

Discharge Limit Transgression		
Suspect/Missing Sample		
Value actually < number shown i.e <2 MPN/100mL		
Resource Consent requirement *		

Parameter	Unit	Consent value Maximum	Consent value Median	Monthly Data																	
				Median	10 Percentile	90 Percentile	Average	Maximum	Minimum	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12
Average TN applied to wetland area (using In flow)	kg/ha/day	50		7.00	3.00	9.00	7.58	25.00	2.00	9	7	8	9	2	3	7	3	25	8	5	5
SS (median from 10 pa)	g/cum	50		0.38	0.05	0.85	0.40	0.92	0.02	0.061	0.048	0.02	0.146	0.53	0.92	0.34	0.87	0.71	0.65	0.42	0.104
Ammonia NH4-N (median from 10pa)	g/cum	30		395	160	2570	1152	5700	90	400	90	160	5700	280	390	2600	160	2300	280	650	810
FC (median from 5 samples in 30 days)	MPN/100mL	5000																			

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				Median	10 Percentile	90 Percentile	Average	Maximum	Minimum	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12
E Coli	MPN/100mL	1700		320	110	1700	730.7272727	3000	38	230	38	3000	110	320	900	140	1700	140	650	810	
cBOD5	g/cum			2.80	2	4.18	2.86	4.60	1.30	2.9	1.85	3.4	4.6	2.4	2.7	4	1.3	3.0	2	2	4.0
TKN	g/cum			2.40	2.11	2.59	2.89	9.00	1.80	2.4	9	2.1	2.6	2.3	2.4	2.2	3	2.5	2.5	1.8	2.4
Nitrate NO3-N	g/cum			0.06	0.00	8.00	2.22	11.40	0.00	11.4	0.32	8.2	0.11	0.004	0.002	0.009	0.004	0.018	0.011	0.32	6.2
Nitrite NO2-N	g/cum			0.018	0.003	0.346	1.001	11.170	0.003	0.36	11.17	0.22	0.116	0.003	0.003	0.096	0.003	0.003	0.003	0.021	0.014
Total Nitrogen	g/cum			2.50	2.16	10.33	4.50	14.16	1.14	14.16	1.14	10.52	2.83	2.31	2.41	2.31	2.51	2.52	2.50	2.14	8.61
DRP	g/cum			4.05	1.59	6.16	4.12	7.80	1.36	1.53	1.36	2.1	3.8	6.2	7.8	4.1	5.8	4.6	4.7	3.4	4
TP	g/cum			4.60	2.60	7.86	4.95	8.70	1.98	1.98	8.7	2.5	4.1	6.6	8	4.1	5.8	4.9	4.8	3.5	4.4
pH				6.83	6.70	6.94	6.97	8.70	6.60	6.6	8.7	6.7	6.74	6.77	6.85	6.9	6.93	6.76	6.94	6.91	6.81
Temp	°C			17	11	20	16	21	11	11.3	11	12.5	15.2	18.2	17.9	21.3	20.6	18.6	19.5	14.8	12.3

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				Median	10 Percentile	90 Percentile	Average	Maximum	Minimum	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12
SS	g/cum			30	18.10	32.9	29.6	63	16	27	33	63	32	29	30	30	16	27	31	19	18
cBOD5	g/cum			12	8.8	14.8	12.3	22.0	8.0	13	12	22	12	15	10	10	8.7	8	12	12	13
Total Ammoniacal Nitrogen	g/cum			0.03	0.0	1.7	0.8	4.4	0.0	1.2	0.9	0.58	0.013	0.01	0.017	0.033	1.7	0.013	0.01	<0.010	4.4
TKN	g/cum			4.30	3.3	8.2	5.2	11.1	2.7	5.5	5.3	8.5	4.6	4	3.9	3.3	5.9	3.6	3.8	2.7	11.1
NO3-N	g/cum			13.95	5.5	22.8	14.3	28.0	2.2	16.8	23	21	28	9.1	9.7	6.8	5.4	11.1	19.8	2.2	18.9
NO2-N	g/cum			0.95	0.025	5.880	2.546	14.100	0.006	6	4.8	14.1	1.06	0.74	0.171	1.18	1.01	0.89	0.009	0.006	0.59
TN	g/cum			19.80	11.4	33.6	22.1	43.6	4.9	28.3	33.1	43.6	33.7	13.8	13.8	11.3	12.3	15.6	24.0	4.9	30.6
DRP	MPN/100mL			4.85	2.2	5.7	4.5	6.0	1.9	2.1	1.89	3.5	4.5	4.9	6	4.8	4.8	5	5.6	5.7	5.6
TP	MPN/100mL			5.40	3.5	6.3	5.3	6.8	3.1	3.3	3.1	5.2	5.1	5.6	6.2	5.1	5.1	6	6.3	6.1	6.8
pH	g/cum			7.37	6.8	8.1	7.3	8.4	5.6	6.78	7.72	5.55	7.19	8.42	7.46	7.54	8.19	7.35	7.12	7.39	7.1
Alkalinity	g/cum			103	22	130	84	130	12	23	12	25	106	100	130	113	130	118	85		
Conductivity	g/cum			669	540	742	651	746	522	537	522	639	698	605	675	562	663	715	709	745	746
Faecal Coli	MPN/100mL			1500	570	15400	6734	38000	210	16000	750	10000	1100	210	1300	1700	550	900	5800	4500	38000
E Coli	MPN/100mL			1000	300	8000	5228	38000	110	8000		2500	800	110	1100	700	500	300	1000	4500	38000

missd off chain of custody

Parameter	Units	Consent value Maximum	Monthly Data																	
			Median	10 Percentile	90 Percentile	Average	Maximum	Minimum	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12
Average TN applied to wetland area (using In-Flow)	kg/ha/day	50	4.90	3.04	12.24	6.54	12.62	1.37	12.62	9.25	12.49	9.94	3.37	3.99	3.45	3.00	4.17	5.63	1.37	9.15
Average TN applied to Lake Waikare (using Out-Flow)	kg/day		1.70	1.01	7.20	4.03	16.69	0.93	16.69	6.69	7.25	2.07	0.93	1.73	1.67	1.06	1.51	1.01	1.45	6.30
Average TP applied to wetland area (using In-Flow)	kg/ha/day		1.50	1.26	1.79	1.51	2.03	0.87	1.47	0.87	1.49	1.51	1.36	1.80	1.56	1.24	1.61	1.48	1.70	2.03
Average TP applied to Lake Waikare (using Out-Flow)	kg/day		2.56	1.75	3.19	2.53	4.52	0.81	2.33	0.81	1.72	3.00	3.22	4.52	2.51	2.83	2.62	2.25	1.95	2.63

nb: TN = TKN+nitrate+nitrite.
 Value of TN applied to wetland is taken from average calculated TN data from pond 2 outlet x average daily inflow / 2Ha wetland area (Old method used Out Flow and is shown for comparison)
 Value of TN and TP applied to Lake Waikare calculated with average daily outflow volume

Flow	Units	Daily Data																	
		Median	10 Percentile	90 Percentile	Average	Maximum	Minimum	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12
Minimum Daily In Flow	cum/day	421	383	443	423	536	351	536	441	443	419	408	416	403	422	351	381	426	425
Average Daily In Flow	cum/day	566	487	610	578	892	469	892	559	573	591	487	580	611	488	535	469	558	598
Maximum Daily In Flow	cum/day	817	560	2073	1034	2312	546	2164	737	785	1250	576	967	2312	558	824	546	810	877
Monthly Total In Flow	cum/day	17251	14128	18338	17493	27638	13663	27638	16840	17189	18312	14616	17402	18341	13663	16589	14074	17312	17938

Flows	Consent limit	Daily Data																	
		Median	10 Percentile	90 Percentile	Average	Maximum	Minimum	Jul-11	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11
Minimum Daily Out Flow	1080	337	275	445	332	509	16	273	449	413	311	348	330	294	344	305	397	509	
Average Daily Out Flow	1080	683	404	732	656	1179	402	1179	689	732	403	719	726	421	597	402	677	731	
Maximum Daily Out Flow	1080	1177	623	1722	1141	1853	601	1853	800	1131	1310	601	1278	1762	629	1359	622	1222	1130
Monthly Total Out Flow	1080	20843	12090	22664	19390	31824	12066	31824	14914	20684	22683	12077	22277	22493	12211	18522	12066	21002	21924

Parameter	Units	Annual Results Comparison			
		2008-09 Median	2009-10 Median	2010-11 Median	2011-12 Median
cBOD5	g/cum	2.10	7.4	4.3	12.0
SS	g/cum	21	23	11	30
DRP	g/cum	3.2	3.05	3.8	4.9
TP	g/cum	4.0	3.55	4.0	4.6
Total Ammoniacal Nitrogen	g/cum	0.018	0.02	8.8	0.033
TKN	g/cum	3.7	3.2	11.9	4.3
NO3-N	g/cum	5.0	6.65	6.0	14.0
Faecal coliforms	MPN/100mL	480	695	4200	1500