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Regularly spaced, single	<input type="checkbox"/>	<input type="checkbox"/>	*Exposed bankside roots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Occasional clumps	<input type="checkbox"/>	<input type="checkbox"/>	*Underwater tree roots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Semi-continuous	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fallen trees	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Continuous	<input type="checkbox"/>	<input type="checkbox"/>	Large woody debris	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed bedrock	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Chute flow	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed boulders	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Broken standing waves	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated bedrock/boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Unbroken standing waves	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rippled flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated mid-channel bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Upwelling	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Mature island(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smooth flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated side bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No perceptible flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Vegetated side bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No flow (dry)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unvegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marginal deadwater	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated point bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Eroding cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Unvegetated silt deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stable cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Discrete unvegetated sand deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				*Discrete unvegetated gravel deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SITE REF.		RIVER HABITAT SURVEY : DIMENSIONS AND INFLUENCES				Page 4 of 4	
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)	3.5	Bankfull width (m)	50	Banktop height (m)	0.5		
Is banktop height also bankfull height? (Y or N)	N/A	Water width (m)	40	Is banktop height also bankfull height? (Y or N)	N/A		
Embanked height (m)		Water depth (m)	0.5	Embanked height (m)			
If trashline lower than banktop, indicate: height above water (m) = 0.5 width from bank to bank (m) = 5.4							
Bed material at site is: consolidated <input checked="" type="checkbox"/> unconsolidated (loose) <input type="checkbox"/> unknown <input type="checkbox"/>							
Location of measurements is: riffle <input checked="" 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 checked="" 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 <input checked="" type="checkbox"/> Yes <input type="checkbox"/>							
O NOTABLE NUISANCE PLANT SPECIES Use ✓ or E (> 33% length) *record even if <1%							
		bankface banktop to 50m				bankface banktop to 50m	
None	<input checked="" type="checkbox"/>	*Giant hogweed	<input type="checkbox"/>		<input type="checkbox"/>	*Himalayan balsam	<input type="checkbox"/>
		*Japanese knotweed	<input type="checkbox"/>		<input type="checkbox"/>	*Other (state).....	<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 - 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 checked="" type="checkbox"/> Extensive <input type="checkbox"/>		*Diseased Alders? None <input checked="" type="checkbox"/> Present <input type="checkbox"/> Extensive <input type="checkbox"/>					
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 checked="" type="checkbox"/>							
Have you completed all ten spot-checks and made entries in all boxes in E & F on page 2? <input checked="" type="checkbox"/>							
Have you completed column 11 of section G (and E if appropriate) on page 2? <input checked="" type="checkbox"/>							
Have you recorded in section C the number of riffles, pools and point bars (even if 0) on page 1? <input checked="" 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 checked="" 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 checked="" type="checkbox"/>							

A FIELD SURVEY DETAILS

Site Number: Est 16
 Site Reference: 1032638, 84 W
 Spot-check 1 Grid Ref: 210600, 09 N
 Spot-check 6 Grid Ref: 0325 85, 97 W
2105 86, 54 W
 End of site Grid Ref: 10327 60, 99
210628, 42
 Reach Reference:
 River name: Támega
 Date 03/07/2015 Time: 17h37mi
 Surveyor name: David Fernandes
 Accredited Surveyor code: CB100








Is the site part of a river or an artificial channel? River Artificial
 Are adverse conditions affecting survey? No Yes
 If yes, state difícil acesso (não há onde virar o carro)
 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 checked="" 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) Unvegetated point bar(s)
 Pool(s) Vegetated point bar(s)

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

If none, tick box	Major			Intermediate			Minor			
	Major	Intermediate	Minor	Major	Intermediate	Minor	Major	Intermediate	Minor	
<input type="checkbox"/>	Weirs/sluices						Outfalls/intakes			
<input type="checkbox"/>	Culverts						Fords			
<input type="checkbox"/>	Bridges						Deflectors/groynes/croys			
<input type="checkbox"/>	Other - state									

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




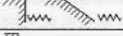









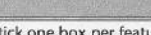
Pool - 1

Ripile - 11

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 checked="" 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															
												GPS			
LEFT 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															
CHANNEL															
GP- ring either PEBO 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)															

Retard
Pontic no
cages

↑ Enter channel substrate(s) not occurring as predominant in spot-checks but present in >1% of whole site.

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°) 	✓	E	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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Regularly spaced, single	<input type="checkbox"/>	<input type="checkbox"/>	*Exposed bankside roots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Occasional clumps	<input type="checkbox"/>	<input type="checkbox"/>	*Underwater tree roots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Semi-continuous	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Fallen trees	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Continuous	<input type="checkbox"/>	<input type="checkbox"/>	Large woody debris	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed bedrock	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Chute flow	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Broken standing waves	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated bedrock/boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Unbroken standing waves	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unvegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rippled flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*Upwelling	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Mature island(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smooth flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated side bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
No perceptible flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated side bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
No flow (dry)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unvegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marginal deadwater	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eroding cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Unvegetated silt deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stable cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Discrete unvegetated sand deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				*Discrete unvegetated gravel deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SITE REF.		RIVER HABITAT SURVEY : DIMENSIONS AND INFLUENCES				Page 4 of 4	
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)	0.5	Bankfull width (m)	20	Banktop height (m)	1		
Is banktop height also bankfull height? (Y or N)	Y	Water width (m)	10	Is banktop height also bankfull height? (Y or N)	N		
Embanked height (m)	~	Water depth (m)	0.5	Embanked height (m)	0		
If trashline lower than banktop, indicate: height above water (m) = 2 width from bank to bank (m) = 0							
Bed material at site is: consolidated <input checked="" type="checkbox"/> unconsolidated (loose) <input type="checkbox"/> unknown <input type="checkbox"/>							
Location of measurements is: riffle <input checked="" 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 checked="" 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 checked="" 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 <input checked="" type="checkbox"/> Yes <input type="checkbox"/>							
O NOTABLE NUISANCE PLANT SPECIES Use ✓ or E (> 33% length) *record even if <1%							
None	<input type="checkbox"/>	bankface	banktop to 50m	bankface	banktop to 50m		
*Giant hogweed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Himalayan balsam	<input type="checkbox"/>	<input type="checkbox"/>	
*Japanese knotweed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Other (state)...	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>purple</i>
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 - 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 - <u>dragonflies/damselflies</u>							
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 checked="" type="checkbox"/> Extensive <input type="checkbox"/>		*Diseased Alders? None <input checked="" type="checkbox"/> Present <input type="checkbox"/> Extensive <input type="checkbox"/>					
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 checked="" type="checkbox"/>							
Have you completed all ten spot-checks and made entries in all boxes in E & F on page 2? <input checked="" type="checkbox"/>							
Have you completed column 11 of section G (and E if appropriate) on page 2? <input checked="" type="checkbox"/>							
Have you recorded in section C the number of riffles, pools and point bars (even if 0) on page 1? <input checked="" type="checkbox"/>							
Have you given an accurate (alphanumeric) grid reference for spot-checks 1, 6 and end of site (page 1)? <input checked="" type="checkbox"/>							
Have you stated whether spot-check 1 is at the upstream or downstream end of the site (top of page 2)? <input checked="" 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 checked="" type="checkbox"/>							

A FIELD SURVEY DETAILS

Site Number: Est 17
 Site Reference: 1040676.24
 Spot-check 1 Grid Ref: 211984.72
 Spot-check 6 Grid Ref: 040872.93
 End of site Grid Ref: 211994.27
 Reach Reference: 040060.88
212058.10
 River name: Arrolames
 Date 03/07/2015 Time: 17h15min
 Surveyor name: David F. Curran
 Accredited Surveyor code: LB100








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 checked="" 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) Unvegetated point bar(s)
 Pool(s) Vegetated point bar(s)

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



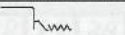


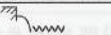
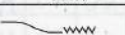
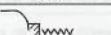

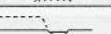
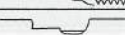

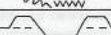

If none, tick box	Major			Intermediate			Minor		
	Major	Intermediate	Minor	Major	Intermediate	Minor	Major	Intermediate	Minor
<input type="checkbox"/> Weirs/slucices									
<input type="checkbox"/> Culverts									
<input type="checkbox"/> Bridges									
<input type="checkbox"/> Other - state									

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

Rippl - 1/1
Pool - 1/1

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 checked="" 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 GPS	2	3	4	5	6 GPS	7	8	9	10	GPS		
LEFT BANK	Ring EC or SC if composed of sandy substrate												
Material NV, BE, BO, CO, GS, EA, FE, CL, CC, SP, WP, GA, BR, RR, TD, FA, BI	EA	EA	EA	EA	EA	RR	RR	CC	RR	BE			
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM	NO	NO	NO	NO	NO	RI	RI	RI	RI	NO			
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB	SB	VS	VS	NO	NO	NO	NO	NO	NO	NO			
CHANNEL	GP- ring either G or P. BE dominant CO												
Channel substrate NV, BE, BO, CO, GP, SA, SI, CL, PE, EA, AR	BA	SA	SE	BE	SA	BE	SA	BE	CO	BA			
Flow-type NV, FF, CH, BW, UW, CF, RP, UP, SM, NP, DR	NP	NP	NP	RP	NP	NP	NP	NP	NP	NP			
Channel modification(s) NK, NO, CV, RS, RI, DA, FO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO			
Channel feature(s) NV, NO, EB, RO, VR, MB, VB, MI, TR	NO	NO	NO	EB	EB	EB	EB	EB	EB	EB			
For braided rivers only: number of sub-channels	0	0	0	6	0	0	0	0	0	0			
RIGHT BANK	Ring EC or SC if composed of sandy substrate												
Material NV, BE, BO, CO, GS, EA, FE, CL, CC, SP, WP, GA, BR, RR, TD, FA, BI	BR	EA	RR	RR	EA	BE	RR	BR	RR	RR			
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM	RI	NO	RI	RI	NO	NO	RI	RI	RI	RI			
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB	NO	NO	NO	VS	NO	NO	NO	NO	NO	NO			
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	SH	SH	BL	BL	BL	RP	RP	RP	SU	SH			
LEFT BANKTOP (structure within 1m) B/U/S/C/NV	S	S	S	S	S	S	S	B	B	S			
LEFT BANK-FACE (structure) B/U/S/C/NV	S	S	B	S	S	S	C	S	S	S			
RIGHT BANK-FACE (structure) B/U/S/C/NV	S	S	S	B	C	S	C	U	S	S			
RIGHT BANKTOP (structure within 1m) B/U/S/C/NV	U	S	U	S	S	S	C	U	U	S			
LAND-USE WITHIN 5m OF RIGHT BANKTOP	RP	SH	RP	RP	RP	RP	RP	RP	SU	SH			
G CHANNEL VEGETATION TYPES (to be assessed over a 10m-wide transect; use E if > 33% area, ✓ (present) or NV (not visible))													
None (✓) or Not Visible (NV)													
Liverworts/mosses/lichens	L	✓	✓	L	✓	✓	✓	L	L	L			
Emergent broad-leaved herbs						L	L	L		L			
Emergent reeds/sedges/rushes/grasses/horsetails									L	L			
Floating-leaved (rooted)													
Free-floating													
Amphibious													
Submerged broad-leaved													
Submerged linear-leaved													
Submerged fine-leaved													
Filamentous algae	L	L	✓	L		✓	✓	✓					
Use end column for overall assessment over 500m, including types not occurring in spot-checks (use ✓, E or NV)													

Enter channel substrate(s) not occurring as predominant in spot-checks but present in >1% of whole site.

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)	E	E	
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 		E	Resectioned (reprofiled) 			
Vertical with toe 	E	✓	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 checked="" type="checkbox"/>
Isolated/scattered	<input type="checkbox"/>	<input type="checkbox"/>	*Overhanging boughs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Regularly spaced, single	<input type="checkbox"/>	<input type="checkbox"/>	*Exposed bankside roots	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Occasional clumps	<input type="checkbox"/>	<input type="checkbox"/>	*Underwater tree roots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Semi-continuous	<input type="checkbox"/>	<input type="checkbox"/>	Fallen trees	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Continuous	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Large woody debris	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed bedrock	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Chute flow	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Broken standing waves	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated bedrock/boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Unbroken standing waves	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Rippled flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Upwelling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mature island(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Smooth flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated side bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
No perceptible flow	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Vegetated side bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
No flow (dry)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unvegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Marginal deadwater	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Eroding cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Unvegetated silt deposit(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Stable cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Discrete unvegetated sand deposit(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
				*Discrete unvegetated gravel deposit(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SITE REF.		RIVER HABITAT SURVEY : DIMENSIONS AND INFLUENCES				Page 4 of 4	
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)	1,5	Bankfull width (m)	15	Banktop height (m)	1,5		
Is banktop height also bankfull height? (Y or N)	N	Water width (m)	10,8	Is banktop height also bankfull height? (Y or N)	N		
Embanked height (m)	2,45	Water depth (m)	0,2	Embanked height (m)	2		
If trashline lower than banktop, indicate: height above water (m) = 1 width from bank to bank (m) = 15							
Bed material at site is: consolidated <input checked="" type="checkbox"/> unconsolidated (loose) <input type="checkbox"/> unknown <input type="checkbox"/>							
Location of measurements is: riffle <input checked="" type="checkbox"/> other <input type="checkbox"/> (state)							
M FEATURES OF SPECIAL INTEREST Use ✓ or E (≥ 33% length) *record even if <1%							
None	<input checked="" 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 <input checked="" type="checkbox"/> Yes <input type="checkbox"/>							
O NOTABLE NUISANCE PLANT SPECIES Use ✓ or E (≥ 33% length) *record even if <1%							
None	<input checked="" type="checkbox"/>	bankface banktop to 50m		bankface banktop to 50m			
		*Giant hogweed	<input type="checkbox"/>		<input type="checkbox"/>	*Himalayan balsam	<input type="checkbox"/>
		*Japanese knotweed	<input type="checkbox"/>		<input type="checkbox"/>	*Other (state).....	<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 - 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 checked="" type="checkbox"/>		*Diseased Alders? None <input checked="" type="checkbox"/> Present <input type="checkbox"/> Extensive <input type="checkbox"/>					
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 2? <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"/>							

A FIELD SURVEY DETAILS

Site Number: Est 18
 Site Reference:
 Spot-check 1 Grid Ref: 035598,99
214136,90
 Spot-check 6 Grid Ref: 035891,51
214247,25
 End of site Grid Ref: 035698,99
214414,41
 Reach Reference:
 River name: Támega
 Date 02/07/2015 Time: 11h09
 Surveyor name: David Fernandes
 Accredited Surveyor code: LB100

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)

shallow vee concave/bowl
 deep vee asymmetrical valley
 gorge U-shape valley
 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) Unvegetated point bar(s)
 Pool(s) Vegetated point bar(s)

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

If none, tick box	Major			Intermediate			Minor			
	Major	Intermediate	Minor	Major	Intermediate	Minor	Major	Intermediate	Minor	
<input type="checkbox"/>	Weirs/sluices					1	Outfalls/intakes			
<input type="checkbox"/>	Culverts						Fords			
<input type="checkbox"/>	Bridges						Deflectors/groynes/croys			
<input type="checkbox"/>	Other - state									

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



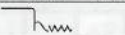
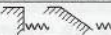


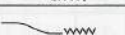
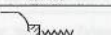
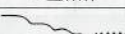


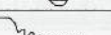
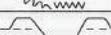

Ripple - 11/11/11
Pool - 11

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 checked="" 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													
LEFT 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	BE	BO	RD	SA	EA	BE	BE	BO	EA	EA			
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM	No	No	No	PC	No	No	No	No	No	No			
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB	No	No	No	No	No	No	No	No	No	No			
CHANNEL													
GP- ring either G or P if predominant													
Channel substrate NV, BE, BO, CO, GP, SA, SI, CL, PE, EA, AR	BO	RD	BO	SA	BO	BO	BO	CO	CO	CO	SI		
Flow-type NV, FF, CH, BW, UW, CF, RP, UP, SM, NP, DR	ST	RP	RP	NP	NP	UW	AP	UW	ST	ST			
Channel modification(s) NK, NO, CV, RS, RI, DA, FO	No	No	No	No	No	No	No	No	No	No			
Channel feature(s) NV, NO, EB, RO, VR, MB, VB, MI, TR	No	No	Nb	No	No	No	No	No	No	No			
For braided rivers only: number of sub-channels	0	0	0	0	0	0	0	0	0	0			
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	BE	BE	GS	BO	EA	BO	BE	EA	BO	BO			
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM	No	No	PC	No	No	No	No	No	No	No			
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB	No	No	No	No	No	No	No	No	No	No			
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	S	U	S	U	S	S	S	S	C	C			
LEFT BANK-FACE (structure) B/U/S/C/NV	B	U	S	U	S	B	B	S	S	S			
RIGHT BANK-FACE (structure) B/U/S/C/NV	B	B	U	U	S	S	S	S	U	U			
RIGHT BANKTOP (structure within 1m) B/U/S/C/NV	S	S	U	S	S	C	S	C	S	S			
LAND-USE WITHIN 5m OF RIGHT BANKTOP													
BL BL TH SH SH RP RP RP RP RP													
G CHANNEL VEGETATION TYPES (to be assessed over a 10m wide transect: use E if > 33% area, ✓ (present) or NV (not visible))													
None (✓) or Not Visible (NV)													
Liverworts/mosses/lichens	✓	✓	✓	L	L	L	L	✓	L	L			
Emergent broad-leaved herbs								✓					
Emergent reeds/sedges/rushes/grasses/horsetails						L	L	✓					
Floating-leaved (rooted)			✓						L	L			
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)													

PC
Podis's sub
PC for a
total of
un food

↑ Enter channel substrate(s) not occurring as predominant in spot-checks but present in > 1% of whole site.

Entru o ponti 718 -> Duotagano

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 checked="" type="checkbox"/>	<input type="checkbox"/>	
Isolated/scattered	<input checked="" type="checkbox"/>	<input type="checkbox"/>	*Overhanging boughs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Regularly spaced, single	<input type="checkbox"/>	<input type="checkbox"/>	*Exposed bankside roots	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Occasional clumps	<input type="checkbox"/>	<input checked="" type="checkbox"/>	*Underwater tree roots	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Semi-continuous	<input type="checkbox"/>	<input type="checkbox"/>	Fallen trees	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Continuous	<input type="checkbox"/>	<input type="checkbox"/>	Large woody debris	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed bedrock	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Chute flow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Broken standing waves	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated bedrock/boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Unbroken standing waves	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rippled flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*Upwelling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mature island(s)	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>
No perceptible flow	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Vegetated side bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
No flow (dry)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unvegetated point bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Marginal deadwater	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated point bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Eroding cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Unvegetated silt deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stable cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Discrete unvegetated sand deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				*Discrete unvegetated gravel deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SITE REF.		RIVER HABITAT SURVEY : DIMENSIONS AND INFLUENCES				Page 4 of 4	
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)	0.6	Bankfull width (m)	12	Banktop height (m)	0.3		
Is banktop height also bankfull height? (Y or N)	N	Water width (m)	6	Is banktop height also bankfull height? (Y or N)	N		
Embanked height (m)	1.5	Water depth (m)	0.4	Embanked height (m)	1.2		
If trashline lower than banktop, indicate: height above water (m) = 0 width from bank to bank (m) = 0							
Bed material at site is: consolidated <input checked="" type="checkbox"/> unconsolidated (loose) <input type="checkbox"/> unknown <input type="checkbox"/>							
Location of measurements is: riffle <input checked="" 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 checked="" 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 <input checked="" type="checkbox"/> Yes <input type="checkbox"/>							
O NOTABLE NUISANCE PLANT SPECIES Use ✓ or E (> 33% length) *record even if <1%							
None	<input type="checkbox"/>	bankface	banktop to 50m	bankface	banktop to 50m		
*Giant hogweed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Himalayan balsam	<input type="checkbox"/>	<input type="checkbox"/>	
*Japanese knotweed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Other (state) <u>Acacia</u>	<input type="checkbox"/>	<input checked="" 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 - 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 - <u>dragonflies/damselflies</u>							
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 checked="" type="checkbox"/> Extensive <input type="checkbox"/>			*Diseased Alders? None <input checked="" type="checkbox"/> Present <input type="checkbox"/> Extensive <input type="checkbox"/>				
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 checked="" type="checkbox"/>							
Have you completed all ten spot-checks and made entries in all boxes in E & F on page 2? <input checked="" type="checkbox"/>							
Have you completed column 11 of section G (and E if appropriate) on page 2? <input checked="" type="checkbox"/>							
Have you recorded in section C the number of riffles, pools and point bars (even if 0) on page 1? <input checked="" type="checkbox"/>							
Have you given an accurate (alphanumeric) grid reference for spot-checks 1, 6 and end of site (page 1)? <input checked="" type="checkbox"/>							
Have you stated whether spot-check 1 is at the upstream or downstream end of the site (top of page 2)? <input checked="" 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"/>							

A FIELD SURVEY DETAILS

Site Number: CST 19
 Site Reference: 1041582,09 W
 Spot-check 1 Grid Ref: 218609,85 N
 Spot-check 6 Grid Ref: 1041770,84 W
 End of site Grid Ref: 218709,04 N
 Reach Reference: 1041981,96 W
 River name: Tamega
 Date 03/07/2015 Time: Shlomin
 Surveyor name: David Fernandes
 Accredited Surveyor code: LB100








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 checked="" 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) Unvegetated point bar(s)
 Pool(s) Vegetated point bar(s)

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


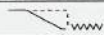




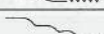






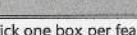
If none, tick box	Major			Intermediate			Minor			
	Major	Intermediate	Minor	Major	Intermediate	Minor	Major	Intermediate	Minor	
<input type="checkbox"/>	Weirs/sluices						Outfalls/intakes			
<input type="checkbox"/>	Culverts						Fords			
<input type="checkbox"/>	Bridges						Deflectors/groynes/croys			
	Other - state									

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

Pool - 11
Ripple - 11

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 checked="" 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 GPS	2	3	4	5	6 GPS	7	8	9	10	GPS	
LEFT BANK		Ring EC or SC if composed of sandy substrate											
Material NV, BE, BO, CO, GS, EA, FE, CL, CC, SP, WP, GA, BR, RR, TD, FA, BI		BE	BE	BE	BF	BE	EA	CL	EA	EA	EA		
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB		NO	NO	NO	NO	NO	VS	VS	NO	NO	VP		
CHANNEL		GP- ring either G or P if predominant											
Channel substrate NV, BE, BO, CO, GP, SA, SI, CL, PE, EA, AR		BE	BO	BO	CO	GP	SA	SA	SI	SI	CO		
Flow-type NV, FF, CH, BW, UW, CF, RP, UP, SM, NP, DR		SM	SM	UP	UP	SM	SM	NP	NP	NP	NP		
Channel modification(s) NK, NO, CV, RS, RI, DA, FO		NO	NO	NO	NO	NO	DA	DA	NO	NO	NO		
Channel feature(s) NV, NO, EB, RO, VR, MB, VB, MI, TR		FB	FB	NO	NO	NO	NO	NO	NO	NO	NO		
For braided rivers only: number of sub-channels		0	0	1	0	0	0	0	0	0	1		
RIGHT BANK		Ring EC or SC if composed of sandy substrate											
Material NV, BE, BO, CO, GS, EA, FE, CL, CC, SP, WP, GA, BR, RR, TD, FA, BI		BE	BO	BR	EA	EA	RR	EA	EA	RR	RR		
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM		NO	NO	NO	NO	NO	RI	NO	NO	RI	RI		
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB		NO	NO	NO	NO	VS	NO	NO	NO	NO	NO		
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		BL	SH	SH	CP	SH	TH	WL	WL	WL	WL		
LEFT BANKTOP (structure within 1m) B/U/S/C/NV		B	B	B	U	S	O	C	S	U	C		
LEFT BANK-FACE (structure) B/U/S/C/NV		B	B	B	S	S	U	U	U	U	C		
RIGHT BANK-FACE (structure) B/U/S/C/NV		U	B	U	U	U	U	C	C	C	C		
RIGHT BANKTOP (structure within 1m) B/U/S/C/NV		S	B	U	U	U	S	S	S	S	S		
LAND-USE WITHIN 5m OF RIGHT BANKTOP		BL	BL	TL	PG	PG	TH	RP	RP	WH	TH		
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		L	L	V	V	L	V	V	V		L		
Emergent broad-leaved herbs													
Emergent reeds/sedges/rushes/grasses/horsetails					L	L	L	L	L	L	L		
Floating-leaved (rooted)					L	L	L	L					
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)													

↑ Enter channel substrate(s) not occurring as predominant in spot-checks but present in >1% of whole site.

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 checked="" type="checkbox"/>	<input type="checkbox"/>	
Isolated/scattered	<input type="checkbox"/>	<input type="checkbox"/>	*Overhanging boughs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Regularly spaced, single	<input type="checkbox"/>	<input type="checkbox"/>	*Exposed bankside roots	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Occasional clumps	<input checked="" type="checkbox"/>	<input type="checkbox"/>	*Underwater tree roots	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Semi-continuous	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fallen trees	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Continuous	<input type="checkbox"/>	<input type="checkbox"/>	Large woody debris	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed bedrock	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Chute flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Exposed boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Broken standing waves	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated bedrock/boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Unbroken standing waves	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rippled flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*Upwelling	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Mature island(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smooth flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated side bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No perceptible flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated side bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
No flow (dry)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unvegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marginal deadwater	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated point bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Eroding cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Unvegetated silt deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stable cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Discrete unvegetated sand deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				*Discrete unvegetated gravel deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SITE REF.		RIVER HABITAT SURVEY : DIMENSIONS AND INFLUENCES				Page 4 of 4	
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)	4	Bankfull width (m)	10	Banktop height (m)	2		
Is banktop height also bankfull height? (Y or N)	N	Water width (m)	4	Is banktop height also bankfull height? (Y or N)	Y		
Embanked height (m)	4	Water depth (m)	0.7	Embanked height (m)	2		
If trashline lower than banktop, indicate: height above water (m) = 0.6 width from bank to bank (m) = 8							
Bed material at site is: consolidated <input checked="" type="checkbox"/> unconsolidated (loose) <input type="checkbox"/> unknown <input type="checkbox"/>							
Location of measurements is: riffle <input checked="" 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 checked="" type="checkbox"/>	Backwater(s)	<input type="checkbox"/>	Marsh(es)	<input type="checkbox"/>
Braided channels	<input checked="" type="checkbox"/>	*Debris dam(s)	<input type="checkbox"/>	Floodplain boulder deposits	<input type="checkbox"/>	Flush(es)	<input type="checkbox"/>
Side channel(s)	<input checked="" 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"/>	<input checked="" type="checkbox"/>	
Natural cascade(s)	<input type="checkbox"/>	*Sink hole(s)	<input type="checkbox"/>	Wet woodland(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N CHOKED CHANNEL (tick one box)							
Is 33% or more of the channel choked with vegetation? No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>							
O NOTABLE NUISANCE PLANT SPECIES Use ✓ or E (≥ 33% length) *record even if <1%							
None	<input type="checkbox"/>	bankface banktop to 50m		bankface banktop to 50m			
*Giant hogweed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Himalayan balsam	<input type="checkbox"/>	<input type="checkbox"/>	
*Japanese knotweed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Other (state)..... <i>A. case</i>	<input type="checkbox"/>	<input checked="" 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 - afforestation - fisheries management - silting - waterlogging - hydroelectric power							
Evidence of recent management: dredging - bank mowing - <u>weed cutting</u> - enhancement - river rehabilitation - gravel extraction - other (please specify)							
Animals: otter - mink - water vole - kingfisher - dipper - grey wagtail - sand martin - heron - <u>dragonflies/damselflies</u>							
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 checked="" type="checkbox"/> Extensive <input type="checkbox"/>		*Diseased Alders? None <input checked="" type="checkbox"/> Present <input type="checkbox"/> Extensive <input type="checkbox"/>					
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 checked="" type="checkbox"/>	
Have you completed all ten spot-checks and made entries in all boxes in E & F on page 2?						<input checked="" type="checkbox"/>	
Have you completed column 11 of section G (and E if appropriate) on page 2?						<input checked="" type="checkbox"/>	
Have you recorded in section C the number of riffles, pools and point bars (even if 0) on page 1?						<input checked="" type="checkbox"/>	
Have you given an accurate (alphanumeric) grid reference for spot-checks 1, 6 and end of site (page 1)?						<input checked="" type="checkbox"/>	
Have you stated whether spot-check 1 is at the upstream or downstream end of the site (top of page 2)?						<input checked="" 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 checked="" type="checkbox"/>	

A FIELD SURVEY DETAILS

Site Number: Est 20
 Site Reference:
 Spot-check 1 Grid Ref: } 044991.32 W
 } 219173.00 N
 Spot-check 6 Grid Ref: } 045157.41 W
 } 219089.40 N
 End of site Grid Ref: } 045335.63
 } 219179.86
 Reach Reference:
 River name: Tamega
 Date 03/07/2015 Time: 11h53min
 Surveyor name: David Hernandez
 Accredited Surveyor code: 2B100







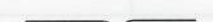
Is the site part of a river or an artificial channel? River Artificial
 Are adverse conditions affecting survey? No Yes
 If yes, state
 Is bed of river visible? barely or not partially ± entirely
 Is health and safety assessment form attached? Yes No
 Number of photographs taken:
 Photo references:
 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 checked="" 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) Unvegetated point bar(s)
 Pool(s) Vegetated point bar(s)

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

If none, tick box	Major			Intermediate			Minor		
<input type="checkbox"/>	Weirs/slucices				Outfalls/intakes				
	Culverts				Fords				
	Bridges			1	Deflectors/groynes/croys				
	Other - state								

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 checked="" 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.GPS	2	3	4	5	6.GPS	7	8	9	10	GPS
LEFT BANK		Ring EC or SC if composed of sandy substrate										
Material NV, BE, BO, CO, GS, EA, FE, CL, CC, SP, WP, GA, BR, RR, TD, FA, BI		FA	EA	EA	RR	RR	EA	BE	BO	BO	EA	
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM		RT	RT	RT	RI	RI	NO	NO	NO	NO	NO	
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB		NO	NO	NO	NO	NO	NO	NO	NO	NO	VS	
CHANNEL		GP- ring either G or P if predominant										
Channel substrate NV, BE, BO, CO, GP, SA, SI, CL, PE, EA, AR		SA	BO	SA	SA	BO	NV	NV	NV	BO	NV	
Flow-type NV, FF, CH, BW, UW, CF, RP, UP, SM, NP, DR		NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	
Channel modification(s) NK, NO, CV, RS, RI, DA, FO		NO	NO	NO	NO	NO	NO	NO	NO	RS	NO	
Channel feature(s) NV, NO, EB, RO, VR, MB, VB, MI, TR		NO	NO	NO	NV	EB	NO	NO	NO	NO	NO	
For braided rivers only: number of sub-channels		0	0	0	0	1	0	0	0	0	0	
RIGHT BANK		Ring EC or SC if composed of sandy substrate										
Material NV, BE, BO, CO, GS, EA, FE, CL, CC, SP, WP, GA, BR, RR, TD, FA, BI		EA	EA	EA	RR	RR	RR	EA	RR	EA	EA	
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM		RT	RT	RT	RE	RI	RI	NO	RI	NO	NO	
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB		NO	NO	NO	NO	NO	VS	VS	NO	NO	NO	
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		RP	RP	RP	SA	SU	SA	SH	SA	SA	SA	
LEFT BANKTOP (structure within 1m) B/U/S/C/NV		U	U	U	S	U	S	S	S	C	U	
LEFT BANK-FACE (structure) B/U/S/C/NV		S	S	C	C	S	S	B	S	C	U	
RIGHT BANK-FACE (structure) B/U/S/C/NV		C	C	S	C	B	U	S	C	S	S	
RIGHT BANKTOP (structure within 1m) B/U/S/C/NV		S	S	U	U	U	U	S	C	U	U	
LAND-USE WITHIN 5m OF RIGHT BANKTOP		SA	SA	TL	TL	OR	OR	TL	SU	TH	SH	
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		L	L	L	V	V				L		
Emergent broad-leaved herbs					V	V				L	L	
Emergent reeds/sedges/rushes/grasses/horsetails		L	L		L		L	L	L	L	L	
Floating-leaved (rooted)						L				L		
Free-floating		L	L	L			E	L	E		E	
Amphibious												
Submerged broad-leaved												
Submerged linear-leaved				L								
Submerged fine-leaved												
Filamentous algae												
Use end column for overall assessment over 500m, including types not occurring in spot-checks (use ✓, E or NV)												

Enter channel substrate(s) not occurring as predominant in spot-checks but present in >1% of whole site.

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)	E	✓	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 checked="" type="checkbox"/>	<input type="checkbox"/>
Isolated/scattered	<input type="checkbox"/>	<input type="checkbox"/>		*Overhanging boughs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Regularly spaced, single	<input type="checkbox"/>	<input type="checkbox"/>		*Exposed bankside roots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Occasional clumps	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		*Underwater tree roots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Semi-continuous	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Fallen trees	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Continuous	<input type="checkbox"/>	<input type="checkbox"/>		Large woody debris	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed bedrock	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Chute flow	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed boulders	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Broken standing waves	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated bedrock/boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Unbroken standing waves	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rippled flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*Upwelling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mature island(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smooth flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated side bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No perceptible flow	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Vegetated side bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
No flow (dry)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marginal deadwater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eroding cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Unvegetated silt deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stable cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Discrete unvegetated sand deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				*Discrete unvegetated gravel deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SITE REF.		RIVER HABITAT SURVEY : DIMENSIONS AND INFLUENCES				Page 4 of 4	
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)	3	Bankfull width (m)	8	Banktop height (m)	3		
Is banktop height also bankfull height? (Y or N)	Y	Water width (m)	3	Is banktop height also bankfull height? (Y or N)	Y		
Embanked height (m)	3	Water depth (m)	0.2	Embanked height (m)	3		
If trashline lower than banktop, indicate: height above water (m) = 1 width from bank to bank (m) = 10							
Bed material at site is: consolidated <input checked="" type="checkbox"/> unconsolidated (loose) <input type="checkbox"/> unknown <input type="checkbox"/>							
Location of measurements is: riffle <input checked="" 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 checked="" 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 checked="" 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 <input checked="" type="checkbox"/> Yes <input type="checkbox"/>							
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"/>
		*Japanese knotweed	<input type="checkbox"/>		<input type="checkbox"/>	*Other (state) <i>A. lentis</i>	<input checked="" 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 - 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 <i>and</i>							
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 checked="" type="checkbox"/>		*Diseased Alders? None <input checked="" type="checkbox"/> Present <input type="checkbox"/> Extensive <input type="checkbox"/>					
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 checked="" type="checkbox"/>							
Have you completed all ten spot-checks and made entries in all boxes in E & F on page 2? <input checked="" type="checkbox"/>							
Have you completed column 11 of section G (and E if appropriate) on page 2? <input checked="" type="checkbox"/>							
Have you recorded in section C the number of riffles, pools and point bars (even if 0) on page 1? <input checked="" type="checkbox"/>							
Have you given an accurate (alphanumeric) grid reference for spot-checks 1, 6 and end of site (page 1)? <input checked="" type="checkbox"/>							
Have you stated whether spot-check 1 is at the upstream or downstream end of the site (top of page 2)? <input checked="" 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"/>							

A FIELD SURVEY DETAILS

Site Number: Est 21
 Site Reference:
 Spot-check 1 Grid Ref: 4694 2, 10W
22 3704, 22N
 Spot-check 6 Grid Ref: 047 143, 13 W
22 3763, 19 N
 End of site Grid Ref: 047 203, 37W
22 3763, 19 N
 Reach Reference:
 River name: Tâmegas
 Date 03/07/2015 Time: 9h10
 Surveyor name: David Fernandes
 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: 2
 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 checked="" 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) Unvegetated point bar(s)
 Pool(s) Vegetated point bar(s)

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




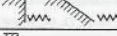
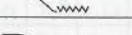
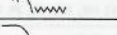
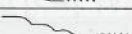
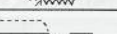

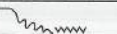


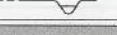
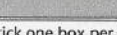
If none, tick box	Major			Intermediate			Minor		
<input type="checkbox"/>	Weirs/sluiques						Outfalls/intakes		
	Culverts						Fords		
	Bridges	X					Deflectors/groynes/croys		
	Other - state								

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

RZFA - 1
Pool - 14

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 checked="" 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 GPS 2 3 4 5 6 GPS 7 8 9 10 GPS													
LEFT 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													
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)													

↑ Enter channel substrate(s) not occurring as predominant in spot-checks but present in >1% of whole site.

SITE REF.		RIVER HABITAT SURVEY : 500m SWEEP-UP				Page 3 of 4	
H LAND-USE WITHIN 50m OF BANKTOP Use ✓ (present) or F (≥ 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 F (≥ 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 checked="" type="checkbox"/>	<input type="checkbox"/>	
Isolated/scattered	<input type="checkbox"/>	<input type="checkbox"/>	*Overhanging boughs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Regularly spaced, single	<input type="checkbox"/>	<input type="checkbox"/>	*Exposed bankside roots	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Occasional clumps	<input checked="" type="checkbox"/>	<input type="checkbox"/>	*Underwater tree roots	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Semi-continuous	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fallen trees	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Continuous	<input type="checkbox"/>	<input type="checkbox"/>	Large woody debris	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed bedrock	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Chute flow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed boulders	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Broken standing waves	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated bedrock/boulders	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Unbroken standing waves	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unvegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rippled flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*Upwelling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mature island(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smooth flow	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	Vegetated side bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No flow (dry)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unvegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marginal deadwater	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated point bar(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Eroding cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Unvegetated silt deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stable cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Discrete unvegetated sand deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				*Discrete unvegetated gravel deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SITE REF.		RIVER HABITAT SURVEY : DIMENSIONS AND INFLUENCES				Page 4 of 4	
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)	2	Bankfull width (m)	12	Banktop height (m)	1.5		
Is banktop height also bankfull height? (Y or N)	Y	Water width (m)	10	Is banktop height also bankfull height? (Y or N)	N		
Embanked height (m)	18	Water depth (m)	0.5	Embanked height (m)	15		
If trashline lower than banktop, indicate: height above water (m) = 1 width from bank to bank (m) = 0							
Bed material at site is: consolidated <input checked="" type="checkbox"/> unconsolidated (loose) <input type="checkbox"/> unknown <input type="checkbox"/>							
Location of measurements is: riffle <input checked="" type="checkbox"/> other <input type="checkbox"/> (state)							
M FEATURES OF SPECIAL INTEREST Use / or E (> 33% length) *record even if <1%							
None	<input checked="" type="checkbox"/>	Very large boulders (>1m)	<input type="checkbox"/>	Backwater(s)	<input type="checkbox"/>	Marsh(es)	<input checked="" 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 checked="" type="checkbox"/>	Bog(s)	<input type="checkbox"/>		
Natural cascade(s)	<input type="checkbox"/>	*Sink hole(s)	<input checked="" type="checkbox"/>	Wet woodland(s)	<input checked="" type="checkbox"/>		
N CHOKED CHANNEL (tick one box)							
Is 33% or more of the channel choked with vegetation? No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>							
O NOTABLE NUISANCE PLANT SPECIES Use / or E (> 33% length) *record even if <1%							
None	<input type="checkbox"/>	bankface	banktop to 50m	bankface	banktop to 50m		
*Giant hogweed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Himalayan balsam	<input type="checkbox"/>	<input type="checkbox"/>	
*Japanese knotweed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Other (state) <i>petaloc...</i>	<input type="checkbox"/>	<input checked="" 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 - 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 / <i>quarob rios</i>							
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 checked="" type="checkbox"/> Extensive <input type="checkbox"/>			*Diseased Alders? None <input checked="" type="checkbox"/> Present <input type="checkbox"/> Extensive <input type="checkbox"/>				
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 checked="" type="checkbox"/>							
Have you completed all ten spot-checks and made entries in all boxes in E & F on page 2? <input checked="" type="checkbox"/>							
Have you completed column 11 of section G (and E if appropriate) on page 2? <input checked="" type="checkbox"/>							
Have you recorded in section C the number of riffles, pools and point bars (even if 0) on page 1? <input checked="" type="checkbox"/>							
Have you given an accurate (alphanumeric) grid reference for spot-checks 1, 6 and end of site (page 1)? <input checked="" type="checkbox"/>							
Have you stated whether spot-check 1 is at the upstream or downstream end of the site (top of page 2)? <input checked="" 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"/>							

A FIELD SURVEY DETAILS

Site Number: Est 22
 Site Reference:
 Spot-check 1 Grid Ref:
 Spot-check 6 Grid Ref:
 End of site Grid Ref:
 Reach Reference:
 River name:
 Date 9/10/2015 Time: 8h50m
 Surveyor name: David Fernandes
 Accredited Surveyor code: Paulo Aires








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 checked="" 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) Unvegetated point bar(s)
 Pool(s) Vegetated point bar(s)

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

If none, tick box	Major			Intermediate			Minor		
	Major	Intermediate	Minor	Major	Intermediate	Minor	Major	Intermediate	Minor
<input type="checkbox"/> Weirs/slucices			1						
<input type="checkbox"/> Culverts									
<input type="checkbox"/> Bridges	1								
<input type="checkbox"/> Other - state									

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

Pool - 1
Riffle - 11

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 checked="" 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 GPS	2	3	4	5	6 GPS	7	8	9	10	GPS		
LEFT BANK													
Ring LC or SC if composed of sandy substrate													
Material NV, BE, BO, CO, GS, EA, FE, CL, CC, SP, WP, GA, BR, RR, TD, FA, BI	BO	RR	BF	BE	BE	BE	EA	BE	BF	BE			
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM	RS	RS	NO	NO	NO	NO	NO	NO	NO	NO			
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB	NO	NO	NB	VP	VP	NO	NO	NO	NO	NO			
CHANNEL													
GP- ring either G or P if predominant													
Channel substrate NV, BE, BO, CO, GP, SA, SI, CL, PE, EA, AR	BO	SA	BO	BO	BO	BO	NV	NV	NV	NV			
Flow-type NV, FF, CH, BW, UW, CF, RP, UP, SM, NP, DR	BW	SM	BW	SM	SM	BW	SM	UP	NP	NP			
Channel modification(s) NK, NO, CV, RS, RI, DA, FO	RS	RS	NO	NO	RI	NO	NO	NO	NO	NO			
Channel feature(s) NV, NO, EB, RO, VR, MB, VB, MI, TR	RO	EA	NO	EB	EB	EB	NO	NO	NO	NO			
For braided rivers only: number of sub-channels	0	0	0	0	1	1	0	0	0	0			
RIGHT BANK													
Ring LC or SC if composed of sandy substrate													
Material NV, BE, BO, CO, GS, EA, FE, CL, CC, SP, WP, GA, BR, RR, TD, FA, BI	BO	BO	BR	BR	AR	BO	BO	EA	EA	EA			
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM	RS	NO	RI	RI	RI	RI	RI	RS	NO	NO			
Marginal & bank feature(s) NV, NO, EC, SC, PB, VP, SB, VS, NB	NO	VS	VS	VS	VS	VP	NO	NO	NO	NO			
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	BP	BL	BL	BL	BL	BL	BL	BL	BL	BL			
LEFT BANKTOP (structure within 1m) B/U/S/C/NV	S	S	S	S	S	S	C	C	C	C			
LEFT BANK-FACE (structure) B/U/S/C/NV	S	S	S	S	S	S	S	U	U	U			
RIGHT BANK-FACE (structure) B/U/S/C/NV	S	S	S	S	S	S	S	S	G	C			
RIGHT BANKTOP (structure within 1m) B/U/S/C/NV	S	S	S	S	S	S	S	S	S	S			
LAND-USE WITHIN 5m OF RIGHT BANKTOP	SU	SH	PG	PG	PG	PG	PG	TH	SH	SH			
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	✓	✓	✓	✓	✓	E							
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)													

↑ Enter channel substrate(s) not occurring as predominant in spot-checks but present in >1% of whole site.

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)	E		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		E		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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Isolated/scattered	<input type="checkbox"/>	<input type="checkbox"/>		*Overhanging boughs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Regularly spaced, single	<input type="checkbox"/>	<input type="checkbox"/>		*Exposed bankside roots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Occasional clumps	<input type="checkbox"/>	<input type="checkbox"/>		*Underwater tree roots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Semi-continuous	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Fallen trees	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Continuous	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Large woody debris	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exposed bedrock	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>
Broken standing waves	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated bedrock/boulders	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unbroken standing waves	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unvegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rippled flow	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vegetated mid-channel bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
*Upwelling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mature island(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smooth flow	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Unvegetated side bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No perceptible flow	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marginal deadwater	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetated point bar(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eroding cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Unvegetated silt deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stable cliff(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*Discrete unvegetated sand deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				*Discrete unvegetated gravel deposit(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SITE REF.		RIVER HABITAT SURVEY : DIMENSIONS AND INFLUENCES				Page 4 of 4	
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)	9	Bankfull width (m)	52	Banktop height (m)	911		
Is banktop height also bankfull height? (Y or N)	N	Water width (m)	48	Is banktop height also bankfull height? (Y or N)	Y		
Embanked height (m)	10	Water depth (m)	0.5	Embanked height (m)	11		
If trashline lower than banktop, indicate: height above water (m) = 0.4 width from bank to bank (m) = 78							
Bed material at site is: consolidated <input checked="" type="checkbox"/> unconsolidated (loose) <input type="checkbox"/> unknown <input type="checkbox"/>							
Location of measurements is: riffle <input checked="" type="checkbox"/> other <input type="checkbox"/> (state) (= bottom of point)							
M FEATURES OF SPECIAL INTEREST Use / or E (> 33% length) *record even if <1%							
None	<input type="checkbox"/>	Very large boulders (>1m)	<input checked="" 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 checked="" type="checkbox"/>	Flush(es)	<input type="checkbox"/>
Side channel(s)	<input checked="" 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 checked="" type="checkbox"/>
*Natural waterfall(s) < 5m high	<input type="checkbox"/>	Quaking bank(s)	<input type="checkbox"/>	Bog(s)	<input type="checkbox"/>	piscina / piscina / laguneta	
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 <input checked="" type="checkbox"/> Yes <input type="checkbox"/>							
O NOTABLE NUISANCE PLANT SPECIES Use / or E (> 33% length) *record even if <1%							
None <input type="checkbox"/>		bankface banktop to 50m		bankface banktop to 50m			
*Giant hogweed <input type="checkbox"/>		<input type="checkbox"/>		*Himalayan balsam <input type="checkbox"/>		<input type="checkbox"/>	
*Japanese knotweed <input type="checkbox"/>		<input type="checkbox"/>		*Other (state) ... A. e. e. c. ... <input type="checkbox"/>		<input checked="" 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 - 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 checked="" type="checkbox"/> Extensive <input type="checkbox"/>		*Diseased Alders? None <input checked="" type="checkbox"/> Present <input type="checkbox"/> Extensive <input type="checkbox"/>					
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 checked="" type="checkbox"/>							
Have you completed all ten spot-checks and made entries in all boxes in E & F on page 2? <input checked="" type="checkbox"/>							
Have you completed column 11 of section G (and E if appropriate) on page 2? <input checked="" type="checkbox"/>							
Have you recorded in section C the number of riffles, pools and point bars (even if 0) on page 1? <input checked="" type="checkbox"/>							
Have you given an accurate (alphanumeric) grid reference for spot-checks 1, 6 and end of site (page 1)? <input checked="" 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"/>							