Appendix 2: Raw Habitat data

Tables showing the raw habitat data for 2008 and 2010, including physiochemical data, habitat information, habitat quality assessment, Pfankuch stability index and habitat quantity assessment, are shown below.

Habitat and water quality data 2008																									
Site Name	Wairua @ Purua	Mangere @ Knight Rd	Mangakahia @ Titoki	Kaihu @ Gorge	Mangahahur u @ Apotu Rd	Whakapara @ Cableway	Waiotu @	Punikatere @ Recorder	Waipoua @ SH12	Walpapa @ Forest Ranger	Victoria @ Thompsons Bridge	Awanui u/s Waihue Channel	Kaeo River	Ruakaka @ Flyger Rd Bridge	Waipapa @ Waipapa Landing	Mangamuka @ hvistus Rd	Manganui @ Mtatai Rd	Paparoa @SH12 Bridge	Hakarau @ U/S of SH1 bridge	Ngunguru @ Wapoka Rd	Waimamaku @ SH12	Kerikeri @	Utukura @ Rangihua Rd Bridge	Oruru @ Oruru Rd	Awanui R (FNDC P/S (take) by SH
Site Number	101753	101625	101038	102256	100281	102249	102248	105231	103304	101751	105532	100370	102674	105008	101524	108978		108977	109021	109100					100363
	20/03/2008	28/03/2008	28/03/2008		22/07/2174	9/04/2008		25/03/2008	25/03/2000	7/04/2008	27/03/2008	27/03/2008		26/03/2000			26/03/2008		26/03/2008					27/03/2008	
Water Quality Data																									
Temperature	19.1	18.2	20	18.4	17.3	17.3	17.1	18.7	17.1	18.6	18.6	19.5	19.4	17.9	19.9	18.2	19.9	20.2	18.4	17.4	19.5	5 19.3	18.4	20.5	19.
Dissolved oxygen (mg/L)	8.5	8.2			11	10.3	9.7	8.9	9.1	8.1	7.6	6.89	8	7	8.5	7.5	7.89	6.8	8.8	9.8	8.9	9.8	7	7	
% Dissolved Oxygen (%SAT)	91.7	87.2	84.3	94.9	114.9	107	100.6	95	94.1	86.3	81.5	75.1	86.9	74.3	93.6	79.7	86.7	75.7	93.7	102.9	97.2	2 106	74.3	77.8	69.
Conductivity (uS)	104.3	69.7	78.1	29.6	115.4	70.6	85.8	119.7	85.7	107.4	139.1	182.4	126.1	114.9	69.3	132.6	189.2	62.3	139.3	1189	71.7			86.5	
Black disc (m)	1.28	1.4	1.3	0	1.52	1.9	1.33	0		3.27	2.62	0.71	0.82	0.54	2.14	2.67	0.7	1.08	0.91	2.21		2.2	0.62	0.92	
Water odour/oils	0	0	0	0	0	0	0	0		0	0	0	0		0	0	0	0	0	0) (0 0	0	0)
Surface oils	0	0	0	0	0	0	0	0		0	0	0	0		0	0	0	0	0	0) (0 0	0	0)
Anerobic sediment odour	0	0	0	0	0	0	0	0		0	0	0	0		0	0	0	0	0	0	0 0	0 0	0	0)
Pfankuch Stability Index Upper bank																									
Landform	8	6	8	6	7	7	7	6		5	6	8	8	- 2	2 2	8	8	6	- 5	- 4	1 8	3 8	7	8	3
Mass wasting	-11		10		. 8	7	10	8		- 5	7	4	9	10) 4	7	11	9	7	4		9 9	10		
Debris jam	5	3	6		4	2	4	5		4	5	5	4				6	4	5	3	É	4		7	
Vegetation	12	6	9		10	10	10	8		3	7	9					_	10			10		7	10) 1
Lower bank	- '-				10	10	10						10					10	10					- 10	,
Capacity	- 1	3	2	4	3	3	4	3	1	1	2	2	2	3	3	2	4	2	2	2		3	2	2	2
Bank rock	8	7	8	4	7	8	8	8	4	5	6	8	8		3 6	7	8	8	5	7	7	4	8	8	1
Obstruction	4	2	4	3	4	4	4	6	- 2	2	4	3	- 4	6		4	4	4	4	2		5 2	6	7	,
Cutting	16	8	14	10	7	6	7	7	- 1	6	9	6	5	13	3 6	9		10		4	11	1 8	10	7	1 1
Deposition	14		12			6	10	4		3	9	6	12	13		9	4	11		4			14		1
Bottom																									
Rock Angularity	3	2	2	3	3	3	4	2		2	2	0	3	2	2 1	2	0	2	2	2		2	4	0)
Brightness	4	2	3	2	4	3	3	1	1	2	1	0	3	1	1	1	0	- 1	3	1		1	4	0	1
Consolidation	6	- 5	6	3	5	- 5	- 5	A		3	3	3		-			1	3	4	4		. 7	7	4	
% stable	10	10	12	A	9	g	10	4	- 1	3	6	7	14	11		10		14	- 5	7		T A	14	7	
Scouring	20			8	11	11	- 140	6		4	9	12				10			8	8	13	3 12			1
Aquatic Vegetation	1	1	1	3	2	3	2	4		2	2	4	3	2	2	3	1	1	2	3	3 4		2	2	2
Total Upper Bank Score	36	21	33	20	29	26	31	27	16	17	25	26	31	27	16	27	34	29	27	15	30	3 20	31	35	. 2
Total Lower Bank Score	43		40					28			30							35	23			3 21			3
Total Bottom Score	44							21			23														
Habitat data																									
	Pasture	Native forest	Exotic scrub	Native fores	Pasture	Pasture	Pasture	Native scrul	Native fores	Native fores	Lifestyle, Pa	Native fores	Pasture	Native fores	Lifestyle.	Pasture	Native scrub	Pasture, Url	Native scrub	Native fore	Pasture	Native fore	Pasture	Pasture	Pasture, u
Litter present	0	0	0	0		0	1	1	1	0	1	1	1	1	0		0	0	0	0) (0 0		0)
Livestock access	1	- 1	0	0	0		2	2		0	0	1	0) (2	1	0	0	0	1	1 0	1	0)
%Channel shading	10	50	30	25	15	2.5	2.5	20	60	30	60	50	10	70	50	0	30	2.5	2.5	30		5 20	50	2.5	5
% Filamentous Algae	40							2.5														5 10			
Macrophytes Penphyton Data			С	R	С	A			0		R	С		R	C	R			0		0	R	С		R
Diatom	R	R	R	A	R	R	R	R	C	C	C	0	С	R	R	A	R	R	R	C	C	R	R	R	R
Mat Algae		R	Ċ	A	R	R	C	R	R	-	R		R	C	R	R		R	Ċ	R	R	R	Ċ	R	C
Filamentous Algae	~	C	C	R	C	R	~	R	R		R	_		C	C	R	R	A	A	R	R	c	C	R	Č
Bryophytes			R	1.5	R	R		R	D	R	R		R	D	R	P			p p	R	0	R	0	R	A

Qualitative Assessment																									
Habitat abundance	18	11	13	14		13	12	13	15	18	16		- 0	19	18	14	10	15	17	13	B	19	14	13	12
Habitat diversity	16	11	12	10		10	11	16	18	16	16		9	14	13	13	13	15	15	12	11	15	14	10	13
The state of the s	12	- 1	12	16		10	10	13	18	17	17		11	12	14	11	1.3	10	19	12	- 1	12	14	11	11
Hydrologic heterogeneity			0			10	10	1.5	1,1,00			- 4		12					-776.0	40	- 4	19974	42		
Channel alteration	13	- 11	8	15	8		9	14	15	19	14	V	11	12	16	13	- 11	11	16	13	- 11	14	12	13	- 11
Bank stability	- 5	13	10	18	9	14	7	13	16	15		3	10	. 7	14	10		10	15	12	9	- 11		8	- 11
Channel shade	3	10	8	12	- 5	2	- 2	6	15	10	13	10	3	11	10	- 4	- 7	- 2	3	8	- 4	b	10	1	- 2
Riparian vegetation	4	7	8	13	- 6	2	- 4	8	18	19	4	7	- 6	11	. 9	4	8	4	8	13		- 8	8	2	- 4
TOTAL	71	70	65	106	53	58	- 55	83	115	114	87	44	58	77	94	69	66	65	93	79	56	83	75	58	64
Quantitative assessment																									
Flow type	- 60						-		-		-		1757		447	7.67	-221					-	- 27	-	-
%Pool	43	17	0	0	0	0	0	0	0	0	0	0	- 0	57	17	0	29	60	0	0	0	0	0	0	0
%Riffe	60	17	. 0	17	.0	- 0	0	40	17	67	14	. 0	14	14	33	. 0	- 0	0	13	.0	D	. 0	. 0	0	60
%Run	0	67	100	83	100	100	100	60	83	33	- 86	100	86	29	50	100	71	40	88	100	100	100	100	100	40
%Waterfall/chute	.0	0	0	0	.0	0	0	0	0	0		0	0	0	0	0	0	0	0	.0	0	0	0	0	0
Mean depth	0.50	0.50	0.50	0.37	0.88	0.96	0.93	0.84	0.37	0.38	0.46	0.00	0.24	D.41	0.74	0.29	0.00	0.68	0.57	1.00	0.77	0.97	0.98	0.00	0.47
Mean width	24	9	19	19	8	- 11	17	23	20	24.00	12	16	13	6	23	13	19	9	8	21	14	29	13	3	17
Inorganic substrate																									
%Bedrock	42.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	7.50	0.00	0.00	5.00	0.00	Charle	0.00
%Boulder	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	1.67	0.00	0.00	82.50	0.00	1.67	46.67	0.00	0.00	80.00
%Cobble	0.00	0.00	0.00	51.67	0.00	0.00	0.00	0.00	50.00	50.00	54.29	0.00	0.00	0.00	0.00	43.33	0.00	0.00	7.50	86.67	78.33	0.00	0.00	0.00	0.00
%Gravel	26.00	0.00	2.00	48.33	61.67	42.86	11.43	50.00	0.00	50.00	38.57	0.00	65.71	48.57	0.00	46.67	0.00	64.29	0.00	13.33	18.33	49 33	30.00	0.00	0.00
%Sitt/sand	12.00	0.00	2.00	0.00	36.67	0.00	0.00	0.00	0.00	0.00	7.14	0.00	32.86	2.86	0.00	8.33	0.00	5.71	0.00	0.00	1.67	0.00	65.00	0.00	0.00
CONTRACTOR OF THE PROPERTY OF				0.001																					
%Hard clays	20.00	100.00	94.00	0.00	1.67	57.14	88.57	0.00	0.00	0.00	0.00	100.00	1.43	48.57	0.00	0.00	100.00	30.00	2.50	0.00	0.00	0.00	5.00	100.00	20.00
%Manmade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Organic substrate																									
%Detritus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Bryophytes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.50	0.00	0.00	0.00	0.00	0.00	36.00
%Macrophytes	44.00	16.67	28.00	0.00	35.00	80.00	52.86	0.00	0.00	0.00	5.71	73.33	0.00	2.86	0.00	0.00	80.00	0.00	0.00	0.00	0.00	0.00	16.67	70.00	0.000
%Algae	34.00	11.67	14.00	100.00	65.00	0.00	30.00	16.00	16.67	0.00	91.43	0.00	31.43	22.86	100.00	90.00	2.86	68.57	92.50	100.00	3.33	100.00	50.00	0.00	44.00
%Woody debns	6.00	8.33	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.86	0.00	0.00	2.86	0.00	3.33	2.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Tree roots	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%None	16.00	63.33	56.00	0.00	0.00	20.00	17.14	84.00	83.33	0.00	0.00	26.67	68.57	71.43	0.00	6.67	14.29	31.43	0.00	0.00	96.67	0.00	33.33	30.00	0.00
Bank type																									
%Earth	100.00	100.00	90.00	0.00	100.00	100.00	100.00	100.00	50.00	100.00	78.57	100.00	100.00	100.00	20.00	91.67	100.00	05.71	43.75	100.00	83.33	50.00	100.00	100.00	40.00
%Rock	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00
%Mix	0.00	0.00	10.00	100.00	0.00	0.00	0.00	0.00	50.00	0.00	21.43	0.00	0.00	0.00	40.00	8.33	0.00	0.00	31.25	0.00	16.67	50.00	0.00	0.00	50.00
%Manmade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	0.00	0.00	14.29	0.00	0.00	0.00	0.00	0.00	0.00	10.00
Manager Manager Control Control	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	0.00	0.00	14.25	0.00	0.00	0.00	0.00	0.00	0.00	10.00
Bank Stativity	20	70	100	60	600	+00	0	7767	200	766	1447	200	704	200	100	+00	40	100	2007	600	76	60	167	200	200
%Stable	20	50	30	58	50	100		100	58	75	14 86	83	21	50	100	100	43 57	36 64	56	50 50	75	50 50	10	50	30
%Unstable	80	50	70	42	50	D.	100	100	42	25	86	11/1	79	50	U	U	57	54	44	50	25	50	82	50	70
Riparian canopy	1000	1455	1000	4000	-	- MANUEL	1000	100 700	110000	-95944	30000		THE PART	2276	-000	77377	100000	10/202	2500	- 200	- 1997	-17 (A)	1000	- 1.DE	100000
%Artifical shading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Mature native	0.00	41,67	0.00	50.00	0.00	0.00	0.00	50.00	83.33	91.67	50.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00
%Young native	33.33	0.00	0.00	0.00	0.00	0.00	18.75	0.00	16.67	8.33	50.00	0.00	6.25	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	16.67	0.00	0.00	0.00
%Exotic treeland	0.00	0.00	41.67	0.00	0.00	0.00	6.25	0.00	0.00	0.00	0.00	50.00	6.25	0.00	41.67	0.00	0.00	12.50	6.25	0.00	25.00	16.67	8.33	0.00	16.67
%Exotic plantation	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.000
%None	66.67	58.33	58.33	25.00	100.00	100.00	75.00	50.00	0.00	0.00	0.00	50.00	87.50	50.00	58.33	100.00	50.00	87.50	93.75	14.29	75.00	66.67	91.67	100.00	83.33
Riparian understorey	2022 AND 100	17/00/16	*********	1555.000	anichode	- HOLDINGS	CKNOWN	100000	rinshinster.	9000000	HITTOIN .	ristante.	pression	93150/8	*CZ SYDNATU	OHOMONO	-522055310	Sevent from	2000000	In the Section	20200000	meter eve	0.856/1073	TETERANA PINA	reterm
%Artifical shading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Dense native	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	41.67	0.00	0.00	0.00	0.00	0.00
%Thin native	0.00	0.00	8.00	83.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	100.00	0.00	8.33	0.00	0.00	0.00	0.00	0.00
%Dense exotic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	16.67	0.00	0.00	0.00	0.00	41.67	0.00	0.00	0.00	0.00	0.00
%Thin exotic -pasture & weeds	100.00	100.00	100.00	16.67	100.00	100.00	100.00	100.00	0.00	0.00	50.00	100.00	100.00	75.00	83.33	100.00	100.00	0.00	100.00	0.00	100.00	100.00	100.00	100.00	100.00
%None - bare ground	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

No bottom data- organic & ecogunic a	e missey.																																		
Habitat and water quality data 2010													-																			_			
manus and water queen and com-		Harger &	Mangaloria @ Twin		Fahu Ø	(Mangamahuru)		Waters Q	Production 12	Parkstore (5	Napoue Q	Vitipope (§	Vetors @ Thorpsons	American Verter	Kises Fiver		Yinpron @	Moganuka @leistus	Manganui (b	Paparos @SH2	Heisens @ US or SHI	Number ©	Vanansu	Kelleri (B	(tare)	Oneside	Avenuit @ PIEC RS			Yearsha ()	Transin ()	Vietes Fire (i) Drafts	Protona (I)	Vistary ()	Intes () No
Site Name	Para	Happe Rd	Bruges	@ Titali		@WeiRd				Recorder	942	Farge	Bidge	Chenn	@CloRe	Brope	Landing	74	Minte Rd		bridge			Stone store			take to SHI		tridge		Whou Valley		Vitanuty Rd		
Site Number	101753	101625	103096	101038	102256	100237	100281	102249	102248	105231	103304	101751	105532	100370	102674	105008	101524	108979	102257	108977	109021			101530	109020	108979	100363	100007	102258	105672	107773	108941	1 123179	101752	100194
Date						19/01/2010																													
Water Quality Data																																			
Temperature	223	199	24.9	16.9	151	17.7	16.1	198	20.2	166	14	15.4	16.7	17.4	15.5	166	23.5	169	17	21.4	193	202	16	229	166	158	17.2	22.2	22.7	195	17.9	18.1	. 7	0 17.3	21.4
	92						9.37		74			8.79										5.96	- 04	8.97		13.14								9.50	
Dissolved oxygen (Ingl.)										11.65	11.22												11.86												67
% Dissolved Oxygen (%SAT)	105.6								81.7	119.5	108.8	- 88	1138										120.1	104.4		1326					93			99.5	
Conductivity (uS)	153.1	168.2	1527	141.6	104.5	89.8	142.2	- 89	82.2	145	66.2	110.1	146.6	180.8	1417	198.7	- 65	102.3	104.4	3990	156.8	786	93.7	93	139.5	149.4	183.8	168.4	1435	354.5	367	183.5	5 1	122.2	1220
Black doc [w]	0		2	1 2	2	1.75	1.12	0	0	- 2	1.39	3	- 2		1	0.64	1.75	2	0.91	0.41	-1.1	1.75	1.15	1.75	0	1.5	- 2	1.07	2.1	- 2	1.4	. 13	3 7	1 7	1.75
Water odourlails				0		0	- 0	0		. 0	0			- 1) (0	0	- 1					0	- 1	0 /	A 1	
Surface oils	- 6	- 1		, n		. 6	- 0	. 0	- 6	- 6		- 0	- 6	-		1 6								- 0	- 6	- 7		-	- 4	- 6	0		0 7	7	
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Anenthic sediment odeur	- 9	- 4	- '	- 0	- 0	- 1		U	0	- 0	. 0	- 4	- 4	-	- 1		- 0		- 0		0		. 0	- 0	U	- 1	- 1	-	- 0	- 9	0	- 1			
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Landom	- 0							- 0									- 19) je	- 1				5 2g	- 0	- 2		- 1	1.0	0 /		1.0
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Mass wasting	-	- 1	- 0	, 6				- 7	- 2	- 0	- 3	- /	- 0				- 1	7	- 1				- 3	- 6	- 4	-		- 7	- 2	- 0	- 9		6 12	4	
Debris jam			- 7	- 4			- 2	- 4	0.	- 6	- 2	- 5	- 6		- 4	5	- 4	4	- 6		- 2	- 4	- 2	- 5	- 8	-	- 6	- 8	- 2	4	- 4	- 4	2 9	A 7	2
Vegetation	- 6	- 6	3	12	3	6	12	- 6	- 6	12	3	- 1	9	12	5 10	2 9	- 5	12		. 5	4	3	9	5	12	12	12	9	9	12	9		3 12	E 17	4
Lower bank																																			
Capacity		- 3				- 1		- 1	- 1	- 3	-	- 1	- 3		1 7	1 1	- 1	- 1	- 1		1	- 1	7	- 5	- 1	_			- 1	- 3	-				
Sark rock		- 1	- 1						-	- 4	- 4	- 4	- 4		- 1		- 1		- 1	- 1			- 4	- 4		- :				-	-	- ,			4
	-		- 5	- 4			- 0	- 5	- 5		- 4	- 4		-				-	- 1	-	- 4		- 1	- 1		_	-		- 1	- 4	- 1	- 1	1 3		- 1
Obstruction	- 2			4	2	- 3	. 4	- 2		- 3	- 2	- 2	- 4		94	2 2	2.2	- 4	- 4		. 2	- 2	- 4	- 2	5	-	2 0	- 4	- 1		3		8 9	£ 7	17
Outling	- 8	12	-12	1 8	4	8	. 8	12	12	- 8	- 4	- 8	8	- 1		3	- 4	8	10	12	10	- 4	- 8	12	12			- 8	- 4	- 4	8	- 6	6 14	6 1	. 4
Deposition	- 1	4		4	- 4	8	- 4	- 4	- 4	- 4	4		9			1 1	- 4	- 4	10	15	- 4	4	- 1	- 4	4		4		- 1		8		6 13	1 4	- 1
Bottom				6.00								-			-			_					-		111-12				-	-	-				1
			-		-	- 4		- 1			- 2	- 1					-						- 4	- 1		-	- 44	_		- 1	- 4		4		1
Rock Angularity						- 4	U	- 1			- 4	- 4	- 4			4		- 4			3		- 4	- 4		-	1.5		- 4	- 1	- 4	- 4	4 3	1	
Brightness				- 3	- 7	- 2	3	- 3			- 1	1	1		- 1) 3		- 2	- 1		1		- 7	1		- 4		- 4	1		- 2		1 1	1 7	
Consolidation			-	4	- 2	- 4		- 6		- 2	- 2	- 3	- 4		- 1	3	- 2	- 8	8	- 8	2		- 2	- 2			1 2	- 6	- 2	- 4	- 4		4 8	i = f	2
% stable				12	4	. 8	19	12		- 4	4	- 8			16	9 14	- 4	12	16	15	4		4	. 4		. 16		14	4	9	8	10	0 14	£ 14	4
Scauling			- 6	19	- 6	12	18	6		- 6	6	- 6	12		- 1	5 12		12	18	19			- 6	- 6		- 17	1	16		- 6	12	15	5 18		
	_		- 1		- 1		- 10	- 1		- 1	- 1	- 1	- 1		- 1	1 1	- :	- 1					- 1	2				- 4	- 1	- 2	- 4		. 7		- 1
Aquatic Vegetation						- 4					-	-	- 4		-	1	-				-		-			-		-		- 4			1	-	-
Total Upper Bank Score	27	33	19		12		26	27	29	30	12	22	27	2	- 2	3 29	22	33	27	3	18	19	18	26	35	31	30	34	. 24	28	36	- 15	7	2	20
Total Lower Bank Store	23	32	26	20	13	26	26	27	27	23	13	21	30	2	20	24	21	26	34	40	21	20	24	- 24	31	2	23	29	16	21	24	- 2	5 4		
Total Bottom Score			21	40	10	31	50	29		16	22	22	29		3))	16	- 40	46	5	17		10	- 17		- 4	14.5	49	19	25	30	2	5 49		
Habitat data																																			
		At an	41.			Berlin B.						1.0 4	10.44			Mar. 6	40.0		Maria					41.0		BL 0.45		44.00	40.00			14.11	No.	Anna .	Share A
Landuse	Native scru	CNative scrub	Nathe Sites	cyasture, ut	(Alabye fores	Native Stress	Pattue, st	redoe, par	Name son,	PROUP	Native Stress	native fores	Lifestyle, pr	Pistor	Patture	Nutive fores	Native scru	CHRISTON	Native som	PREUM, ST	strative strut	chalive sond	rastive, ut	Native scrut	Pasture, ut	Placed for	PRODUK, VI	NOTE SOLU	(Native fores)	USW	Native scrut	resplay b	ps Native scru	ENIONE SCH	Inable tires
Litter present	- 0	. 0	0	0	. 0	0		0	0	- 0	0	0	. 0	(1	1	1			0	. 8	Û	1	0		. 0	. 0	- 0	. 0	1		E .	E 1	. 0
Livestock access	1	. 0	1		0	1	1	2	1	- 2	0	0	. 0			2 0	. 0	2	- 1		1	- 1	. 2	0	. 1			1	- 1	. 0	2	1	0 7	E 1	. 0
%Channel shading	20	50	at at	2	- 70	90		10	15	60	60	#5	30	- 4		90	- 50			.03	20	65	47	30	75	10	50	96	12	50	90	2	0 20	5 1	80
% Filamentous Algáe	- 0	10		- 25	ń	n	0	15	15	15				2) 0	- 3	16		- 3			0	0		- 1		- 0	- 4	- 1	- 4	- 1	0 1		1
				D 40	0				1-	100	D 0	0	, W							0		2			0			0	0				9		
Macrophytes	Ų.	R	H	×	×	R)	Α	Α	A 3	н.	H	М	L	U.	×	H.	-	H	н	H	W.	75	ĸ	er .	M.	ė.	- La	H	H	L	U	A :	×	R.	R
Perphyton Data				120										19				UH 13	700		20 -			Albert .			Sec	100	Sec. 1				100	100	1000
Diatom	C	R	C	2	8	C .	R	C :	C I	0	R	Α	C	C	8	8	C	R	C	R	C	8	R	A .	R	0	R	R	¢ :	R	C	- (0.8	R	£
Mat Aigae	0	R	C	R	8	8	R	C	C	P	R	A.	R	R	8	R	8	R	R	R	C	9	R	R	R	0	R	R	R	R	R	R	8	R	C
Filamentous Algae	D	C	p	C.	0	9	R	C	C	C	P	D	D	C	p	0	e	C	B	R	p	9	p	D	p	D.	P	P	C .	P	P	Ć.	0	g	P
	0		D		1	6	D		0		D	0	p.	0	D		0	0		0	6	0		D.	0		A	D.	n n	D.	0	0	0	0	D
Brytiphytes	M.		m	A		B	H.	я.	N	7.	n.	M .	V		A	74	M.	H	le :	T.		-75	0	M	6	F	0.	H.	M .	n n	m i	N .	Fi	194	PL .

Oualitative Assessment																																
Hisbitot abundance	17	15	13	30	13	16	10	13	13	. 0	16	17	16	17	8 15	15		6	2 10	13	16	16	10	14	12		8 8	16	18	- 8	13	17
Sabitat diversity	19	12	14	40	11	16	10	14	17		14	16	16		1 13	13	-	- 1	2 10	13	10	10	40	14	- 12	-1-	4 7	10	10	- 1	15	17
	- 11	- 12	14	- 10	10	10	19	- 5	14	- 11	10	. 0	10		1 2	13		- 2	6 19	- 13	10	20	70	40	- 10		10 10	10	10	14		- 12
Hydrologic heterogeneity		- 9		- 4	10	10	- 0	- 10	3	- 11	10.	- 0	10		10		- 0	3	- 100	.0	10.	40	- 6	10	- 15	- 0	10 10	10	10		16	- 3
Channel afteration	18.	- 8	- 19	- 5	- 10	14	- 8	18		8	15	20	14	13	11 16	13	- 13	- 10	10 11	19	- 6	- 15	- 1	- 11	- 1	15	12 5	13	15	13		12
Bank stability	14	- 6	12	12	20	16	11	- 8	8	16	20	19	14:	10	14 14	14	14	8	10 15	18	16	13	4	10		10	14 16	14	15	0	17	.18
Channel shade	8	10	8	-1	13	18	D	3	2	-11	11	9	8	10	D 18	10	0	- 1	1 6	13	8		14	2	11	15	1 10	18	8	- 5	. 1	15
Rosean regetation	4	12	8	4	- 18	14	.0	- 4	- 2	. 4	16	20	3	. 0	0 10	- 4	. 0	ð	2 6	. 5	- 2	4	- 1	. 0	.0	12	4 4	6	8	0	12	-14
TOTAL	90	77	- 11	46	101	114	47	67	t,	66	108	111	88	86	27 %	83	- 51	44	33 77	90	80	54	46	61	81	76	56 66	101	97	- 46	90	96
Ovantitative assessment																																
Flowtype																																-
NPvoi	75	100	0.	.0	. 0	125	0	. 0	0	40	20	0	20	40	0 80	625	0	0	100 0	100	40	0	100	. 0.	45	37.5	0 15 566657	3	12.5	. 0		. 0
Shifte	125	- 6	20	0	60	50	8	12.5	0	20	40	20	20	- 6	0 20	6.25	40	20	0 0	. 0	40	125	0	20	30	0	0 50	37.5	0	0.19	6 666667	0
18yr	12.5	- 6	60	100	40	0	100	107.5	100	40	40	80	40	60	100 0	B1.25	60	80	0 70	0	20	62.5		60		50	80 16 666667	3	87.5		3 333333	100
%Widefall/chate	14.5		20	- 0	4	100	- 0	0.0	0	0		- 0	20	- 10	0 0	41.22	- 0	.00	0 30		0	25		- 10	30	13	20 17	13	0.5	30	0	100
	100			100	0.000	20		U.	ų.	Date	1000			200	44 444	0.000	16.65				U.				30				U		LA TRANSPORT	
Mean digith	100	7.00	0.5	192	0342	0.475	0.49		1.5	0.38	0.34	0.89	0.49	134	0.8 8.902	0.975	0.32	1.68	86 04		0.42	1	1	0.36	0.66	0.575	0.7 0.7833333	0.535	0.6		4186667	10000
Mean width	18.75	10.75	25	7.6	14.06	- 4	5.56	15	15	10.5	11.94	15.6	7.02	7.9	8 5.18	26	E.12	7.5	72 764	13.75	11.18	24	42	2.94	8.90	15.5	22 4 0303333	53/5	- 5	55 1	4.166667	21.75
Inorganic substrate	100000000000000000000000000000000000000																															220155
%Sedrock			0	0	0	0	0	.0		12	0	0	.0		. 0	65	0	0	0 80		0	0		0	0	0	0 0	0	0	0	0.	. 0
%Eodder	1		50	- 0	100	0	0	0		48	100	0	0		0 0	Û	0	0	5 0		100	425		0.	40	10	46 0	10	- 5	D	0	80
NCobble .	1		50	0	0	0	0	0		36	0	0	40		0 30	35	0	0	15 14		. 0	22.5		- 0	60	0	30 0	75	0	24 €	9666667	10
NGrani	1		- 8	. 0	8	70		50		n		100	20	-	0 16.666667		100	0	95 4		- 11	35		72		40	0 96,666667	45	475	44	70	- 0
%Sit/sand	1			100	- 2	30	100	50	_			1990	60	-	100 53.33333	- 2	700	100	65 2	-		- 44	_	- 1		61	0 3.333333	37.5	47.5			10
	ł		- 2	100		- AL	100	- 00	_		- U			_	NO 33 33333	- 5		100	00. 4		U.	- 0	_		- 1	- 20	0 2333333	3/2	40.5	20. 5	333333	100
Nitlard clays	-			- 4	- 0		- 4	- 0	_	- 0	- 4	- 0	U U	_		- 5	- 4				- 0	-		0.	- 4	- 0	u u	- 4	U	- 1		- 9
Mannade		_	0	0	.0	0	.0	- 0	_	. 0	0.	0	.0	_	0 0	- 0	U.	0	0 0		0.	U		- 0	- 4	- 0	24 0	0.	- 0	0	U.	.0
Organic substrale																																
%Cetitus			81	0	D.	50	8	0	_	8	16	4.	10	_	0 0		U.	4	0 0		Ū	25		4	8	30	0 20	. 0	. 0	.0	U	. 0
N.Bryophytas	1		0	0	100	0	8	- 0		8	20	8	30		0 50	25	24	0	0 0		40	0		. 5	34	. 0	0 43 333333	12.5	0	0	0	- 0
Micophysis	1		0.	20	0	0	68	50		0	0	0	0	_	0 0	20	. 0	0	0 0		0	0		64	4 33	933339	0 3.3333333	5.	50	0	10	. 0
NAlpe	1		100	49	- 6	36	16	50	_	54	16	00	- 4	_	0 50	77.5	76	.00	0 90		20	67.5			50 53		100 29 333333	70	50	4.6	6.686667	87.5
%Woody debris	1			32	0	- 25	0	.0		0	0	. 0	34	_	0 0	0		9	100 2		0.	30			4 13		0 0	12.5	0		6.696567	12.5
%Tree roots	-			- 4		40		. 0	_	. 0	0		- 4	_		- 2			0 0		0	- 20	_	-	4 12	333333 A	0 0	0	0		0.0000001 6/	14.0
	4		- 1		- 4		- 0	Ų	_	- 4		- 1	- 9	_		- 4	- 4					- 4	-	-	- 4	- 4	0 0		0	0		- 2
Wine			9.	0	- 9	ų.	. 0	U	_	0	4	. 0	. 0	_	100 0	- 0	- 0	0	0 0		40			32	- 0	- 0	0 10	0	0	98 E	6666667	- 0
Bani type	7/107																															- 33
%Eath	100	100	0.	90	0	100	100	100	100	20	0.	.0	100	100	100 90	100	100	100	100 30	100	0	25	100	100	- 0	87.5	0 0	37.5	100	100 9	666667	25
%Reck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0	0	0	0	0 30	. 0	0	0	0	0	10	0	0 0	0	0	0	0	0
NMx	- 6	- 0	100	10	100	0	0	- 0	0	80	100	100	0	0	0 0	0	0	0	0 40	. 0	100	76	0	0	100	12.5	100 100	62.5	0	0.8	3333333	25
NManmade	- 0	- 6	0		.0	0		. 0		- 8	B	0	. 0	0	0 10	0	0	0	0 0		n.	0	- 8	0	- 8	0	0 0	- 0	D	. 0	0	50
Bank Stability	-	<u>`</u>						-	- 17	_		-	100	_i-			_								-			-		_	_	-10
%Stable	87.5	- 6	100	80	100	100	6	100	90	10	100	00	10	N .	D 11.111111	100	10	- 0	40 80	87.5	- 0	75	- 6	- 10	- 75	75	100 58 333333	40	100	- 0	50	100
		455			140	100	100			19	100	90	- 190	400		100		400			N N		400	400	400				100	M.		100
Windshie	125	100	0	20	0	0	100	0	10	90	0	10.	90	100	100 90	- 0	90	100	60 20	12.5	100	25	100	100	100	25	0 41.666667	50	0	100	50	- 0
Riparian cangg															12,112							1771										100
%Artifical shading		- 0	. 0	- 0	0	0	Ü	- 0	0	. 0	0	0	0	0	0 0	0.	0	0	0 0	0	0	0	0	0.	0	0	0 0	0	0	0	0	- 0
SMature native	0	25	58 333333	0	25	100	. 0	0	0	.0	50	50	0	0	0 50	0	0	. 0	0 0	50	0	0	- 5	0	0	25, 833	33333 0	Ů.	0	0	0	87.5
% Young native	12.5		8.3333333	0.58	333333	0	9	0	0	.50	50	50	0	. 0	0 0	0	0.33	333333	0 16 886667	0	0	0	. 0	0	. 0	625	25 8.3333333	75	25 33	333333	75	.0
NExtic treated		. 0	0	25.83		0	0	0	0	0	0	0	75 56 6	1383	0 0	100		666667	50 0	0	0	75 81	1233333	0 1E.6	60662	0	0 0	0	0	0	0	0
NExistic plantation			8	0	0	0.0	3333333	. 0	D.	n	0	0	0	8	0 0		0	. 0	50 25	12.5	0	6	0	8	A		0 0	0	. 0	0	0	- 6
	87.5	- 2	22 202222	20.00	22222			100	100	40	0		7 77 77	2220	0 50	- 0	100	en .		37.5	100	W. 61	Decret 1	400 PO 5	02220	125 000	TOTAL DI COCCUE	75	* **	COCCET	4	120
Wire	0/3	- 0	33.333333	75 83	333333	0.91	668667	100	100	.50	U	U	25 33 3	10333	0 50	- 0	100	50	0 58 333333	3/.5	100	25 91	10000	100 83.3	33333	125 000	5666E7 91.6668E7	and a	(2.10	686667	25	125
Sparan understany	1500	- 127		227000	10000	++170	ALCOHOL: NAME OF PERSONS ASSESSED.	0040	1000	90	- 73	100	100	-	450	114	14000	30,17	77	172	75	Detail	THE PERSON NAMED IN		TOTAL STREET		1	70	52,977	and the second	-	100
SAttical shading	. 5	- 0	0	0	- 0	0	0	0	0	0	0	0	0	0	0 0	0	- 0	0	0 0	0	0	0	- 0	0	0	0	0 0	0	- 0	0	0	0
SCerce rative	. 0	.0	0.		333333	0	0	0	0	0	75	50	0	0	0 0	0	0	0	0 0	0	0	0	0	0	0	0	0 0	0	. 0	0	0	0
	100.00	75	83 333333	0.03	333333	0	0	n	n.	0.91	333333	25	0	0	0 50	25	0.41	666667 33.33	33333 16.666667	37.5	0	0	. 0	0.	. 0	37.5 8.33	333333 0	37.5	0	0	50	75
%This native	125	170	02-333333																													-
	125	10	0.83		25	0	0	0	0	0	0	0	0	0	0 0	0	0	0	0. 16.996967		D:	D	- 0	0	- 0	0	0 0	n:	0	0	D	- 0
%This native %Dense eratic %This eratic -pasture & weeds	0 0 025	0		33333"		100	0	0	100	0	0 688667	0	0 76	0 60	0 0 100 16 666667	95	0	0	0 16.886867 8667 33.333333	0	60	100 33	202020	0	0	0 375 833	0 0	0 37.5	100	100	0.25	0