

Appendix 1: Catchment Characteristics

Matahuru catchment characteristics*

Area of catchment (ha) (including water)	10327
Area of catchment (ha) (excluding inland water)	10163

Waterway details

Breakdown of waterway by landcover (rivers, streams and drains)	Landcover	Length (m)	% of total
	Pasture	147649	91%
	Indigenous Forest	8732	5%
	Scrub	4165	3%
	Planted Forest	1773	1%
	Inland Water	164	0.1%
TOTAL	162482	100%	
Breakdown of waterway in pasture by size (strahler)	Strahler	Length (m)	% of total
	1	73849	50%
	2	30306	21%
	3	28211	19%
	4	14771	10%
	5	512	0.4%
TOTAL	147648	100%	

Landscape features

Geology	Geology	Area (ha)	% of land area
	Greywacke	6425	62%
	Tephra	2763	27%
	Unconsolidated	1134	11%
	Peat	5	<0.1%
TOTAL	10327	100%	
Soil classification	Soil Order	Area (ha)	% of land area
	Granular	2900	28%
	Recent	2657	26%
	Ultic	2134	21%
	Brown	1462	14%
	Gley	623	6%
Other	551	6%	
TOTAL	10327	100%	
Soil series	Dominant soil series	Area (ha)	% of land area
	Te Ranga	2287	22%
	Hamilton	2285	22%
	Mangatawhiri	1576	15%
	Marua	1462	14%
	Mercer	604	6%
	Mangawheau	526	5%
	Opita	475	5%
	Kaipaki	273	3%
	Other	839	7.7%
TOTAL	10327	100%	

Vegetation and Landuse

Vegetation (landcover)	Vegetation	Area (ha)	% of land area
	Pasture	9383	91%
	Indigenous Forest	566	5%
	Scrub	195	2%
	Planted forest	175	2%
	Inland Wetland/water	7	<0.2%
TOTAL	10327	100%	
LUC	LUC class	Area (ha)	% of land area
	6	4600	44%
	2	2131	21%
	3	1418	14%
	4	1117	11%
	7	1061	10%
TOTAL	10327	100%	
LUC by pasture	LUC class	Area (ha)	% of land area
	6	4078	39%
	2	2061	20%
	3	1403	14%
	4	1097	11%
	7	745	7%
TOTAL	9384	91%	
LUC 6e, 7, 8	Type	Area (ha)	% of land area
	6e	4590	44%
	7	1060	10%
	8	0	0%
	TOTAL	5650	54%

Erosion

Potential soil loss (LRI assessment)	Erosion	Area (ha)	% of land area
	Low	5710	55%
	Medium	2638	26%
	High	1979	19%
	TOTAL	10327	100%

Erosion – dominant type (from NZLRI assessment)	Type	Area (ha)	% of land area
	None	5268	51%
	1Ss	2181	21%
	1Sh	2033	20%
	1Sb	677	6%
	2Sh	168	2%
	TOTAL	10327	100%

Pokaiwhenua catchment characteristics*

Area of catchment (ha) (including water)	51464
Area of catchment (ha) (excluding inland water)	51432

Waterway details

Breakdown of waterway by landcover (rivers, streams and drains)	Landcover	Length (m)	% of total
	Planted Forest	358768	47%
	Pasture	313803	41%
	Indigenous Forest	49098	6%
	Scrub	16987	2%
	Urban Area	9507	1%
	Other	8346	1%
	TOTAL	756509	100%

Breakdown of waterway in pasture by size (strahler)	Strahler	Length (m)	% of total
	1	156370	50%
	2	57908	18%
	3	54318	17%
	4	25959	8%
	5	19249	6%
	TOTAL	313803	100%

Landscape features

Geology	Geology	Area (ha)	% of land area
	Tephra	41308	80%
	Pumice	3917	8%
	Volcanic	1059	2%
	Town	629	<0.1%
	Unconsolidated	429	<0.1%
	TOTAL	47342	100%

Soil classification	Soil Order	Area (ha)	% of land area
	Pumice	35732	70%
	Podzol	9334	18%
	Allophanic	5769	11%
	Town/Recent	629	1%
	TOTAL	51464	100%

Soil series	Dominant soil series	Area (ha)	% of land area
	Taupo	30567	59%
	Ngaroma	6196	12%
	Tirau	3595	7%
	Oruanui	3204	6%
	Mamaku	2701	5%
	Otanewainuku	1488	3%
	Other	3712	8%
	TOTAL	51464	100%

Vegetation and Landuse

Vegetation (landcover)	Vegetation	Area (ha)	% of land area
	Planted forest	27107	52%
	Pasture	20563	40%
	Indigenous Forest	2081	4%
	Urban	1153	2%
	Scrub	377	1%
	Other	183	1%
	TOTAL	51464	100%

LUC	LUC class	Area (ha)	% of land area
	6	20123	39%
	4	16527	32%
	3	9723	19%
	7	2863	6%
	8	1219	3%
	Other	1009	2%
	TOTAL	51464	100%

LUC by pasture	LUC class	Area (ha)	% of land area
	3	7172	14%
	6	6514	13%
	4	6046	12%
	Other	831	1%
TOTAL	20563	39%	
LUC 6e, 7, 8	Type	Area (ha)	% of land area
	6e	12412	24%
	7	2863	6%
	8	1219	2%
TOTAL	16494	32%	

Erosion

Potential soil loss (LRI assessment)	Erosion	Area (ha)	% of land area
	High	20301	40%
	Medium	18572	36%
	Low	11962	23%
	Town	629	1%
TOTAL	51464	100%	
Erosion – dominant type (from NZLRI assessment)	Type	Area (ha)	% of land area
	None	41714	82%
	1Sh	5161	10%
	1Ss	2775	5%
	1Sb	858	2%
	Other	956	2%
TOTAL	51464	100%	

Mangare catchment characteristics*

Area of catchment (ha) (including water)	4176
Area of catchment (ha) (excluding inland water)	4153

Waterway details

Breakdown of waterway by landcover (rivers, streams and drains)	Landcover	Length (m)	% of total
	Pasture	58568	81%
	Indigenous Forest	4447	6%
	Scrub	2925	4%
	Inland Water	2590	4%
	Planted Forest	2472	3%
	Other	1355	2%
TOTAL	72357	100%	
Breakdown of waterway in pasture by size (strahler)	Strahler	Length (m)	% of total
	1	28142	48%
	2	19577	33%
	3	7078	12%
	4	3770	6%
TOTAL	58568	100%	

Landscape features

Geology	Geology	Area (ha)	% of land area
	Tephra	3961	95%
	Unconsolidated	199	5%
	Volcanic	14	<0.1%
	Lake	2	<0.1%
TOTAL	4176	100%	
Soil classification	Soil Order	Area (ha)	% of land area
	Pumice	2468	59%
	Podzol	948	23%
	Allophanic	562	13%
	Gley	198	5%
TOTAL	4176	100%	
Soil series	Dominant soil series	Area (ha)	% of land area
	Taupo	2420	58%
	Ngaroma	948	23%
	Tirau	392	9%
	Puniu	198	5%
	Other	218	5%
TOTAL	4176	100%	

Vegetation and Landuse

Vegetation (landcover)	Vegetation	Area (ha)	% of land area
	Pasture	3857	92%
	Indigenous Forest	108	3%
	Planted forest	97	2%
	Scrub	65	2%
	Other	49	1%
TOTAL	3901	100%	

LUC	LUC class	Area (ha)	% of land area
	6	1905	46%
	4	1517	36%
	3	468	11%
	2	199	5%
	7	87	2%
	TOTAL	4176	100%
LUC by pasture	LUC class	Area (ha)	% of land area
	6	1727	41%
	4	1428	34%
	3	452	11%
	2	189	5%
	Other	60	1%
	TOTAL	3856	92%
LUC 6e, 7, 8	Type	Area (ha)	% of land area
	6e	1538	37%
	7	71	2%
	8	14	0.3%
	TOTAL	1623	39%

Erosion

Potential soil loss (LRI assessment)	Erosion	Area (ha)	% of land area
	High	1601	38%
	Medium	1543	37%
	Low	1029	25%
	Lake	2	<0.1%
	TOTAL	4176	100%
Erosion – dominant type (from NZLRI assessment)	Type	Area (ha)	% of land area
	None	2269	54%
	1Sh	1668	40%
	1Ss	189	5%
	1Sb	48	1%
	Lake	2	<0.1%
	TOTAL	4176	100%

Tahunaatara catchment characteristics*

Area of catchment (ha) (including water)	23952
Area of catchment (ha) (excluding inland water)	23875

Waterway details

Breakdown of waterway by landcover (rivers, streams and drains)	Landcover	Length (m)	% of total
	Pasture	153562	45%
	Planted Forest	108390	32%
	Indigenous Forest	51840	15%
	Scrub	17188	5%
	Other	11063	3%
	TOTAL	342043	100%
Breakdown of waterway in pasture by size (strahler)	Strahler	Length (m)	% of total
	1	78307	51%
	2	36504	24%
	4	15454	10%
	3	11878	8%
	6	7096	5%
	5	4324	3%
	TOTAL	153562	100%

Landscape features

Geology	Geology	Area (ha)	% of land area
	Pumice	11583	48%
	Tephra	10781	45%
	Volcanic	1500	6%
	Other	88	<0.1%
	TOTAL	23952	100%
Soil classification	Soil Order	Area (ha)	% of land area
	Pumice	17743	74%
	Podzol	4727	20%
	Allophanic	955	4%
	Organic	527	2%
	TOTAL	23952	100%
Soil series	Dominant soil series	Area (ha)	% of land area
	Taupo	8105	34%
	Oruanui	3244	13%
	Haparangi	2215	9%
	Mamaku	1862	8%
	Arahiwi	1783	7%
	Tauhara	1338	5%
	Atiamuri	1179	5%
	Pohaturoa	1110	5%
	Ngakuru	872	4%
	Other	2244	10%
	TOTAL	23952	100%

Vegetation and Landuse			
Vegetation (landcover)	Vegetation	Area (ha)	% of land area
	Pasture	11437	48%
	Planted forest	8750	36%
	Indigenous forest	2882	12%
	Scrub	620	3%
	Other	263	1%
	TOTAL	23952	100%
LUC	LUC class	Area (ha)	% of land area
	6	11020	46%
	4	5413	23%
	7	3254	14%
	3	2639	11%
	8	1538	6%
	Other	88	0.4%
	TOTAL	23952	100%
LUC by pasture	LUC class	Area (ha)	% of land area
	6	6226	26%
	4	2979	12%
	3	1120	5%
	7	1026	4%
	Other	86	1%
	TOTAL	11437	48%
LUC 6e, 7, 8	Type	Area (ha)	% of land area
	6e	9943	41%
	7	3254	14%
	8	1538	10%
	TOTAL	14735	65%

Erosion

Potential soil loss (LRI assessment)	Erosion	Area (ha)	% of land area
	High	13691	57%
	Medium	8540	36%
	Low	1638	7%
	Lake	83	0.3%
	TOTAL	23952	100%
Erosion – dominant type (from NZLRI assessment)	Type	Area (ha)	% of land area
	None	12246	52%
	1Sh	5253	23%
	1G	2498	10%
	1Sb	1470	6%
	2Sh	778	3%
	1Ss	719	3%
	Other	988	3%
	TOTAL	23952	100%

Mangatutu catchment characteristics*

Area of catchment (ha) (including water)	12232	No inland water
Area of catchment (ha) (excluding inland water)	12232	defined for catchment

Waterway Details

Breakdown of waterway by landcover (rivers, streams and drains)	Landcover	Length (m)	% of total
	Pasture	106593	55%
	Indigenous forest	74223	38%
	Scrub	6595	3%
	Other	5688	3%
	TOTAL	193100	100%
Breakdown of waterway in pasture by size (strahler)	Strahler	Length (m)	% of total
	1	49631	47%
	4	22664	21%
	2	21957	21%
	3	12340	12%
	TOTAL	106593	100%

Landscape features

Geology	Geology	Area (ha)	% of land area
	Tephra	9861	81%
	Volcanic	1001	8%
	Unconsolidated	1000	8%
	Greywacke	357	3%
	Pumice	14	<0.1%
	TOTAL	12232	100%
Soil classification	Soil Order	Area (ha)	% of land area
	Allophanic	7658	63%
	Podzol	2122	17%
	Gley	999	8%
	Recent	820	7%
	Pumice	633	5%
	TOTAL	12232	100%

Soil series	Dominant soil series	Area (ha)	% of land area
	Ngaroma	1969	16%
	Otorohanga	1744	15%
	Maihihi	1598	13%
	Maeotoa	1458	12%
	Pukerata	1363	11%
	Ohaupo	1089	9%
	Otanewainuku	1079	9%
	Puniu	842	7%
	Taupo	633	5%
Other	457	3%	
TOTAL	12232	100%	

Vegetation and Landuse

Vegetation (landcover)	Vegetation	Area (ha)	% of land area
	Pasture	6751	55%
	Indigenous Forest	4892	40%
	Scrub	358	3%
	Other	231	2%
TOTAL	12232	100%	

LUC	LUC class	Area (ha)	% of land area
	6	4949	41%
	4	1986	16%
	3	1833	15%
	7	1825	15%
	8	857	7%
	2	782	6%
TOTAL	12232	100%	

LUC by pasture	LUC class	Area (ha)	% of land area
	6	2301	19%
	3	1751	14%
	4	1709	14%
	2	737	6%
	7	198	2%
	8	54	0.4%
TOTAL	6750	55%	

LUC 6e, 7, 8	Type	Area (ha)	% of land area
	6e	4100	34%
	7	1825	15%
	8	857	7%
TOTAL	6782	56%	

Erosion

Potential soil loss (LRI assessment)	Erosion	Area (ha)	% of land area
	Low	4699	38%
	High	4668	38%
	Medium	2865	24%
TOTAL	12232	100%	

Erosion – dominant type (from NZLRI assessment)	Type	Area (ha)	% of land area
	None	8471	70%
	1Ss	2639	22%
	1Es	407	3%
	1Sh	404	3%
	Other	311	2%
TOTAL	12232	100%	

Wharekawa catchment characteristics*

Area of catchment (ha) (including water)	5669	no inland water
Area of catchment (ha) (excluding inland water)	5669	defined for catchment
River length (km)	41.3	

Waterway details

Breakdown of waterway by landcover (rivers, streams)	Landcover	Length (m)	% of total
	Indigenous Forest	41711	51%
	Planted Forest	22680	27%
	Scrub	9609	12%
	Pasture	6328	8%
	Other	2225	3%
TOTAL	82554	100%	

Breakdown of waterway in pasture by size (strahler)	Strahler	Length (m)	% of total
	5	2350	37%
	1	1878	30%
	3	1111	18%
	4	990	16%
TOTAL	6328	100%	

Landscape features			
Geology	Geology	Area (ha)	% of land area
	Tephra	3108	55%
	Volcanic	2247	40%
	Unconsolidated	265	5%
	Peat	49	1%
	TOTAL	5669	100%
Soil Classification	Soil Order	Area (ha)	% of land area
	Brown	2247	40%
	Allophanic	1900	34%
	Pumice	1207	21%
	Gley	265	5%
	Organic	49	1%
	TOTAL	5669	100%
Soil series	Dominant soil series	Area (ha)	% of land area
	Whangamata	3108	55%
	Tangatara	2209	39%
	Ohinemuri	265	5%
	Other	87	1%
	TOTAL	5669	100%

Vegetation and Landuse

Vegetation (landcover)	Vegetation	Area (ha)	% of land area
	Indigenous Forest	2766	49%
	Planted Forest	2048	36%
	Primarily Pastoral	484	9%
	Scrub	335	6%
	Other	35	1%
	TOTAL	5669	100%
LUC	LUC class	Area (ha)	% of land area
	6	2606	46%
	7	2210	39%
	4	538	10%
	2	265	5%
	3	49	1%
	TOTAL	5669	100%
LUC by pasture	LUC class	Area (ha)	% of land area
	2	214	4%
	4	136	2%
	7	81	1%
	3	35	1%
	6	19	<1%
	TOTAL	484	9%
LUC 6e, 7, 8	Type	Area (ha)	% of pasture area
	6e	2606	46%
	7	2210	39%
	8	0	0%
	TOTAL	4816	85%

Erosion

Erosion Potential (LRI assessment)	Erosion	Area (ha)	% of land area
	Severe	2748	48%
	Moderate	1898	33%
	Slight	1022	18%
	TOTAL	5669	100%
Erosion - dominant type (from NZLRI assessment)	Type	Area (ha)	% of land area
	None	2365	42%
	1Es	1275	23%
	1Sh	1124	20%
	2Sh	384	7%
	1T	206	4%
	Other	314	5%
	TOTAL	5669	100%

* Datasets used to derive this catchment characteristics information include the following:
Niwa River Environments Classification (RECS): River classification derived by NIWA/MfE. COPYRIGHT RESERVED.
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Appendix 2: Guidelines and standards used to assess river water quality for ecological health and contact recreation

Guidelines used to assess river water quality for ecological health

Water quality variable (units)	Relevance	Categories		
		Excellent	Satisfactory	Unsatisfactory
Turbidity (NTU)	Can restrict plant growth	<2	2–5	>5
Total phosphorus (g/m ³)	Causes nuisance plant growth	<0.01	0.01–0.04	>0.04
Total nitrogen (g/m ³)	Causes nuisance plant growth	<0.1	0.1–0.5	>0.5

Guidelines used to assess river water quality for contact recreation

Water quality variable (units)	Relevance	Categories		
		Excellent	Satisfactory	Unsatisfactory
<i>Escherichia coli</i> , single sample (no./100 mL)	Human health	<55	55 – 550	>550

Appendix 3: Riparian characteristics summary

Matahuru catchment – Lower Waikato Zone 2007/08

For each table the number in brackets is the percent change from the 2003/04 assessment, which was the first year the assessment was done.

Matahuru erosion

Riparian erosion characteristics - Matahuru (% of total bank length)									
Erosion	stable 75 (+28)	unstable 25 (-28)							
Fencing	nd	fenced 11 (-4)				unfenced 14 (-24)			
Vegetation		grass	willow woody veg.	other exotic woody veg.	native woody veg.	grass	willow woody veg.	other exotic woody veg.	native woody veg.
		3 (-4)	1 (nc)	0 (-2)	7 (+2)	7(-23)	1 (nc)	0 (-2)	6 (+1)

nd = not detailed, nc = no change

Matahuru vegetation

Riparian vegetation characteristics – Matahuru (% of total bank length)			
Grass 30 (-23)	Woody vegetation 70 (+23)		
	Exotic 22 (+13)		Native 48 (+10)
	Willow 8 (+4)	Non-willow 14 (+9)	

Matahuru fencing

Riparian fencing characteristics – Matahuru								
Fencing: % of stream length	no fence on both sides 15 (-15)				fenced on one side 22 (-2)		fenced on both sides 63 (+17)	
Fencing: % of total bank length	not fenced 26 (-16)				fenced 74 (+16)			
Breakdown by vegetation	grass	willow woody veg.	other exotic woody veg.	native woody veg.	grass	willow woody veg.	other exotic woody veg.	native woody veg.
	13 (-19)	2 (+1)	0 (-2)	10 (+4)	17 (-1)	6 (+3)	13(+10)	38 (+4)

Pokaiwhenua catchment – Upper Waikato Zone 2007/08

For each table the number in brackets is the percent change from the 2003/04 assessment, which was the first year the assessment was done.

Pokaiwhenua erosion

Riparian erosion characteristics – Pokaiwhenua (% of total bank length)									
Erosion	stable 85 (-3)	unstable 15 (+3)							
Fencing	nd	fenced 6 (-1)				unfenced 9 (+4)			
Vegetation		grass	willow woody veg.	other exotic woody veg.	native woody veg.	grass	willow woody veg.	other exotic woody veg.	native woody veg.
		3 (-2)	0 (nc)	3 (+3)	0 (-2)	6 (+4)	0 (nc)	3 (+2)	0 (nc)

nd = not detailed, nc = no change

Pokaiwhenua vegetation

Riparian vegetation characteristics – Pokaiwhenua (% of total bank length)			
Grass 39 (-16)	Woody vegetation 61(+16)		
	Exotic 51 (+34)		Native 10 (-18)
	Willow 3 (-3)	Non-willow 48 (+37)	

Pokaiwhenua fencing

Riparian fencing characteristics - Pokaiwhenua								
Fencing: % of stream length	no fence on both sides 2 (-27)				fenced on one side 67 (+23)	fenced on both sides 31 (+4)		
Fencing: % of total bank length	not fenced 36 (-15)				fenced 64 (+15)			
Breakdown by vegetation	grass	willow woody veg.	other exotic woody veg.	native woody veg	grass	willow woody veg.	other exotic woody veg.	native woody veg.
	14 (-10)	0 (-3)	18 (+10)	4 (-12)	26 (-5)	2 (-2)	30(+28)	6 (-6)

Mangare catchment – Upper Waikato Zone 2007/08

For each table the number in brackets is the percent change from the 2003/04 assessment, which was the first year the assessment was done.

Mangare erosion

Riparian erosion characteristics –Mangare (% of total bank length)									
Erosion	stable 67(+28)	unstable 33 (-28)							
Fencing	nd	fenced 14 (-20)				unfenced 19 (-8)			
Vegetation		grass	willow woody veg.	other exotic woody veg.	native woody veg.	grass	willow woody veg.	other exotic woody veg.	native woody veg.
		2(-29)	10 (+9)	2 (nc)	0 (nc)	18(-8)	0 (-1)	1 (+1)	0 (nc)

nd = not detailed, nc = no change

Mangare vegetation

Riparian vegetation characteristics –Mangare (% of total bank length)			
Grass 39 (-55)	Woody vegetation 61 (+55)		
	Exotic 61 (+55)		Native 0 (nc)
	Willow 32 (+30)	Non-willow 29 (+25)	

nc = no change

Mangare fencing

Riparian fencing characteristics - Mangare								
Fencing: % of stream length	no fence on both sides 24 (-25)				fenced on one side 26 (+6)	fenced on both sides 50 (+19)		
Fencing: % of total bank length	not fenced 37 (-22)				fenced 63 (+22)			
Breakdown by vegetation	grass	willow woody veg.	other exotic woody veg.	native woody veg	grass	willow woody veg.	other exotic woody veg.	native woody veg.
	32 (-26)	0(-1)	6 (+5)	0 (nc)	7(-30)	32(+31)	24 (+21)	0 (nc)

nc = no change

Mangatutu catchment – Waipa Zone 2006/07

For each table the number in brackets is the percent change from the 2004/05 assessment, which was the first year the assessment was done.

Mangatutu erosion

Riparian erosion characteristics – Mangatutu (% of total bank length)									
Erosion	stable 86(+28)	unstable 14(-28)							
Fencing	nd	fenced 6(-9)				unfenced 9(-19)			
Vegetation		grass	willow woody veg.	other exotic woody veg.	native woody veg.	grass	willow woody veg.	other exotic woody veg.	native woody veg.
		2(-4)	<1(nc)	3(-5)	0(<-1)	7(-7)	1(-1)	1(-11)	0(<-1)

nd = not detailed

Mangatutu vegetation

Riparian vegetation characteristics –Mangatutu (% of total bank length)			
Grass 54(-1)	Woody vegetation 46(+1)		
	Exotic 44(nc)		Native 2(+1)
	Willow 22(+16)	Non-willow 22(-16)	

nc = no change

Mangatutu fencing

Riparian fencing characteristics - Mangatutu								
Fencing: % of stream length	no fence on both sides 25(-6)				fenced on one side 50(+3)	fenced on both sides 25(+3)		
Fencing: % of total bank length	not fenced 50(-5)				fenced 50(+5)			
Breakdown by vegetation	grass	willow woody veg.	other exotic woody veg.	native woody veg.	grass	willow woody veg.	other exotic woody veg.	native woody veg.
	35(+1)	7(+4)	8(-10)	<1(nc)	19(-2)	15(+11)	14(-5)	2(+1)

Wharekawa catchment – Coromandel Zone 2006/07

This is the first assessment to be carried out in the Wharekawa catchment.

Wharekawa erosion

Riparian erosion characteristics – Wharekawa (% of total bank length)									
Erosion	stable 90	unstable 10							
Fencing	nd	fenced 4				unfenced 6			
Vegetation		grass	willow woody veg.	other exotic woody veg.	native woody veg.	grass	willow woody veg.	other exotic woody veg.	native woody veg.
		0	0	0	4	1	1	0	4

nd = not detailed

Wharekawa vegetation

Riparian vegetation characteristics – Wharekawa (% of total bank length)			
Grass 2	Woody vegetation 98		
	Exotic 32		Native 66
	Willow 24	Non-willow 8	

Wharekawa fencing

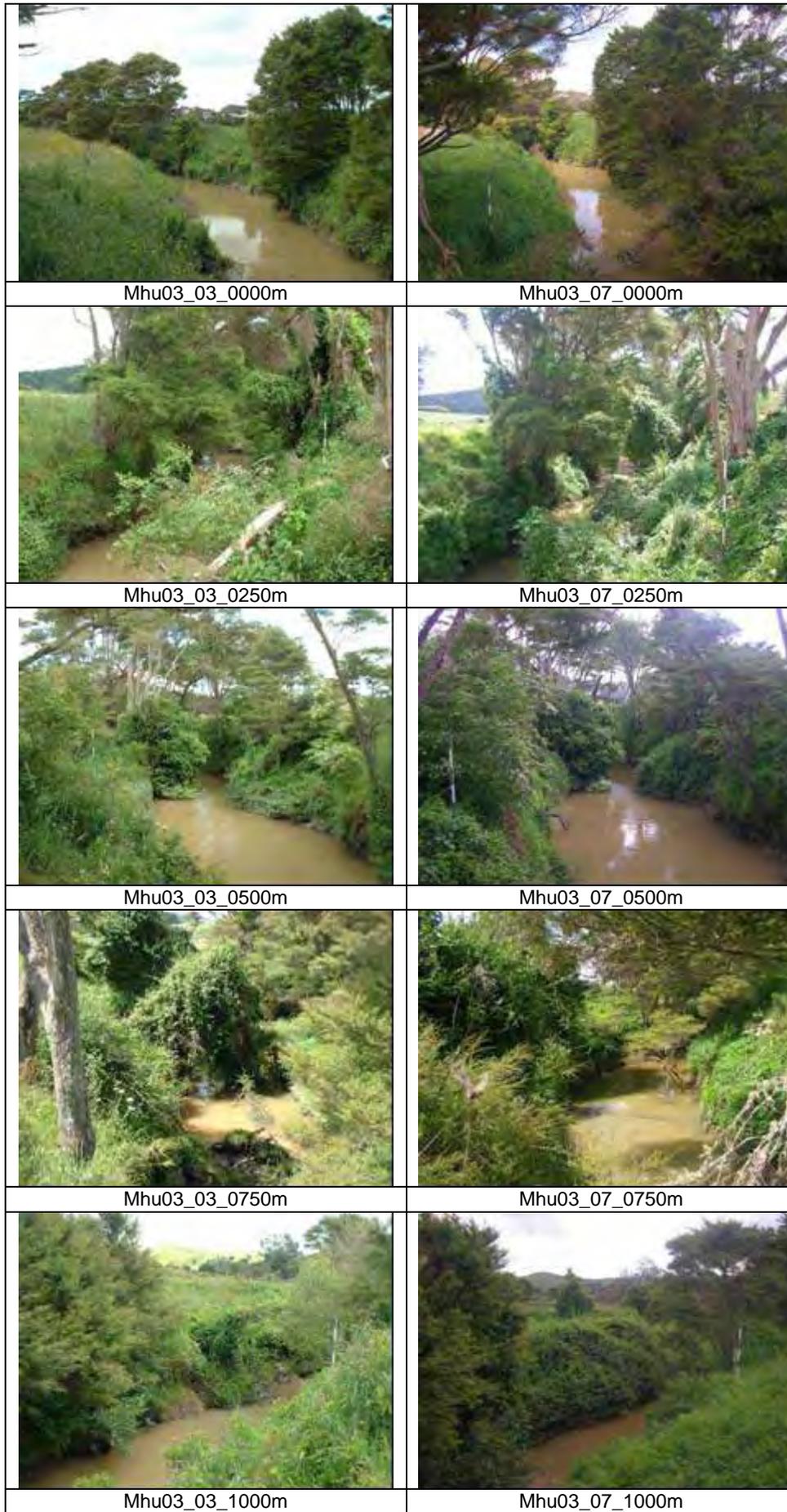
Riparian fencing characteristics – Wharekawa								
Fencing: % of stream length	no fence on both sides 0				fenced on one side 60	fenced on both sides 40		
Fencing: % of total bank length	not fenced 31				fenced 69			
Breakdown by vegetation	grass	willow woody veg.	other exotic woody veg.	native woody veg	grass	willow woody veg.	other exotic woody veg.	native woody veg.
	2	5	2	22	0	19	6	44

Appendix 4: Photo points

Matahuru Stream

2003/04	2007/08
	
Mhu01_03_0000m	Mhu01_07_0000m
	
Mhu01_03_0250m	Mhu01_07_0250m
	
Mhu01_03_0500m	Mhu01_07_0500m
	
Mhu01_03_0750m	Mhu01_07_0750m
	









Mhu05_03_0000m



Mhu05_07_0000m



Mhu05_03_0250m



Mhu05_07_0250m



Mhu05_03_0500m



Mhu05_07_0500m



Mhu05_03_0750m



Mhu05_07_0750m (alternative view*)



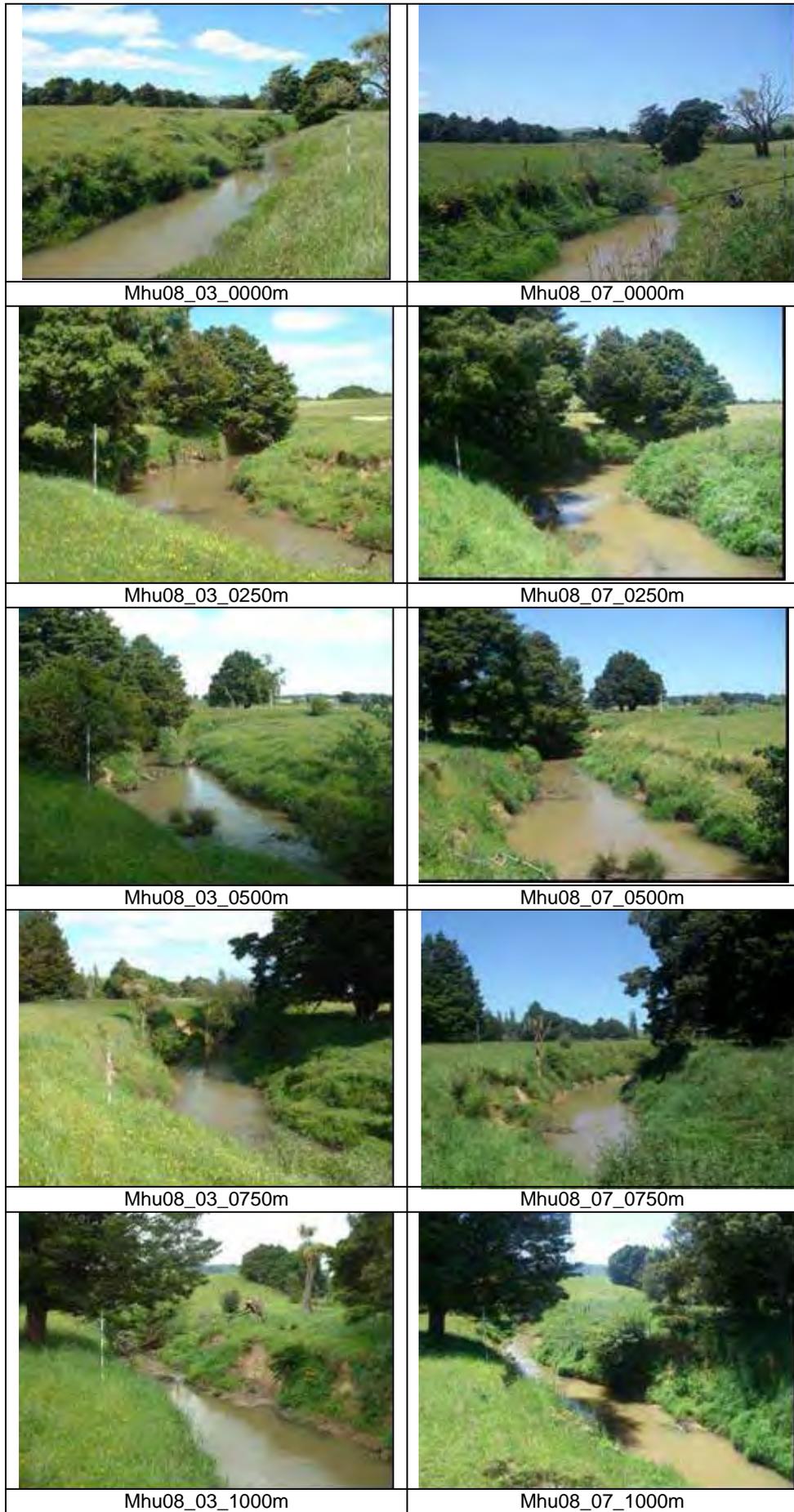
Mhu05_03_1000m



Mhu05_07_1000m









Mhu09_03_0000m



Mhu09_07_0000m



Mhu09_03_0250m



Mhu09_07_0250m



Mhu09_03_0500m



Mhu09_07_0500m



Mhu09_03_0750m



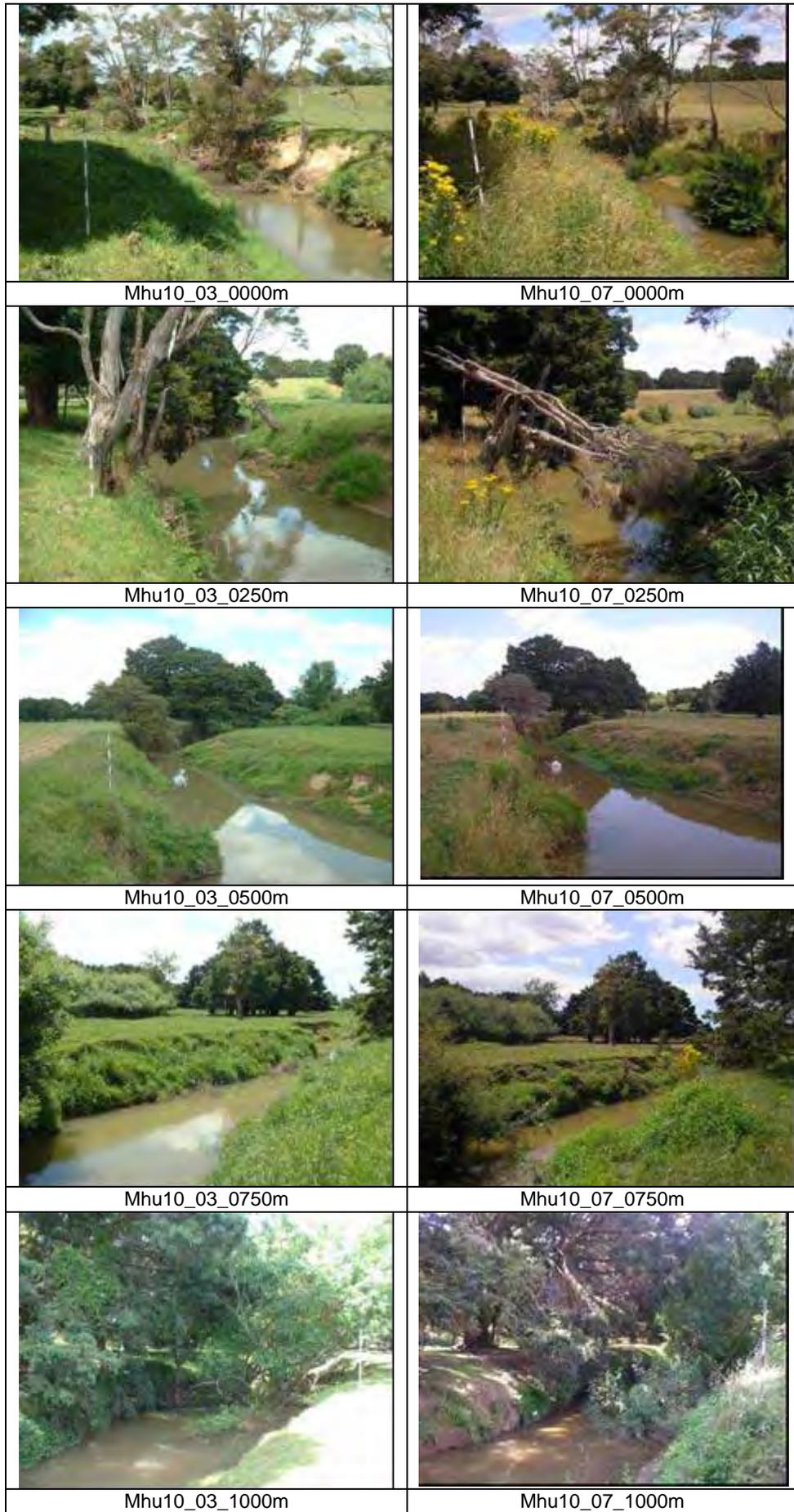
Mhu09_07_0750m



Mhu09_03_1000m



Mhu09_07_1000m (alternate view*)

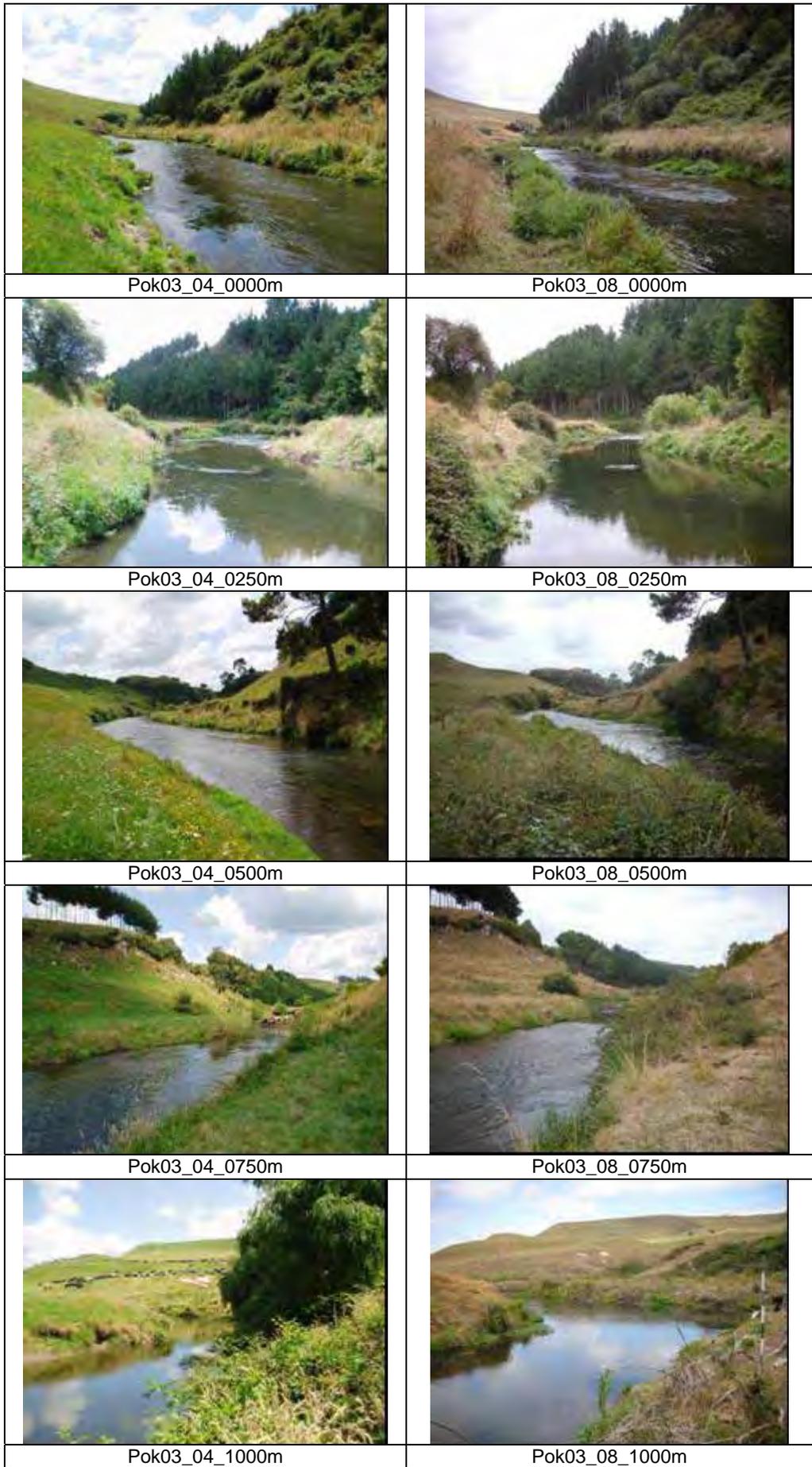




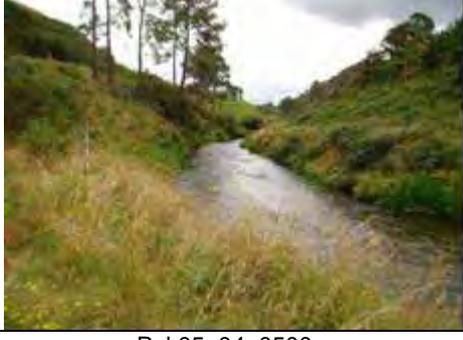
Pokaiwhenua Stream

2003/04	2007/08
	
Pok01_04_0000m	Pok01_08_0000m
	
Pok01_04_0250m	Pok01_08_0250m
	
Pok01_04_0500m	Pok01_08_0500m
	
Pok01_04_0750m	Pok01_08_0750m
	
Pok01_04_1000m	Pok01_08_1000m

	
Pok02_04_0000m	Pok02_08_0000m
	
Pok02_04_0250m	Pok02_08_0250m
	
Pok02_04_0500m	Pok02_08_0500m
	
Pok02_04_0750m	Pok02_08_0750m
	
Pok02_04_1000m	Pok02_08_1000m



	
Pok04_04_0000m	Pok04_08_0000m
	
Pok04_04_0250m	Pok04_08_0250m
	
Pok04_04_0500m	Pok04_08_0500m
	
Pok04_04_0900m	Pok04_08_0900m
	
Pok04_04_1000m	Pok04_08_1000m

	
Pok05_04_0000m	Pok05_06_0000m ⁺
	
Pok05_04_0250m	Pok05_08_0250m
	
Pok05_04_0500m	Pok05_08_0500m
	
Pok05_04_0750m	Pok05_08_0750m
	
Pok05_04_1000m	Pok05_06_1000m ⁺

