

RIVER HABITAT SURVEY 2003 VERSION: SITE HEALTH AND SAFETY ASSESSMENT

Site Number ¹ : 30	Site Ref: Canoa	River Name: Honda	Date: 01/00/01
Grid References/Co-ordinates:	Spot 1 ² : 12345	Mid-site:	End of site ² : 1
Surveyor Name:		Accredited Surveyor Code:	
¹ Leave blank if new site.		² Optional Canoa	

Weather Conditions: Mucho calor, con sol, sin viento / Canoa Costa Rica

Flow Conditions: Calmo, brando, meigo / Canoa Costa Rica

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

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

Weil's Disease (Leptospirosis)

Instructions to card holders

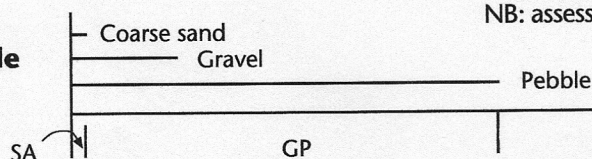
1. As infection may enter through breaks in the skin, ensure that any cut, scratch or abrasion is thoroughly cleansed and covered with a waterproof plaster.
2. Avoid rubbing your eyes, nose and mouth during work.
3. Clean protective clothing, footwear and equipment etc. after use
4. After work, and particularly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

Lyme Disease

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

PHYSICAL ATTRIBUTES (SECTION E)

BANKS		CHANNEL	
Predominant bank material NV = not visible BE = bedrock BO = boulder CO = cobble GS = gravel/sand EA = earth (crumbly) PE = peat CL = sticky clay CC = concrete SP = sheet piling WP = wood piling GA = gabion BR = brick/laid stone RR = rip-rap TD = tipped debris FA = fabric BI = bio-engineering materials	Bank modifications NK = not known NO = none RS = resectioned (reprofiled) RI = reinforced PC = poached PC(B) = poached (bare) BM = artificial berm EM = embanked Marginal and bank features NV = not visible (e.g. far bank) NO = none EC = eroding cliff (EC if sandy substrate) SC = stable cliff (SC if sandy substrate) PB = unvegetated point bar VP = vegetated point bar SB = unvegetated side bar VS = vegetated side bar NB = natural berm	Predominant substrate NV = not visible BE = bedrock BO = boulder CO = cobble GP = gravel/pebble (G or P if predominant) SA = sand SI = silt CL = clay PE = peat EA = earth AR = artificial Predominant flow-type NV = not visible FF = free fall CH = chute BW = broken standing waves (white water) UW = unbroken standing waves CF = chaotic flow RP = rippled UP = upwelling SM = smooth NP = no perceptible flow DR = no flow (dry)	Channel modifications NK = not known NO = none CV = culverted RS = resectioned RI = reinforced DA = dam/weir/sluiice FO = ford (man-made) Channel features NV = not visible NO = none EB = exposed bedrock RO = exposed boulders VR = vegetated rock MB = unvegetated mid-channel bar VB = vegetated mid-channel bar MI = mature island TR = Trash (urban debris)
FLOW-TYPES		DESCRIPTION	
FF: Free fall		clearly separates from back-wall of vertical feature ~ associated with waterfalls	
CH: Chute		low curving fall in contact with substrate ~ often associated with cascades	
BW: Broken standing waves		white-water tumbling waves must be present ~ mostly associated with rapids	
UW: Unbroken standing waves		upstream facing wavelets which are not broken ~ mostly associated with riffles	
CF: Chaotic flow		a chaotic mixture of three or more of the four fast flow-types with no predominant one obvious	
RP: Rippled		no waves, but general flow direction is downstream with disturbed rippled surface ~ mostly associated with runs	
UP: Upwelling		heaving water as upwellings break the surface ~ associated with boils.	
SM: Smooth		perceptible downstream movement is smooth (no eddies) ~ mostly associated with glides	
NP: No perceptible flow		no net downstream flow ~ associated with pools, ponded reaches and marginal deadwater	
DR: No flow (dry)		dry river bed	

Scale


Cobble (to size of A4 page)

LEFT

Banks are determined by looking downstream

RIGHT

CHANNEL MODIFICATION INDICATORS

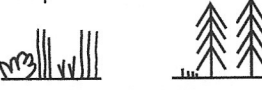
One or more of the following may be indicative of resectioning:

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

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

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

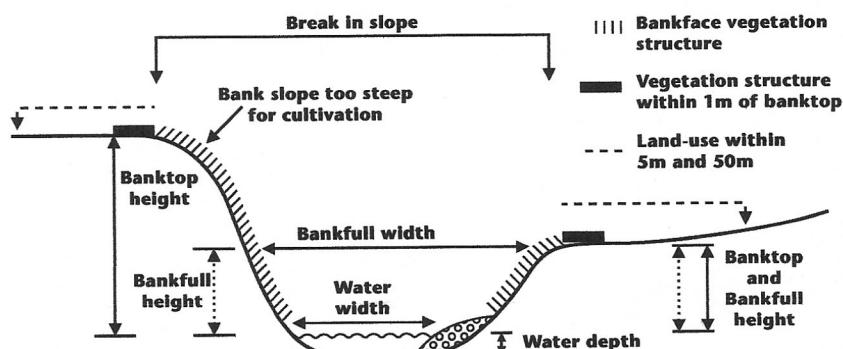
BANKTOP AND BANKFACE VEGETATION STRUCTURE To be assessed within a 10m wide transect (SECTION F)

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

Channel dimensions guidance (Section L)

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

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



ENVIRONMENT
AGENCY

EMERGENCY HOTLINE 0800 80 70 60

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

A FIELD SURVEY DETAILSSite 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:

Date / / 20

Time:

Surveyor name:

Accredited Surveyor code:

②

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

River ☒Artificial ☐

Are adverse conditions affecting survey?

No ☐Yes ☐

If yes, state

①

Is bed of river visible?

barely or not ☒partially ☐± entirely ☐

Is health and safety assessment form attached?

Yes ☐No ☐

Number of photographs taken:

4

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

gorge (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)

Temas de in contando!

11

Unvegetated point bar(s)

1

Pool(s)

Nã colocues logo 3!

1

Vegetated point bar(s)

1

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
Weirs/slucies				Outfalls/intakes	11		
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?

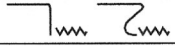
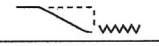
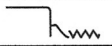
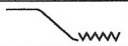
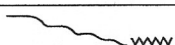
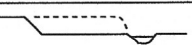
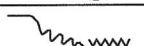
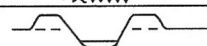
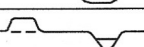
No ☐Yes, <33% of site ☐≥33% of site ☐

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 ☐ downstream end ☐ 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	SA										
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM	RI										
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	DR	AR									
Flow-type NV, FF, CH, BW, UW, CF, RP, UP, SM, NP, DR	RP	P									
Channel modification(s) NK, NO, CV, RS, RI, DA, FO	NO										
Channel feature(s) NV, NO, EB, RO, VR, MB, VB, MI, TR	VB										
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	TE										
Bank modification(s) NK, NO, RS, RI, PC(B), BM, EM	LI	S									
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	W										
LEFT BANKTOP (structure within 1m) B/U/S/C/NV	B										
LEFT BANK-FACE (structure) B/U/S/C/NV	S										
RIGHT BANK-FACE (structure) B/U/S/C/NV	B										
RIGHT BANKTOP (structure within 1m) B/U/S/C/NV	U										
LAND-USE WITHIN 5m OF RIGHT BANKTOP	WL										
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	X										
Emergent broad-leaved herbs	X										
Emergent reeds/sedges/rushes/grasses/horsetails	X										
Floating-leaved (rooted)											
Free-floating	X										
Amphibious	X										
Submerged broad-leaved	X										
Submerged linear-leaved	X										
Submerged fine-leaved											
Filamentous algae	X										
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
None	☐	☐	Shading of channel	☒	☐
Isolated/scattered	☒	☒	*Overhanging boughs	☒	☐
Regularly spaced, single	☐	☐	*Exposed bankside roots	☒	☐
Occasional clumps	☐	☐	*Underwater tree roots	☒	☐
Semi-continuous	☐	☐	Fallen trees	☒	☐
Continuous	☐	☐	Large woody debris	☒	☐
		X			
K EXTENT OF CHANNEL AND BANK FEATURES (tick one box for each feature) *record even if <1%					
	None	Present	E(≥33%)		None
*Free fall flow	☒	☐	☐	Exposed bedrock	☒
Chute flow	☒	☐	☐	Exposed boulders	☐
Broken standing waves	☒	☐	☐	Vegetated bedrock/boulders	☐
Unbroken standing waves	☐	☐	☐	Unvegetated mid-channel bar(s)	☐
Rippled flow	☐	☐	☐	Vegetated mid-channel bar(s)	☒
*Upwelling	☒	☐	☐	Mature island(s)	☒
Smooth flow	☐	☐	☐	Unvegetated side bar(s)	☐
No perceptible flow	☐	☐	☐	Vegetated side bar(s)	☐
No flow (dry)	☐	☐	☐	Unvegetated point bar(s)	☐
Marginal deadwater	☐	☐	☐	Vegetated point bar(s)	☐
Eroding cliff(s)	☐	☐	☐	*Unvegetated silt deposit(s)	☐
Stable cliff(s)	☐	☐	☐	*Discrete unvegetated sand deposit(s)	☐
				*Discrete unvegetated gravel deposit(s)	☐

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