

Cambridge Waste Water Treatment Plant Relocation Project



Preliminary Environmental Information
Aquatic Survey Data
February 2022

Biotic Index															
	WB230	WB260	WB171 East	WB171 West	WB100	WB001 South	WB319	WB244	WB310	WB277	WB043	WB186	WB148	WB001 West	WB171/WB151
	21/06/2021	21/06/2021	21/06/2021	21/06/2021	24/06/2021	24/06/2021	24/06/2021	24/06/2021	24/06/2021	01/07/2021	01/07/2021	29/06/2021	16/07/2021	16/07/2021	16/07/2021
Native Species Richness	12	6	6	8	8	7	8	2	5	7	5	5	6	7	3
Plant Species Conservation Status Score	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Plant Habitat Quality Score	1	1	1.17	1	1.07	1.25	1	1	1	1.17	1	1.5	1.17	1.17	1
Plant Community Naturalness	-3	-3	0	-3	-3	-6	-3	0	0	0	0	0	-3	-3	0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score	Threat score
<i>Epilobium hirsutum</i>	Willowherb		Common		1	
<i>Lemna gibba</i>	Fat duckweed	1	Common	1	1	0
<i>Ranunculus sceleratus</i>	Celery-leaved buttercup	2	Common	1	1	0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score	Threat score
<i>Apium nodiflorum</i>	Fool's water-cress	0	Common	1	1	0
<i>Callitriche</i> sp.			Common	1	1	0
<i>Carex riparia</i>	Great pond-sedge	0	Common	1	1	0
<i>Epilobium hirsutum</i>	Willowherb		Common		1	
<i>Lemna gibba</i>	Fat duckweed	1	Common	1	1	0
<i>Lemna minuta</i>	Least duckweed	0		1	0	-3
<i>Potamogeton trichoides</i>	Hairlike pondweed	0	Local	2	1	0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score	Threat score
Filipendula ulmaria			Common		1	
Lemna gibba	Fat duckweed	1	Common	1	1	0
Lemna minuta	Least duckweed	0		1	0	-3
Phragmites australis	Common reed	2	Common	1.5	1	0
Scrophularia auriculata	Water figwort		Common		1	

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score
<i>Berula erecta</i>	Narrow-leaved water-parsnip	0	Common	1	1
<i>Callitriche obtusangula</i>	Blunt-fruited water-starwort	1	Local	2	1
<i>Filipendula ulmaria</i>			Common		1
<i>Phalaris arundinacea</i>	Reed canary-grass	1	Common	1	1
<i>Sparganium emersum</i>	Unbranched bur-reed	0	Common	2	1

Threat score
0
0
0
0

Taxa name	Common name	Salinity to	Species conservation status	Habitat quality score	Conservation status score	Threat score
<i>Apium nodiflorum</i>	Fool's water-cress	0	Common	1	1	0
<i>Epilobium hirsutum</i>	Willowherb		Common		1	0
<i>Filipendula ulmaria</i>			Common		1	
<i>Scrophularia auriculata</i>	Water figwort		Common		1	
<i>Veronica hybrid</i>		0	Common	1	1	0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score	Threat score
<i>Apium nodiflorum</i>	Fool's water-cress	0	Common	1	1	0
<i>Epilobium hirsutum</i>	Willowherb		Common		1	0
Filamentous algae	Blanket weed	2	Common	1	1	0
<i>Glyceria fluitans</i>	Flote-grass	0	Common	2	1	0
<i>Iris pseudacorus</i>	Yellow flag	1	Common	1	1	0
<i>Typha latifolia</i>	Reedmace / Bulrush	0	Common	1	1	0
<i>Veronica hybrid</i>		0	Common	1	1	0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score
<i>Equisetum arvense</i>	Common horsetail		Common		1
<i>Phalaris arundinacea</i>	Reed canary-grass	1	Common	1	1
<i>Rorippa nasturtium-aqu. agg.</i>	Water-cress	0	Common	1	1
<i>Sparganium erectum</i>	Branched bur-reed	0	Common	1	1
<i>Symphytum officinale</i>	Common comfry		Common		1

Threat score
0
0
0
0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score	Threat score
<i>Phalaris arundinacea</i>	Reed canary-grass	1	Common	1	1	0
<i>Typha latifolia</i>	Reedmace / Bulrush	0	Common	1	1	0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score	Threat score
<i>Alisma plantago-aquatica</i>	Water-plantain	0	Common	1	1	
<i>Apium nodiflorum</i>	Fool's water-cress	0	Common	1	1	0
<i>Callitriche</i> sp.			Common	1	1	0
<i>Lemna gibba</i>	Fat duckweed	1	Common	1	1	0
<i>Lemna minuta</i>	Least duckweed	0		1	0	-3
<i>Phalaris arundinacea</i>	Reed canary-grass	1	Common	1	1	0
<i>Sparganium erectum</i>	Branched bur-reed	0	Common	1	1	0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score	Threat score
<i>Carex riparia</i>	Great pond-sedge	0	Common	1	1	0
<i>Epilobium hirsutum</i>	Willowherb		Common		1	
<i>Glyceria maxima</i>	Reed sweet-grass	0	Common	1	1	0
<i>Lemna gibba</i>	Fat duckweed	1	Common	1	1	0
<i>Lemna minuta</i>	Least duckweed	0		1	0	-3
<i>Lemna trisulca</i>	Ive-leaved duckweed	0	Common	3	1	0
<i>Typha latifolia</i>	Reedmace / Bulrush	0	Common	1	1	0
<i>Elodea nuttallii</i>	Nuttall's waterweed			1		-3
<i>Zannichellia Palustris</i>	Horned Pondweed	2	Common	1	1	0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score	Threat score
<i>Apium nodiflorum</i>	Fool's water-cress	0	Common	1	1	0
<i>Callitriche</i> sp.			Common	1	1	0
<i>Epilobium hirsutum</i>	Willowherb		Common		1	
Filamentous algae	Blanket weed	2	Common	1	1	0
<i>Lemna gibba</i>	Fat duckweed	1	Common	1	1	0
<i>Lemna minuta</i>	Least duckweed	0		1	0	-3
<i>Phalaris arundinacea</i>	Reed canary-grass	1	Common	1	1	0
<i>Phragmites australis</i>	Common reed	2	Common	1.5	1	0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score
<i>Apium nodiflorum</i>	Fool's water-cress	0	Common	1	1
<i>Callitriche</i> sp.			Common	1	1
<i>Carex riparia</i>	Great pond-sedge	0	Common	1	1
<i>Elodea nuttallii</i>	Nuttall's waterweed			1	
Filamentous algae	Blanket weed	2	Common	1	1
<i>Glyceria maxima</i>	Reed sweet-grass	0	Common	1	1
<i>Phalaris arundinacea</i>	Reed canary-grass	1	Common	1	1
<i>Ranunculus sceleratus</i>	Celery-leaved buttercup	2	Common	1	1
<i>Rorippa nasturtium-aqu. agg.</i>	Water-cress	0	Common	1	1
<i>Sparganium erectum</i>	Branched bur-reed	0	Common	1	1
<i>Typha latifolia</i>	Reedmace / Bulrush	0	Common	1	1
<i>Veronica</i> hybrid		0	Common	1	1

Threat score
0
0
0
-3
0
0
0
0
0
0
0
0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score	Threat score
<i>Apium nodiflorum</i>	Fool's water-cress	0	Common	1	1	0
<i>Callitriche</i> sp.				1	1	0
<i>Elodea nuttallii</i>	Nuttall's waterweed			1		-3
<i>Epilobium hirsutum</i>	Willherb		Common		1	
<i>Typha latifolia</i>	Reedmace / Bulrush	0	Common	1	1	0
<i>Veronica</i>		0	Common	1	1	0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score	Threat score
Callitriche sp.			Common	1	1	0
Glyceria maxima	Reed sweet-grass	0	Common	1	1	0
Phalaris arundinacea	Reed canary-grass	1	Common	1	1	0
Ranunculus sceleratus	Celery-leaved butt	2	Common	1	1	0
Veronica catenata	Pink water-speedw	0	Common	1	1	0
Veronica beccabunga	Brook-lime	0	Common	2	1	0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score	Threat score
<i>Apium nodiflorum</i>	Fool's water-cress	0	Common	1	1	0
<i>Carex riparia</i>	Great pond-sedge	0	Common	1	1	0
<i>Elodea nuttallii</i>	Nuttall's waterweed			1		-3
Filamentous algae	Blanket weed	2	Common	1	1	0
<i>Phalaris arundinacea</i>	Reed canary-grass	1	Common	1	1	0
<i>Sparganium erectum</i>	Branched bur-reed	0	Common	1	1	0
Veronica		0	Common	1	1	0
<i>Iris pseudacorus</i>	Yellow flag	1	Common	1	1	

Biotic Index															
	WB230	WB260	WB171 East	WB171 West	WB100	WB001 South	WB319	WB244	WB310	WB277	WB043	WB186	WB148	WB001 West	WB171/WB151
	21/06/2021	21/06/2021	21/06/2021	21/06/2021	24/06/2021	24/06/2021	24/06/2021	24/06/2021	24/06/2021	01/07/2021	01/07/2021	29/06/2021	16/07/2021	16/07/2021	16/07/2021
Native Species Richness	12	6	6	8	8	7	8	2	5	7	5	5	6	7	3
Plant Species Conservation Status Score	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Plant Habitat Quality Score	1	1	1.17	1	1.07	1.25	1	1	1	1.17	1	1.5	1.17	1.17	1
Plant Community Naturalness	-3	-3	0	-3	-3	-6	-3	0	0	0	0	0	-3	-3	0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score	Threat score
<i>Epilobium hirsutum</i>	Willowherb		Common		1	
<i>Lemna gibba</i>	Fat duckweed	1	Common	1	1	0
<i>Ranunculus sceleratus</i>	Celery-leaved buttercup	2	Common	1	1	0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score	Threat score
<i>Apium nodiflorum</i>	Fool's water-cress	0	Common	1	1	0
<i>Callitriche</i> sp.			Common	1	1	0
<i>Carex riparia</i>	Great pond-sedge	0	Common	1	1	0
<i>Epilobium hirsutum</i>	Willowherb		Common		1	
<i>Lemna gibba</i>	Fat duckweed	1	Common	1	1	0
<i>Lemna minuta</i>	Least duckweed	0		1	0	-3
<i>Potamogeton trichoides</i>	Hairlike pondweed	0	Local	2	1	0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score	Threat score
Filipendula ulmaria			Common		1	
Lemna gibba	Fat duckweed	1	Common	1	1	0
Lemna minuta	Least duckweed	0		1	0	-3
Phragmites australis	Common reed	2	Common	1.5	1	0
Scrophularia auriculata	Water figwort		Common		1	

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score
<i>Berula erecta</i>	Narrow-leaved water-parsnip	0	Common	1	1
<i>Callitriche obtusangula</i>	Blunt-fruited water-starwort	1	Local	2	1
<i>Filipendula ulmaria</i>			Common		1
<i>Phalaris arundinacea</i>	Reed canary-grass	1	Common	1	1
<i>Sparganium emersum</i>	Unbranched bur-reed	0	Common	2	1

Threat score
0
0
0
0

Taxa name	Common name	Salinity to	Species conservation status	Habitat quality score	Conservation status score	Threat score
<i>Apium nodiflorum</i>	Fool's water-cress	0	Common	1	1	0
<i>Epilobium hirsutum</i>	Willowherb		Common		1	0
<i>Filipendula ulmaria</i>			Common		1	
<i>Scrophularia auriculata</i>	Water figwort		Common		1	
<i>Veronica hybrid</i>		0	Common	1	1	0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score	Threat score
<i>Apium nodiflorum</i>	Fool's water-cress	0	Common	1	1	0
<i>Epilobium hirsutum</i>	Willowherb		Common		1	0
Filamentous algae	Blanket weed	2	Common	1	1	0
<i>Glyceria fluitans</i>	Flote-grass	0	Common	2	1	0
<i>Iris pseudacorus</i>	Yellow flag	1	Common	1	1	0
<i>Typha latifolia</i>	Reedmace / Bulrush	0	Common	1	1	0
<i>Veronica hybrid</i>		0	Common	1	1	0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score
<i>Equisetum arvense</i>	Common horsetail		Common		1
<i>Phalaris arundinacea</i>	Reed canary-grass	1	Common	1	1
<i>Rorippa nasturtium-aqu. agg.</i>	Water-cress	0	Common	1	1
<i>Sparganium erectum</i>	Branched bur-reed	0	Common	1	1
<i>Symphytum officinale</i>	Common comfry		Common		1

Threat score
0
0
0
0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score	Threat score
<i>Phalaris arundinacea</i>	Reed canary-grass	1	Common	1	1	0
<i>Typha latifolia</i>	Reedmace / Bulrush	0	Common	1	1	0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score	Threat score
<i>Alisma plantago-aquatica</i>	Water-plantain	0	Common	1	1	
<i>Apium nodiflorum</i>	Fool's water-cress	0	Common	1	1	0
<i>Callitriche</i> sp.			Common	1	1	0
<i>Lemna gibba</i>	Fat duckweed	1	Common	1	1	0
<i>Lemna minuta</i>	Least duckweed	0		1	0	-3
<i>Phalaris arundinacea</i>	Reed canary-grass	1	Common	1	1	0
<i>Sparganium erectum</i>	Branched bur-reed	0	Common	1	1	0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score	Threat score
<i>Carex riparia</i>	Great pond-sedge	0	Common	1	1	0
<i>Epilobium hirsutum</i>	Willowherb		Common		1	
<i>Glyceria maxima</i>	Reed sweet-grass	0	Common	1	1	0
<i>Lemna gibba</i>	Fat duckweed	1	Common	1	1	0
<i>Lemna minuta</i>	Least duckweed	0		1	0	-3
<i>Lemna trisulca</i>	Ive-leaved duckweed	0	Common	3	1	0
<i>Typha latifolia</i>	Reedmace / Bulrush	0	Common	1	1	0
<i>Elodea nuttallii</i>	Nuttall's waterweed			1		-3
<i>Zannichellia Palustris</i>	Horned Pondweed	2	Common	1	1	0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score	Threat score
<i>Apium nodiflorum</i>	Fool's water-cress	0	Common	1	1	0
<i>Callitriche</i> sp.			Common	1	1	0
<i>Epilobium hirsutum</i>	Willowherb		Common		1	
Filamentous algae	Blanket weed	2	Common	1	1	0
<i>Lemna gibba</i>	Fat duckweed	1	Common	1	1	0
<i>Lemna minuta</i>	Least duckweed	0		1	0	-3
<i>Phalaris arundinacea</i>	Reed canary-grass	1	Common	1	1	0
<i>Phragmites australis</i>	Common reed	2	Common	1.5	1	0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score
<i>Apium nodiflorum</i>	Fool's water-cress	0	Common	1	1
<i>Callitriche</i> sp.			Common	1	1
<i>Carex riparia</i>	Great pond-sedge	0	Common	1	1
<i>Elodea nuttallii</i>	Nuttall's waterweed			1	
Filamentous algae	Blanket weed	2	Common	1	1
<i>Glyceria maxima</i>	Reed sweet-grass	0	Common	1	1
<i>Phalaris arundinacea</i>	Reed canary-grass	1	Common	1	1
<i>Ranunculus sceleratus</i>	Celery-leaved buttercup	2	Common	1	1
<i>Rorippa nasturtium-aqu. agg.</i>	Water-cress	0	Common	1	1
<i>Sparganium erectum</i>	Branched bur-reed	0	Common	1	1
<i>Typha latifolia</i>	Reedmace / Bulrush	0	Common	1	1
<i>Veronica</i> hybrid		0	Common	1	1

Threat score
0
0
0
-3
0
0
0
0
0
0
0
0
0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score	Threat score
<i>Apium nodiflorum</i>	Fool's water-cress	0	Common	1	1	0
<i>Callitriche</i> sp.				1	1	0
<i>Elodea nuttallii</i>	Nuttall's waterweed			1		-3
<i>Epilobium hirsutum</i>	Willherb		Common		1	
<i>Typha latifolia</i>	Reedmace / Bulrush	0	Common	1	1	0
<i>Veronica</i>		0	Common	1	1	0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score	Threat score
Callitriche sp.			Common	1	1	0
Glyceria maxima	Reed sweet-grass	0	Common	1	1	0
Phalaris arundinacea	Reed canary-grass	1	Common	1	1	0
Ranunculus sceleratus	Celery-leaved buttercup	2	Common	1	1	0
Veronica catenata	Pink water-speedwell	0	Common	1	1	0
Veronica beccabunga	Brook-lime	0	Common	2	1	0

Taxa name	Common name	Salinity tolerance	Species conservation status	Habitat quality score	Conservation status score	Threat score
<i>Apium nodiflorum</i>	Fool's water-cress	0	Common	1	1	0
<i>Carex riparia</i>	Great pond-sedge	0	Common	1	1	0
<i>Elodea nuttallii</i>	Nuttall's waterweed			1		-3
Filamentous algae	Blanket weed	2	Common	1	1	0
<i>Phalaris arundinacea</i>	Reed canary-grass	1	Common	1	1	0
<i>Sparganium erectum</i>	Branched bur-reed	0	Common	1	1	0
Veronica		0	Common	1	1	0
<i>Iris pseudacorus</i>	Yellow flag	1	Common	1	1	

Site		Ditch no	WB171/WB151
Grid Reference	TL50365937	Date	16/07/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A E	B W
Improved grassland		
Semi-improved grassland		
Unimproved grassland		
Arable		
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Road	D	
Cattle/Horse grazed		
Farm		D
Hay/Silage		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A E	B W
Tall grass/Reed		
Short grass		
Bare ground		
Tall herbs	A	D
Overhanging vegetation		
Scrub <1.5m	A	
Hedge row		
Woodland ground flora		
Shaded (%)	0	0

D	70-100%
A	30-70%
F	10-30%
O	3-10%
R	<3%

Grazing/Veg Structure	Bank A E			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Shelf formation	✓			
Tangledness	✓			
Grassy margin	✓			
	Bank B W			
Grazing	✓			
Poaching	✓			
Block formation	✓			
Shelf formation	✓			
Tangledness	✓			
Grassy margin	✓			

Management				
Years since last cleared	1	2-3	4-10	>10
Water relative to normal	-20	cm (+ above normal, - below normal)		
Cleared to side	A	B		
Benched profile	A	B		
Cleared by	Land manager	IDB	EA	Not known

Ditch Features					
Water width (m)	0.5	1	2	3	4
Banktop width (m)	0	5	7	7.5	10
Freeboard (cm)	0	20	50	120	200
Water depth (cm)	20				
Silt depth (cm)	Deep				
Conductivity (µS/cm)					
pH					
Turbidity	Clear				Opaque
Water colour	Clear				
Slope bank A	0	15	20	55	70
Slope bank B	0	15	45	55	70
Profile under water A	0	15	30	55	70
Profile underwater B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	earth

Vegetation Cover	Abs	R	O	F	A	D
Open water surface					✓	
Floating Lemna/Azolla		✓				
Other floating aquatics	✓					
Floating algae			✓			
Lemna trisulcs	✓					
Other submerged plants	✓					
Submerged algae					✓	
Open substrate		✓				
Emergent				✓		
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud	✓					
Litter/ detritus		✓				
Shaded			✓			
Emergents/floating mat in channel %	0					

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelic sylv			
Apium nodif			
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.			
Callit brut			
Callit obtus			
Callit platy/stag			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos crist			
Dactyl glom			
Desch cesp			
Drepan sp.			
Eleoeh pal			
Elodea can			
Elodea nutt			
Elytrig repen			
Enteromor			
Epilob hirsut		F	
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
fil algae			
Filipend ulm			
Font anti			
Galium apar			
Galium palus			
Geran diis			
Glech heder			
Glycer fluit ag.			
Glycer max			
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Hydroch mor			
Hydroco ran			
Hydroco vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemna gibba	R		A
Lemna minor			
Lemna minut			
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lychn flos			
Lythrum sail			
Mentha aqua			
Mentha sp.			
Myosot lava			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nympha alba			
Oenan agu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun			
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentil ans			
Potentil rept			
Prunus spin			
Pulicar dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammu			
Ran pelt			
Ran repens			
Ran sceler	F	R	
Rorip nas s.s			

	W	B	R
Rorip nas ag			
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagit sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutel galer			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect			
Spiro polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati			
Urtica dioica			
Veron caten			
Vicia cracca			
Wolff arrh			
Zannic palus			
Other spp.			
Veron hybrid			

Site		Ditch no	WB001 West
Grid Reference	TL48526189	Date	16/07/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A N	B S
Improved grassland		
Semi-improved grassland		
Unimproved grassland		
Arable		D
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Scrub	D	
Cattle/Horse grazed		
Railway line		
Hay/Slage		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A N	B S
Tall grass/Reed		F
Short grass		
Bare ground		
Tall herbs		D
Overhanging vegetation		
Scrub <1.5m	D	
Hedge row		
Woodland ground flora		
Shaded (%)	40	0

D	70-100%
A	30-70%
F	10-30%
D	3-10%
R	<3%

Ditch Features					
Water width (m)	0.4	1.5	2	3	4
Banktop width (m)	0	4	6.5	7.5	10
Freeboard (cm)	0	20	50	100	200
Water depth (cm)	20				
Silt depth (cm)	Deep				
Conductivity (µS/cm)					
pH					
Turbidity	Clear				Opaque
Water colour	Clear				
Slope bank A	0	15	30	45	70
Slope bank B	0	15	30	45	70
Profile under water A	0	15	30	55	70
Profile under water B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	earth

Vegetation Cover	Abs	R	O	F	A	D
Open water surface						✓
Floating Lemna/Azolla			✓			
Other floating aquatics	✓					
Floating algae				✓		
Lemna trisulca	✓					
Other submerged plants						✓
Submerged algae				✓		
Open substrate			✓			
Emergent	✓					
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud		✓				
Litter / detritus			✓			
Shaded				✓		
Emergents/floating mat in channel %	0					

Grazing/Veg Structure	Bank A N			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin	✓			
	Bank B S			
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin	✓			

Management			
Years since last cleared	1	2-3	4-10 >10
Water relative to normal	0	cm (+ above normal, - below normal)	
Cleared to side	A	B	
Berched profile	A	B	
Cleared by	Land manager	IDB	EA Not known

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelica sylv			
Agium nodif			O
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.	F		
Callit brut			
Callit obtus			
Callit platy/stag			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar		R	
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos mon			
Dactyl glom			
Desch cesp			
Drepan sp.			
Eleocho pal			
Elodea can			
Elodea nutt			
Elytrig repen			
Enteromor			
Epilob hirsut		O	
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
fil algae			
Filipend ulm			
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit ag.			
Glycer max			
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Agrost stol			
Hydrocho mor			
Hydrocho ran			
Hydrocho vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemna gibba	O		
Lemna minor			
Lemna minut	O		
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lychm flos			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nymph alba			
Oenan aqu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun			
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich	A		
Potentill ans			
Potentill rept			
Prunus spin			
Pulicaria dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammul			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag	O		
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur		R	
Scutell galea			
Solan dulca			R
Sonch asp			
Sparg emers			
Sparg erect			
Spiraea polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati			
Urtica dioica			
Veron catan			
Vicia cracca			
Wolff arrh			
Zannic palus			
Other spp.			
Veron hybrid			

Site		Ditch no	WB148
Grid Reference	TL48566193	Date	16/07/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A N	B S
Improved grassland		
Semi-improved grassland		
Unimproved grassland		
Arable	D	
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Garden	D	
Cattle/Horse grazed		
Railway line		
Hay/Slage		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A N	B S
Tall grass/Reed	D	D
Short grass		
Bare ground		
Tall herbs	F	F
Overhanging vegetation		
Scrub <1.5m		
Hedge row		
Woodland ground flora		
Shaded (%)	0	0

D	70-100%
A	30-70%
F	10-30%
O	3-10%
R	<3%

Ditch Features					
Water width (m)	1.5	1	2	3	4
Banktop width (m)	0	4.5	6.5	7.5	10
Freeboard (cm)	0	20	50	100	200
Water depth (cm)	40				
Silt depth (cm)	Deeep				
Conductivity (µS/cm)					
pH					
Turbidity	Clear				Opaque
Water colour	Clear				
Slope bank A	0	15	30	55	70
Slope bank B	0	15	30	55	70
Profile under water A	0	15	30	55	70
Profile under water B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	earth

Vegetation Cover	Abs	R	O	F	A	D
Open water surface	✓					
Floating Lemna/Azolla						✓
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulca	✓					
Other submerged plants	✓					
Submerged algae	✓					
Open substrate	✓					
Emergent				✓		
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud			✓			
Litter / detritus				✓		
Shaded	✓					
Emergents/floating mat in channel %	0					

Grazing/Veg Structure	Bank A N			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin	✓			
	Bank B S			
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin	✓			

Management				
Years since last cleared	1	2-3	4-10	>10
Water relative to normal	-10	cm (+ above normal, - below normal)		
Cleared to side	A	B		
Berched profile	A	B		
Cleared by	Land manager	IDB	EA	Not known

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelica sylv			
Agium nodif			
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.			
Callit brut			
Callit obtus			
Callit platy/stag			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos mon			
Dactyl glom			
Desch cesp			
Drepan sp.			
Eleocho pal			
Elodea can			
Elodea nutt			
Elytrig repen			
Enteromor			
Epilob hirsut			
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
fil algae			
Filipend ulm			R
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit ag.			
Glycer max			
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Agrost stol			
Hydrocho mor			
Hydrocho ran			
Hydrocho vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Callit agg.	O		
Lemna gibba			
Lemna minor			
Callit obtus	D		
Lemna minut			
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycoph europ			
Lychm flos			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myrioph spic			
Myrioph vert			
Nuphar lut			
Nymph alba			
Oenan aqu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun			
Phleum prat			
Phragm aust	F	F	
Picris echi			
Plant lanceo			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentill ans			
Potentill rept			
Prunus spin			
Pulicaria dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammul			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag			
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			R
Scutell galea			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect			
Spiraea polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati			
Urtica dioica			
Veron catan			
Vicia cracca			
Wolff arrh			
Zannic palus			
Other spp.			
Veron hybrid			

Site		Ditch no	WB277
Grid Reference	TL49705951	Date	01/07/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A N	B S
Improved grassland		
Semi-improved grassland		
Unimproved grassland		
Arable	D	
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Tall Herbs	D	
Cattle/Horse grazed		
Railway line		
Hay/Slage		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A N	B S
Tall grass/Reed		
Short grass		
Bare ground		
Tall herbs	D	D
Overhanging vegetation	A	A
Scrub <1.5m		
Hedge row		
Woodland ground flora		
Shaded (%)	0	0

D	70-100%
A	30-70%
F	10-30%
O	3-10%
R	<3%

Ditch Features					
Water width (m)	0.4	1	2	3	4
Banktop width (m)	0	5	6.5	7.5	10
Freeboard (cm)	0	20	50	150	200
Water depth (cm)			2		
Silt depth (cm)			1		
Conductivity (µS/cm)					
pH					
Turbidity	Clear				Opaque
Water colour			Clear		
Slope bank A	0	15	30	55	70
Slope bank B	0	15	30	55	70
Profile under water A	0	15	30	55	70
Profile under water B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	earth

Vegetation Cover	Abs	R	O	F	A	D
Open water surface						✓
Floating Lemna/Azolla	✓					
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulca	✓					
Other submerged plants	✓					
Submerged algae			✓			
Open substrate						✓
Emergent				✓		
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud				✓		
Litter / detritus		✓				
Shaded					✓	
Emergents/floating mat in channel %	0					

Grazing/Veg Structure	Bank A N			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin	✓			
	Bank B S			
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin	✓			

Management			
Years since last cleared	1	2-3	4-10 >10
Water relative to normal	0	cm (+ above normal, - below normal)	
Cleared to side	A	B	
Berched profile	A	B	
Cleared by	Land manager	IDB	EA Not known

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelic sylv			
Agium nodif	F		
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.			
Callit brut			
Callit obtus			
Callit platy/stag			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos mon			
Dactyl glom			
Desch cesp			
Drepan sp.			
Eleocho pal			
Elodea can			
Elodea nutt			
Elytrig repen			
Enteromor			
Epilob hirsut		O	
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
fil algae	O		
Filipend ulm			
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit ag.		R	
Glycer max			
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Agrost stol			
Hydrocho mor			
Hydrocho ran			
Hydrocho vul			
Hyperic tetra			
Iris pseudac	R		
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemna gibba			
Lemna minor			
Lemna minut			
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycoph europ			
Lychm flos			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nymph alba			
Oenan aqu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun			
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentill ans			
Potentill rept			
Prunus spin			
Pulicar dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammu			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag	O		
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutell galea			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect			
Spiraea polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati		R	
Urtica dioica			
Veron catan			
Vicia cracca			
Wolff arrh			
Zannic palus			
Other spp.			
Veron hybrid	R		

Site		Ditch no	WB043
Grid Reference	TL49705951	Date	01/07/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A E	B W
Improved grassland		D
Semi-improved grassland		
Unimproved grassland		
Arable	D	
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Garden		
Cattle/Horse grazed		
Railway line		
Hay/Slage		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A E	B W
Tall grass/Reed		A
Short grass		
Bare ground		
Tall herbs	A	A
Overhanging vegetation	F	F
Scrub <1.5m		
Hedge row	D	
Woodland ground flora		
Shaded (%)	30	30

D	70-100%
A	30-70%
F	10-30%
D	3-10%
R	<3%

Grazing/Veg Structure	Bank A E			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin	✓			
Bank B W				
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin	✓			

Management				
Years since last cleared	1	2-3	4-10	>10
Water relative to normal	0	cm (+ above normal, - below normal)		
Cleared to side	A	B		
Berched profile	A	B		
Cleared by	Land manager	IDB	EA	Not known

Ditch Features					
Water width (m)	0.4	1	2	3	4
Banktop width (m)	0	3	6.5	7.5	10
Freeboard (cm)	0	20	50	150	200
Water depth (cm)	1				
Silt depth (cm)	deep				
Conductivity (µS/cm)					
pH					
Turbidity	Clear				Opaque
Water colour	Clear				
Slope bank A	0	15	30	55	70
Slope bank B	0	15	30	55	70
Profile under water A	0	15	30	55	70
Profile under water B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	earth

Vegetation Cover	Abs	R	O	F	A	D
Open water surface			✓			
Floating Lemna/Azolla	✓					
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulca	✓					
Other submerged plants	✓					
Submerged algae	✓					
Open substrate			✓			
Emergent						✓
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud			✓			
Litter / detritus	✓					
Shaded				✓		
Emergents/floating mat in channel %	0					

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelica sylv			
Agium nodif	A	R	
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.			
Callit brut			
Callit obtus			
Callit platy/stag			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos mon			
Dactyl glom			
Desch cesp			
Drepan sp.			
Eleocho pal			
Elodea can			
Elodea nutt			
Elytrig repen			
Enteromor			
Epilob hirsut	F	F	
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
fil algae			
Filipend ulm	R	F	
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit			
Glycer max			
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Agrost stol			
Hydrocho mor			
Hydrocho ran			
Hydrocho vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemna gibba			
Lemna minor			
Lemna minut			
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycoph europ			
Lychm flos			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myrioph spic			
Myrioph vert			
Nuphar lut			
Nymph alba			
Oenan aqu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun			
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentill ans			
Potentill rept			
Prunus spin			
Pulicaria dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammul			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag			
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			R
Scutell galea			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect			
Spiraea polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati			
Urtica dioica			
Veron catan			
Vicia cracca			
Wolff arrh			
Zannic palus			
Other spp.			
Veron hybrid	F	R	

Site		Ditch no	WB186
Grid Reference	TL50845939	Date	30/06/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A E	B W
Improved grassland		D
Semi-improved grassland		
Unimproved grassland		
Arable		
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Garden	D	
Cattle/Horse grazed		
Railway line		
Hay/Silage		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A E	B W
Tall grass/Reed		D
Short grass		
Bare ground	R	
Tall herbs		D
Overhanging vegetation		O
Scrub <1.5m	D	
Fen		
Woodland ground flora	F	
Shaded (%)	100	0

D	70-100%
A	30-70%
F	10-30%
O	3-10%
R	<3%

Ditch Features					
Water width (m)	0	1	2	3	4
Banktop width (m)	0	2.5	6.5	7.5	10
Freeboard (cm)	0	20	50	150	200
Water depth (cm)	40				
Silt depth (cm)	UNKNOWN				
Conductivity (µS/cm)					
pH					
Turbidity	Clear		✓		Opaque
Water colour	Clear				
Slope bank A	0	15	30	55	70
Slope bank B	0	15	30	55	70
Profile under water A	0	15	30	55	70
Profile under water B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	earth

Vegetation Cover	Abs	R	O	F	A	D
Open water surface						✓
Floating Lemna/Azolla				✓		
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulca	✓					
Other submerged plants					✓	
Submerged algae	✓					
Open substrate					✓	
Emergent		✓				
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud	✓					
Litter/ detritus		✓				
Shaded	✓					
Emergents/floating mat in channel %	0					

Grazing/Veg Structure	Bnak A E			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Shelf formation	✓			
Tangledness	✓			
Grassy margin	✓			
	Bank B W			
Grazing	✓			
Poaching	✓			
Block formation	✓			
Shelf formation	✓			
Tangledness	✓			
Grassy margin		✓		

Management				
Years since last cleared	1	2-3	4-10	>10
Water relative to normal	0	cm (+ above normal, - below normal)		
Cleared to side	A	B		
Bermed profile	A	B		
Cleared by	Land manager	IDB	EA	Not known

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelic sylv			
Apium nodif			
Azolla filicu			
Benula erect	R		
Bolbos marit			
Bromus horid			
Butom umbel			
Callit agg.			
Callit brut			
Callit obtus	F		
Callit platy/stag			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos crist			
Dactyl glom			
Desch cesp			
Drepan sp.			
Eleoche pal			
Elodea can			
Elodea nutt			
Elytrig repen			
Enteromor			
Epilob hirsut			
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
fil algae			
Filipend ulm		R	
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit			
Glycer max			
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Hydroch mor			
Hydroco ran			
Hydroco vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Callit agg.	F		
Lemna gibba			
Lemna minor			
Lemna minut			
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lychin filis			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nymph alba			
Oenan aqu			
Oenan croc			
Oenan list			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun	R	F	
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentil ans			
Potentil rept			
Prunus spin			
Pulicar dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammu			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag			
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutell galer			
Solan dulca			
Sonch asp			
Sparg emers	A		
Sparg erect			
Spiro polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati			
Urtica dioica			
Veron caten			
Vicia cracca			
Wolff arnh			
Zannic palus			
Other spp.			
Veron sp.			

Site		Ditch no	WB100
Grid Reference	TL48776187	Date	24/06/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A E	B W
Improved grassland		
Semi-improved grassland		
Unimproved grassland		
Arable	D	D
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Tall herbs		
Cattle/Horse grazed		
Railway line		
Hay/Silage		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A E	B W
Tall grass/Reed	D	D
Short grass		
Bare ground		
Tall herbs	R	R
Overhanging vegetation		
Scrub <1.5m		
Fen		
Woodland ground flora		
Shaded (%)	0	0

D	70-100%
A	30-70%
F	10-30%
O	3-10%
R	<3%

Ditch Features					
Water width (m)	0	1	2	3	4
Banktop width (m)	0	2.5	5	7.5	10
Freeboard (cm)	0	20	50	150	200
Water depth (cm)	3				
Silt depth (cm)	10				
Conductivity (µS/cm)					
pH					
Turbidity	Clear	✓			Opaque
Water colour	Clear				
Slope bank A	0	15	30	55	70
Slope bank B	0	15	30	55	70
Profile under water A	0	15	30	55	70
Profile under water B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	earth

Vegetation Cover	Abs	R	O	F	A	D
Open water surface					✓	
Floating Lemna/Azolla					✓	
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulcas	✓					
Other submerged plants	✓					
Submerged algae			✓			
Open substrate				✓		
Emergent				✓		
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud		✓				
Litter/ detritus			✓			
Shaded	✓					
Emergents/floating mat in channel %	0					

Grazing/Veg Structure	Bnak A E			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Shelf formation	✓			
Tangledness	✓			
Grassy margin				✓
	Bank B W			
Grazing	✓			
Poaching	✓			
Block formation	✓			
Shelf formation	✓			
Tangledness	✓			
Grassy margin				✓

Management				
Years since last cleared	1	2-3	4-10	>10
Water relative to normal	0	cm (+ above normal, - below normal)		
Cleared to side	A	B		
Bermed profile	A	B		
Cleared by	Land manager	IDB	EA	Not known

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelic sylv			
Apium nodif			R
Azolla filicu			
Benula erect			
Bolbos marit			
Bromus horid			
Butom umbel			
Callit agg.			
Callit brut			
Callit obtus			
Callit platy/stag	O		
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos crist			
Dactyl glom			
Desch cesp			
Drepan sp.			
Eleoche pal			
Elodea can			
Elodea nutt			
Elytrig repen			
Enteromor			
Epilob hirsut		R	
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
fil algae	O		
Filipend ulm			
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit			
Glycer max			
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Agrost stol			
Hydrocho mor			
Hydrocho ran			
Hydrocho vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Callit agg.	O		
Lemna gibba			
Lemna minor			
Lemna minut	A		
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lychin filis			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nymph alba			
Oenan aqu			
Oenan croc			
Oenan list			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun			O
Phleum prat			
Phragm aust	F	F	
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentil ans			
Potentil rept			
Prunus spin			
Pulicaria dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammu			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag			
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutell galea			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect			
Spiro polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati			
Urtica dioica			
Veron caten			
Vicia cracca			
Wolff armh			
Zannic palus			
Other spp.			
Veron sp.			

Site		Ditch no	WB001
Grid Reference	TL48656185	Date	24/06/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A N	B S
Improved grassland		
Semi-improved grassland		
Unimproved grassland		
Arable	D	D
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Tall herbs		
Cattle/Horse grazed		
Railway line		
Hay/Sludge		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A N	B S
Tall grass/Reed	D	D
Short grass	A	
Bare ground		
Tall herbs	O	O
Overhanging vegetation		
Scrub <1.5m		
Fen		
Woodland ground flora		
Shaded (%)	0	0

D	70-100%
A	30-70%
F	10-30%
O	3-10%
R	<3%

Ditch Features					
Water width (m)	0	1.5	2	3	4
Banktop width (m)	0	2.5	4	7.5	10
Freeboard (cm)	0	20	50	100	200
Water depth (cm)	25				
Silt depth (cm)	Deep unknown				
Conductivity (µS/cm)					
pH					
Turbidity	Clear	✓			Opaque
Water colour	Clear				
Slope bank A	0	15	30	40	70
Slope bank B	0	15	30	40	70
Profile under water A	0	15	30	55	70
Profile under water B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	earth

Vegetation Cover	Abs	R	O	F	A	D
Open water surface	✓					
Floating Lemna/Azolla						✓
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulca			✓			
Other submerged plants	✓					
Submerged algae	✓					
Open substrate	✓					
Emergent			✓			
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud	✓					
Litter / detritus					✓	
Shaded	✓					
Emergents/floating mat in channel %	0					

Grazing/Veg Structure	Bank A N			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin				✓
	Bank B S			
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin				✓

Management			
Years since last cleared	1	2-3	4-10 >10
Water relative to normal	0	cm (+ above normal, - below normal)	
Cleared to side	A	B	
Berched profile	A	B	
Cleared by	Land manager	IDB	EA Not known

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelica sylv			
Agium nodif			
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.			
Callit brut			
Callit obtus			
Callit platy/stag			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar		O	
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos mon			
Dactyl glom			
Desch cesp			
Drepan sp.			
Eleocho pal			
Elodea can			
Elodea nutt		O	
Elytrig repen			
Enteromor			
Epilob hirsut		R	
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
fil algae			
Filipend ulm			
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit			
Glycer max		R	
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Agrost stol			
Hydrocho mor			
Hydrocho ran			
Hydrocho vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemna gibba	O		
Lemna minor			
Lemna minut	D		
Lemna trisul	O		
Leonto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lychm flos			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nymph alba			
Oenan aqu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun			
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentill ans			
Potentill rept			
Prunus spin			
Pulicaria dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammul			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag			
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutell galea			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect			
Spiraea polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati	O	R	
Urtica dioica			
Veron catan			
Vicia cracca			
Wolff arrh			
Zannic palus			R
Other spp.			
Veron sp.			

Site		Ditch no	WB319
Grid Reference	TL48456175	Date	24/06/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A N	B S
Improved grassland		
Semi-improved grassland		
Unimproved grassland		
Arable	D	D
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Tall herbs		
Cattle/Horse grazed		
Railway line		
Hay/Sludge		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A N	B S
Tall grass/Reed	D	D
Short grass		
Bare ground		
Tall herbs	F	O
Overhanging vegetation		
Scrub <1.5m		
Fen		
Woodland ground flora		
Shaded (%)	0	0

D	70-100%
A	30-70%
F	10-30%
O	3-10%
R	<3%

Ditch Features					
Water width (m)	0	1	2	3	4
Banktop width (m)	0	2.5	3	7.5	10
Freeboard (cm)	0	20	50	100	200
Water depth (cm)	2				
Silt depth (cm)	Unknown not reachable.				
Conductivity (µS/cm)					
pH					
Turbidity	Clear	✓			Opaque
Water colour	Clear				
Slope bank A	0	15	30	45	70
Slope bank B	0	15	30	45	70
Profile under water A	0	15	30	55	70
Profile under water B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	earth

Vegetation Cover	Abs	R	O	F	A	D
Open water surface				✓		
Floating Lemna/Azolla	✓					
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulca	✓					
Other submerged plants	✓					
Submerged algae	✓					
Open substrate			✓			
Emergent					✓	
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud	✓					
Litter / detritus						✓
Shaded	✓					
Emergents/floating mat in channel %	0					

Grazing/Veg Structure	Bank A N			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin			✓	
	Bank B S			
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin			✓	

Management			
Years since last cleared	1	2-3	4-10 >10
Water relative to normal	0	cm (+ above normal, - below normal)	
Cleared to side	A	B	
Berched profile	A	B	
Cleared by	Land manager	IDB	EA Not known

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			R
Alnus glutin			
Alopec genic			
Angelica sylv			
Apium nodif			R
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.			
Callit brut			
Callit obtus			
Callit platy/stag			R
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos mon			
Dactyl glom			
Desch cesp			
Drepan sp.			
Eleocho pal			
Elodea can			
Elodea nutt			
Elytrig repen			
Enteromor			
Epilob hirsut			
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
fil algae			
Filipend ulm			
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit			
Glycer max			
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Hydrocho mor			
Hydrocho ran			
Hydrocho vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemna gibba			R
Lemna minor			
Lemna minut			R
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycoph europ			
Lychm flos			
Lycium sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myrioph spic			
Myrioph vert			
Nuphar lut			
Nymph alba			
Oenan aqu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun			F
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentill ans			
Potentill rept			
Prunus spin			
Pulicaria dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammul			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag			
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutell galea			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect	A		R
Spiraea poly			
Stachys pal			
Symph offic		O	
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati			
Urtica dioica			
Veron catan			
Vicia cracca			
Wolff arrh			
Zanich palus			
Other spp.			
Veron sp.			

Site		Ditch no	WB244
Grid Reference	TL50566069	Date	24/06/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A N	B S
Improved grassland		
Semi-improved grassland		
Unimproved grassland		
Arable	D	D
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Tall herbs		
Cattle/Horse grazed		
Railway line		
Hay/Sludge		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A N	B S
Tall grass/Reed	D	D
Short grass		
Bare ground		
Tall herbs	R	R
Overhanging vegetation		
Scrub <1.5m		
Fen		
Woodland ground flora		
Shaded (%)	0	0

D	70-100%
A	30-70%
F	10-30%
O	3-10%
R	<3%

Grazing/Veg Structure	Bank A E			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin			✓	
	Bank B W			
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin			✓	

Management				
Years since last cleared	1	2-3	4-10	>10
Water relative to normal	0	cm (+ above normal, - below normal)		
Cleared to side	A	B		
Berched profile	A			
Cleared by	Land manager	IDB	EA	Not known

Ditch Features					
Water width (m)	0	1	2	3	4
Banktop width (m)	0	2.5	3	7.5	10
Freeboard (cm)	0	20	50	100	200
Water depth (cm)	2				
Silt depth (cm)	Unknown not reachable.				
Conductivity (µS/cm)					
pH					
Turbidity	Clear	✓			Opaque
Water colour	Clear				
Slope bank A	0	15	30	45	70
Slope bank B	0	15	30	45	70
Profile under water A	0	15	30	55	70
Profile under water B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	earth

Vegetation Cover	Abs	R	O	F	A	D
Open water surface		✓				
Floating Lemna/Azolla	✓					
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulcs	✓					
Other submerged plants	✓					
Submerged algae	✓					
Open substrate		✓				
Emergent						✓
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud	✓					
Litter / detritus			✓			
Shaded	✓					
Emergents/floating mat in channel %	0					

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelica sylv			
Agium nodif			
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.			
Callit brut			
Callit obtus			
Callit platy			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos mon			
Dactyl glom			
Desch cesp			
Drepan sp.			
Eleocho pal			
Elodea can			
Elodea nutt			
Elytrig repon			
Enteromor			
Epilob hirsut			
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
fil algae			
Filipend ulm			
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit			
Glycer max			
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Hydrocho mor			
Hydrocho ran			
Hydrocho vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemna gibba			
Lemna minor			
Lemna minut			
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lycich flos			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nymph alba			
Oenan aqu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun	D	O	
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentil ans			
Potentil rept			
Prunus spin			
Pulicar dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammu			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag			
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutell galer			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect			
Spiri polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati	F	R	
Urtica dioica			
Veron caten			
Vicia cracca			
Wolff arm			
Zinnic palus			
Other spp.			

Site		Ditch no	WB310
Grid Reference	TL50766081	Date	24/06/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A E	B W
Improved grassland	D	D
Semi-improved grassland		
Unimproved grassland		
Arable	A	A
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Tall herbs		
Cattle/Horse grazed		
Railway line		
Hay/Slag		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A N	B S
Tall grass/Reed	D	D
Short grass		
Bare ground		
Tall herbs	R	R
Overhanging vegetation		
Scrub <1.5m		
Fen		
Woodland ground flora		
Shaded (%)	0	0

D	70-100%
A	30-70%
F	10-30%
D	3-10%
R	<3%

Grazing/Veg Structure	Bank A E			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin		✓		
Bank B W				
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin		✓		

Management				
Years since last cleared	1	2-3	4-10	>10
Water relative to normal	0	cm (+ above normal, - below normal)		
Cleared to side	A	B		
Berched profile	A			
Cleared by	Land manager	IDB	EA	Not known

Ditch Features					
Water width (m)	0	1	2	3	4
Banktop width (m)	0	2.5	4	7.5	10
Freeboard (cm)	0	20	50	100	150
Water depth (cm)	10				
Silt depth (cm)	Deep				
Conductivity (µS/cm)					
pH					
Turbidity	Clear	✓			Opaque
Water colour	Clear				
Slope bank A	0	15	30	55	70
Slope bank B	0	15	30	55	70
Profile under water A	0	15	30	55	70
Profile under water B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	earth

Vegetation Cover	Abs	R	O	F	A	D
Open water surface						✓
Floating Lemna/Azolla	✓					
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulca	✓					
Other submerged plants	✓					
Submerged algae	✓					
Open substrate						✓
Emergent				✓		
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud	✓					
Litter / detritus		✓				
Shaded	✓					
Emergents/floating mat in channel %	0					

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelica sylv			
Agium nodif	R		
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.			
Callit brut			
Callit obtus			
Callit platy			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos mon			
Dactyl glom			
Desch cesp			
Drepan sp.			
Eleocho pal			
Elodea can			
Elodea nutt			
Elytrig repon			
Enteromor			
Epilob hirsut			
Epilob parvi			
Equiset arv	R		
Equiset fluv			
Eupator can			
Festuc rub			
fil algae			
Filipend ulm			
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit			
Glycer max			
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Agrost carin			
Hydrocho ran			
Hydrocho vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemna gibba			
Lemna minor			
Lemna minut			
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lycich flos			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nympha alba			
Oenan aqu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun	F	F	
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentil ans			
Potentil rept			
Prunus spin			
Pulicar dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammu			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag	R		
Rosa carin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix omer			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutell galer			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect	F	R	
Spiro polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati			
Urtica dioica			
Veron caten			
Vicia cracca			
Wolff arm			
Zinnia palus			
Other spp.			

Site		Ditch no	WB171 East
Grid Reference	TL48286182	Date	21/06/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A N	B S
Improved grassland		
Semi-improved grassland		
Unimproved grassland		
Arable	D	
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Tall herbs	A	D
Cattle/Horse grazed		
Railway line		
Hay/Slage		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A N	B S
Tall grass/Reed	D	D
Short grass		
Bare ground		
Tall herbs	F	F
Overhanging vegetation		
Scrub <1.5m		R
Fen		
Woodland ground flora		
Shaded (%)	0	10

D	70-100%
A	30-70%
F	10-30%
D	3-10%
R	<3%

Grazing/Veg Structure	Bank A N			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin			✓	
	Bank B S			
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation			✓	
Tangledness	✓			
Grassy margin			✓	

Management			
Years since last cleared	1	2-3	4-10 >10
Water relative to normal	0	cm (+ above normal, - below normal)	
Cleared to side	A	B	
Berched profile	A	B	
Cleared by	Land manager	IDB	EA Not known

Ditch Features					
Water width (m)	0	1	2	3	4
Banktop width (m)	0	2.5	5	7.5	10
Freeboard (cm)	0	20	50	100	200
Water depth (cm)	10				
Silt depth (cm)	1				
Conductivity (µS/cm)	7.93				
pH					
Turbidity	Clear	✓		Opaque	
Water colour	Clear				
Slope bank A	0	15	30	55	70
Slope bank B	0	15	30	55	70
Profile under water A	0	15	30	55	70
Profile underwater B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	gravel

Vegetation Cover	Abs	R	O	F	A	D
Open water surface						✓
Floating Lemna/Azolla		✓				
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulca	✓					
Other submerged plants	✓					
Submerged algae		✓				
Open substrate						✓
Emergent			✓			
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud		✓				
Litter/ detritus	✓					
Shaded				✓		
Emergents/floating mat in channel %	1					

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelica sylv			
Apium nodif	R		
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.			
Callit brut			
Callit obtus			
Callit platy			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar		F	
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos crist			
Dactyl glom			
Desch caesp			
Drepan sp.			
Eleoche pal			
Elodea can			
Elodea nutt	R		
Elytrig repen			
Enteromor			
Epilob hirsut			
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
fil algae	R		
Filipend ulm			
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit			
Glycer max			
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Hydrocot mor			
Hydrocot ran			
Hydrocot vul			
Hyperic tetra			
Iris pseudac		R	
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemna gibba			
Lemna minor			
Lemna minut			
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lycium flos			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nympha alba			
Oenan aqu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun		F	
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentil ans			
Potentil rept			
Prunus spin			
Pulicac dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammu			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag			
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutel paler			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect		R	R
Spiro polyt			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati			
Urtica dioica			
Veron caten			
Vicia cracca			
Wolff arrh			
Zannic palus			
Other spp.			
Veron sp.	R		

Site		Ditch no	WB171 East
Grid Reference	TL48326177	Date	21/06/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A N	B S
Improved grassland		
Semi-improved grassland		
Unimproved grassland		
Arable		
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Tall herbs	O	O
Cattle/Horse grazed		
Sheep grazed		
Hay/Silage		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A N	B S
Tall grass/Reed	D	D
Short grass		
Bare ground		O
Tall herbs	O	O
Overhanging vegetation		
Scrub <1.5m		F
Fen		
Woodland ground flora		
Shaded (%)	0	15

D	70-100%
A	30-70%
F	10-30%
O	3-10%
R	<3%

Grazing/Veg Structure	Bank A N			
	None	Low	Med	High
Grazing	✓			
Poaching		✓		
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin				✓
	Bank B S			
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin				✓

Management			
Years since last cleared	1	2-3	4-10 >10
Water relative to normal	0	cm (+ above normal, - below normal)	
Cleared to side	A	B	
Berched profile	A	B	
Cleared by	Land manager	IDB	EA Not known

Ditch Features					
Water width (m)	0	1	2	3	4
Banktop width (m)	0	2.5	5	7.5	10
Freeboard (cm)	0	20	50	100	200
Water depth (cm)	15				
Silt depth (cm)	5				
Conductivity (µS/cm)					
pH	6.92				
Turbidity	Clear	✓		Opaque	
Water colour	Clear				
Slope bank A	0	15	30	55	70
Slope bank B	0	15	30	55	70
Profile under water A	0	15	30	55	70
Profile underwater B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	gravel

Vegetation Cover	Abs	R	O	F	A	D
Open water surface						✓
Floating Lemna/Azolla	✓					
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulca	✓					
Other submerged plants		✓				
Submerged algae	✓					
Open substrate						✓
Emergent				✓		
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud	✓					
Litter/ detritus		✓				
Shaded			✓			
Emergents/floating mat in channel %	1					

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelica sylv			
Apium nodif			
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.	R		
Callit brut			
Callit obtus			
Callit platy			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos crist			
Dactyl glom			
Desch cesp			
Drepan sp.			
Eleoche pal			
Elodea can			
Elodea nutt			
Elytrig repen			
Enteromor			
Epilob hirsut			
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
Fil algae			
Filipend ulm			
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit			
Glycer max	F	O	
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Hydrocot mor			
Hydrocot ran			
Hydrocot vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemna gibba			
Lemna minor			
Lemna minut			
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lycoph flos			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nympha alba			
Oenan aqu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun	R	O	
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentil ans			
Potentil rept			
Prunus spin			
Pulicac dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammu			
Ran pelt			
Ran repens			
Ran sceler		R	
Rorip nas s.s			

	W	B	R
Rorip nas ag			
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutel paler			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect			
Spiro polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati			
Urtica dioica			
Veron caten		R	
Vicia cracca			
Wolff arrh			
Zannic palus			
Other spp.			
Veron bec		R	

Site		Ditch no	WB230
Grid Reference	TL48336185	Date	21/06/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A E	B W
Improved grassland	D	
Semi-improved grassland		
Unimproved grassland		
Arable		D
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Tall herbs	R	R
Cattle/Horse grazed		
Sheep Grazed		
Hay/Silage		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A E	B W
Tall grass/Reed	D	D
Short grass		
Bare ground		
Tall herbs	O	O
Overhanging vegetation		
Scrub <1.5m		
Fen		
Woodland ground flora		
Shaded (%)	0	0

D	70-100%
A	30-70%
F	10-30%
O	3-10%
R	<3%

Grazing/Veg Structure	Bank A E			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin				✓
	Bank B W			
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin				✓

Management			
Years since last cleared	1	2-3	4-10 >10
Water relative to normal	0	cm (+ above normal, - below normal)	
Cleared to side	A	B	
Berched profile	A	B	
Cleared by	Land manager	IDB	EA Not known

Ditch Features					
Water width (m)	0	1	2	3	4
Banktop width (m)	0	2.5	5	7.5	10
Freeboard (cm)	0	20	50	100	200
Water depth (cm)	10				
Silt depth (cm)	1				
Conductivity (µS/cm)					
pH	6.64				
Turbidity	Clear	✓		Opaque	
Water colour	Clear				
Slope bank A	0	15	30	55	70
Slope bank B	0	15	30	55	70
Profile under water A	0	15	30	55	70
Profile underwater B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	gravel

Vegetation Cover	Abs	R	O	F	A	D
Open water surface						✓
Floating Lemna/Azolla	✓					
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulca	✓					
Other submerged plants	✓					
Submerged algae		✓				
Open substrate						✓
Emergent					✓	
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud		✓				
Litter/ detritus	✓					
Shaded	✓					
Emergents/floating mat in channel %	2					

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelica sylv			
Apium nodif	R		
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.	R		
Callit brut			
Callit obtus			
Callit platy			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			O
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos crist			
Dactyl glom			
Desch caesp			
Drepan sp.			
Eleoche pal			
Elodea can			
Elodea nutt	R		
Elytrig repen			
Enteromor			
Epilob hirsut			
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
fil algae	O		
Filipend ulm			
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit			
Glycer max			O
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Hydrocot mor			
Hydrocot ran			
Hydrocot vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemna gibba			
Lemna minor			
Lemna minut			
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lycium flos			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nymph alba			
Oenan aqu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun	A	F	
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentil ans			
Potentil rept			
Prunus spin			
Pulicac dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammu			
Ran pelt			
Ran repens			
Ran sceler		R	
Rorip nas s.s			

	W	B	R
Rorip nas ag	F		
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutel paler			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect			O
Spiro polyt			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati			O
Urtica dioica			
Veron caten			
Vicia cracca			
Wolff arrh			
Zannic palus			
Other spp.			
Veron Hybrid	F		

Site		Ditch no	WB260
Grid Reference	TL48026161	Date	21/06/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A E	B W
Improved grassland		
Semi-improved grassland		
Unimproved grassland		
Arable		
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Tall herbs	D	D
Cattle/Horse grazed		
Railway line	A	
Hay/Slage		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A E	B W
Tall grass/Reed		
Short grass		
Bare ground		
Tall herbs	D	D
Overhanging vegetation		
Scrub <1.5m	O	
Fen		
Woodland ground flora		
Shaded (%)	0	0

D	70-100%
A	30-70%
F	10-30%
O	3-10%
R	<3%

Grazing/Veg Structure	Bank A E			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin	✓			
	Bank B W			
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin	✓			

Management			
Years since last cleared	1	2-3	4-10 >10
Water relative to normal	0	cm (+ above normal, - below normal)	
Cleared to side	A	B	
Berched profile	A	B	
Cleared by	Land manager	IDB	EA Not known

Ditch Features					
Water width (m)	0	1	2	3	4
Banktop width (m)	0	2.5	5	7.5	10
Freeboard (cm)	0	20	50	100	200
Water depth (cm)	30				
Silt depth (cm)	1				
Conductivity (µS/cm)					
pH					
Turbidity	Clear	✓		Opaque	
Water colour	Clear				
Slope bank A	0	15	30	55	70
Slope bank B	0	15	30	55	70
Profile under water A	0	15	30	55	70
Profile underwater B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	gravel

Vegetation Cover	Abs	R	O	F	A	D
Open water surface					✓	
Floating Lemna/Azolla	✓					
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulcis	✓					
Other submerged plants				✓		
Submerged algae	✓					
Open substrate			✓			
Emergent					✓	
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud	✓					
Litter/ detritus	✓					
Shaded				✓		
Emergents/floating mat in channel %	3					

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelica sylv			
Apium nodif	R		
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.	O		
Callit brut			
Callit obtus			
Callit platy			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos crist			
Dactyl glom			
Desch caesp			
Drepan sp.			
Eleoche pal			
Elodea can			
Elodea nutt	F		
Elytrig repen			
Enteromor			
Epilob hirsut			O
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
Fil algae			
Filipend ulm			
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit			
Glycer max			
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Hydrocot mor			
Hydrocot ran			
Hydrocot vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemna gibba			
Lemna minor			
Lemna minut			
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lycyn flos			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nympha alba			
Oenan aqu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun			
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentil ans			
Potentil rept			
Prunus spin			
Pulicac dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammu			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag			
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutel paler			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect			
Spiro polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati	R		
Urtica dioica			
Veron caten			
Vicia cracca			
Wolff arrh			
Zannic palus			
Other spp.	A		
Veron sp.	A		

Management					
Years since last cleared	1		2-3	4-10	>10
Water relative to normal	-20		cm (+ above normal, - below normal)		
Cleared to side	A	B			
Benched profile	A	B			
Cleared by	Land manager		IDB	EA	Not known

Vegetation Cover	Abs	R	O	F	A	D
Open water surface					✓	
Floating Lemna/Azolla		✓				
Other floating aquatics	✓					
Floating algae			✓			
<i>Lemna trisulcs</i>	✓					
Other submerged plants	✓					
Submerged algae					✓	
Open substrate		✓				
Emergent				✓		
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud	✓					
Litter/ detritus		✓				
Shaded			✓			
Emergents/ floating mat in channel %	0					

	W	B	R
Hottonia pal			
Hydrocho mor			
Hydrocho ran			
Hydrocho vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemma gibba	R		A
Lemma minor			
Lemma minut			
Lemma trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lychn flos			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nymph alba			
Oenan agu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun			
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentil ans			
Potentil rept			
Prunus spin			
Pulicar dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammu			
Ran pelt			
Ran repens			
Ran sceler	F	R	
Rorip nas s.s			

	W	B	R
Rorip nas ag			
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagit sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutel galer			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect			
Spiro polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati			
Urtica dioica			
Veron caten			
Vicia cracca			
Wolff arrh			
Zannic palus			
Other spp.			
Veron hybrid			

Site		Ditch no	WB001 West
Grid Reference	TL48526189	Date	16/07/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A N	B S
Improved grassland		
Semi-improved grassland		
Unimproved grassland		
Arable		D
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Scrub	D	
Cattle/Horse grazed		
Railway line		
Hay/Slage		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A N	B S
Tall grass/Reed		F
Short grass		
Bare ground		
Tall herbs		D
Overhanging vegetation		
Scrub <1.5m	D	
Hedge row		
Woodland ground flora		
Shaded (%)	40	0

D	70-100%
A	30-70%
F	10-30%
D	3-10%
R	<3%

Ditch Features					
Water width (m)	0.4	1.5	2	3	4
Banktop width (m)	0	4	6.5	7.5	10
Freeboard (cm)	0	20	50	100	200
Water depth (cm)	20				
Silt depth (cm)	Deep				
Conductivity (µS/cm)					
pH					
Turbidity	Clear				Opaque
Water colour	Clear				
Slope bank A	0	15	30	45	70
Slope bank B	0	15	30	45	70
Profile under water A	0	15	30	55	70
Profile under water B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	earth

Vegetation Cover	Abs	R	O	F	A	D
Open water surface						✓
Floating Lemna/Azolla			✓			
Other floating aquatics	✓					
Floating algae				✓		
Lemna trisulca	✓					
Other submerged plants						✓
Submerged algae				✓		
Open substrate			✓			
Emergent	✓					
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud		✓				
Litter / detritus			✓			
Shaded				✓		
Emergents/floating mat in channel %	0					

Grazing/Veg Structure	Bank A N			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin	✓			
Bank B S				
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin	✓			

Management			
Years since last cleared	1	2-3	4-10 >10
Water relative to normal	0	cm (+ above normal, - below normal)	
Cleared to side	A	B	
Berched profile	A	B	
Cleared by	Land manager	IDB	EA Not known

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelica sylv			
Apium nodif			O
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.	F		
Callit brut			
Callit obtus			
Callit platy/stag			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar		R	
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos mon			
Dactyl glom			
Desch cesp			
Drepan sp.			
Eleocho pal			
Elodea can			
Elodea nutt			
Elytrig repen			
Enteromor			
Epilob hirsut		O	
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
fil algae			
Filipend ulm			
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit ag			
Glycer max			
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Hydrocho mor			
Hydrocho ran			
Hydrocho vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemna gibba	O		
Lemna minor			
Lemna minut	O		
Lemna trisul			
Leonoto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lychm flos			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nymph alba			
Oenan aqu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun			
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich	A		
Potentill ans			
Potentill rept			
Prunus spin			
Pulicar dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammu			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag	O		
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur		R	
Scutell galea			
Solan dulca			R
Sonch asp			
Sparg emers			
Sparg erect			
Spiraea polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati			
Urtica dioica			
Veron catan			
Vicia cracca			
Wolff arrh			
Zannic palus			
Other spp.			
Veron hybrid			

Site		Ditch no	WB148
Grid Reference	TL48566193	Date	16/07/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A N	B S
Improved grassland		
Semi-improved grassland		
Unimproved grassland		
Arable		D
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Garden	D	
Cattle/Horse grazed		
Railway line		
Hay/Slage		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A N	B S
Tall grass/Reed	D	D
Short grass		
Bare ground		
Tall herbs	F	F
Overhanging vegetation		
Scrub <1.5m		
Hedge row		
Woodland ground flora		
Shaded (%)	0	0

D	70-100%
A	30-70%
F	10-30%
O	3-10%
R	<3%

Ditch Features					
Water width (m)	1.5	1	2	3	4
Banktop width (m)	0	4.5	6.5	7.5	10
Freeboard (cm)	0	20	50	100	200
Water depth (cm)	40				
Silt depth (cm)	Deeep				
Conductivity (µS/cm)					
pH					
Turbidity	Clear				Opaque
Water colour	Clear				
Slope bank A	0	15	30	55	70
Slope bank B	0	15	30	55	70
Profile under water A	0	15	30	55	70
Profile under water B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	earth

Vegetation Cover	Abs	R	O	F	A	D
Open water surface	✓					
Floating Lemna/Azolla						✓
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulca	✓					
Other submerged plants	✓					
Submerged algae	✓					
Open substrate	✓					
Emergent				✓		
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud			✓			
Litter / detritus				✓		
Shaded	✓					
Emergents/floating mat in channel %	0					

Grazing/Veg Structure	Bank A N			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin	✓			
Bank B S				
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin	✓			

Management				
Years since last cleared	1	2-3	4-10	>10
Water relative to normal	-10	cm (+ above normal, - below normal)		
Cleared to side	A	B		
Berched profile	A	B		
Cleared by	Land manager	IDB	EA	Not known

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelica sylv			
Agium nodif			
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.			
Callit brut			
Callit obtus			
Callit platy/stag			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos mon			
Dactyl glom			
Desch cesp			
Drepan sp.			
Eleocho pal			
Elodea can			
Elodea nutt			
Elytrig repen			
Enteromor			
Epilob hirsut			
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
fil algae			
Filipend ulm			R
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit ag.			
Glycer max			
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Hydrocho mor			
Hydrocho ran			
Hydrocho vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Callit agg.	O		
Lemna gibba			
Lemna minor			
Callit obtus	D		
Lemna minut			
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycoph europ			
Lychm flos			
Carex hirta			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myrioph spic			
Myrioph vert			
Nuphar lut			
Nymph alba			
Oenan aqu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun			
Phleum prat			
Phragm aust	F	F	
Picris echi			
Plant lanceo			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentill ans			
Potentill rept			
Prunus spin			
Pulicaria dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammul			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag			
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			R
Scutell galea			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect			
Spiraea polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati			
Urtica dioica			
Veron catan			
Vicia cracca			
Wolff arrh			
Zannic palus			
Other spp.			
Veron hybrid			

Site		Ditch no	WB277
Grid Reference	TL49705951	Date	01/07/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A N	B S
Improved grassland		
Semi-improved grassland		
Unimproved grassland		
Arable	D	
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Tall Herbs	D	
Cattle/Horse grazed		
Railway line		
Hay/Slage		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A N	B S
Tall grass/Reed		
Short grass		
Bare ground		
Tall herbs	D	D
Overhanging vegetation	A	A
Scrub <1.5m		
Hedge row		
Woodland ground flora		
Shaded (%)	0	0

D	70-100%
A	30-70%
F	10-30%
O	3-10%
R	<3%

Ditch Features					
Water width (m)	0.4	1	2	3	4
Banktop width (m)	0	5	6.5	7.5	10
Freeboard (cm)	0	20	50	150	200
Water depth (cm)			2		
Silt depth (cm)			1		
Conductivity (µS/cm)					
pH					
Turbidity	Clear				Opaque
Water colour			Clear		
Slope bank A	0	15	30	55	70
Slope bank B	0	15	30	55	70
Profile under water A	0	15	30	55	70
Profile under water B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	earth

Vegetation Cover	Abs	R	O	F	A	D
Open water surface						✓
Floating Lemna/Azolla	✓					
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulca	✓					
Other submerged plants	✓					
Submerged algae			✓			
Open substrate						✓
Emergent				✓		
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud				✓		
Litter / detritus		✓				
Shaded					✓	
Emergents/floating mat in channel %	0					

Grazing/Veg Structure	Bank A N			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin	✓			
	Bank B S			
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin	✓			

Management			
Years since last cleared	1	2-3	4-10 >10
Water relative to normal	0	cm (+ above normal, - below normal)	
Cleared to side	A	B	
Berched profile	A	B	
Cleared by	Land manager	IDB	EA Not known

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelic sylv			
Apium nodif	F		
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.			
Callit brut			
Callit obtus			
Callit platy/stag			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos mon			
Dactyl glom			
Desch cesp			
Drepan sp.			
Eleocho pal			
Elodea can			
Elodea nutt			
Elytrig repen			
Enteromor			
Epilob hirsut		O	
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
fil algae	O		
Filipend ulm			
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit ag.		R	
Glycer max			
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Agrost stol			
Hydrocho mor			
Hydrocho ran			
Hydrocho vul			
Hyperic tetra			
Iris pseudac	R		
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemna gibba			
Lemna minor			
Lemna minut			
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycoph europ			
Lychm flos			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nymph alba			
Oenan agu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun			
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentill ans			
Potentill rept			
Prunus spin			
Pulicaria dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammu			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag	O		
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutell galea			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect			
Spiraea polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati		R	
Urtica dioica			
Veron catan			
Vicia cracca			
Wolff arrh			
Zannic palus			
Other spp.			
Veron hybrid	R		

Site		Ditch no	WB043
Grid Reference	TL49705951	Date	01/07/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A E	B W
Improved grassland		D
Semi-improved grassland		
Unimproved grassland		
Arable	D	
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Garden		
Cattle/Horse grazed		
Railway line		
Hay/Slage		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A E	B W
Tall grass/Reed		A
Short grass		
Bare ground		
Tall herbs	A	A
Overhanging vegetation	F	F
Scrub <1.5m		
Hedge row	D	
Woodland ground flora		
Shaded (%)	30	30

D	70-100%
A	30-70%
F	10-30%
D	3-10%
R	<3%

Ditch Features					
Water width (m)	0.4	1	2	3	4
Banktop width (m)	0	3	6.5	7.5	10
Freeboard (cm)	0	20	50	150	200
Water depth (cm)	1				
Silt depth (cm)	deep				
Conductivity (µS/cm)					
pH					
Turbidity	Clear				Opaque
Water colour	Clear				
Slope bank A	0	15	30	55	70
Slope bank B	0	15	30	55	70
Profile under water A	0	15	30	55	70
Profile under water B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	earth

Vegetation Cover	Abs	R	O	F	A	D
Open water surface			✓			
Floating Lemna/Azolla	✓					
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulca	✓					
Other submerged plants	✓					
Submerged algae	✓					
Open substrate			✓			
Emergent						✓
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud			✓			
Litter / detritus	✓					
Shaded				✓		
Emergents/floating mat in channel %	0					

Grazing/Veg Structure	Bank A E			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin	✓			
Bank B W				
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin		✓		

Management	1	2-3	4-10	>10
Years since last cleared	1	2-3	4-10	>10
Water relative to normal	0	cm (+ above normal, - below normal)		
Cleared to side	A	B		
Berched profile	A	B		
Cleared by	Land manager	IDB	EA	Not known

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelica sylv			
Apium nodif	A	R	
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.			
Callit brut			
Callit obtus			
Callit platy/stag			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos mon			
Dactyl glom			
Desch cesp			
Drepan sp.			
Eleocho pal			
Elodea can			
Elodea nutt			
Elytrig repen			
Enteromor			
Epilob hirsut	F	F	
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
fil algae			
Filipend ulm	R	F	
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit			
Glycer max			
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Agrost stol			
Hydrocho mor			
Hydrocho ran			
Hydrocho vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemna gibba			
Lemna minor			
Lemna minut			
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lychm flos			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nymph alba			
Oenan aqu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun			
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentill ans			
Potentill rept			
Prunus spin			
Pulicaria dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammul			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag			
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			R
Scutell galea			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect			
Spiraea polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati			
Urtica dioica			
Veron catan			
Vicia cracca			
Wolff arrh			
Zannic palus			
Other spp.			
Veron hybrid	F	R	

Site		Ditch no	WB186
Grid Reference	TL50845939	Date	30/06/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A E	B W
Improved grassland		D
Semi-improved grassland		
Unimproved grassland		
Arable		
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Garden	D	
Cattle/Horse grazed		
Railway line		
Hay/Silage		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A E	B W
Tall grass/Reed		D
Short grass		
Bare ground	R	
Tall herbs		D
Overhanging vegetation		O
Scrub <1.5m	D	
Fen		
Woodland ground flora	F	
Shaded (%)	100	0

D	70-100%
A	30-70%
F	10-30%
O	3-10%
R	<3%

Ditch Features					
Water width (m)	0	1	2	3	4
Banktop width (m)	0	2.5	6.5	7.5	10
Freeboard (cm)	0	20	50	150	200
Water depth (cm)	40				
Silt depth (cm)	UNKNOWN				
Conductivity (µS/cm)					
pH					
Turbidity	Clear		✓		Opaque
Water colour	Clear				
Slope bank A	0	15	30	55	70
Slope bank B	0	15	30	55	70
Profile under water A	0	15	30	55	70
Profile under water B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	earth

Vegetation Cover	Abs	R	O	F	A	D
Open water surface						✓
Floating Lemna/Azolla				✓		
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulca	✓					
Other submerged plants					✓	
Submerged algae	✓					
Open substrate					✓	
Emergent		✓				
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud	✓					
Litter/ detritus		✓				
Shaded	✓					
Emergents/floating mat in channel %	0					

Grazing/Veg Structure	Bnak A E			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Shelf formation	✓			
Tangledness	✓			
Grassy margin	✓			
	Bank B W			
Grazing	✓			
Poaching	✓			
Block formation	✓			
Shelf formation	✓			
Tangledness	✓			
Grassy margin		✓		

Management				
Years since last cleared	1	2-3	4-10	>10
Water relative to normal	0	cm (+ above normal, - below normal)		
Cleared to side	A	B		
Bermed profile	A	B		
Cleared by	Land manager	IDB	EA	Not known

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelic sylv			
Apium nodif			
Azolla filicu			
Berula erect	R		
Bolbos marit			
Bromus horid			
Butom umbel			
Callit agg.			
Callit brut			
Callit obtus	F		
Callit platy/stag			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos crist			
Dactyl glom			
Desch cesp			
Drepan sp.			
Eleoche pal			
Elodea can			
Elodea nutt			
Elytrig repen			
Enteromor			
Epilob hirsut			
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
fil algae			
Filipend ulm		R	
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit			
Glycer max			
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Hydrocho mor			
Hydrocho ran			
Hydrocho vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Callit agg.	F		
Lemna gibba			
Lemna minor			
Lemna minut			
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lychin filis			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nymph alba			
Oenan aqu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun	R	F	
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentil ans			
Potentil rept			
Prunus spin			
Pulicar dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammu			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag			
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutell galer			
Solan dulca			
Sonch asp			
Sparg emers	A		
Sparg erect			
Spiro polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati			
Urtica dioica			
Veron caten			
Vicia cracca			
Wolff arnh			
Zannic palus			
Other spp.			
Veron sp.			

Site		Ditch no	WB100
Grid Reference	TL48776187	Date	24/06/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A E	B W
Improved grassland		
Semi-improved grassland		
Unimproved grassland		
Arable	D	D
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Tall herbs		
Cattle/Horse grazed		
Railway line		
Hay/Silage		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A E	B W
Tall grass/Reed	D	D
Short grass		
Bare ground		
Tall herbs	R	R
Overhanging vegetation		
Scrub <1.5m		
Fen		
Woodland ground flora		
Shaded (%)	0	0

D	70-100%
A	30-70%
F	10-30%
O	3-10%
R	<3%

Ditch Features					
Water width (m)	0	1	2	3	4
Banktop width (m)	0	2.5	5	7.5	10
Freeboard (cm)	0	20	50	150	200
Water depth (cm)			3		
Silt depth (cm)			10		
Conductivity (µS/cm)					
pH					
Turbidity	Clear	✓			Opaque
Water colour			Clear		
Slope bank A	0	15	30	55	70
Slope bank B	0	15	30	55	70
Profile under water A	0	15	30	55	70
Profile under water B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	earth

Vegetation Cover	Abs	R	O	F	A	D
Open water surface					✓	
Floating Lemna/Azolla					✓	
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulcas	✓					
Other submerged plants	✓					
Submerged algae			✓			
Open substrate				✓		
Emergent				✓		
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud		✓				
Litter/ detritus			✓			
Shaded	✓					
Emergents/floating mat in channel %	0					

Grazing/Veg Structure	Bnak A E			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Shelf formation	✓			
Tangledness	✓			
Grassy margin				✓
	Bank B W			
Grazing	✓			
Poaching	✓			
Block formation	✓			
Shelf formation	✓			
Tangledness	✓			
Grassy margin				✓

Management				
Years since last cleared	1	2-3	4-10	>10
Water relative to normal	0	cm (+ above normal, - below normal)		
Cleared to side	A	B		
Bermed profile	A	B		
Cleared by	Land manager	IDB	EA	Not known

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelic sylv			
Apium nodif			R
Azolla filicu			
Benula erect			
Bolbos marit			
Bromus horid			
Butom umbel			
Callit agg.			
Callit brut			
Callit obtus			
Callit platy/stag	O		
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos crist			
Dactyl glom			
Desch cesp			
Drepan sp.			
Eleoche pal			
Elodea can			
Elodea nutt			
Elytrig repen			
Enteromor			
Epilob hirsut		R	
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
fil algae	O		
Filipend ulm			
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit			
Glycer max			
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Agrost stol			
Hydrocho mor			
Hydrocho ran			
Hydrocho vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Callit agg.	O		
Lemna gibba			
Lemna minor			
Lemna minut	A		
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lychin filis			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nymph alba			
Oenan aqu			
Oenan croc			
Oenan list			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun			O
Phleum prat			
Phragm aust	F	F	
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentil ans			
Potentil rept			
Prunus spin			
Pulicar dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammu			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag			
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutell galea			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect			
Spiro polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati			
Urtica dioica			
Veron caten			
Vicia cracca			
Wolff arnh			
Zannic palus			
Other spp.			
Veron sp.			

Site		Ditch no	WB001
Grid Reference	TL48656185	Date	24/06/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A N	B S
Improved grassland		
Semi-improved grassland		
Unimproved grassland		
Arable	D	D
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Tall herbs		
Cattle/Horse grazed		
Railway line		
Hay/Sludge		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A N	B S
Tall grass/Reed	D	D
Short grass	A	
Bare ground		
Tall herbs	O	O
Overhanging vegetation		
Scrub <1.5m		
Fen		
Woodland ground flora		
Shaded (%)	0	0

D	70-100%
A	30-70%
F	10-30%
O	3-10%
R	<3%

Ditch Features					
Water width (m)	0	1.5	2	3	4
Banktop width (m)	0	2.5	4	7.5	10
Freeboard (cm)	0	20	50	100	200
Water depth (cm)	25				
Silt depth (cm)	Deep unknown				
Conductivity (µS/cm)					
pH					
Turbidity	Clear	✓			Opaque
Water colour	Clear				
Slope bank A	0	15	30	40	70
Slope bank B	0	15	30	40	70
Profile under water A	0	15	30	55	70
Profile under water B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	earth

Vegetation Cover	Abs	R	O	F	A	D
Open water surface	✓					
Floating Lemna/Azolla						✓
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulca			✓			
Other submerged plants	✓					
Submerged algae	✓					
Open substrate	✓					
Emergent			✓			
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud	✓					
Litter / detritus					✓	
Shaded	✓					
Emergents/floating mat in channel %	0					

Grazing/Veg Structure	Bank A N			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin				✓
	Bank B S			
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin				✓

Management			
Years since last cleared	1	2-3	4-10 >10
Water relative to normal	0	cm (+ above normal, - below normal)	
Cleared to side	A	B	
Berched profile	A	B	
Cleared by	Land manager	IDB	EA Not known

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelica sylv			
Agium nodif			
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.			
Callit brut			
Callit obtus			
Callit platy/stag			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar		O	
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos mon			
Dactyl glom			
Desch cesp			
Drepan sp.			
Eleocho pal			
Elodea can			
Elodea nutt		O	
Elytrig repen			
Enteromor			
Epilob hirsut		R	
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
fil algae			
Filipend ulm			
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit			
Glycer max		R	
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Agrost stol			
Hydrocho mor			
Hydrocho ran			
Hydrocho vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemna gibba	O		
Lemna minor			
Lemna minut	D		
Lemna trisul	O		
Leonto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lychm flos			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nymph alba			
Oenan aqu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun			
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentill ans			
Potentill rept			
Prunus spin			
Pulicaria dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammul			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag			
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutell galea			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect			
Spiraea polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati	O	R	
Urtica dioica			
Veron catan			
Vicia cracca			
Wolff arrh			
Zannic palus			R
Other spp.			
Veron sp.			

Site		Ditch no	WB319
Grid Reference	TL48456175	Date	24/06/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A N	B S
Improved grassland		
Semi-improved grassland		
Unimproved grassland		
Arable	D	D
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Tall herbs		
Cattle/Horse grazed		
Railway line		
Hay/Sludge		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A N	B S
Tall grass/Reed	D	D
Short grass		
Bare ground		
Tall herbs	F	O
Overhanging vegetation		
Scrub <1.5m		
Fen		
Woodland ground flora		
Shaded (%)	0	0

D	70-100%
A	30-70%
F	10-30%
O	3-10%
R	<3%

Ditch Features					
Water width (m)	0	1	2	3	4
Banktop width (m)	0	2.5	3	7.5	10
Freeboard (cm)	0	20	50	100	200
Water depth (cm)	2				
Silt depth (cm)	Unknown not reachable.				
Conductivity (µS/cm)					
pH					
Turbidity	Clear	✓			Opaque
Water colour	Clear				
Slope bank A	0	15	30	45	70
Slope bank B	0	15	30	45	70
Profile under water A	0	15	30	55	70
Profile under water B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	earth

Vegetation Cover	Abs	R	O	F	A	D
Open water surface				✓		
Floating Lemna/Azolla	✓					
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulca	✓					
Other submerged plants	✓					
Submerged algae	✓					
Open substrate			✓			
Emergent					✓	
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud	✓					
Litter / detritus						✓
Shaded	✓					
Emergents/floating mat in channel %	0					

Grazing/Veg Structure	Bank A N			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin			✓	
	Bank B S			
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin			✓	

Management			
Years since last cleared	1	2-3	4-10 >10
Water relative to normal	0	cm (+ above normal, - below normal)	
Cleared to side	A	B	
Berched profile	A	B	
Cleared by	Land manager	IDB	EA Not known

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			R
Alnus glutin			
Alopec genic			
Angelica sylv			
Agium nodif			R
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.			
Callit brut			
Callit obtus			
Callit platy/stag			R
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos mon			
Dactyl glom			
Desch cesp			
Drepan sp.			
Eleocho pal			
Elodea can			
Elodea nutt			
Elytrig repen			
Enteromor			
Epilob hirsut			
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
fil algae			
Filipend ulm			
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit			
Glycer max			
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Hydrocho mor			
Hydrocho ran			
Hydrocho vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemna gibba			R
Lemna minor			
Lemna minut			R
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycoph europ			
Lychm flos			
Lycium sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myrioph spic			
Myrioph vert			
Nuphar lut			
Nymph alba			
Oenan aqu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun			F
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentill ans			
Potentill rept			
Prunus spin			
Pulicaria dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammul			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag			
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutell galea			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect	A		R
Spiraea polyr			
Stachys pal			
Symph offic		O	
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati			
Urtica dioica			
Veron catan			
Vicia cracca			
Wolff arrh			
Zannic palus			
Other spp.			
Veron sp.			

Site		Ditch no	WB244
Grid Reference	TL50566069	Date	24/06/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A N	B S
Improved grassland		
Semi-improved grassland		
Unimproved grassland		
Arable	D	D
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Tall herbs		
Cattle/Horse grazed		
Railway line		
Hay/Slag		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A N	B S
Tall grass/Reed	D	D
Short grass		
Bare ground		
Tall herbs	R	R
Overhanging vegetation		
Scrub <1.5m		
Fen		
Woodland ground flora		
Shaded (%)	0	0

D	70-100%
A	30-70%
F	10-30%
O	3-10%
R	<3%

Grazing/Veg Structure	Bank A E			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin			✓	
	Bank B W			
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin			✓	

Management				
Years since last cleared	1	2-3	4-10	>10
Water relative to normal	0	cm (+ above normal, - below normal)		
Cleared to side	A	B		
Berched profile	A			
Cleared by	Land manager	IDB	EA	Not known

Ditch Features					
Water width (m)	0	1	2	3	4
Banktop width (m)	0	2.5	3	7.5	10
Freeboard (cm)	0	20	50	100	200
Water depth (cm)	2				
Silt depth (cm)	Unknown not reachable.				
Conductivity (µS/cm)					
pH					
Turbidity	Clear	✓			Opaque
Water colour	Clear				
Slope bank A	0	15	30	45	70
Slope bank B	0	15	30	45	70
Profile under water A	0	15	30	55	70
Profile under water B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	earth

Vegetation Cover	Abs	R	O	F	A	D
Open water surface		✓				
Floating Lemna/Azolla	✓					
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulcs	✓					
Other submerged plants	✓					
Submerged algae	✓					
Open substrate		✓				
Emergent						✓
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud	✓					
Litter / detritus			✓			
Shaded	✓					
Emergents/floating mat in channel %	0					

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelica sylv			
Agium nodif			
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.			
Callit brut			
Callit obtus			
Callit platy			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos mon			
Dactyl glom			
Desch cesp			
Drepan sp.			
Eleocho pal			
Elodea can			
Elodea nutt			
Elytrig repon			
Enteromor			
Epilob hirsut			
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
fil algae			
Filipend ulm			
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit			
Glycer max			
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Hydrocho mor			
Hydrocho ran			
Hydrocho vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemna gibba			
Lemna minor			
Lemna minut			
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lychin flos			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nymph alba			
Oenan agu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun	D	O	
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentil ans			
Potentil rept			
Prunus spin			
Pulicar dyse			
Ran acris			
Ran agu			
Ran agu agg			
Ran circ			
Ran flammu			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag			
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutell galer			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect			
Spiro polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati	F	R	
Urtica dioica			
Veron caten			
Vicia cracca			
Wolff arm			
Zinnia palus			
Other spp.			

Site		Ditch no	WB310
Grid Reference	TL50766081	Date	24/06/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A E	B W
Improved grassland	D	D
Semi-improved grassland		
Unimproved grassland		
Arable	A	A
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Tall herbs		
Cattle/Horse grazed		
Railway line		
Hay/Sludge		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A N	B S
Tall grass/Reed	D	D
Short grass		
Bare ground		
Tall herbs	R	R
Overhanging vegetation		
Scrub <1.5m		
Fen		
Woodland ground flora		
Shaded (%)	0	0

D	70-100%
A	30-70%
F	10-30%
D	3-10%
R	<3%

Grazing/Veg Structure	Bank A E			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin		✓		
Bank B W				
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin		✓		

Management				
Years since last cleared	1	2-3	4-10	>10
Water relative to normal	0	cm (+ above normal, - below normal)		
Cleared to side	A	B		
Berched profile	A			
Cleared by	Land manager	IDB	EA	Not known

Ditch Features					
Water width (m)	0	1	2	3	4
Banktop width (m)	0	2.5	4	7.5	10
Freeboard (cm)	0	20	50	100	150
Water depth (cm)	10				
Silt depth (cm)	Deep				
Conductivity (µS/cm)					
pH					
Turbidity	Clear	✓			Opaque
Water colour	Clear				
Slope bank A	0	15	30	55	70
Slope bank B	0	15	30	55	70
Profile under water A	0	15	30	55	70
Profile under water B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	earth

Vegetation Cover	Abs	R	O	F	A	D
Open water surface						✓
Floating Lemna/Azolla	✓					
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulca	✓					
Other submerged plants	✓					
Submerged algae	✓					
Open substrate						✓
Emergent				✓		
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud	✓					
Litter / detritus		✓				
Shaded	✓					
Emergents/floating mat in channel %	0					

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelica sylv			
Agium nodif	R		
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.			
Callit brut			
Callit obtus			
Callit platy			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos mon			
Dactyl glom			
Desch cesp			
Drepan sp.			
Eleocho pal			
Elodea can			
Elodea nutt			
Elytrig repon			
Enteromor			
Epilob hirsut			
Epilob parvi			
Equiset arv	R		
Equiset fluv			
Eupator can			
Festuc rub			
fil algae			
Filipend ulm			
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit			
Glycer max			
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Agrost canin			
Hydrocho ran			
Hydrocho vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemna gibba			
Lemna minor			
Lemna minut			
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lychn flos			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nympha alba			
Oenan aqu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun	F	F	
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentil ans			
Potentil rept			
Prunus spin			
Pulicar dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammu			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag	R		
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutell galer			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect	F	R	
Spiro polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati			
Urtica dioica			
Veron caten			
Vicia cracca			
Wolff arm			
Zinnia palus			
Other spp.			

Management					
Years since last cleared	1		2-3	4-10	>10
Water relative to normal	0		cm (+ above normal, - below normal)		
Cleared to side	A	B			
Benched profile	A	B			
Cleared by	Land manager		IDB	EA	Not known

Vegetation Cover	Abs	R	O	F	A	D
Open water surface						✓
Floating Lemna/Azolla		✓				
Other floating aquatics	✓					
Floating algae	✓					
<i>Lemna trisulcs</i>	✓					
Other submerged plants	✓					
Submerged algae		✓				
Open substrate						✓
Emergent			✓			
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud		✓				
Litter/ detritus	✓					
Shaded				✓		
Emergents/floating mat in channel %	1					

	W	B	R
Hottonia pal			
Hydrocho mor			
Hydrocho ran			
Hydrocho vul			
Hyperic tetra			
Iris pseudac		R	
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemma gibba			
Lemma minor			
Lemma minut			
Lemma trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lycn n flos			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot lava			
Myosot scor			
Myrtop spic			
Myrtop vert			
Nuphar lut			
Nymph alba			
Oenan agu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun		F	
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentil ans			
Potentil rept			
Prunus spin			
Pulicar dyse			
Ran acris			
Ran agu			
Ran agu agg			
Ran circ			
Ran flammu			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s s			

	W	B	R
Acoris nas ag			
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutel galer			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect	R	R	
Spiro polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati			
Urtica dioica			
Veron caten			
Vicia cracca			
Wolff arrh			
Zannic palus			
Other spp.			
Veron sp.	R		

Site		Ditch no	WB171 East
Grid Reference	TL48326177	Date	21/06/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A N	B S
Improved grassland		
Semi-improved grassland		
Unimproved grassland		
Arable		
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Tall herbs	O	O
Cattle/Horse grazed		
Sheep grazed		
Hay/Silage		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A N	B S
Tall grass/Reed	D	D
Short grass		
Bare ground		O
Tall herbs	O	O
Overhanging vegetation		
Scrub <1.5m		F
Fen		
Woodland ground flora		
Shaded (%)	0	15

D	70-100%
A	30-70%
F	10-30%
O	3-10%
R	<3%

Grazing/Veg Structure	Bank A N			
	None	Low	Med	High
Grazing	✓			
Poaching		✓		
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin				✓
	Bank B S			
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin				✓

Management				
Years since last cleared	1	2-3	4-10	>10
Water relative to normal	0	cm (+ above normal, - below normal)		
Cleared to side	A	B		
Berched profile	A	B		
Cleared by	Land manager	IDB	EA	Not known

Ditch Features					
Water width (m)	0	1	2	3	4
Banktop width (m)	0	2.5	5	7.5	10
Freeboard (cm)	0	20	50	100	200
Water depth (cm)	15				
Silt depth (cm)	5				
Conductivity (µS/cm)					
pH	6.92				
Turbidity	Clear	✓		Opaque	
Water colour	Clear				
Slope bank A	0	15	30	55	70
Slope bank B	0	15	30	55	70
Profile under water A	0	15	30	55	70
Profile under water B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	gravel

Vegetation Cover	Abs	R	O	F	A	D
Open water surface						✓
Floating Lemna/Azolla	✓					
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulca	✓					
Other submerged plants		✓				
Submerged algae	✓					
Open substrate						✓
Emergent				✓		
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud	✓					
Litter/ detritus		✓				
Shaded			✓			
Emergents/floating mat in channel %	1					

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelica sylv			
Apium nodif			
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.	R		
Callit brut			
Callit obtus			
Callit platy			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos crist			
Dactyl glom			
Desch caesp			
Drepan sp.			
Eleoche pal			
Elodea can			
Elodea nutt			
Elytrig repen			
Enteromor			
Epilob hirsut			
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
Fil pend ulm			
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit			
Glycer max	F	O	
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Hydrocot mor			
Hydrocot ran			
Hydrocot vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemna gibba			
Lemna minor			
Lemna minut			
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lycyn flos			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nympha alba			
Oenan aqu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun	R	O	
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentil ans			
Potentil rept			
Prunus spin			
Pulicac dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammu			
Ran pelt			
Ran repens			
Ran sceler		R	
Rorip nas s.s			

	W	B	R
Rorip nas ag			
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutel paler			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect			
Spiro polyt			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati			
Urtica dioica			
Veron caten		R	
Vicia cracca			
Wolff arrh			
Zannic palus			
Other spp.			
Veron bec		R	

Site		Ditch no	WB230
Grid Reference	TL48336185	Date	21/06/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A E	B W
Improved grassland	D	
Semi-improved grassland		
Unimproved grassland		
Arable		D
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Tall herbs	R	R
Cattle/Horse grazed		
Sheep Grazed		
Hay/Silage		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A E	B W
Tall grass/Reed	D	D
Short grass		
Bare ground		
Tall herbs	O	O
Overhanging vegetation		
Scrub <1.5m		
Fen		
Woodland ground flora		
Shaded (%)	0	0

D	70-100%
A	30-70%
F	10-30%
O	3-10%
R	<3%

Grazing/Veg Structure	Bank A E			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin				✓
	Bank B W			
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin				✓

Management				
Years since last cleared	1	2-3	4-10	>10
Water relative to normal	0	cm (+ above normal, - below normal)		
Cleared to side	A	B		
Berched profile	A	B		
Cleared by	Land manager	IDB	EA	Not known

Ditch Features					
Water width (m)	0	1	2	3	4
Banktop width (m)	0	2.5	5	7.5	10
Freeboard (cm)	0	20	50	100	200
Water depth (cm)	10				
Silt depth (cm)	1				
Conductivity (µS/cm)					
pH	6.64				
Turbidity	Clear	✓		Opaque	
Water colour	Clear				
Slope bank A	0	15	30	55	70
Slope bank B	0	15	30	55	70
Profile under water A	0	15	30	55	70
Profile underwater B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	gravel

Vegetation Cover	Abs	R	O	F	A	D
Open water surface						✓
Floating Lemna/Azolla	✓					
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulca	✓					
Other submerged plants	✓					
Submerged algae		✓				
Open substrate						✓
Emergent					✓	
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud		✓				
Litter/ detritus	✓					
Shaded	✓					
Emergents/floating mat in channel %	2					

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelica sylv			
Apium nodif	R		
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.	R		
Callit brut			
Callit obtus			
Callit platy			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			O
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos crist			
Dactyl glom			
Desch caesp			
Drepan sp.			
Eleoche pal			
Elodea can			
Elodea nutt	R		
Elytrig repen			
Enteromor			
Epilob hirsut			
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
Fil algae	O		
Filipend ulm			
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit			
Glycer max			O
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Hydrocot mor			
Hydrocot ran			
Hydrocot vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemna gibba			
Lemna minor			
Lemna minut			
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lycium flos			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nymph alba			
Oenan aqu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun	A	F	
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentil ans			
Potentil rept			
Prunus spin			
Pulicac dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammu			
Ran pelt			
Ran repens			
Ran sceler		R	
Rorip nas s.s			

	W	B	R
Rorip nas ag	F		
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutel paler			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect			O
Spiro polyt			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati			O
Urtica dioica			
Veron caten			
Vicia cracca			
Wolff arrh			
Zannic palus			
Other spp.			
Veron Hybrid	F		

Site		Ditch no	WB260
Grid Reference	TL48026161	Date	21/06/2021
Recorder	Brishan Finn Leeming and Nathan Hall	Photo	

Adjacent Land Use	A E	B W
Improved grassland		
Semi-improved grassland		
Unimproved grassland		
Arable		
Swamp or Fen		
Drove		
Embankment		
Woodland		
Other Tall herbs	D	D
Cattle/Horse grazed		
Railway line	A	
Hay/Slage		
Stockproof boundary		
Temporary fencing		
Spoil or bank		

Bank Vegetation	A E	B W
Tall grass/Reed		
Short grass		
Bare ground		
Tall herbs	D	D
Overhanging vegetation		
Scrub <1.5m	O	
Fen		
Woodland ground flora		
Shaded (%)	0	0

D	70-100%
A	30-70%
F	10-30%
O	3-10%
R	<3%

Grazing/Veg Structure	Bank A E			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin	✓			
	Bank B W			
Grazing	✓			
Poaching	✓			
Block formation	✓			
Sheff formation	✓			
Tangledness	✓			
Grassy margin	✓			

Management			
Years since last cleared	1	2-3	4-10 >10
Water relative to normal	0	cm (+ above normal, - below normal)	
Cleared to side	A	B	
Berched profile	A	B	
Cleared by	Land manager	IDB	EA Not known

Ditch Features					
Water width (m)	0	1	2	3	4
Banktop width (m)	0	2.5	5	7.5	10
Freeboard (cm)	0	20	50	100	200
Water depth (cm)	30				
Silt depth (cm)	1				
Conductivity (µS/cm)					
pH					
Turbidity	Clear	✓		Opaque	
Water colour	Clear				
Slope bank A	0	15	30	55	70
Slope bank B	0	15	30	55	70
Profile under water A	0	15	30	55	70
Profile underwater B	0	15	30	55	70
Soil type	clay	alluv	peat	sand	gravel

Vegetation Cover	Abs	R	O	F	A	D
Open water surface					✓	
Floating Lemna/Azolla	✓					
Other floating aquatics	✓					
Floating algae	✓					
Lemna trisulcis	✓					
Other submerged plants				✓		
Submerged algae	✓					
Open substrate			✓			
Emergent					✓	
Low swamp/Floating mat	✓					
Exposed vegetated	✓					
Exposed mud	✓					
Litter/ detritus	✓					
Shaded				✓		
Emergents/floating mat in channel %	3					

	W	B	R
Achil mille			
Agrost stol			
Alisma plant			
Alnus glutin			
Alopec genic			
Angelica sylv			
Apium nodif	R		
Azolla filicu			
Berula erect			
Bolbos marit			
Bromus hord			
Butom umbel			
Callit agg.	O		
Callit brut			
Callit obtus			
Callit platy			
Callit stag			
Calyst sepi			
Cardam flex			
Cardam prat			
Carex acutif			
Carex hirta			
Carex otrub			
Carex pseud			
Carex ripar			
Cerast font			
Cerat dem			
Cerat subm			
Chara glob			
Chara vulg			
Cirsium arv			
Cirsium pal			
Cirsium vulg			
Crataeg mon			
Cynos crist			
Dactyl glom			
Desch caesp			
Drepan sp.			
Eleoche pal			
Elodea can			
Elodea nutt	F		
Elytrig repen			
Enteromor			
Epilob hirsut			O
Epilob parvi			
Equiset arv			
Equiset fluv			
Eupator can			
Festuc rub			
fil algae			
Filipend ulm			
Font anti			
Galium apar			
Galium palus			
Geran diss			
Glech heder			
Glycer fluit			
Glycer max			
Glycer nota			
Hedera helix			
Holcus lanat			
Horde sec			

	W	B	R
Hottonia pal			
Hydrocot mor			
Hydrocot ran			
Hydrocot vul			
Hyperic tetra			
Iris pseudac			
Juncus artic			
Juncus bufo			
Juncus effus			
Juncus inflex			
Juncus subn			
Lathyr prat			
Lemna gibba			
Lemna minor			
Lemna minut			
Lemna trisul			
Leonto aut			
Lolium pere			
Lotus pedun			
Lycop europ			
Lycyn flos			
Lythrum sali			
Mentha aqua			
Mentha sp.			
Myosot laxa			
Myosot scor			
Myriop spic			
Myriop vert			
Nuphar lut			
Nympha alba			
Oenan aqu			
Oenan croc			
Oenan fist			
Persic amph			
Persic hydro			
Persic macul			
Phalaris arun			
Phleum prat			
Phragm aust			
Picris echi			
Plant lanceo			
Plant major			
Poa annua			
Poa trivialis			
Potam berch			
Potam crisp			
Potam natan			
Potam pect			
Potam pus			
Potam trich			
Potentil ans			
Potentil rept			
Prunus spin			
Pulicac dyse			
Ran acris			
Ran aqu			
Ran aqu agg			
Ran circ			
Ran flammu			
Ran pelt			
Ran repens			
Ran sceler			
Rorip nas s.s			

	W	B	R
Rorip nas ag			
Rosa canin			
Rubus fruti			
Rumex ac'sa			
Rumex cong			
Rumex hydr			
Rumex obtus			
Sagitt sag			
Salix ciner			
Salix fragi			
Salix sp.			
Samolus val			
Schoen tab			
Scroph aur			
Scutel paler			
Solan dulca			
Sonch asp			
Sparg emers			
Sparg erect			
Spiro polyr			
Stachys pal			
Symph offic			
Tarax agg.			
Terrest bryos			
Thal flav			
Trifol prat			
Trifol rep			
Typha ang			
Typha lati	R		
Urtica dioica			
Veron caten			
Vicia cracca			
Wolff arrh			
Zannic palus			
Other spp.	A		
Veron sp.	A		

River	River Cam	Site	CWWTPR - Upstream
Surveyor	NH RNM BFL	Date	09/09/2021
NGR top	TL4833761417	Finish Time	11:00
NGR bottom	TL4835261521		
Start time	09:30	Total % cover of macrophytes	60%
% Wadeable	0%		

Width (m) %		<1		1 to 5	
5 to 10		10 to 20	50%	>20	50%
Depth (m) %		<0.25	1%	0.25 to 0.5	20%
		0.5 to 1	10%	>1	87%

Record the estimated percentage for each of the following

Substrate %	Peat		Silt/clay	50%
	Sand	35%	Pebbles/gravel	15%
	Boulder/cobble		Bedrock	
Habitats %	Pool		Run	
	Riffle		Slack	100%
Shading %	Left Bank		Right Bank	
	None	100%	None	100%
	Broken		Broken	
	Dense		Dense	

Clarity %	Clear	10%
	Cloudy	20%
	Turbid	70%

Bed Stability %	Solid/firm		Stable	
	Unstable	15%	Soft/sinking	85%

Photo no/ref	U/S	D/S
	Yes	Yes

Typicality	A
Comparability of survey lengths	none

% cover of filamentous algae	5%
------------------------------	----

Species list	
Stachys pulustrus	1
Elodea nutallii	6
Sparganium emersum unbranched bur reed	6
Rigid hornwort	3
Blanket weed	5
Phalaris	1
Gut weed	2
Lemna gibba	2
yellow water lily	7
Flowering rush	1
Branched bur reed	5
Potamogeton perfoliatus	2
Arrowhead	3
Spirpyra	1
Fennel pondweed	1
Water figwort	1
Nitella mucronata var. gracillima	3
Potamogeton spp. Shining pondweed	4
Lesser pond sedge	1
Woody nightshade	2
Harry willow herb	1
Gypsy worr	1

River	River Cam	Site	Downstream of new outfall
Surveyor	NH RNM BFL	Date	09/09/2021
NGR top	TL4837361651	Finish Time	
NGR bottom	TL4837361752		
Start time	11:30	Total % cover of macrophytes	70-75%
% Wadeable	0%		

Width (m) %	<1	1 to 5	
5 to 10	10 to 20	50%	>20 50%
Depth (m) %	<0.25	1%	0.25 to 0.5 5%
	0.5 to 1	10%	>1 84%

Record the estimated percentage for each of the following

Substrate %	Peat		Silt/clay	50%
	Sand	30%	Pebbles/gravel	20%
	Boulder/cobble		Bedrock	
Habitats %	Pool		Run	
	Riffle		Slack	100%
Shading %	Left Bank		Right Bank	
	None	95%	None	100%
	Broken	5%	Broken	
	Dense		Dense	

Clarity %	Clear	55%
	Cloudy	25%
	Turbid	20%

Bed Stability %	Solid/firm	50%	Stable	
	Unstable		Soft/sinking	50%

Photo no/ref	U/S	D/S
	Yes	Yes

Typicality	A
Comparability of survey lengths	none

% cover of filamentous algae	25%
------------------------------	-----

Species	
Rigid hornwort	5
Blanket weed	5
Lemna gibba	2
Lemna minuta	2
Unbranched burreed	8
Slimy unbranched algae	6
Gut weed	2
Reed canary grass	1
Yellow water lily	6
Starwort spp. Poss. olotusanplea	2
Elodea nuttallii	2
Shining pondweed	2
Arrowhead	2
Corex riparia	2
Reed sweetgrass	2
Fenel pondweed	1
Yellow flag iris	2

Site	Ditch 1		Ditch no	1
Grid Reference	TL 4793 6147		Date	29/04/2021
Recorder	Tim Eldridge		Photo	Yes

Adjacent Land Use	A E/N	B W/S	Ditch Features					
Improved grassland			Water width (m)	0	1	2	3	4
Semi-improved grassland			Banktop width (m)	0	2.5	5	7.5	10
Unimproved grassland			Freeboard (cm)	0	20	50	100	200
Arable			Water depth (cm)	20				
Swamp or Fen			Silt depth (cm)	5				
Drove			Conductivity (µS/cm)	742				
Embankment	✓		pH	7.98				
Woodland			Turbidity	Clear	✓		Opaque	
Other	✓	✓	Water colour	Clear				
Cattle/Horse grazed			Slope bank A	0	15	30	55	70
Sheep Grazed			Slope bank B	0	15	30	55	70
Hay/Silage			Profile under water A	0	15	30	55	70
Stockproof boundary			Profile underwater B	0	15	30	55	70
Temporary fencing			Soil type	clay	alluv	peat	sand	gravel
Spoil or bank								

Bank Vegetation	A E/N	B W/S	Vegetation Cover	Abs	R	O	F	A	D
Tall grass/Reed			Open water surface						✓
Short grass	✓	✓	Floating Lemna/Azolla		✓				
Bare ground			Other floating aquatics			✓			
Tall herbs	✓	✓	Floating algae		✓				
Overhanging vegetation			Lemna trisulcs	✓					
Scrub <1.5m			Other submerged plants				✓		
Fen			Submerged algae		✓				
Woodland ground flora			Open substrate						✓
Shaded (%)	5	5	Emergent			✓			
D	70-100%		Low swamp/Floating mat	✓					
A	30-70%		Exposed vegetated		✓				
F	10-30%		Exposed mud		✓				
O	3-10%		Litter/ detritus		✓				
R	<3%		Shaded			✓			
			Emergents/floating mat in channel %			✓			

Grazing/Veg Structure	Bank A E/N			
	None	Low	Med	High
Grazing	✓			
Poaching	✓			
Block formation	✓			
Shelf formation	✓			
Tangledness	✓			
Grassy margin				✓
Bank B W/S				
Grazing	✓			
Poaching	✓			
Block formation	✓			
Shelf formation	✓			
Tangledness	✓			
Grassy margin				✓

Management				
Years since last cleared	1	2-3	4-10	>10
Water relative to normal	0	cm (+ above normal, - below normal)		
Cleared to side	A	B		
Benched profile	A	B		
Cleared by	Land manager	IDB	EA	Not known

BIG DYTISCIDS	A	CADDIS	B	CRUSTACEA	D	OTHERS	
Agabus	A	Limnephilus	B	Asellus	C	Athripsodes albifrons group	B
Colymbetes		Trienodes		Crangonyx		Baetis rhodani	B
Dytiscus		DIPTERA		Gammarus	D	Calopteryx splendens	
Hydaticus		Odontomyia ornata		Palaemonetes		Lype reducta	A
Ilybius		Odontomyia tigrina		Crayfish		Sialis lutaria	A
Rhantus		Oplodontha				Velia sp.	A
		Oxycera		SPIDERS			
SMALL DYTISCIDS		Stratiomys		Argyroneta			
Copelatus		mosquitoes		Dolomedes			
Graptodytes		dixids					
Hygrotus inaequalis				LEECHES	A		
Hyphydrus ovatus		MAYFLIES	B	Erpobdella octoc	A		
Hydroporus		Caenis	B	Glossi. complanata	A		
Hydroporus angustatus		Cloeon		Glossi. heteroclita			
Hydroporus 'palustris'				Haemopsis			
Hydroporus planus		ODONATA	A	Helobdella			
Hyroporus pubesc.		Aeshna		Theromyzon			
Hydroporus tessellatus		Anax					
Laccophilus		Brachytron		MOLLUSCS	C		
Porhydrus		Coenagriidae	A	Acroloxus			
		Lestes		Anisus leucostoma			
HYDROPHILIDS		Libellula/Orthetrum		Anisus vortex	B		
Anacaena		Pyrrhosoma		Armiger crista			
Berosus		Sympetrum		Bathymphalus			
Cercyon				Bithynia leachii			
Coelambus		PLECOPTERA		Bithynia tentaculata	B		
Coelostoma		Nemourids		Gyrulus albus			
Cymbiodyta				Hippeutis			
Enochrus		BUGS		Lymnaea palustris			
Helochaeres		Corixa		Lymnaea peregra			
Helophorus [big]		Cymatia		Lymnaea stagnalis	B		
Helophorus [small]		Gerris		Musculinum			
Hydraena		Hydrometra		Oxyloma			
Hydrobius		Iliocoris		Physa			
Hydrochus		Ishnodemus		Pisidium	B		
Hydrophilus		Micronecta		Planorbis			
Laccobius		Microvelia		Planorbis carinatus			
Limnobiis		Nepa		Planorbis planorbis			
Ochthebius		Notonecta glauca		Potamopyrgus			
		Notonecta viridis		Segmentina			
OTHER BEETLES		Plea		Sphaerium	B		
Anisostica		Sigara		Succinea			
Coccidula		Ranatra		Valvata cristata			
Dryops				Valvata piscinalis	B		
Gyrinus							
Haliphus				VERTEBRATES			
Hygrobia hermanni				Gasterosteus (3)			
Noterus				Pungitius (10)			
Peltodytes				Anguila			
Sciirtidae				Triturus vulg.			
				Tadpoles			

Notes- Temperature 8.7 degrees celsius, Dissolved Oxygen 86.0% and 10.0 mg/l.
Ditch was more like a stream with a gravel substrate and relatively fast flow. There was little macrophyte cover

Indices Results

Biotic Index							
	<i>Ditch 1</i>	<i>Ditch 2</i>	<i>Ditch 3</i>	<i>Ditch 4</i>	<i>Ditch 5</i>	<i>Ditch 6</i>	<i>Ditch 7</i>
	29/04/2021	29/04/2021	29/04/2021	29/04/2021	29/04/2021	30/04/2021	30/04/2021
Native Invertebrate Species Richness	17	18	15	20	8	7	18
Invertebrate Conservation Status Score (SQI)	1.18	1.11	1.13	1.15			1.06
Invertebrate Habitat Quality Score	1	1	1	1	1	1	1
Invertebrate Community Naturalness	0	0	0	0	0	0	-3

Glossary:

Native Invertebrate Species Richness - Number of native aquatic taxa recorded, based on the check list.

Invertebrate Species Conservation Status Score - Species Quality Index (SQI) – average score per native taxon. **if a sample contains fewer than ten invertebrate taxa the SQI is not calculated.*

Invertebrate Habitat Quality Score - mean of 'grazing marsh fidelity' scores for all the species present

Invertebrate Community Naturalness - The sum of threat scores for introduced species, expressed as a negative score

Family	Taxa Name	Salinity index	Species conservation status	Marsh Fidelity Score	Cons. Status Score	Threat Score
Dytiscidae	Agabus didymus	0	Local	1	2	0
Planorbidae	Anisus vortex	0		1	1	0
Asellidae	Asellus aquaticus	0		1	1	0
Leptoceridae	Athripsodes albifrons group					
Baetidae	Baetis rhodani	0		1	1	0
Bithyniidae	Bithynia tentaculata	0		1	1	0
Caenidae	Caenis luctuosa	0	Local	1	2	0
Calopterygidae	Calopteryx splendens	0		1	1	0
Erpobdellidae	Erpobdella octoculata	0		1	1	0
Gammaridae	Gammarus pulex	0		1	1	0
Glossiphoniidae	Glossiphonia complanata	0		1	1	0
Coenagrionidae	Ischnura elegans	0		1	1	0
Limnephilidae	Limnephilus rhombicus	0		1	1	0
Lymnaeidae	Lymnaea stagnalis	0		1	1	0
Psychomyiidae	Lype reducta					
Sphaeriidae	Pisidium amnicum	0		1	1	0
Sialidae	Sialis lutaria	0		1	1	0
Sphaeriidae	Sphaerium corneum	0		1	1	0
Valvatidae	Valvata piscinalis	0	Local	1	2	0
Veliidae	Velia sp.					

Family	Taxa Name	Salinity index	Species conservation status	Marsh Fidelity Score	Cons. Status Score	Threat Score
Lymnaeidae	Ampullaceana balthica	0	Local	1	1	0
Planorbidae	Anisus vortex	0		1	1	0
Asellidae	Asellus aquaticus	0		1	1	0
Leptoceridae	Athripsodes aterrimus	0		1	1	0
Baetidae	Baetis rhodani	0		1	1	0
Bithyniidae	Bithynia tentaculata	0		1	1	0
Caenidae	Caenis luctuosa	0		1	2	0
Calopterygidae	Calopteryx splendens	0		1	1	0
Erpobdellidae	Erpobdella octoculata	0		1	1	0
Gammaridae	Gammarus pulex	0		1	1	0
Glossiphoniidae	Glossiphonia complanata	0		1	1	0
Coenagrionidae	Ischnura elegans	0		1	1	0
Limnephilidae	Limnephilus rhombicus	0		1	1	0
Lymnaeidae	Lymnaea stagnalis	0		1	1	0
Notonectidae	Notonecta glauca	0		1	1	0
Sialidae	Sialis lutaria	0		1	1	0
Sphaeriidae	Sphaerium corneum	0		1	1	0
Valvatidae	Valvata piscinalis	0	Local	1	2	0

Family	Taxa Name	Salinity index	Species conservation status	Marsh Fidelity Score	Cons. Status Score	Threat Score
Hydrophilidae	Anacaena globulus	0		1	1	0
Planorbidae	Anisus vortex	0		1	1	0
Asellidae	Asellus aquaticus	0		1	1	0
Planorbidae	Bathyomphalus contortus	0	Local	1	2	0
Bithyniidae	Bithynia tentaculata	0		1	1	0
Caenidae	Caenis luctuosa	0	Local	1	2	0
Calopterygidae	Calopteryx splendens	0		1	1	0
Baetidae	Centroptilum luteolum					
Dixidae	Dixa sp.					
Erpobdellidae	Erpobdella octoculata	0		1	1	0
Gammaridae	Gammarus pulex	0		1	1	0
Hydracarina	Hydracarina					
Coenagrionidae	Ischnura elegans	0		1	1	0
Limnephilidae	Limnephilidae					
Limnephilidae	Limnephilus rhombicus	0		1	1	0
Lymnaeidae	Lymnaea stagnalis	0		1	1	0
Sphaeriidae	Pisidium sp.	0		1	1	0
Sialidae	Sialis lutaria	0		1	1	0
Sphaeriidae	Sphaerium corneum	0		1	1	0
Succineidae	Succineidae					

Family	Taxa Name	Salinity index	Species conservation status	Marsh Fidelity Score	Cons. Status Score	Threat Score
Dytiscidae	Agabus paludosus	0	Local	1	2	0
Lymnaeidae	Ampullaceana balthica	0		1	1	0
Asellidae	Asellus aquaticus	0		1	1	0
Baetidae	Baetis rhodani	0		1	1	0
Bithyniidae	Bithynia tentaculata	0		1	1	0
Caenidae	Caenis luctuosa	0	Local	1	2	0
Calopterygidae	Calopteryx splendens	0		1	1	0
Dytiscidae	Dytiscidae					
Erpobdellidae	Erpobdella octoculata	0		1	1	0
Gammaridae	Gammarus pulex	0		1	1	0
Halipidae	Halipus lineatocollis	0		1	1	0
Corixidae	Hesperocorixa linnaei	0		1	1	0
Coenagrionidae	Ischnura elegans	0		1	1	0
Limnephilidae	Limnephilus rhombicus	0		1	1	0
Nepidae	Nepa cinerea	0		1	1	0
Notonectidae	Notonecta glauca	0		1	1	0
Sphaeriidae	Pisidium sp.	0		1	1	0
Planorbidae	Planorbis planorbis	0		1	1	0
Sphaeriidae	Sphaerium corneum	0		1	1	0
Lymnaeidae	Stagnicola palustris	0		1	1	0
Succineidae	Succineidae					
Valvatidae	Valvata piscinalis	0	Local	1	2	0
Veliidae	Velia sp.					

Family	Taxa Name	Salinity index	Species conservation status	Marsh Fidelity Score	Cons. Status Score	Threat Score
Hydrophilidae	Anacaena globulus	0		1	1	0
Asellidae	Asellus aquaticus	0		1	1	0
Dytiscidae	Dytiscidae					
Gammaridae	Gammarus pulex	0		1	1	0
Helophoridae	Helophorus brevipalpis	0		1	1	0
Limnephilidae	Limnephilus rhombicus	0		1	1	0
Lymnaeidae	Lymnaea stagnalis	0		1	1	0
Notonectidae	Notonecta glauca	0		1	1	0
Lymnaeidae	Stagnicola palustris	0		1	1	0

Family	Taxa Name	Salinity index	Species conservation status	Marsh Fidelity Score	Cons. Status Score	Threat Score
Dytiscidae	Agabus paludosus	0	Local	1	2	0
Asellidae	Asellus aquaticus	0		1	1	0
Dytiscidae	Dytiscidae					
Dytiscidae	Dytiscus sp.					
Scirtidae	Elodes sp.					
Gammaridae	Gammarus pulex	0		1	1	0
Hydrophilidae	Laccobius bipunctatus	0		1	1	0
Limnephilidae	Limnephilus rhombicus	0		1	1	0
Ptychopteridae	Ptychoptera sp.	0		1	1	0
Lymnaeidae	Stagnicola palustris	0		1	1	0

Biotic Index	Spring	
	<i>R. Cam U/S Discharge</i>	<i>R. Cam D/S Discharge</i>
	28/04/2021	28/04/2021
BMWP (TL1)	117	92
NTAXA (TL1)	24	21
ASPT (TL1)	4.88	4.38
LIFE (TL5)	6.10	5.82
DEHLI	3.94	3.75
PSI (TL5)	0.00	0.00
CCI (TL5)	7.00	3.75

WHPT (TL2)	104.3	90.3
NTAXA (TL2)	24	23
ASPT (TL2)	4.35	3.93

Glossary:

Ntaxa - Count of BMWP family taxa in the sample

BMWP - Biological Monitoring Working Party score

ASPT - Average score per (BMWP) taxon

WHPT - Whalley-Hawkes-Paisley-Trigg index

DEHLI - Drought Effect of Habitat Loss on Invertebrates

LIFE - Lotic-Invertebrate index for Flow Evaluation (TL5 only)

PSI - Proportion of Sediment-sensitive Invertebrates (TL5 only)

CCI - Community Conservation Index (TL5 only)

TL1 - Taxonomic Level 1 - The 78 "BMWP family" level taxa in RIVPACS IV

TL2 - Taxonomic Level 2 - The 112 "WHPT family" level taxa in RIVPACS IV

TL5 - Taxonomic Level 5 - The 417 "WFD Species" level taxa in RIVPACS IV (including component members of species groups)

Where there are no sediment-sensitive taxa present (A&B groups), a value of '0' is given.

Key:		BMWP Score Category Interpretation		PSI Score Category Interpretation		CCI Score Category Interpretation		DEHLI Index Interpretation	
0 – 10	Very poor	0 - 20	Heavily sedimented	0 - 5	Low conservation value	1	Significant effects associated with the advanced stages of drought	[1]	
11 – 40	Poor	21 - 40	Sedimented	>5 - 10	Moderate conservation value				
41 – 70	Moderate	41 - 60	Moderately sedimented	>10 - 15	Fairly high conservation value				
71 – 100	Good	61 - 80	Slightly sedimented	>15 - 20	High conservation value	10	No evidence of an ecological drought effect		
> 100	Very good	81 - 100	Minimally sedimented	>20	Very high conservation value				

TAXA LIST

R. Cam U/S
Discharge
28/04/2021

R. Cam D/S
Discharge
28/04/2021

Family	Taxa Name	CS	Abundance	Abundance
Acroloxidae	<i>Acroloxus lacustris</i>	2	1	1
Planorbidae	<i>Anisus vortex</i>	1	1	4
Unionidae	<i>Anodonta anatina</i>	2	1	
Asellidae	<i>Asellus aquaticus</i>	1	10	49
Bithyniidae	<i>Bithynia tentaculata</i>	1	8	19
Caenidae	<i>Caenis luctuosa</i>	1		5
Caenidae	<i>Caenis rivulorum</i>	1	2	1
Chironomidae	<i>Chironomidae</i>	n/a	70	52
Baetidae	<i>Cloeon dipterum</i>	1	22	20
Corixidae	<i>Corixidae</i>	n/a		8
Crangonyctidae	<i>Crangonyx pseudogracilis/floridanus agg.</i>	n/a	28	150
Gammaridae	<i>Dikerogammarus haemobaphes</i>	n/a		1
Erpobdellidae	<i>Erpobdella octoculata</i>	1		1
Glossiphoniidae	<i>Glossiphonia complanata</i>	1		2
Planorbidae	<i>Gyraulus albus</i>	1	2	2
Halipidae	<i>Halipus ruficollis group</i>	n/a		1
Limoniidae	<i>Helius sp.</i>	n/a	1	
Hydroptilidae	<i>Hydroptila sp.</i>	n/a	1	1
Coenagrionidae	<i>Ischnura elegans</i>	1	4	3
Limnephilidae	<i>Limnephilus rhombicus</i>	3		2
Lymnaeidae	<i>Lymnaea stagnalis</i>	1	1	1
Molannidae	<i>Molanna angustata</i>	2	1	
Leptoceridae	<i>Mystacides longicornis/nigra</i>	n/a	2	2
Noteridae	<i>Noterus clavicornis</i>	2	1	
Notonectidae	<i>Notonecta glauca</i>	1	1	
N/A	<i>Oligochaeta</i>	n/a	3	46
N/A	<i>Ostracoda</i>	n/a		17
Physidae	<i>Physidae</i>	n/a		2
Sphaeriidae	<i>Pisidium amnicum</i>	2	3	
Sphaeriidae	<i>Pisidium henslowanum</i>	2		1
Sphaeriidae	<i>Pisidium sp.</i>	n/a	10	7
Sphaeriidae	<i>Pisidium subtruncatum</i>	1		30
Planorbidae	<i>Planorbis carinatus</i>	1		1
Hydrobiidae	<i>Potamopyrgus antipodarum</i>	n/a		2
Lymnaeidae	<i>Radix auricularia</i>	2	1	1
Scirtidae	<i>Scirtidae</i>	n/a	1	
Sialidae	<i>Sialis lutaria</i>	1	6	
Corixidae	<i>Sigara distincta/falleni</i>	n/a		1
Corixidae	<i>Sigara dorsalis</i>	1	3	6
Sphaeriidae	<i>Sphaerium corneum</i>	1	3	10
Sphaeriidae	<i>Sphaerium sp.</i>	n/a		5
Succineidae	<i>Succineidae</i>	n/a		1
Valvatidae	<i>Valvata piscinalis</i>	1	5	50
Viviparidae	<i>Viviparus viviparus</i>	3	1	

Sheet 1 - GENERAL INFORMATION

RECORD WHAT YOU SEE NOT WHAT YOU KNOW

PROJECT DETAILS (Optional)	
Project name	CWNTPR
Project code	

PROJECT DETAILS (Optional)	
WFD Water Body ID	
Survey type (monitoring, pre-project post-project, post-recovery, scenario, training)	PRE-PROJECT

1.1 SURVEYOR AND SURVEY CONDITIONS	
Surveyor	NH/BFL/RNM
Survey date and time	29-6-21
Module surveyed from?	(left / right / both banks
Bed visible?	(Yes) / No
Adverse conditions?	Yes / (No)
If yes, describe e.g. elevated flow, turbid water, etc	SOME RAIN (TURBIDITY) IN PREVIOUS DAYS

1.2 MODULE NAME AND LOCATION	
River name	RIVER CAM
Location/Reach name	UNDER A14 BRIDGE
SubReach name (used to reference a sub-reach of contiguous modules)	N/A
Module number (1, 2, 3... number from upstream to downstream within SubReach)	1.
Riverfly site reference (optional)	N/A
Module length (m) (i)	40M
NGR / GPS - Midpoint	TL 48358 61555

1.3 CHANNEL DIMENSIONS (m)	
Cross section GPS	TL 48358 61555
1. MoRPh river width	~20M
2. Left bank height	20CM
3. Right bank height	20CM
4. Bankfull width	20M
5. Water width	20M
6. Water depth	2M

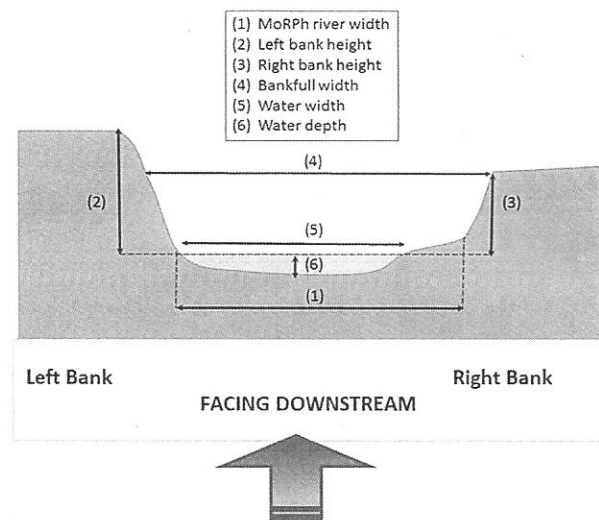
(i) Determining your Module Length	
River width (m) (ii)	Module length (m)
< 5 m	10 m
5 to < 10 m	20 m
10 to < 20 m	30 m
20 to < 30 m	40 m
≥ 30 m	River channel too wide for this type of survey

(ii) Predominant MoRPh river width is used to determine module length. It is estimated as the typical water width plus any area of bare sediment or emergent aquatic plants at the water edge.

Multi-MoRPh Channel Dimensions
If surveying multiple adjoining modules: a minimum of ONE (REPRESENTATIVE) SET OF CHANNEL DIMENSIONS should be measured for each group - up to 10 modules.
TIP!:- Bridges provide a good location for estimating dimensions of larger rivers.

Identifying the LEFT AND RIGHT BANK
The LEFT and RIGHT BANK of a river are on the left and right sides of the channel when facing in a downstream direction with the water flowing away from you

1.4 PHOTOGRAPHS (max 4)	
Fixed point photograph taken with NGR / GPS? (Y/N)	TL 48358 61555 (MIDPOINT)
Photo ref 1 (iv)	MIDPOINT
Photo ref 2	UPSTREAM
Photo ref 3	DOWNSTREAM
Photo ref 4	BRIDGE OUTFALL etc.
(iv) Photo 1: each survey requires a general view of the river module at a fixed point, preferably the midpoint (NGR/GPS point). We recommend 3 photos from the midpoint, one across, one looking upstream and one downstream to cover entire module. Photo 4 could be of special features or to support notes/queries.	



NOTES

Use this box to enter details where you are unsure of any measurements / records you have made.

Sheet 2 - BANK TOP: FLOODPLAIN MEASUREMENTS

Module 1

RECORD WHAT YOU SEE NOT WHAT YOU KNOW (within 10 m of bank edge)

MEASUREMENT CATEGORY	MEASUREMENT TYPE	CODE	ABUNDANCE	NOTES
----------------------	------------------	------	-----------	-------

2.1 BANK TOP - ARTIFICIAL / MANAGED GROUND COVER		LB	RB	LB	RB
Artificial ground cover	Artificial ground cover (Fp, Tr, Ic, Re, Sy, Ld, Ar, Pv, Pr, Pw, Ow)	DOMINANT TYPE	FP	RE	A / T / P / E
		SUB-DOMINANT TYPE (see (i))			A / P / E

(i) SUB-DOMINANT TYPE ONLY RECORD if it occupies > 20% of area within 10m of bank edge

2.2 BANK TOP - NATURAL / LIGHTLY MANAGED GROUND COVER		LB	RB
Terrestrial vegetation	Unvegetated (bare soil / rock)	A / T / P / E	A / T / P / E
	Mosses / lichens	A / T / P / E	A / T / P / E
	Short/creeping herbs/grasses	A / T / P / E	A / T / P / E
	Tall herbs/grasses	A / T / P / E	A / T / P / E
	Scrub or shrubs	A / T / P / E	A / T / P / E
	Saplings or trees	A / T / P / E	A / T / P / E
	Fallen trees (ONLY those with a significant proportion on bank top)	A / T / P / E	A / T / P / E
	Leaning trees	A / T / P / E	A / T / P / E
	J-shaped trees	A / T / P / E	A / T / P / E
	Tree/shrub branches trailing into channel	A / T / P / E	A / T / P / E
	Large wood (wood pieces > 1m long, > 10 cm diameter)	A / T / P / E	A / T / P / E
	Predominant tree type (Absent, Deciduous, Coniferous, Mixed)	A / D / C / M	A / D / C / M
Non-native invasive plant species	Himalayan balsam	A / T / P / E	A / T / P / E
	Japanese knotweed	A / T / P / E	A / T / P / E
	Giant hogweed	A / T / P / E	A / T / P / E
	Floating pennywort	A / T / P / E	A / T / P / E
	Other: NAME SPECIES	A / T / P / E	A / T / P / E
	Other: NAME SPECIES	A / T / P / E	A / T / P / E

ABUNDANCE CODES
(proportion of area within 10 m of bank edge along the module length)
Circle one of:
A = absent,
T = trace (< 5% area),
P = present (5% - < 33%),
E = extensive (> 33%)

PLANT IDENTIFICATION
See MoRPh field guide

2.3 BANK TOP - WATER RELATED FEATURES		LB	RB
Water-related features	Pond	Disconnected from river at time of survey	A / T / P / E
		Connected to river by water-filled channel at time of survey	A / T / P / E
	Side channel - free flowing separate channel including tributaries and fish passes		A / T / P / E
	Wetland (recorded by dominant vegetation type)	Short non-woody vegetation (e.g. mosses, sedges)	A / T / P / E
		Tall, non-woody vegetation (e.g. reeds, rushes)	A / T / P / E
		Shrubs and trees (e.g. alder / willow carr)	A / T / P / E

NOTES (ctd.)

3 - BANK FACE AND CHANNEL MARGIN MEASUREMENTS

RD WHAT YOU SEE NOT WHAT YOU KNOW

MEASUREMENT CATEGORY	MEASUREMENT TYPE	CODE	ABUNDANCE	NOTES
3.1 BANK FACE - PROFILE				
Bank face - Profile	Natural / artificial bank profile	DOMINANT TYPE (V, Vo, Vu, Vt, St, Gt, Cm, Rs, Ts, Em, Sm, Pc)	Bank profile type	LB RS RB RS A/T/P/E A/T/P/E
		SUB-DOMINANT TYPE (see (i))	Bank profile type	LB V RB A/P/E A/P/E
3.2 BANK FACE - MATERIALS				
Bank face - Natural materials	Bank face sediment (AR, BE, BO, CO, GP, SA, SI, CL, OR, PE, EA, NV)	Sediment size (top 2/3)	LB AR RB AR	(ii) WHICH PART OF THE BANK IS REINFORCED? A = absent T = mainly the top B = mainly the bottom W = Whole bank face
		Sediment size (bottom 1/3)	LB AR RB AR	
Bank face - Reinforcement	Which part of the bank is reinforced? (NOTE SPECIFIC CODES IN BOX (ii))		A/T/B/W A/T/B/W	(iii) SUB-DOMINANT TYPE ONLY RECORD if it occupies > 20% reinforced area
	How extensive is the reinforcement horizontally along the module?		A/T/P/E A/T/P/E	
	Bank reinforcement	DOMINANT TYPE (CC, CB, BR, SP, WP, BW, RR, GA, WS, RE, BC, WO)	Reinforcement type CC CC	
		SUB-DOMINANT TYPE (see (iii))	Reinforcement type SP -	
3.3 BANK FACE / CHANNEL MARGIN - FEATURES				
Natural physical features	Bare / unvegetated side bar (< 50% vegetation cover)	Sediment size	LB RB	A/T/P/E A/T/P/E
	Vegetated side bar (>50% vegetation cover)	Sediment size	LB RB	A/T/P/E A/T/P/E
	Berm (if unsure whether berm/bench record as berm)		LB RB	A/T/P/E A/T/P/E
	Bench (if unsure whether berm/bench record as berm)		LB RB	A/T/P/E A/T/P/E
	Stable cliff (> 0.5 m)		LB RB	A/T/P/E A/T/P/E
	Eroding cliff (> 0.5m)		LB RB	A/T/P/E A/T/P/E
	Toe		LB RB	A/T/P/E A/T/P/E
	Nest holes or animal burrows		LB RB	A/T/P/E A/T/P/E
	Marginal backwater		LB RB	A/T/P/E A/T/P/E
	Tributary junction / confluence: RECORD AS COUNT		LB RB	A/T/P/E A/T/P/E
Artificial physical features	Pipes / outfalls (if appear potentially functional): RECORD AS COUNT		LB RB	Maj / Int / Min Maj / Int / Min
	Jetty	NONE	LB RB	Maj / Int / Min Maj / Int / Min
	Deflector	NONE	LB RB	Maj / Int / Min Maj / Int / Min
	Other: INSERT FEATURE NAME		LB RB	Maj / Int / Min Maj / Int / Min
3.4 BANK FACE / CHANNEL MARGIN - VEGETATION				
Terrestrial vegetation on bank face	Unvegetated (bare earth or rock)	A/T/P/E A/T/P/E	Fallen trees (ONLY those with a significant proportion on bank face)	A/T/P/E A/T/P/E
	Mosses / lichens	A/T/P/E A/T/P/E	Leaning trees	A/T/P/E A/T/P/E
	Short/creeping herbs/grasses	A/T/P/E A/T/P/E	J-shaped trees	A/T/P/E A/T/P/E
	Tall herbs/grasses	A/T/P/E A/T/P/E	Tree/shrub branches trailing into channel	A/T/P/E A/T/P/E
	Scrub or shrubs	A/T/P/E A/T/P/E	Exposed tree roots	A/T/P/E A/T/P/E
	Saplings or trees	A/T/P/E A/T/P/E	Discrete organic accumulation (e.g. leaves, twigs)	A/T/P/E A/T/P/E
	Large wood (pieces > 1m long, > 10 cm diameter)	A/T/P/E A/T/P/E		
Aquatic vegetation at bank-water margin	Liverworts, mosses, lichens	A/T/P/E A/T/P/E	Amphibious	A/T/P/E A/T/P/E
	Emergent broad-leaved	A/T/P/E A/T/P/E	Filamentous algae	A/T/P/E A/T/P/E
	Emergent linear-leaved (incl horsetails)	A/T/P/E A/T/P/E		
Non-native invasive plant species	Himalayan balsam	A/T/P/E A/T/P/E	Other: RECORD SPECIES NAME	A/T/P/E A/T/P/E
	Japanese knotweed	A/T/P/E A/T/P/E		
	Giant hogweed	A/T/P/E A/T/P/E	Other: RECORD SPECIES NAME	A/T/P/E A/T/P/E
	Floating pennywort	A/T/P/E A/T/P/E		

RECORD WHAT YOU SEE NOT WHAT YOU KNOW

MEASUREMENT CATEGORY	MEASUREMENT TYPE		ABUNDANCE	MEASUREMENT TYPE		ABUNDANCE	
4.1 CHANNEL BED - MATERIALS							
Channel bed - Natural materials	Bed sediment size	Bedrock (BE)	A / T / P / E	Silt (and finer non-sticky particles, SI)	A / T / P / E		
		Boulder (BO)	A / T / P / E	Clay (CL)	A / T / P / E		
		Cobble (CO)	A / T / P / E	Organic (leaves, twigs etc. not fully decomposed) (OR)	A / T / P / E		
		Gravel-Pebble (GP)	A / T / P / E				
		Sand (SA)	A / T / P / E	Peat (PE)	A / T / P / E		
	Silt overlying coarser sediments	Continuous silt layer (the form of underlying coarser sediments is visible)	A / T / P / E	Patchy thin layer (some coarser particles protrude through the silt layer)	A / T / P / E		
	Channel bed - Reinforcement	Bed reinforcement extent		A / T / P / E	(i) SUB-DOMINANT REINFORCEMENT TYPE: ONLY RECORD if it occupies > 20% reinforced area		
		CODE / DESCRIPTION					
Bed reinforcement materials		DOMINANT TYPE (CC, CB, BR, SP, WP, BW, RR, GA, WS, RE, BC, WO)	reinforcement type	—			
		SUB-DOMINANT TYPE (see (ii))	reinforcement type	—			

4.2 WATER SURFACE

Water surface flow patterns	Flow types	Free fall (FF)	(A) / T / P / E	Rippled (RP)	(A) / T / P / E
		Chute (CH)	(A) / T / P / E	Smooth (SM)	A / T / P / (E)
		Broken standing waves (BW)	(A) / T / P / E	No perceptible flow (NP)	A / T / P / (E)
		Unbroken standing waves (UW)	(A) / T / P / E		(A) / T / P / E
		Upwelling (UP)	(A) / T / P / E	Dry (DR)	(A) / T / P / E

MEASUREMENT CATEGORY	MEASUREMENT TYPE		CODE / DESCRIPTION	ABUNDANCE	NOTES
4.3 CHANNEL BED - FEATURES					
Channel bed - Natural physical features	Exposed bedrock			A / T / P / E	A/T/P/E ABUNDANCE CODES (proportion of bank length occupied by feature) Circle one of: A = absent T = trace (< 5% area) P = present (5% - <33%) E = extensive (> 33%)
	Exposed unvegetated boulders / rocks (< 50% vegetation cover)			A / T / P / E	
	Exposed vegetated boulders / rocks (> 50% vegetation cover)			A / T / P / E	
	Bare / unvegetated mid channel bar (< 50% vegetation cover)	sediment size		A / T / P / E	
	Vegetated mid channel bar (>50% vegetation cover)	sediment size		A / T / P / E	
	Island			A / T / P / E	
	Cascade			A / T / P / E	
	Pool: RECORD AS COUNT				
	Riffle: RECORD AS COUNT				
	Step (steep boulder/bedrock feature <2m high, mainly chute and free fall): RECORD AS COUNT				
Channel bed - Artificial features	Waterfall (steep boulder/bedrock feature >2m high, mainly free fall): RECORD AS COUNT				(ii) WEIR TYPES / SIZES Major: permanent, impermeable, impounding structure across entire channel width Intermediate: semi-permeable, loose stone / wood structure across entire channel width Minor: highly permeable, transient feature across entire channel width
	Large trash (car parts, trolleys, traffic cones etc)			A / T / P / E	
	Major weir (see (ii)): RECORD AS COUNT				
	Intermediate weir (see (ii)): RECORD AS COUNT				
	Minor weir (see (ii)): RECORD AS COUNT				
	Bridge piers in river bed: RECORD AS COUNT				
	Bridge shadow (see (iii))			Wide / Int / Narr	
	Culvert: RECORD AS COUNT				
					(iii) BRIDGE SHADOW Wide = > 25 m channel length, Int (Intermediate) = 10-25 m, Narr (Narrow) = < 10m

MEASUREMENT CATEGORY	MEASUREMENT TYPE	ABUNDANCE	MEASUREMENT TYPE	ABUNDANCE
4.4 CHANNEL BED - VEGETATION				
Vegetation within wetted channel	Unvegetated (bare river bed)	(A) / T / (P) / E	Amphibious	(A) / T / P / E
	Liverworts, mosses, lichens	(A) / T / P / E	Submerged broad-leaved	(A) / T / P / E
	Emergent broad-leaved	(A) / T / P / E	Submerged linear-leaved	A / T / (P) / E
	Emergent linear-leaved (incl horsetails) REEDS	A / (T) / P / E	Submerged fine-leaved	A / T / (P) / E
	Floating leaved (rooted)	A / T / (P) / E	Filamentous algae	A / T / P / E
	Free floating	A / T / P / E	Channel choked with plants?	YES/NO
Vegetation interacting with wetted channel	Vegetation shading channel	(A) / T / P / E	Large wood dam (in channel and crosses entire channel): RECORD AS COUNT	—
	Submerged tree roots	(A) / T / P / E		—
	Large wood in channel (pieces > 1m long, > 10 cm wide)	(A) / T / P / E	Fallen trees (ONLY those with a significant proportion in channel): RECORD AS COUNT	—
	Discrete accumulations of organic material in channel (e.g. twigs, leaves)	A / T / (P) / E		—
Non-native invasive plant species	Himalayan balsam	(A) / T / P / E	Other: RECORD SPECIES NAME	A / T / (P) / E
	Japanese knotweed	(A) / T / P / E	Eloidea nuttallii	
	Giant hogweed	(A) / T / P / E	Other: RECORD SPECIES NAME	A / T / P / E
	Floating pennywort	(A) / T / P / E		

Sheet 1 - GENERAL INFORMATION

RECORD WHAT YOU SEE NOT WHAT YOU KNOW

Module 2

PROJECT DETAILS (Optional)	
Project name	CWTPR
Project code	

1.1 SURVEYOR AND SURVEY CONDITIONS	
Surveyor	
Survey date and time	
Module surveyed from?	left / right / both banks
Bed visible?	Yes / No
Adverse conditions?	Yes / No
If yes, describe e.g. elevated flow, turbid water, etc	

1.3 CHANNEL DIMENSIONS (m)	
Cross section GPS	TL 4862 61599
1. MoRPh river width	~20m
2. Left bank height	20cm
3. Right bank height	20cm
4. Bankfull width	20m
5. Water width	20m
6. Water depth	2m

Multi-MoRPh Channel Dimensions	
If surveying multiple adjoining modules: a minimum of ONE (REPRESENTATIVE) SET OF CHANNEL DIMENSIONS should be measured for each group - up to 10 modules.	
TIP!:- Bridges provide a good location for estimating dimensions of larger rivers.	

PROJECT DETAILS (Optional)	
WFD Water Body ID	
Survey type (monitoring, pre-project post-project, post-recovery, scenario, training)	PRE-PROJECT

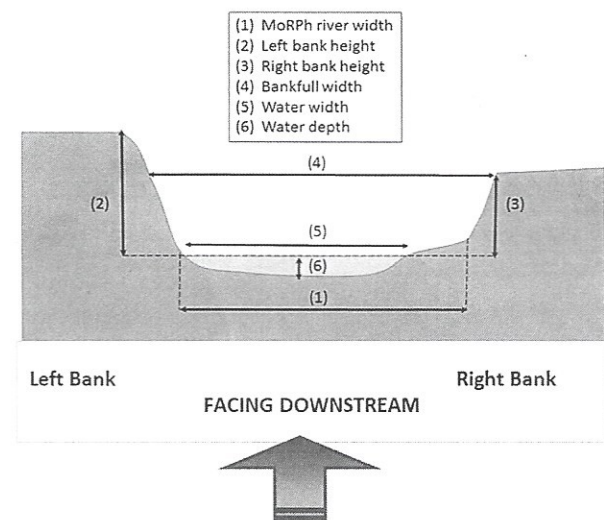
1.2 MODULE NAME AND LOCATION	
River name	RIVER CAM
Location/Reach name	under A14
SubReach name (used to reference a sub-reach of contiguous modules)	N/A
Module number (1, 2, 3... number from upstream to downstream within SubReach)	2
Riverfly site reference (optional)	
Module length (m) (i)	
NGR / GPS - Midpoint	TL 4862 61599

(i) Determining your Module Length	
River width (m) (ii)	Module length (m)
< 5 m	10 m
5 to < 10 m	20 m
10 to < 20 m	30 m
20 to < 30 m	40 m
≥ 30 m	River channel too wide for this type of survey

(ii) Predominant MoRPh river width is used to determine module length. It is estimated as the typical water width plus any area of bare sediment or emergent aquatic plants at the water edge.

Identifying the LEFT AND RIGHT BANK
The LEFT and RIGHT BANK of a river are on the left and right sides of the channel when facing in a downstream direction with the water flowing away from you

1.4 PHOTOGRAPHS (max 4)	
Fixed point photograph taken with NGR / GPS? (Y/N)	
Photo ref 1 (iv)	CROSS SECTION
Photo ref 2	upstream
Photo ref 3	downstream
Photo ref 4	
(iv) Photo 1: each survey requires a general view of the river module at a fixed point, preferably the midpoint (NGR/GPS point). We recommend 3 photos from the midpoint, one across, one looking upstream and one downstream to cover entire module. Photo 4 could be of special features or to support notes/queries.	



NOTES

Use this box to enter details where you are unsure of any measurements / records you have made.

Sheet 2 - BANK TOP: FLOODPLAIN MEASUREMENTS

Module 2

RECORD WHAT YOU SEE NOT WHAT YOU KNOW (within 10 m of bank edge)

MEASUREMENT CATEGORY	MEASUREMENT TYPE	CODE	ABUNDANCE	NOTES
2.1 BANK TOP - ARTIFICIAL / MANAGED GROUND COVER				
Artificial ground cover	Artificial ground cover (Fp, Tr, Ic, Re, Sy, Ld, Ar, Pv, Pr, Pw, Ow)	DOMINANT TYPE	LB RB	(i) SUB-DOMINANT TYPE ONLY RECORD if it occupies > 20% of area within 10m of bank edge
		SUB-DOMINANT TYPE (see (ii))	LB RB	
			A / T / P / E	
			A / P / E	

2.2 BANK TOP - NATURAL / LIGHTLY MANAGED GROUND COVER				
Terrestrial vegetation	Unvegetated (bare soil / rock)		LB RB	
	Mosses / lichens		A / T / P / E	A / T / P / E
	Short/creeping herbs/grasses		A / T / P / E	A / T / P / E
	Tall herbs/grasses		A / T / P / E	A / T / P / E
	Scrub or shrubs		A / T / P / E	A / T / P / E
	Saplings or trees		A / T / P / E	A / T / P / E
	Fallen trees (ONLY those with a significant proportion on bank top)		A / T / P / E	A / T / P / E
	Leaning trees		A / T / P / E	A / T / P / E
	J-shaped trees		A / T / P / E	A / T / P / E
	Tree/shrub branches trailing into channel		A / T / P / E	A / T / P / E
	Large wood (wood pieces > 1m long, > 10 cm diameter)		A / T / P / E	A / T / P / E
	Predominant tree type (Absent, Deciduous, Coniferous, Mixed)		A / D / C / M	A / D / C / M
Non-native invasive plant species	Himalayan balsam		A / T / P / E	A / T / P / E
	Japanese knotweed		A / T / P / E	A / T / P / E
	Giant hogweed		A / T / P / E	A / T / P / E
	Floating pennywort		A / T / P / E	A / T / P / E
	Other: NAME SPECIES		A / T / P / E	A / T / P / E
	Other: NAME SPECIES		A / T / P / E	A / T / P / E

ABUNDANCE CODES
(proportion of area within 10 m of bank edge along the module length)
Circle one of:
A = absent,
T = trace (< 5% area),
P = present (5% - < 33%),
E = extensive (> 33%)

PLANT IDENTIFICATION
See MoRPh field guide

2.3 BANK TOP - WATER RELATED FEATURES				
Water-related features	Pond	Disconnected from river at time of survey	LB RB	
		Connected to river by water-filled channel at time of survey	A / T / P / E	A / T / P / E
	Side channel - free flowing separate channel including tributaries and fish passes		A / T / P / E	A / T / P / E
	Wetland (recorded by dominant vegetation type)	Short non-woody vegetation (e.g. mosses, sedges)	A / T / P / E	A / T / P / E
		Tall, non-woody vegetation (e.g. reeds, rushes)	A / T / P / E	A / T / P / E
		Shrubs and trees (e.g. alder / willow carr)	A / T / P / E	A / T / P / E

NOTES (ctd.)

BANK FACE AND CHANNEL MARGIN MEASUREMENTS

Module 2

WHAT YOU SEE NOT WHAT YOU KNOW

MEASUREMENT CATEGORY	MEASUREMENT TYPE	CODE	ABUNDANCE	NOTES
3.1 BANK FACE - PROFILE				
Bank face - Profile	Natural / artificial bank profile	Dominant type (V, Vo, Vu, Vt, St, Gt, Cm, Rs, Ts, Em, Sm, Pc)	Bank profile type	LB RB LB RB
		Sub-dominant type (see (i))	Bank profile type	LB RB LB RB
3.2 BANK FACE - MATERIALS				
Bank face - Natural materials	Bank face sediment (AR, BE, BO, CO, GP, SA, SI, CL, OR, PE, EA, NV)	Sediment size (top 2/3)	LB RB	(i) SUB-DOMINANT TYPE ONLY RECORD if it occupies > 20% of the bank length
		Sediment size (bottom 1/3)	LB RB	
Bank face - Reinforcement	Which part of the bank is reinforced? (NOTE SPECIFIC CODES IN BOX (ii))		A / T / B / W	(ii) WHICH PART OF THE BANK IS REINFORCED? A = absent T = mainly the top B = mainly the bottom W = Whole bank face
	How extensive is the reinforcement horizontally along the module?		A / T / P / E	
	Bank reinforcement	Dominant type (CC, CB, BR, SP, WP, BW, RR, GA, WS, RE, BC, WO)	Reinforcement type	
3.3 BANK FACE / CHANNEL MARGIN - FEATURES				
Natural physical features	Bare / unvegetated side bar (< 50% vegetation cover)	Sediment size	LB RB	A/T/P/E ABUNDANCE CODES (proportion of bank length occupied by feature) Circle one of: A = absent T = trace (< 5% area) P = present (5% - < 33%) E = extensive (> 33%)
	Vegetated side bar (> 50% vegetation cover)	Sediment size	LB RB	
	Berm (if unsure whether berm/bench record as berm)		LB RB	
	Bench (if unsure whether berm/bench record as berm)		LB RB	
	Stable cliff (> 0.5 m)		LB RB	
	Eroding cliff (> 0.5 m)		LB RB	
	Toe		LB RB	
	Nest holes or animal burrows		LB RB	
	Marginal backwater		LB RB	
	Tributary junction / confluence: RECORD AS COUNT		LB RB	
Artificial physical features	Pipes / outfalls (if appear potentially functional): RECORD AS COUNT		LB RB	Maj (Major) = >20% channel width Int (Intermediate) = 10-20% width Min (Minor) = <10% width
	Jetty		Maj / Int / Min	
	Deflector		Maj / Int / Min	
	Other: INSERT FEATURE NAME		Maj / Int / Min	
3.4 BANK FACE / CHANNEL MARGIN - VEGETATION				
Terrestrial vegetation on bank face	Unvegetated (bare earth or rock)	LB RB	Fallen trees (ONLY those with a significant proportion on bank face)	LB RB
	Mosses / lichens	LB RB	Leaning trees	LB RB
	Short/creeping herbs/grasses	LB RB	J-shaped trees	LB RB
	Tall herbs/grasses	LB RB	Tree/shrub branches trailing into channel	LB RB
	Scrub or shrubs	LB RB	Exposed tree roots	LB RB
	Saplings or trees	LB RB	Discrete organic accumulation (e.g. leaves, twigs)	LB RB
	Large wood (pieces > 1m long, > 10 cm diameter)	LB RB		LB RB
Aquatic vegetation at bank-water margin	Liverworts, mosses, lichens	LB RB	Amphibious	LB RB
	Emergent broad-leaved	LB RB	Filamentous algae	LB RB
	Emergent linear-leaved (incl horsetails)	LB RB		LB RB
Non-native invasive plant species	Himalayan balsam	LB RB	Other: RECORD SPECIES NAME	LB RB
	Japanese knotweed	LB RB		LB RB
	Giant hogweed	LB RB	Other: RECORD SPECIES NAME	LB RB
	Floating pennywort	LB RB		LB RB

RECORD WHAT YOU SEE NOT WHAT YOU KNOW

MEASUREMENT CATEGORY	MEASUREMENT TYPE		ABUNDANCE	MEASUREMENT TYPE		ABUNDANCE	
4.1 CHANNEL BED - MATERIALS							
Channel bed - Natural materials	Bed sediment size	Bedrock (BE)	(A) T / P / E	Silt (and finer non-sticky particles, SI)	A / T / P / (E)		
		Boulder (BO)	(A) T / P / E	Clay (CL)	A / T / (P) / E		
		Cobble (CO)	(A) T / P / E	Organic (leaves, twigs etc. not fully decomposed) (OR)	A (T) / P / E		
		Gravel-Pebble (GP)	A / (T) P / E	Peat (PE)	(A) T / P / E		
		Sand (SA)	(A) T / P / E				
	Silt overlying coarser sediments	Continuous silt layer (the form of underlying coarser sediments is visible)	(A) T / P / E	Patchy thin layer (some coarser particles protrude through the silt layer)	(A) T / P / E		
Channel bed - Reinforcement	Bed reinforcement extent		(A) T / P / E	(i) SUB-DOMINANT REINFORCEMENT TYPE: ONLY RECORD if it occupies > 20% reinforced area			
			CODE / DESCRIPTION				
	Bed reinforcement materials	DOMINANT TYPE (CC, CB, BR, SP, WP, BW, RR, GA, WS, RE, BC, WO)	reinforcement type				
		SUB-DOMINANT TYPE (see (i))	reinforcement type				

4.2 WATER SURFACE					
Water surface flow patterns	Flow types	Free fall (FF)	(A) T / P / E	Rippled (RP)	(A) T / P / E
		Chute (CH)	(A) T / P / E	Smooth (SM)	A / T / P / (E)
		Broken standing waves (BW)	(A) T / P / E	No perceptible flow (NP)	A / T / (P) / E
		Unbroken standing waves (UW)	(A) T / P / E		
		Upwelling (UP)	(A) T / P / E	Dry (DR)	(A) T / P / E

MEASUREMENT CATEGORY	MEASUREMENT TYPE	CODE / DESCRIPTION	ABUNDANCE	NOTES
4.3 CHANNEL BED - FEATURES				
Channel bed - Natural physical features	Exposed bedrock		(A) T / P / E	A/T/P/E ABUNDANCE CODES (proportion of bank length occupied by feature) Circle one of: A = absent T = trace (< 5% area) P = present (5% - < 33%) E = extensive (> 33%)
	Exposed unvegetated boulders / rocks (< 50% vegetation cover)		(A) T / P / E	
	Exposed vegetated boulders / rocks (> 50% vegetation cover)		(A) T / P / E	
	Bare / unvegetated mid channel bar (< 50% vegetation cover)	sediment size	(A) T / P / E	
	Vegetated mid channel bar (> 50% vegetation cover)	sediment size	(A) T / P / E	
	Island		(A) T / P / E	
	Cascade		(A) T / P / E	
	Pool: RECORD AS COUNT			
	Riffle: RECORD AS COUNT			
	Step (steep boulder/bedrock feature < 2m high, mainly chute and free fall): RECORD AS COUNT			
Channel bed - Artificial features	Waterfall (steep boulder/bedrock feature > 2m high, mainly free fall): RECORD AS COUNT			(ii) WEIR TYPES / SIZES Major: permanent, impermeable, impounding structure across entire channel width Intermediate: semi-permeable, loose stone / wood structure across entire channel width Minor: highly permeable, transient feature across entire channel width
	Large trash (car parts, trolleys, traffic cones etc)		(A) T / P / E	
	Major weir (see (ii)): RECORD AS COUNT			
	Intermediate weir (see (ii)): RECORD AS COUNT			
	Minor weir (see (ii)): RECORD AS COUNT			
	Bridge piers in river bed: RECORD AS COUNT			
	Bridge shadow (see (iii))		(Wide) Int / Narr	
	Culvert: RECORD AS COUNT			(iii) BRIDGE SHADOW Wide = > 25 m channel length, Int (Intermediate) = 10-25 m, Narr (Narrow) = < 10m

MEASUREMENT CATEGORY	MEASUREMENT TYPE	ABUNDANCE	MEASUREMENT TYPE	ABUNDANCE
4.4 CHANNEL BED - VEGETATION				
Vegetation within wetted channel	Unvegetated (bare river bed)	(A) T / P / E	Amphibious	(A) T / P / E
	Liverworts, mosses, lichens	(A) T / P / E	Submerged broad-leaved	A / T / (P) / E
	Emergent broad-leaved	(A) T / P / E	Submerged linear-leaved	A / T / (P) / E
	Emergent linear-leaved (incl horsetails)	A / T / (P) / E	Submerged fine-leaved	A / (T) / P / E
	Floating leaved (rooted)	A / T / (P) / E	Filamentous algae	A / (T) / P / E
	Free floating	A / (T) P / E	Channel choked with plants?	YES/NO
Vegetation interacting with wetted channel	Vegetation shading channel	(A) T / P / E	Large wood dam (in channel and crosses entire channel): RECORD AS COUNT	
	Submerged tree roots	(A) T / P / E		
	Large wood in channel (pieces > 1m long, > 10 cm wide)	(A) T / P / E	Fallen trees (ONLY those with a significant proportion in channel): RECORD AS COUNT	
Non-native invasive plant species	Discrete accumulations of organic material in channel (e.g. twigs, leaves)	A / T / (P) / E		
	Himalayan balsam	(A) T / P / E	Other: RECORD SPECIES NAME	A / T / (P) / E
	Japanese knotweed	A / T / P / E	Other: RECORD SPECIES NAME	(A) T / P / E
	Giant hogweed	A / T / P / E		
	Floating pennywort	A / T / P / E		

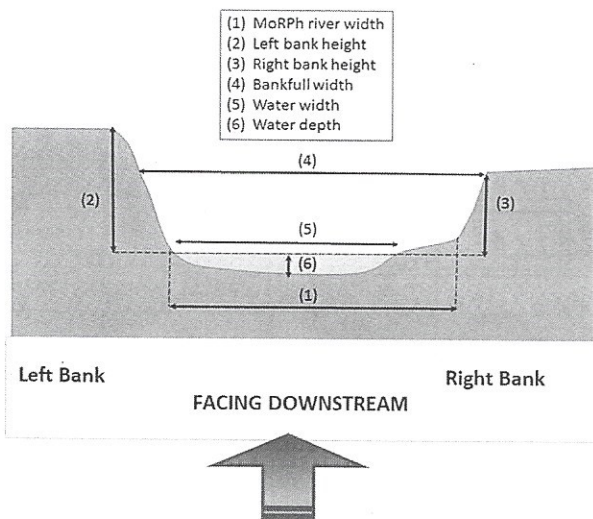
RECORD WHAT YOU SEE NOT WHAT YOU KNOW

PROJECT DETAILS (Optional)	
Project name	CWWT PR
Project code	

1.1 SURVEYOR AND SURVEY CONDITIONS	
Surveyor	RNM BFC NH
Survey date and time	29/6/21 12:00
Module surveyed from?	(left / right / both banks
Bed visible?	Yes / No
Adverse conditions?	Yes / No
If yes, describe e.g. elevated flow, turbid water, etc	

1.3 CHANNEL DIMENSIONS (m)	
Cross section GPS	
1. MoRPh river width	AS
2. Left bank height	fixed
3. Right bank height	
4. Bankfull width	
5. Water width	
6. Water depth	

Multi-MoRPh Channel Dimensions
If surveying multiple adjoining modules: a minimum of ONE (REPRESENTATIVE) SET OF CHANNEL DIMENSIONS should be measured for each group - up to 10 modules.
TIP!:- Bridges provide a good location for estimating dimensions of larger rivers.



PROJECT DETAILS (Optional)	
WFD Water Body ID	
Survey type (monitoring, pre-project post-project, post-recovery, scenario, training)	PRE PROJECT

1.2 MODULE NAME AND LOCATION	
River name	CAM
Location/Reach name	A14 BRIDGE
SubReach name (used to reference a sub-reach of contiguous modules)	—
Module number (1, 2, 3... number from upstream to downstream within SubReach)	3
Riverfly site reference (optional)	—
Module length (m) (i)	40m
NGR / GPS - Midpoint	TL 48376961637

(i) Determining your Module Length	
River width (m) (ii)	Module length (m)
< 5 m	10 m
5 to < 10 m	20 m
10 to < 20 m	30 m
20 to < 30 m	40 m
≥ 30 m	River channel too wide for this type of survey

(ii) Predominant MoRPh river width is used to determine module length. It is estimated as the typical water width plus any area of bare sediment or emergent aquatic plants at the water edge.

Identifying the LEFT AND RIGHT BANK
The LEFT and RIGHT BANK of a river are on the left and right sides of the channel when facing in a downstream direction with the water flowing away from you

1.4 PHOTOGRAPHS (max 4)	
Fixed point photograph taken with NGR / GPS? (Y/N)	Y
Photo ref 1 (iv)	character
Photo ref 2	up
Photo ref 3	down
Photo ref 4	—

(iv) Photo 1: each survey requires a general view of the river module at a fixed point, preferably the midpoint (NGR/GPS point). We recommend 3 photos from the midpoint, one across, one looking upstream and one downstream to cover entire module. Photo 4 could be of special features or to support notes/queries.

NOTES

Use this box to enter details where you are unsure of any measurements / records you have made.

Sheet 2 - BANK TOP: FLOODPLAIN MEASUREMENTS

Module 3

RECORD WHAT YOU SEE NOT WHAT YOU KNOW (within 10 m of bank edge)

MEASUREMENT CATEGORY	MEASUREMENT TYPE	CODE	ABUNDANCE	NOTES
----------------------	------------------	------	-----------	-------

2.1 BANK TOP - ARTIFICIAL / MANAGED GROUND COVER			LB	RB	LB	RB
Artificial ground cover	Artificial ground cover (Fp, Tr, Ic, Re, Sy, Ld, Ar, Pv, Pr, Pw, Ow)	DOMINANT TYPE	FP	PV	A / T / P / E	A / T / P / E
		SUB-DOMINANT TYPE (see (i))			A / P / E	A / P / E

(i) SUB-DOMINANT TYPE ONLY RECORD if it occupies > 20% of area within 10m of bank edge

2.2 BANK TOP - NATURAL / LIGHTLY MANAGED GROUND COVER		LB	RB
Terrestrial vegetation	Unvegetated (bare soil / rock)	A / T / P / E	A / T / P / E
	Mosses / lichens	A / T / P / E	A / T / P / E
	Short/creeping herbs/grasses	A / T / P / E	A / T / P / E
	Tall herbs/grasses	A / T / P / E	A / T / P / E
	Scrub or shrubs	A / T / P / E	A / T / P / E
	Saplings or trees	A / T / P / E	A / T / P / E
	Fallen trees (ONLY those with a significant proportion on bank top)	A / T / P / E	A / T / P / E
	Leaning trees	A / T / P / E	A / T / P / E
	J-shaped trees	A / T / P / E	A / T / P / E
	Tree/shrub branches trailing into channel	A / T / P / E	A / T / P / E
	Large wood (wood pieces > 1m long, > 10 cm diameter)	A / T / P / E	A / T / P / E
	Predominant tree type (Absent, Deciduous, Coniferous, Mixed)	A / D / C / M	A / D / C / M
Non-native invasive plant species	Himalayan balsam	A / T / P / E	A / T / P / E
	Japanese knotweed	A / T / P / E	A / T / P / E
	Giant hogweed	A / T / P / E	A / T / P / E
	Floating pennywort	A / T / P / E	A / T / P / E
	Other: NAME SPECIES	A / T / P / E	A / T / P / E
	Other: NAME SPECIES	A / T / P / E	A / T / P / E

ABUNDANCE CODES
(proportion of area within 10 m of bank edge along the module length)
Circle one of:
A = absent,
T = trace (< 5% area),
P = present (5% - < 33%),
E = extensive (> 33%)

PLANT IDENTIFICATION
See MoRPh field guide

2.3 BANK TOP - WATER RELATED FEATURES		LB	RB
Water-related features	Pond	Disconnected from river at time of survey	A / T / P / E
		Connected to river by water-filled channel at time of survey	A / T / P / E
	Side channel - free flowing separate channel including tributaries and fish passes		A / T / P / E
	Wetland (recorded by dominant vegetation type)	Short non-woody vegetation (e.g. mosses, sedges)	A / T / P / E
		Tall, non-woody vegetation (e.g. reeds, rushes)	A / T / P / E
		Shrubs and trees (e.g. alder / willow carr)	A / T / P / E

NOTES (ctd.)

Module 3

Key (MoRPh ver 11)

3 - BANK FACE AND CHANNEL MARGIN MEASUREMENTS

RECORD WHAT YOU SEE NOT WHAT YOU KNOW

MEASUREMENT CATEGORY	MEASUREMENT TYPE	CODE	ABUNDANCE	NOTES			
3.1 BANK FACE - PROFILE		LB	RB				
Bank face - Profile	Natural / artificial bank profile	DOMINANT TYPE (V, Vo, Vu, Vt, St, Gt, Cm, Rs, Ts, Em, Sm, Pc)	Bank profile type	RS ST	A / T / P / E	A / T / P / E	(i) SUB-DOMINANT TYPE ONLY RECORD if it occupies > 20% of the bank length
		SUB-DOMINANT TYPE (see (i))	Bank profile type	GT	A / P / E	A / P / E	
3.2 BANK FACE - MATERIALS		LB	RB				(ii) WHICH PART OF THE BANK IS REINFORCED? A = absent T = mainly the top B = mainly the bottom W = Whole bank face
Bank face - Natural materials	Bank face sediment (AR, BE, BO, CO, GP, SA, SI, CL, OR, PE, EA, NV)	Sediment size (top 2/3)	AR	EA			
		Sediment size (bottom 1/3)	AR	EA	LB	RB	
Bank face - Reinforcement	Which part of the bank is reinforced? (NOTE SPECIFIC CODES IN BOX (iii))				A / T / B / W	A / T / B / W	(iii) SUB-DOMINANT TYPE ONLY RECORD if it occupies > 20% reinforced area
	How extensive is the reinforcement horizontally along the module?				A / T / P / E	A / T / P / E	
	Bank reinforcement	DOMINANT TYPE (CC, CB, BR, SP, WP, BW, RR, GA, WS, RE, BC, WO)	Reinforcement type	SP	-		
SUB-DOMINANT TYPE (see (iii))		Reinforcement type	-	-			
3.3 BANK FACE / CHANNEL MARGIN - FEATURES		LB	RB	LB	RB		A/T/P/E ABUNDANCE CODES (proportion of bank length occupied by feature) Circle one of: A = absent T = trace (< 5% area) P = present (5% - <33%) E = extensive (> 33%)
Natural physical features	Bare / unvegetated side bar (< 50% vegetation cover)	Sediment size			A / T / P / E	A / T / P / E	
	Vegetated side bar (>50% vegetation cover)	Sediment size			A / T / P / E	A / T / P / E	
	Berm (if unsure whether berm/bench record as berm)				A / T / P / E	A / T / P / E	
	Bench (if unsure whether berm/bench record as berm)				A / T / P / E	A / T / P / E	
	Stable cliff (> 0.5 m)				A / T / P / E	A / T / P / E	
	Eroding cliff (> 0.5m)				A / T / P / E	A / T / P / E	
	Toe				A / T / P / E	A / T / P / E	
	Nest holes or animal burrows				A / T / P / E	A / T / P / E	
	Marginal backwater			A / T / P / E	A / T / P / E		
	Tributary junction / confluence: RECORD AS COUNT						
Artificial physical features	Pipes / outfalls (if appear potentially functional): RECORD AS COUNT						Maj (Major) = >20% channel width Int (Intermediate) = 10-20% width Min (Minor) = <10% width
	Jetty				Maj / Int / Min	Maj / Int / Min	
	Deflector				Maj / Int / Min	Maj / Int / Min	
	Other: INSERT FEATURE NAME				Maj / Int / Min	Maj / Int / Min	
3.4 BANK FACE / CHANNEL MARGIN - VEGETATION		LB	RB	LB	RB		
Terrestrial vegetation on bank face	Unvegetated (bare earth or rock)	A / T / P / E	A / T / P / E	Fallen trees (ONLY those with a significant proportion on bank face)	A / T / P / E	A / T / P / E	
	Mosses / lichens	A / T / P / E	A / T / P / E				
	Short/creeping herbs/grasses	A / T / P / E	A / T / P / E	Leaning trees	A / T / P / E	A / T / P / E	
	Tall herbs/grasses	A / T / P / E	A / T / P / E	J-shaped trees	A / T / P / E	A / T / P / E	
	Scrub or shrubs	A / T / P / E	A / T / P / E	Tree/shrub branches trailing into channel	A / T / P / E	A / T / P / E	
	Saplings or trees	A / T / P / E	A / T / P / E				
	Large wood (pieces > 1m long, > 10 cm diameter)	A / T / P / E	A / T / P / E	Exposed tree roots	A / T / P / E	A / T / P / E	
			Discrete organic accumulation (e.g. leaves, twigs)	A / T / P / E	A / T / P / E		
Aquatic vegetation at bank-water margin	Liverworts, mosses, lichens	A / T / P / E	A / T / P / E	Amphibious	A / T / P / E	A / T / P / E	
	Emergent broad-leaved	A / T / P / E	A / T / P / E	Filamentous algae	A / T / P / E	A / T / P / E	
	Emergent linear-leaved (incl horsetails)	A / T / P / E	A / T / P / E				
Non-native invasive plant species	Himalayan balsam	A / T / P / E	A / T / P / E	Other: RECORD SPECIES NAME	A / T / P / E	A / T / P / E	
	Japanese knotweed	A / T / P / E	A / T / P / E				
	Giant hogweed	A / T / P / E	A / T / P / E	Other: RECORD SPECIES NAME	A / T / P / E	A / T / P / E	
	Floating pennywort	A / T / P / E	A / T / P / E				

RECORD WHAT YOU SEE NOT WHAT YOU KNOW

MEASUREMENT CATEGORY	MEASUREMENT TYPE		ABUNDANCE	MEASUREMENT TYPE	ABUNDANCE	
4.1 CHANNEL BED - MATERIALS						
Channel bed - Natural materials	Bed sediment size	Bedrock (BE)	A / T / P / E	Silt (and finer non-sticky particles, SI)	A / T / P / E	
		Boulder (BO)	A / T / P / E	Clay (CL)	A / T / P / E	
		Cobble (CO)	A / T / P / E	Organic (leaves, twigs etc. not fully decomposed) (OR)	A / T / P / E	
		Gravel-Pebble (GP)	A / T / P / E			
		Sand (SA)	A / T / P / E	Peat (PE)	A / T / P / E	
	Silt overlying coarser sediments	Continuous silt layer (the form of underlying coarser sediments is visible)	A / T / P / E	Patchy thin layer (some coarser particles protrude through the silt layer)	A / T / P / E	
	Channel bed - Reinforcement	Bed reinforcement extent		A / T / P / E	(i) SUB-DOMINANT REINFORCEMENT TYPE: ONLY RECORD if it occupies > 20% reinforced area	
		CODE / DESCRIPTION				
Bed reinforcement materials		DOMINANT TYPE (CC, CB, BR, SP, WP, BW, RR, GA, WS, RE, BC, WO)	reinforcement type			
		SUB-DOMINANT TYPE (see (i))	reinforcement type			

4.2 WATER SURFACE					
Water surface flow patterns	Flow types	Free fall (FF)	A / T / P / E	Rippled (RP)	A / T / P / E
		Chute (CH)	A / T / P / E	Smooth (SM)	A / T / P / E
		Broken standing waves (BW)	A / T / P / E	No perceptible flow (NP)	A / T / P / E
		Unbroken standing waves (UW)	A / T / P / E		A / T / P / E
		Upwelling (UP)	A / T / P / E		Dry (DR)

MEASUREMENT CATEGORY	MEASUREMENT TYPE	CODE / DESCRIPTION	ABUNDANCE	NOTES
4.3 CHANNEL BED - FEATURES				
Channel bed - Natural physical features	Exposed bedrock		A / T / P / E	A/T/P/E ABUNDANCE CODES (proportion of bank length occupied by feature) Circle one of: A = absent T = trace (< 5% area) P = present (5% - <33%) E = extensive (> 33%)
	Exposed unvegetated boulders / rocks (< 50% vegetation cover)		A / T / P / E	
	Exposed vegetated boulders / rocks (> 50% vegetation cover)		A / T / P / E	
	Bare / unvegetated mid channel bar (< 50% vegetation cover)	sediment size	A / T / P / E	
	Vegetated mid channel bar (>50% vegetation cover)	sediment size	A / T / P / E	
	Island		A / T / P / E	
	Cascade		A / T / P / E	
	Pool: RECORD AS COUNT		—	
	Riffle: RECORD AS COUNT		—	
	Step (steep boulder/bedrock feature <2m high, mainly chute and free fall): RECORD AS COUNT		—	
Channel bed - Artificial features	Waterfall (steep boulder/bedrock feature >2m high, mainly free fall): RECORD AS COUNT		—	(ii) WEIR TYPES / SIZES Major: permanent, impermeable, impounding structure across entire channel width Intermediate: semi-permeable, loose stone / wood structure across entire channel width Minor: highly permeable, transient feature across entire channel width
	Large trash (car parts, trolleys, traffic cones etc)		A / T / P / E	
	Major weir (see (ii)): RECORD AS COUNT		—	
	Intermediate weir (see (ii)): RECORD AS COUNT		—	
	Minor weir (see (ii)): RECORD AS COUNT		—	
	Bridge piers in river bed: RECORD AS COUNT		—	
	Bridge shadow (see (iii))		Wide / Int / Narr	
	Culvert: RECORD AS COUNT		—	(iii) BRIDGE SHADOW Wide = > 25 m channel length, Int (Intermediate) = 10-25 m, Narr (Narrow) = < 10m

MEASUREMENT CATEGORY	MEASUREMENT TYPE	ABUNDANCE	MEASUREMENT TYPE	ABUNDANCE
4.4 CHANNEL BED - VEGETATION				
Vegetation within wetted channel	Unvegetated (bare river bed)	A / T / P / E	Amphibious	A / T / P / E
	Liverworts, mosses, lichens	A / T / P / E	Submerged broad-leaved	A / T / P / E
	Emergent broad-leaved	A / T / P / E	Submerged linear-leaved	A / T / P / E
	Emergent linear-leaved (incl horsetails)	A / T / P / E	Submerged fine-leaved	A / T / P / E
	Floating leaved (rooted)	A / T / P / E	Filamentous algae	A / T / P / E
	Free floating	A / T / P / E	Channel choked with plants?	YES/NO
Vegetation interacting with wetted channel	Vegetation shading channel	A / T / P / E	Large wood dam (in channel and crosses entire channel): RECORD AS COUNT	—
	Submerged tree roots	A / T / P / E		
	Large wood in channel (pieces > 1m long, >10 cm wide)	A / T / P / E	Fallen trees (ONLY those with a significant proportion in channel): RECORD AS COUNT	—
	Discrete accumulations of organic material in channel (e.g. twigs, leaves)	A / T / P / E		
Non-native invasive plant species	Himalayan balsam	A / T / P / E	Other: RECORD SPECIES NAME	A / T / P / E
	Japanese knotweed	A / T / P / E	Other: RECORD SPECIES NAME	A / T / P / E
	Giant hogweed	A / T / P / E	Other: RECORD SPECIES NAME	A / T / P / E
	Floating pennywort	A / T / P / E	Other: RECORD SPECIES NAME	A / T / P / E

Sheet 1 - GENERAL INFORMATION

RECORD WHAT YOU SEE NOT WHAT YOU KNOW

Module 4

PROJECT DETAILS (Optional)	
Project name	CWTFPR
Project code	

1.1 SURVEYOR AND SURVEY CONDITIONS	
Surveyor	B E N N I E M M A
Survey date and time	12:56 20/6/21
Module surveyed from?	left / right / both banks
Bed visible?	Yes / No
Adverse conditions?	Yes / No
If yes, describe e.g. elevated flow, turbid water, etc	

1.3 CHANNEL DIMENSIONS (m)	
Cross section GPS	11
1. MoRPh river width	11
2. Left bank height	11 AS
3. Right bank height	11 previous
4. Bankfull width	11
5. Water width	11
6. Water depth	11

Multi-MoRPh Channel Dimensions
If surveying multiple adjoining modules: a minimum of ONE (REPRESENTATIVE) SET OF CHANNEL DIMENSIONS should be measured for each group - up to 10 modules.
TIP!:- Bridges provide a good location for estimating dimensions of larger rivers.

PROJECT DETAILS (Optional)	
WFD Water Body ID	
Survey type (monitoring, pre-project post-project, post-recovery, scenario, training)	Pre project

1.2 MODULE NAME AND LOCATION	
River name	RIVER CAM
Location/Reach name	
SubReach name (used to reference a sub-reach of contiguous modules)	
Module number (1, 2, 3... number from upstream to downstream within SubReach)	4
Riverfly site reference (optional)	
Module length (m) (i)	
NGR / GPS - Midpoint	T148368 61677

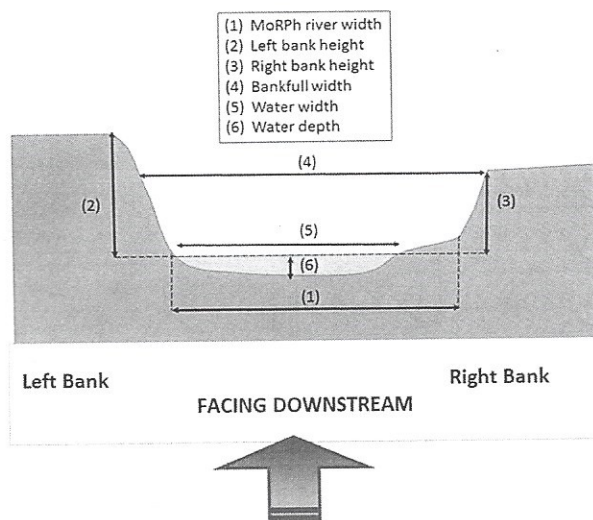
(i) Determining your Module Length	
River width (m) (ii)	Module length (m)
< 5 m	10 m
5 to < 10 m	20 m
10 to < 20 m	30 m
20 to < 30 m	40 m
≥ 30 m	River channel too wide for this type of survey

(ii) Predominant MoRPh river width is used to determine module length. It is estimated as the typical water width plus any area of bare sediment or emergent aquatic plants at the water edge.

Identifying the LEFT AND RIGHT BANK
The LEFT and RIGHT BANK of a river are on the left and right sides of the channel when facing in a downstream direction with the water flowing away from you

1.4 PHOTOGRAPHS (max 4)	
Fixed point photograph taken with NGR / GPS? (Y/N)	
Photo ref 1 (iv)	cross section
Photo ref 2	upstream
Photo ref 3	downstream
Photo ref 4	

(iv) Photo 1: each survey requires a general view of the river module at a fixed point, preferably the midpoint (NGR/GPS point). We recommend 3 photos from the midpoint, one across, one looking upstream and one downstream to cover entire module. Photo 4 could be of special features or to support notes/queries.



NOTES

Use this box to enter details where you are unsure of any measurements / records you have made.

Sheet 2 - BANK TOP: FLOODPLAIN MEASUREMENTS

Module 4

RECORD WHAT YOU SEE NOT WHAT YOU KNOW (within 10 m of bank edge)

MEASUREMENT CATEGORY	MEASUREMENT TYPE	CODE	ABUNDANCE	NOTES
2.1 BANK TOP - ARTIFICIAL / MANAGED GROUND COVER				
Artificial ground cover	Artificial ground cover (Fp, Tr, Ic, Re, Sy, Ld, Ar, Pv, Pr, Pw, Ow)	DOMINANT TYPE	LB RB	(i) SUB-DOMINANT TYPE ONLY RECORD if it occupies > 20% of area within 10m of bank edge
		SUB-DOMINANT TYPE (see (i))	LB RB	
			A / T / P / E A / T / P / E	
			A / P / E A / P / E	

2.2 BANK TOP - NATURAL / LIGHTLY MANAGED GROUND COVER				
Terrestrial vegetation			LB	RB
	Unvegetated (bare soil / rock)		A / T / P / E	A / T / P / E
	Mosses / lichens		A / T / P / E	A / T / P / E
	Short/creeping herbs/grasses		A / T / P / E	A / T / P / E
	Tall herbs/grasses		A / T / P / E	A / T / P / E
	Scrub or shrubs		A / T / P / E	A / T / P / E
	Saplings or trees		A / T / P / E	A / T / P / E
	Fallen trees (ONLY those with a significant proportion on bank top)		A / T / P / E	A / T / P / E
	Leaning trees		A / T / P / E	A / T / P / E
	J-shaped trees		A / T / P / E	A / T / P / E
	Tree/shrub branches trailing into channel		A / T / P / E	A / T / P / E
	Large wood (wood pieces > 1m long, > 10 cm diameter)		A / T / P / E	A / T / P / E
Non-native invasive plant species	Predominant tree type (Absent, Deciduous, Coniferous, Mixed)		A / D / C / M	A / D / C / M
	Himalayan balsam		A / T / P / E	A / T / P / E
	Japanese knotweed		A / T / P / E	A / T / P / E
	Giant hogweed		A / T / P / E	A / T / P / E
	Floating pennywort		A / T / P / E	A / T / P / E
	Other: NAME SPECIES		A / T / P / E	A / T / P / E
	Other: NAME SPECIES		A / T / P / E	A / T / P / E

ABUNDANCE CODES
(proportion of area within 10 m of bank edge along the module length)
Circle one of:
A = absent,
T = trace (< 5% area),
P = present (5% - <33%),
E = extensive (> 33%)

PLANT IDENTIFICATION
See MoRPh field guide

2.3 BANK TOP - WATER RELATED FEATURES				
Water-related features	Pond	Disconnected from river at time of survey	A / T / P / E	A / T / P / E
		Connected to river by water-filled channel at time of survey	A / T / P / E	A / T / P / E
	Side channel - free flowing separate channel including tributaries and fish passes		A / T / P / E	A / T / P / E
	Wetland (recorded by dominant vegetation type)	Short non-woody vegetation (e.g. mosses, sedges)	A / T / P / E	A / T / P / E
		Tall, non-woody vegetation (e.g. reeds, rushes)	A / T / P / E	A / T / P / E
		Shrubs and trees (e.g. alder / willow carr)	A / T / P / E	A / T / P / E

NOTES (ctd.)

3 - BANK FACE AND CHANNEL MARGIN MEASUREMENTS

ORD WHAT YOU SEE NOT WHAT YOU KNOW

MEASUREMENT CATEGORY	MEASUREMENT TYPE	CODE	ABUNDANCE	NOTES
3.1 BANK FACE - PROFILE				
Bank face - Profile	Natural / artificial bank profile	Dominant Type (V, Vo, Vu, Vt, St, Gt, Cm, Rs, Ts, Em, Sm, Pc)	LB RB LB RB	(i) SUB-DOMINANT TYPE ONLY RECORD if it occupies > 20% of the bank length
		Sub-Dominant Type (see (i))		
3.2 BANK FACE - MATERIALS				
Bank face - Natural materials	Bank face sediment (AR, BE, BO, CO, GP, SA, SI, CL, OR, PE, EA, NV)	Sediment size (top 2/3) Sediment size (bottom 1/3)	LB RB LB RB	(ii) WHICH PART OF THE BANK IS REINFORCED? A = absent T = mainly the top B = mainly the bottom W = Whole bank face
Bank face - Reinforcement	Which part of the bank is reinforced? (NOTE SPECIFIC CODES IN BOX (ii))			
	How extensive is the reinforcement horizontally along the module?			
Bank reinforcement	Dominant Type (CC, CB, BR, SP, WP, BW, RR, GA, WS, RE, BC, WO)	Reinforcement type	LB RB	(iii) SUB-DOMINANT TYPE ONLY RECORD if it occupies > 20% reinforced area
	Sub-Dominant Type (see (iii))	Reinforcement type		
3.3 BANK FACE / CHANNEL MARGIN - FEATURES				
Natural physical features	Bare / unvegetated side bar (< 50% vegetation cover)	Sediment size	LB RB	A/T/P/E ABUNDANCE CODES (proportion of bank length occupied by feature) Circle one of: A = absent T = trace (< 5% area) P = present (5% - <33%) E = extensive (> 33%)
	Vegetated side bar (>50% vegetation cover)	Sediment size		
	Berm (if unsure whether berm/bench record as berm)			
	Bench (if unsure whether berm/bench record as berm)			
	Stable cliff (> 0.5 m)			
	Eroding cliff (> 0.5m)			
	Toe			
	Nest holes or animal burrows			
	Marginal backwater			
	Tributary junction / confluence: RECORD AS COUNT			
Artificial physical features	Pipes / outfalls (if appear potentially functional): RECORD AS COUNT			Maj (Major) = >20% channel width Int (Intermediate) = 10-20% width Min (Minor) = <10% width
	Jetty			
	Deflector			
	Other: INSERT FEATURE NAME			
3.4 BANK FACE / CHANNEL MARGIN - VEGETATION				
Terrestrial vegetation on bank face	Unvegetated (bare earth or rock)	LB RB	LB RB	Fallen trees (ONLY those with a significant proportion on bank face)
	Mosses / lichens			
	Short/creeping herbs/grasses			
	Tall herbs/grasses			
	Scrub or shrubs			
	Saplings or trees			
	Large wood (pieces > 1m long, > 10 cm diameter)			
Aquatic vegetation at bank-water margin	Liverworts, mosses, lichens	LB RB	LB RB	Amphibious Filamentous algae
	Emergent broad-leaved			
	Emergent linear-leaved (incl horsetails)			
Non-native invasive plant species	Himalayan balsam	LB RB	LB RB	Other: RECORD SPECIES NAME
	Japanese knotweed			
	Giant hogweed			
	Floating pennywort			

RECORD WHAT YOU SEE NOT WHAT YOU KNOW

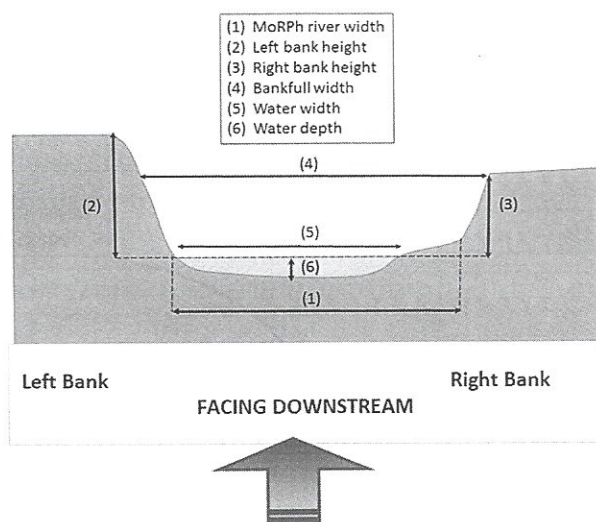
MEASUREMENT CATEGORY	MEASUREMENT TYPE	ABUNDANCE	MEASUREMENT TYPE	ABUNDANCE	
4.1 CHANNEL BED - MATERIALS					
Channel bed - Natural materials	Bed sediment size	Bedrock (BE)	A / T / P / E	Silt (and finer non-sticky particles, SI)	A / T / P / E
		Boulder (BO)	A / T / P / E	Clay (CL)	A / T / P / E
		Cobble (CO)	A / T / P / E	Organic (leaves, twigs etc. not fully decomposed) (OR)	A / T / P / E
		Gravel-Pebble (GP)	A / T / P / E	Peat (PE)	A / T / P / E
		Sand (SA)	A / T / P / E		
	Silt overlying coarser sediments	Continuous silt layer (the form of underlying coarser sediments is visible)	A / T / P / E	Patchy thin layer (some coarser particles protrude through the silt layer)	A / T / P / E
Channel bed - Reinforcement	Bed reinforcement extent		A / T / P / E	(i) SUB-DOMINANT REINFORCEMENT TYPE: ONLY RECORD if it occupies > 20% reinforced area	
	Bed reinforcement materials	CODE / DESCRIPTION			
		DOMINANT TYPE (CC, CB, BR, SP, WP, BW, RR, GA, WS, RE, BC, WO)	reinforcement type		
		SUB-DOMINANT TYPE (see (i))	reinforcement type		
4.2 WATER SURFACE					
Water surface flow patterns	Flow types	Free fall (FF)	A / T / P / E	Rippled (RP)	A / T / P / E
		Chute (CH)	A / T / P / E	Smooth (SM)	A / T / P / E
		Broken standing waves (BW)	A / T / P / E	No perceptible flow (NP)	A / T / P / E
		Unbroken standing waves (UW)	A / T / P / E		
		Upwelling (UP)	A / T / P / E	Dry (DR)	A / T / P / E
MEASUREMENT CATEGORY	MEASUREMENT TYPE	CODE / DESCRIPTION	ABUNDANCE	NOTES	
4.3 CHANNEL BED - FEATURES					
Channel bed - Natural physical features	Exposed bedrock		A / T / P / E	A/T/P/E ABUNDANCE CODES (proportion of bank length occupied by feature) Circle one of: A = absent T = trace (< 5% area) P = present (5% - <33%) E = extensive (> 33%)	
	Exposed unvegetated boulders / rocks (< 50% vegetation cover)		A / T / P / E		
	Exposed vegetated boulders / rocks (> 50% vegetation cover)		A / T / P / E		
	Bare / unvegetated mid channel bar (< 50% vegetation cover)	sediment size	A / T / P / E		
	Vegetated mid channel bar (>50% vegetation cover)	sediment size	A / T / P / E		
	Island		A / T / P / E		
	Cascade		A / T / P / E		
	Pool: RECORD AS COUNT				
	Riffle: RECORD AS COUNT				
	Step (steep boulder/bedrock feature <2m high, mainly chute and free fall): RECORD AS COUNT				
Waterfall (steep boulder/bedrock feature >2m high, mainly free fall): RECORD AS COUNT					
Channel bed - Artificial features	Large trash (car parts, trolleys, traffic cones etc)		A / T / P / E	(ii) WEIR TYPES / SIZES Major: permanent, impermeable, impounding structure across entire channel width Intermediate: semi-permeable, loose stone / wood structure across entire channel width Minor: highly permeable, transient feature across entire channel width	
	Major weir (see (ii)): RECORD AS COUNT				
	Intermediate weir (see (ii)): RECORD AS COUNT				
	Minor weir (see (ii)): RECORD AS COUNT				
	Bridge piers in river bed: RECORD AS COUNT				
	Bridge shadow (see (iii))		Wide / Int / Narr		
	Culvert: RECORD AS COUNT				
(iii) BRIDGE SHADOW Wide = > 25 m channel length, Int (Intermediate) = 10-25 m, Narr (Narrow) = < 10m					
MEASUREMENT CATEGORY	MEASUREMENT TYPE	ABUNDANCE	MEASUREMENT TYPE	ABUNDANCE	
4.4 CHANNEL BED - VEGETATION					
Vegetation within wetted channel	Unvegetated (bare river bed)	A / T / P / E	Amphibious	A / T / P / E	
	Liverworts, mosses, lichens	A / T / P / E	Submerged broad-leaved	A / T / P / E	
	Emergent broad-leaved	A / T / P / E	Submerged linear-leaved	A / T / P / E	
	Emergent linear-leaved (incl horsetails)	A / T / P / E	Submerged fine-leaved	A / T / P / E	
	Floating leaved (rooted)	A / T / P / E	Filamentous algae	A / T / P / E	
	Free floating	A / T / P / E	Channel choked with plants?	YES/NO	
Vegetation interacting with wetted channel	Vegetation shading channel	A / T / P / E	Large wood dam (in channel and crosses entire channel): RECORD AS COUNT		
	Submerged tree roots	A / T / P / E			
	Large wood in channel (pieces > 1m long, >10 cm wide)	A / T / P / E			
	Discrete accumulations of organic material in channel (e.g. twigs, leaves)	A / T / P / E	Fallen trees (ONLY those with a significant proportion in channel): RECORD AS COUNT		
Non-native invasive plant species	Himalayan balsam	A / T / P / E	Other: RECORD SPECIES NAME	A / T / P / E	
	Japanese knotweed	A / T / P / E			
	Giant hogweed	A / T / P / E	Other: RECORD SPECIES NAME	A / T / P / E	
	Floating pennywort	A / T / P / E			

PROJECT DETAILS (Optional)	
Project name	CNWT PR
Project code	

1.1 SURVEYOR AND SURVEY CONDITIONS	
Surveyor	RNM BFL NH
Survey date and time	29/6/21 13:15
Module surveyed from?	(left) / right / both banks
Bed visible?	Yes / ☒ No
Adverse conditions?	Yes / ☒ No
If yes, describe e.g. elevated flow, turbid water, etc	—

1.3 CHANNEL DIMENSIONS (m)	
Cross section GPS	
1. MoRPh river width	AS
2. Left bank height	PROJ
3. Right bank height	
4. Bankfull width	
5. Water width	
6. Water depth	

Multi-MoRPh Channel Dimensions
If surveying multiple adjoining modules: a minimum of ONE (REPRESENTATIVE) SET OF CHANNEL DIMENSIONS should be measured for each group - up to 10 modules.
TIP!:- Bridges provide a good location for estimating dimensions of larger rivers.



PROJECT DETAILS (Optional)	
WFD Water Body ID	
Survey type (monitoring, pre-project post-project, post-recovery, scenario, training)	PRE PROJECT

1.2 MODULE NAME AND LOCATION	
River name	CAM
Location/Reach name	—
SubReach name (used to reference a sub-reach of contiguous modules)	
Module number (1, 2, 3... number from upstream to downstream within SubReach)	5.
Riverfly site reference (optional)	—
Module length (m) (i)	40M
NGR / GPS - Midpoint	TL 4836961723

(i) Determining your Module Length	
River width (m) (ii)	Module length (m)
< 5 m	10 m
5 to < 10 m	20 m
10 to < 20 m	30 m
20 to < 30 m	40 m
≥ 30 m	River channel too wide for this type of survey

(ii) Predominant MoRPh river width is used to determine module length. It is estimated as the typical water width plus any area of bare sediment or emergent aquatic plants at the water edge.

Identifying the LEFT AND RIGHT BANK
The LEFT and RIGHT BANK of a river are on the left and right sides of the channel when facing in a downstream direction with the water flowing away from you

1.4 PHOTOGRAPHS (max 4)	
Fixed point photograph taken with NGR / GPS? (Y/N)	Y (3)
Photo ref 1 (iv)	CROSS
Photo ref 2	UP
Photo ref 3	DOWN
Photo ref 4	—

(iv) Photo 1: each survey requires a general view of the river module at a fixed point, preferably the midpoint (NGR/GPS point). We recommend 3 photos from the midpoint, one across, one looking upstream and one downstream to cover entire module. Photo 4 could be of special features or to support notes/queries.

NOTES

Use this box to enter details where you are unsure of any measurements / records you have made.

Sheet 2 - BANK TOP: FLOODPLAIN

MEASUREMENTS

RECORD WHAT YOU SEE NOT WHAT YOU KNOW (within 10 m of bank edge)

MEASUREMENT CATEGORY	MEASUREMENT TYPE	CODE	ABUNDANCE	NOTES
2.1 BANK TOP - ARTIFICIAL / MANAGED GROUND COVER				
Artificial ground cover	Artificial ground cover (Fp, Tr, Ic, Re, Sy, Ld, Ar, Pv, Pr, Pw, Ow)	DOMINANT TYPE	LB: FP RB: PV	LB: A/T/P/E RB: A/T/P/E
		SUB-DOMINANT TYPE (see (i))	LB: — RB: —	LB: A/P/E RB: A/P/E
2.2 BANK TOP - NATURAL / LIGHTLY MANAGED GROUND COVER				
Terrestrial vegetation	Unvegetated (bare soil / rock)		LB: A/T/P/E RB: A/T/P/E	ABUNDANCE CODES (proportion of area within 10 m of bank edge along the module length) Circle one of: A = absent, T = trace (< 5% area), P = present (5% - <33%), E = extensive (> 33%)
	Mosses / lichens		LB: A/T/P/E RB: A/T/P/E	
	Short/creeping herbs/grasses		LB: A/T/P/E RB: A/T/P/E	
	Tall herbs/grasses		LB: A/T/P/E RB: A/T/P/E	
	Scrub or shrubs		LB: A/T/P/E RB: A/T/P/E	
	Saplings or trees		LB: A/T/P/E RB: A/T/P/E	
	Fallen trees (ONLY those with a significant proportion on bank top)		LB: A/T/P/E RB: A/T/P/E	
	Leaning trees		LB: A/T/P/E RB: A/T/P/E	
	J-shaped trees		LB: A/T/P/E RB: A/T/P/E	
	Tree/shrub branches trailing into channel		LB: A/T/P/E RB: A/T/P/E	
	Large wood (wood pieces > 1m long, > 10 cm diameter)		LB: A/T/P/E RB: A/T/P/E	
	Predominant tree type (Absent, Deciduous, Coniferous, Mixed)		LB: A/D/C/M RB: A/D/C/M	
Non-native invasive plant species	Himalayan balsam		LB: A/T/P/E RB: A/T/P/E	PLANT IDENTIFICATION See MoRPh field guide
	Japanese knotweed		LB: A/T/P/E RB: A/T/P/E	
	Giant hogweed		LB: A/T/P/E RB: A/T/P/E	
	Floating pennywort		LB: A/T/P/E RB: A/T/P/E	
	Other: NAME SPECIES		LB: A/T/P/E RB: A/T/P/E	
	Other: NAME SPECIES		LB: A/T/P/E RB: A/T/P/E	
2.3 BANK TOP - WATER RELATED FEATURES				
Water-related features	Pond	Disconnected from river at time of survey	LB: A/T/P/E RB: A/T/P/E	
		Connected to river by water-filled channel at time of survey	LB: A/T/P/E RB: A/T/P/E	
	Side channel - free flowing separate channel including tributaries and fish passes		LB: A/T/P/E RB: A/T/P/E	
	Wetland (recorded by dominant vegetation type)	Short non-woody vegetation (e.g. mosses, sedges)	LB: A/T/P/E RB: A/T/P/E	
		Tall, non-woody vegetation (e.g. reeds, rushes)	LB: A/T/P/E RB: A/T/P/E	
		Shrubs and trees (e.g. alder / willow carr)	LB: A/T/P/E RB: A/T/P/E	

NOTES (ctd.)

Sheet 3 - BANK FACE AND CHANNEL MARGIN MEASUREMENTS

Module S

RECORD WHAT YOU SEE NOT WHAT YOU KNOW

MEASUREMENT CATEGORY	MEASUREMENT TYPE	CODE	ABUNDANCE	NOTES
3.1 BANK FACE - PROFILE				
Bank face - Profile	Natural / artificial bank profile	Dominant type (V, Vo, Vu, Vt, St, Gt, Cm, Rs, Ts, Em, Sm, Pc)	Bank profile type	LB RB LB RB
			Bank profile type	LB RB LB RB
				(i) SUB-DOMINANT TYPE ONLY RECORD if it occupies > 20% of the bank length
3.2 BANK FACE - MATERIALS				
Bank face - Natural materials	Bank face sediment (AR, BE, BO, CO, GP, SA, SI, CL, OR, PE, EA, NV)	Sediment size (top 2/3)	LB RB	
		Sediment size (bottom 1/3)	LB RB	
Bank face - Reinforcement	Which part of the bank is reinforced? (NOTE SPECIFIC CODES IN BOX (ii))			
	How extensive is the reinforcement horizontally along the module?			
	Dominant type (CC, CB, BR, SP, WP, BW, RR, GA, WS, RE, BC, WO)	Reinforcement type	LB RB	
	Sub-dominant type (see (iii))	Reinforcement type	LB RB	
				(ii) WHICH PART OF THE BANK IS REINFORCED? A = absent T = mainly the top B = mainly the bottom W = Whole bank face
				(iii) SUB-DOMINANT TYPE ONLY RECORD if it occupies > 20% reinforced area
3.3 BANK FACE / CHANNEL MARGIN - FEATURES				
Natural physical features	Bare / unvegetated side bar (< 50% vegetation cover)	Sediment size	LB RB	
	Vegetated side bar (> 50% vegetation cover)	Sediment size	LB RB	
	Berm (if unsure whether berm/bench record as berm)		LB RB	
	Bench (if unsure whether berm/bench record as berm)		LB RB	
	Stable cliff (> 0.5 m)		LB RB	
	Eroding cliff (> 0.5m)		LB RB	
	Toe		LB RB	
	Nest holes or animal burrows		LB RB	
	Marginal backwater		LB RB	
	Tributary junction / confluence: RECORD AS COUNT		LB RB	
Artificial physical features	Pipes / outfalls (if appear potentially functional): RECORD AS COUNT		LB RB	
	Jetty		LB RB	
	Deflector		LB RB	
	Other: INSERT FEATURE NAME		LB RB	
				A/T/P/E ABUNDANCE CODES (proportion of bank length occupied by feature) Circle one of: A = absent T = trace (< 5% area) P = present (5% - < 33%) E = extensive (> 33%)
				Maj (Major) = > 20% channel width Int (Intermediate) = 10-20% width Min (Minor) = < 10% width
MEASUREMENT CATEGORY	MEASUREMENT TYPE	ABUNDANCE	MEASUREMENT TYPE	ABUNDANCE
3.4 BANK FACE / CHANNEL MARGIN - VEGETATION				
Terrestrial vegetation on bank face	Unvegetated (bare earth or rock)	LB RB	LB RB	
	Mosses / lichens	LB RB	LB RB	
	Short/creeping herbs/grasses	LB RB	LB RB	
	Tall herbs/grasses	LB RB	LB RB	
	Scrub or shrubs	LB RB	LB RB	
	Saplings or trees	LB RB	LB RB	
	Large wood (pieces > 1m long, > 10 cm diameter)	LB RB	LB RB	
Aquatic vegetation at bank-water margin	Liverworts, mosses, lichens	LB RB	LB RB	
	Emergent broad-leaved	LB RB	LB RB	
	Emergent linear-leaved (incl horsetails)	LB RB	LB RB	
		LB RB	LB RB	
Non-native invasive plant species	Himalayan balsam	LB RB	LB RB	
	Japanese knotweed	LB RB	LB RB	
	Giant hogweed	LB RB	LB RB	
	Floating pennywort	LB RB	LB RB	
				Other: RECORD SPECIES NAME
				Other: RECORD SPECIES NAME

RECORD WHAT YOU SEE NOT WHAT YOU KNOW

MEASUREMENT CATEGORY	MEASUREMENT TYPE		ABUNDANCE	MEASUREMENT TYPE	ABUNDANCE	
4.1 CHANNEL BED - MATERIALS						
Channel bed - Natural materials	Bed sediment size	Bedrock (BE)	A / T / P / E	Silt (and finer non-sticky particles, SI)	A / T / P / E	
		Boulder (BO)	A / T / P / E	Clay (CL)	A / T / P / E	
		Cobble (CO)	A / T / P / E	Organic (leaves, twigs etc. not fully decomposed) (OR)	A / T / P / E	
		Gravel-Pebble (GP)	A / T / P / E			
		Sand (SA)	A / T / P / E	Peat (PE)	A / T / P / E	
	Silt overlying coarser sediments	Continuous silt layer (the form of underlying coarser sediments is visible)	A / T / P / E	Patchy thin layer (some coarser particles protrude through the silt layer)	A / T / P / E	
	Channel bed - Reinforcement	Bed reinforcement extent		A / T / P / E	(i) SUB-DOMINANT REINFORCEMENT TYPE: ONLY RECORD if it occupies > 20% reinforced area	
		CODE / DESCRIPTION				
Bed reinforcement materials		DOMINANT TYPE (CC, CB, BR, SP, WP, BW, RR, GA, WS, RE, BC, WO)	reinforcement type			
		SUB-DOMINANT TYPE (see (i))	reinforcement type			

4.2 WATER SURFACE				
Water surface flow patterns	Flow types	Free fall (FF)	Rippled (RP)	A / T / P / E
		Chute (CH)	Smooth (SM)	A / T / P / E
		Broken standing waves (BW)	No perceptible flow (NP)	A / T / P / E
		Unbroken standing waves (UW)		A / T / P / E
		Upwelling (UP)	Dry (DR)	A / T / P / E

MEASUREMENT CATEGORY	MEASUREMENT TYPE	CODE / DESCRIPTION	ABUNDANCE	NOTES
4.3 CHANNEL BED - FEATURES				
Channel bed - Natural physical features	Exposed bedrock		A / T / P / E	A/T/P/E ABUNDANCE CODES (proportion of bank length occupied by feature) Circle one of: A = absent T = trace (< 5% area) P = present (5% - <33%) E = extensive (> 33%)
	Exposed unvegetated boulders / rocks (< 50% vegetation cover)		A / T / P / E	
	Exposed vegetated boulders / rocks (> 50% vegetation cover)		A / T / P / E	
	Bare / unvegetated mid channel bar (< 50% vegetation cover)	sediment size	A / T / P / E	
	Vegetated mid channel bar (>50% vegetation cover)	sediment size	A / T / P / E	
	Island		A / T / P / E	(ii) WEIR TYPES / SIZES Major: permanent, impermeable, impounding structure across entire channel width Intermediate: semi-permeable, loose stone / wood structure across entire channel width Minor: highly permeable, transient feature across entire channel width
	Cascade		A / T / P / E	
	Pool: RECORD AS COUNT		—	
	Riffle: RECORD AS COUNT		—	
	Step (steep boulder/bedrock feature <2m high, mainly chute and free fall): RECORD AS COUNT		—	
Channel bed - Artificial features	Large trash (car parts, trolleys, traffic cones etc)		A / T / P / E	(iii) BRIDGE SHADOW Wide = > 25 m channel length, Int (Intermediate) = 10-25 m, Narr (Narrow) = < 10m
	Major weir (see (ii)): RECORD AS COUNT		—	
	Intermediate weir (see (ii)): RECORD AS COUNT		—	
	Minor weir (see (ii)): RECORD AS COUNT		—	(iii) BRIDGE SHADOW Wide = > 25 m channel length, Int (Intermediate) = 10-25 m, Narr (Narrow) = < 10m
	Bridge piers in river bed: RECORD AS COUNT		—	
	Bridge shadow (see (iii))		Wide / Int / Narr	
	Culvert: RECORD AS COUNT		—	

MEASUREMENT CATEGORY	MEASUREMENT TYPE	ABUNDANCE	MEASUREMENT TYPE	ABUNDANCE
4.4 CHANNEL BED - VEGETATION				
Vegetation within wetted channel	Unvegetated (bare river bed)	A / T / P / E	Amphibious	A / T / P / E
	Liverworts, mosses, lichens	A / T / P / E	Submerged broad-leaved	A / T / P / E
	Emergent broad-leaved	A / T / P / E	Submerged linear-leaved	A / T / P / E
	Emergent linear-leaved (incl horsetails)	A / T / P / E	Submerged fine-leaved	A / T / P / E
	Floating leaved (rooted)	A / T / P / E	Filamentous algae	A / T / P / E
	Free floating	A / T / P / E	Channel choked with plants?	YES/NO
Vegetation interacting with wetted channel	Vegetation shading channel	A / T / P / E	Large wood dam (in channel and crosses entire channel): RECORD AS COUNT	
	Submerged tree roots	A / T / P / E		
	Large wood in channel (pieces > 1m long, >10 cm wide)	A / T / P / E	Fallen trees (ONLY those with a significant proportion in channel): RECORD AS COUNT	
	Discrete accumulations of organic material in channel (e.g. twigs, leaves)	A / T / P / E		
Non-native invasive plant species	Himalayan balsam	A / T / P / E	Other: RECORD SPECIES NAME	A / T / P / E
	Japanese knotweed	A / T / P / E		
	Giant hogweed	A / T / P / E	Other: RECORD SPECIES NAME	A / T / P / E
	Floating pennywort	A / T / P / E		