

Appendix 2: Summary of Monitoring for Individual Lakes

Region	Lake name	LID	Easting	Northing	Lake type	Maximum depth (m)	Monitoring programme	NZLWQMP 1992–1996	WQ monitored	Bathing water monitored	Cyano-bacteria monitored	Trophic state	LakeSPI condition	TLI trends	LakeSPI trends	Possible causes	Indicators used	TLI (most recent)	LakeSPI trend period	WQ trend period	WQ results period
Auckland	Lake Kereta	49884	2625000	6511400	Dune	1.5	Quarterly samples since 1988. Additional parameters included in 1992. Epilimnion and hypolimnion samples from a mid-lake site. Temp–DO profile.	No	Yes	No	Yes	Eutrophic	n/a	Improving quality	nd	Koi carp may add to nutrient cycling.	TLI, macrophytes	4.7		1992–2005	1992–2005
	Lake Kuwakatai	50269	2621500	6518500	Dune	19	Quarterly samples since 1988. Additional parameters included in 1992. Epilimnion and hypolimnion samples from a mid-lake site. Temp–DO profile.	No	Yes	No	Yes	Supertrophic	n/a	No change	nd	Agricultural intensification, stock access and introduced fish contributing to decline in water clarity since 1950s.	TLI, macrophytes	5.4		1992–2005	1992–2005
	Lake Ototoa	50270	2621400	6519800	Dune	29	Quarterly samples since 1988. Additional parameters included in 1992. Epilimnion and hypolimnion samples from a mid-lake site. Temp–DO profile.	No	Yes	No	Yes	Mesotrophic	High	Declining quality	nd	Agricultural intensification.	TLI, macrophytes	3.9		1992–2005	1992–2005
	Lake Pupuke	50151	2880000	6489500	Volcanic	57	Quarterly samples since 1988. Additional parameters included in 1992. Epilimnion and hypolimnion samples from a mid-lake site. Temp–DO profile.	Yes	Yes	Yes	Yes	Eutrophic	n/a	No change	nd	Improved following diversion of sewage and agricultural waste. Further improvement limited by stormwater, diffuse inputs and internal recycling.	TLI, macrophytes	4.3		1992–2005	1992–2005
	Lake Spectacle	22999	2657200	6556500	Dune	7	Quarterly samples since 1988. Additional parameters included in 1992. Epilimnion and hypolimnion samples from a mid-lake site. Temp–DO profile.	No	Yes	No	Yes	Hypertrophic	n/a	Declining quality	nd	Lack of aquatic plants, koi carp, shallow depth. High internal and external nutrient load.	TLI, macrophytes	6.5		1992–2005	1992–2005
	Lake Tomarata	21871	2658900	6555000	Dune	5	Quarterly samples since 1988. Additional parameters included in 1992. Epilimnion and hypolimnion samples from a mid-lake site. Temp–DO profile.	No	Yes	No	Yes	Eutrophic	n/a	Improving quality	nd	Rudd may have contributed to extinction of Chara sp. and Nitella sp.	TLI, macrophytes	4.4		1992–2005	1992–2005
	Lake Wainamu	45819	2641400	6478200	Landslide	15	Quarterly samples since 1988. Additional parameters included in 1992. Epilimnion and hypolimnion samples from a mid-lake site. Temp–DO profile.	No	Yes	Yes	Yes	Eutrophic	Moderate	No change	Declining condition	Collapse of Egeria beds in 1996/97	TLI, macrophytes	4.6		1992–2005	1991–2005
Bay of Plenty	Lake Okareka	15325	2804400	6331800	Volcanic	33.5	Monthly samples. Sample sites are located at the deepest basin of each lake and samples collected from the epilimnion (integrated) and hypolimnion (half hypolimnion depth + 1m above bottom) to assess trophic status. Monthly profiles of: temperature, DO.	Yes	Yes	Yes	Yes	Mesotrophic	Moderate	No change	Declining condition		TLI, Lake SPI	3.3	1988–2003		
	Lake Okaro	14290	2806900	6317100	Volcanic	18	Monthly samples. Sample sites are located at the deepest basin of each lake and samples collected from the epilimnion (integrated) and hypolimnion (half hypolimnion depth + 1m above bottom) to assess trophic status. Monthly profiles of: temperature, DO.	Yes	Yes	No	Yes	Supertrophic	Poor	Improving quality	Declining condition	Water level rising since 1988 with corresponding improvement in water quality.	TLI, Lake SPI	5.6	1982–2003		
	Lake Okataina	54731	2810300	6337400	Volcanic	78.5	Monthly samples. Sample sites are located at the deepest basin of each lake and samples collected from the epilimnion (integrated) and hypolimnion (half hypolimnion depth + 1m above bottom) to assess trophic status. Monthly profiles of: temperature, DO.	Yes	Yes	Yes	Yes	Oligotrophic	Moderate	Declining quality	Stable		TLI, Lake SPI	2.91	1988–2005		

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Bay of Plenty	Lake Rerewhakaaitu	40071	2816290	6317980	Volcanic	15.8	Monthly samples. Sample sites are located at the deepest basin of each lake and samples collected from the epilimnion (integrated) and hypolimnion (half hypolimnion depth + 1m above bottom) to assess trophic status. Monthly profiles of: temperature, DO.	No	Yes	No	Yes	Mesotrophic	Moderate	No change	Stable		TLI, Lake SPI	3.4	1988–2005		
	Lake Rotoehu	40188	2820440	6347060	Volcanic	13.5	Monthly samples. Sample sites are located at the deepest basin of each lake and samples collected from the epilimnion (integrated) and hypolimnion (half hypolimnion depth + 1m above bottom) to assess trophic status. Monthly profiles of: temperature, DO.	No	Yes	No	Yes	Eutrophic	Moderate	No change	Stable		TLI, Lake SPI	4.6	1988–2003		
	Lake Rotoiti	54730	2810900	6344900	Volcanic	125	Monthly samples. Sample sites are located at the deepest basin of each lake and samples collected from the epilimnion (integrated) and hypolimnion (half hypolimnion depth + 1m above bottom) to assess trophic status. Monthly profiles of: temperature, DO.	Yes	Yes	Yes	Yes	Eutrophic	Poor	Declining quality	Declining condition		TLI, Lake SPI	4.5	1988–2003		
	Lake Rotokakahi	15621	2800250	6326400	Volcanic	32	Monthly samples. Sample sites are located at the deepest basin of each lake and samples collected from the epilimnion (integrated) and hypolimnion (half hypolimnion depth + 1m above bottom) to assess trophic status. Monthly profiles of: temperature, DO.	Yes	Yes	No	Yes	Mesotrophic	Moderate	Improving quality	Declining condition		TLI, Lake SPI		1988–2005		
	Lake Rotoma	40102	2822950	6346630	Volcanic	83	Monthly samples. Sample sites are located at the deepest basin of each lake and samples collected from the epilimnion (integrated) and hypolimnion (half hypolimnion depth + 1m above bottom) to assess trophic status. Monthly profiles of: temperature, DO.	Yes	Yes	Yes	Yes	Oligotrophic	High	No change	Stable		TLI, Lake SPI	2.5	1988–2005		
	Lake Rotomahana	54733	2811080	6320840	Volcanic	125	Monthly samples. Sample sites are located at the deepest basin of each lake and samples collected from the epilimnion (integrated) and hypolimnion (half hypolimnion depth + 1m above bottom) to assess trophic status. Monthly profiles of: temperature, DO.	No	Yes	No	Yes	Mesotrophic	High	Improving quality	Stable		TLI, Lake SPI	3.8	1988–2005		
	Lake Rotorua	11133	2798200	6343200	Volcanic	44.8	Monthly samples. Sample sites are located at the deepest basin of each lake and samples collected from the epilimnion (integrated) and hypolimnion (half hypolimnion depth + 1m above bottom) to assess trophic status. Monthly profiles of: temperature, DO.	Yes	Yes	Yes	Yes	Eutrophic	moderate	No change	Stable		TLI, Lake SPI	4.7	1988–2003		
	Lake Tarawera	54732	2807700	6327400	Volcanic	87.5	Monthly samples. Sample sites are located at the deepest basin of each lake and samples collected from the epilimnion (integrated) and hypolimnion (half hypolimnion depth + 1m above bottom) to assess trophic status. Monthly profiles of: temperature, DO.	Yes	Yes	Yes	Yes	Oligotrophic	moderate	No change	Stable		TLI, Lake SPI	2.9	1994–2005		

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Bay of Plenty	Lake Tikitapu	15312	2801800	6328800	Volcanic	27.5	Monthly samples. Sample sites are located at the deepest basin of each lake and samples collected from the epilimnion (integrated) and hypolimnion (half hypolimnion depth + 1m above bottom) to assess trophic status. Monthly profiles of: temperature, DO.	No	Yes	Yes	Yes	Oligotrophic	Moderate	Declining quality	Declining condition		TLI, Lake SPI	2.95	1988–2005			
Canterbury	Coopers Lagoon	47568	2453905	5704367	Lagoon	2	Monthly lake edge samples from Coopers Lagoon January 2003.	No	Yes	No	No	Eutrophic	n/a	n/a	n/a	Upstream land-use and lake level management are primary drivers for their current states.	TLI modified					
	Lake Alexandrina	47193	2304700	5694000	Glacial	30	Five samples per year during summer since December 2004. Surface samples are collected mid-lake using a helicopter.	Yes	Yes	No		Oligotrophic*	n/a	Improving quality*	n/a	?	TLI modified	2.6		1990s compared to 2004/05	December 2004–April 2006	
	Lake Benmore	7409	2288000	5644000	Reservoir	120	Five samples per year during summer since December 2004. Surface samples are collected mid-lake using a helicopter.	No	Yes	No		Microtrophic*	n/a	n/a	n/a		TLI modified				December 2004–April 2006	
	Lake Camp	41306	2353100	5730700	Glacial	13	Five samples per year during summer since December 2004. Surface samples are collected mid-lake using a helicopter.	No	Yes	No		Oligotrophic*	n/a	Improving quality*	n/a		TLI modified	2.5		1990s compared to 2004/05	December 2004–April 2006	
	Lake Clearwater	41305	2352300	5731900	Glacial	18	Five samples per year during summer since December 2004. Surface samples are collected mid-lake using a helicopter.	No	Yes	No		Oligotrophic*	n/a	Improving quality*	n/a		TLI modified	2.7		1990s compared to 2004/05	December 2004–April 2006	
	Lake Coleridge	48451	2389200	5765800	Glacial	200	Five samples per year during summer since December 2004. Surface samples are collected mid-lake using a helicopter.	No	Yes	No		Microtrophic*	n/a	Improving quality*	n/a		TLI modified	1.16		1990s compared to 2004/05	December 2004–April 2006	
	Lake Ellesmere/ Te Waihora	48177	2467369	5713866	Lagoon	3	Monthly surface samples from four mid-lakes sites in Lake Ellesmere since 1993. In addition, one lake edge site sampled weekly during summer for recreational bathing (<i>E. coli</i>).	No	Yes	Yes	No		Hypertrophic	n/a	No change	n/a	Upstream land-use and lake level management are primary drivers for their current states.	TLI				
	Lake Emma	41299	2357300	5728500	Glacial	3	Five samples per year during summer since December 2004. Surface samples are collected mid-lake using a helicopter.	No	Yes	No		Mesotrophic*	n/a	No change*	n/a		TLI modified	3.8		1990s compared to 2004/05	December 2004–April 2006	
	Lake Forsyth/ Te Wairewa	47579	2489760	5712012	Lagoon	3	Fortnightly lake edge samples from Lake Forsyth since 1993. Phytoplankton taxa and toxins monitored.	Yes	Yes	No	Yes		Hypertrophic	n/a	No change	n/a	Upstream land-use and lake level management are primary drivers for their current states.	TLI modified				
	Lake Georgina	48447	2393900	5764500	Glacial	10	Five samples per year during summer since December 2004. Surface samples are collected mid-lake using a helicopter.	No	Yes	No		Oligotrophic*	n/a	No change*	n/a		TLI modified	2.3		1990s compared to 2004/05	December 2004–April 2006	
	Lake Grassmere	48663	2410100	5793200	nd	15	Five samples per year during summer since December 2004. Surface samples are collected mid-lake using a helicopter.	No	Yes	No		Oligotrophic*	n/a	Improving quality*	n/a		TLI modified	2.2		1990s compared to 2004/05	December 2004–April 2006	
	Lake Hawdon	48669	2416400	5788600	Glacial	13	Five samples per year during summer since December 2004. Surface samples are collected mid-lake using a helicopter.	No	Yes	No		Oligotrophic*	n/a	No change*	n/a		TLI modified	2.3			December 2004–April 2006	
Lake Heron	47892	2361900	5745300	Riverine	37	Five samples per year during summer since December 2004. Surface samples are collected mid-lake using a helicopter.	No	Yes	No		Oligotrophic*	n/a	No change*	n/a		TLI modified	2		1990s compared to 2004/05	December 2004–April 2006		
Lake Ida	48455	2391300	5773600	nd	9	Five samples per year during summer since December 2004. Surface samples are collected mid-lake using a helicopter.	No	Yes	No		Oligotrophic*	n/a	Improving quality*	n/a		TLI modified	2.2		1990s compared to 2004/05	December 2004–April 2006		

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Canterbury	Lake Lyndon	48597	2404700	5766500	Glacial	28	Five samples per year during summer since December 2004. Surface samples are collected mid-lake using a helicopter.	No	Yes	No		Microtrophic*	n/a	n/a	n/a		TLI modified	1.8			December 2004–April 2006
	Lake Ohau	45514	2258100	5659500	Glacial	129	Five samples per year during summer since December 2004. Surface samples are collected mid-lake using a helicopter.	No	Yes	No		Microtrophic*	n/a	n/a	n/a		TLI modified	1.4			December 2004–April 2006
	Lake Pearson – North	48660	2410800	5789000	nd	17	Five samples per year during summer since December 2004. Surface samples are collected mid-lake using a helicopter.	Yes	Yes	No		Microtrophic*	n/a	Improving quality*	n/a		TLI modified	1.6		1990s compared to 2004/05	December 2004–April 2006
	Lake Pearson – South	48660	2410600	5787200	nd	17	Five samples per year during summer since December 2004. Surface samples are collected mid-lake using a helicopter.	Yes	Yes	No		Microtrophic*	n/a	Improving quality*	n/a		TLI modified	1.7		1990s compared to 2004/05	December 2004–April 2006
	Lake Pukaki	46564	2283200	5680357	Glacial	70	Five samples per year during summer since December 2004. Surface samples are collected mid-lake using a helicopter.	No	Yes	No		Microtrophic*	n/a	n/a	n/a		TLI modified	1.38			December 2004–April 2006
	Lake Sarah	48673	2410300	5794700	nd	6.7	Five samples per year during summer since December 2004. Surface samples are collected mid-lake using a helicopter.	No	Yes	No		Oligotrophic*	n/a	Improving quality*	n/a		TLI modified	2.3		1990s compared to 2004/05	December 2004–April 2006
	Lake Seife	48213	2389700	5773100	nd	30	Five samples per year during summer since December 2004. Surface samples are collected mid-lake using a helicopter.	No	Yes	No		Oligotrophic*	n/a	Improving quality*	n/a		TLI modified	2.1		1990s compared to 2004/05	December 2004–April 2006
	Lake Sumner	54738	2446300	5835000	Glacial	135	Five samples per year during summer since December 2004. Surface samples are collected mid-lake using a helicopter.	No	Yes	No		Microtrophic*	n/a	Improving quality*	n/a		TLI modified	1.3		1990s compared to 2004/05	December 2004–April 2006
	Lake Taylor	39356	2446862	5826652	Glacial	40.5	Five samples per year during summer since December 2004. Surface samples are collected mid-lake using a helicopter.	No	Yes	No		Oligotrophic*	n/a	No change*	n/a		TLI modified	2.2		1990s compared to 2004/05	December 2004–April 2006
	Lake Tekapo	47228	2310900	5697400	Glacial	120	Five samples per year during summer since December 2004. Surface samples are collected mid-lake using a helicopter.	Yes	Yes	No		Microtrophic*	n/a	Improving quality*	n/a		TLI modified	1.1		1990s compared to 2004/05	December 2004–April 2006
	Loch Katrine	39364	2444400	5831800	Glacial	28	Five samples per year during summer since December 2004. Surface samples are collected mid-lake using a helicopter.	No	Yes	No		Oligotrophic*	n/a	No change*	n/a		TLI modified	2.2		1990s compared to 2004/05	December 2004–April 2006
	Wainono Lagoon	12469	2363775	5610166	Lagoon	2	Monthly lake edge samples from Wainono Lagoon since June 2000.	No	Yes	No	No	Eutrophic	n/a	n/a	n/a	Upstream land-use and lake level management are primary drivers for their current states.	TLI modified				
Chatham Island	Causeway Lake				nd	Shallow	Quarterly monitoring of Chatham Island streams and lakes since April 2005. Single sample from the lake margin.	No	Yes	No		Supertrophic*	n/a	n/a	n/a		TLI modified	5.4			
	Lake Huro				nd	Shallow	Quarterly monitoring of Chatham Island streams and lakes since April 2005. Single sample from the lake margin.	No	Yes	No		Hypertrophic*	n/a	n/a	n/a		TLI modified	6.45			
	Lake Kaingaraha				nd	Shallow	Quarterly monitoring of Chatham Island streams and lakes since April 2005. Single sample from the lake margin.	No	Yes	No		Hypertrophic*	n/a	n/a	n/a		TLI modified	7.4			
	Lake Koomutu				nd	Shallow	Quarterly monitoring of Chatham Island streams and lakes since April 2005. Single sample from the lake margin.	No	Yes	No		Supertrophic*	n/a	n/a	n/a		TLI modified	5.86			

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Chatham Island	Lake Marakapia				nd	Shallow	Quarterly monitoring of Chatham Island streams and lakes since April 2005. Single sample from the lake margin.	No	Yes	No		Supertrophic*	n/a	n/a	n/a		TLI modified	5.03			
	Lake Rangitai				nd	Shallow	Quarterly monitoring of Chatham Island streams and lakes since April 2005. Single sample from the lake margin.	No	Yes	No		Mesotrophic*	n/a	n/a	n/a		TLI modified	3.74			
	Lake Te Roto				nd	Shallow	Quarterly monitoring of Chatham Island streams and lakes since April 2005. Single sample from the lake margin.	No	Yes	No		Supertrophic*	n/a	n/a	n/a		TLI modified	5.05			
	Lake Te Wapu				nd	Shallow	Quarterly monitoring of Chatham Island streams and lakes since April 2005. Single sample from the lake margin.	No	Yes	No		Supertrophic*	n/a	n/a	n/a		TLI modified	5.38			
	Lake Wharemanu				nd	Shallow	Quarterly monitoring of Chatham Island streams and lakes since April 2005. Single sample from the lake margin.	No	Yes	No		Supertrophic*	n/a	n/a	n/a		TLI modified	5.71			
	Tennants Lake				nd	Shallow	Quarterly monitoring of Chatham Island streams and lakes since April 2005. Single sample from the lake margin.	No	Yes	No		Mesotrophic*	n/a	n/a	n/a		TLI modified	3.63			
Gisborne District	Ratahi Lagoon	43199	2975600	6336300	Lagoon	Shallow	Fortnightly grab sample from lake margin since 1980.	No	Yes	No	No	n/a	n/a	n/a	n/a	Treated wastewater discharged to the Lagoon.	WQ				
Greater Wellington	Lake Wairarapa	1708	2697846	5996443	Riverine	2.5	Quarterly monitoring of four sites since 1994. Subsurface grab sample as per Smith et al 1989.	No	Yes	No	No	Supertrophic	n/a	Improving quality	n/a		TLI	5.77			Median 1994–2005
Hawkes Bay	Lake Tutira	36981	2846003	6212590	Landslide	40	Not currently monitored. Partner of New Zealand lake monitoring network.	Yes	No	No	No	Mesotrophic	n/a	n/a	n/a		n/a	3.8	1992–1996	1992–1996	
Manawatu-Wanganui	Lake Dudding	13447	2704337	6120367	Dune	10.5	During the summer, monitoring is also undertaken to assess suitability for recreational bathing including enumeration of cyanobacteria. Lake SPI monitoring was undertaken by NIWA in about 2003. Was part of NZLMP.	Yes	No	Yes	Yes	Eutrophic	n/a	n/a			Macrophytes	4.6			NZLMP 1992–1994
	Lake Horowhenua	4345	2700585	6063747	Dune	2	Monthly water quality samples from Lake Horowhenua since 1998. Three sites in the lake are sampled and composited into a single sample for analysis. During the summer, monitoring is also undertaken to assess suitability for recreational bathing.	No	Yes	Yes	Yes	Supertrophic*	n/a	n/a	n/a		TLI, macrophytes	5.8			August 2002–February 2006
	Lake Pauri	18933	2689318	6134290	Dune	13	During the summer, monitoring is also undertaken to assess suitability for recreational bathing including enumeration of cyanobacteria.	No	No	Yes	Yes	n/a	n/a	n/a	n/a		Macrophytes	n/a			
	Lake Wiritoa	18934	2688355	6134629	Dune	19.5	During the summer, monitoring is also undertaken to assess suitability for recreational bathing including enumeration of cyanobacteria. Lake SPI monitoring was undertaken by NIWA in about 2003.	No	No	Yes	Yes	n/a	n/a	n/a	Declining condition		Macrophytes	n/a			
	Pukepuke Lagoon	5042	2702428	6093608	Dune	1	Lake SPI monitoring was undertaken by NIWA in about 2003.	No	No	No	No	n/a	n/a	n/a	n/a		Macrophytes	n/a			

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Northland	Jacks Lake	24024	2595339	6645459	Reservoir	6.5	N/A	No	No	No	No	Eutrophic*	High	n/a	nd		Lake SPI				
	Lake Carrot	23690	2527974	6686587	Dune	8.2	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly.	No	Yes	No	No	Eutrophic*	High	Improving quality*	nd		TLI, Lake SPI				
	Lake Heather	23682	2528551	6683419	Dune	5.6	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly.	No	Yes	No	No	Eutrophic*	Moderate	n/a	nd		TLI, Lake SPI				
	Lake Humuhumu	50401	2611799	6540799	Dune	16	Water quality monitoring to establish a baseline. Lake condition monitoring 3–5 yearly. Annual surveillance for exotic (invasive) plants.	No	Yes	No	No	Mesotrophic*	High	n/a	nd		TLI, Lake SPI				
	Lake Kai Iwi	21918	2569698	6598284	Dune	16	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly. Annual surveillance of exotic (invasive) plants.	No	Yes	No	No	Mesotrophic*	High	No change*	nd		TLI, Lake SPI				
	Lake Kanono	50373	2613130	6537028	Dune	15.5	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly. 2–3 yearly surveillance for exotic (invasive) plants.	No	Yes	No	No	Mesotrophic*	High	n/a	nd		TLI, Lake SPI				
	Lake Kapoai	21759	2585628	6572596	Dune	9	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly.	No	Yes	No	No	Hypertrophic*	n/a	n/a	n/a		TLI, Lake SPI				
	Lake Karaka	50320	2603820	6542641	Dune	6	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly.	No	Yes	No	No	Eutrophic*	n/a	n/a	n/a		TLI, Lake SPI				
	Lake Kihona	24621	2501959	6730329	Dune	8.3	N/A. Surveyed in 2004/05	No	No	No	No	Eutrophic*	Poor	n/a	nd		Lake SPI	4.1			
	Lake Kuhuparere	50371	2614502	6536202	Dune	7.5	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly.	No	Yes	No	No	Eutrophic*	Excellent	n/a	nd		TLI, Lake SPI	4.2			Six samples 1990–2006
	Lake Manuwai	24304	2589441	6669823	Reservoir	10	Water quality monitoring as part of the resource consent conditions.	No	No	No	No	Eutrophic*	n/a	No change*	n/a		n/a				
	Lake Mokeno	50314	2605682	6538354	Dune	6.1	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly. Five-yearly surveillance for exotic (invasive) plants.	No	Yes	No	No	Eutrophic*	High	n/a	nd		TLI, Lake SPI				
	Lake Morehurehu	24628	2510719	6686970	Dune	14	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly.	No	Yes	No	No	Mesotrophic*	High	n/a	nd		TLI, Lake SPI				
	Lake Ngakapua (North Basin)	18718	2528355	6686970	Dune	8.2	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly.	No	Yes	No	No	Eutrophic*	Moderate	n/a	nd		TLI, Lake SPI				
	Lake Ngakapua (South Basin)	18717	2528442	6686785	Dune	5.2	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly.	No	Yes	No	No	Eutrophic*	Moderate	n/a	nd		TLI, Lake SPI				
	Lake Ngakeketa	21433	2490048	6742538	Dune	8.7	n/a	No	No	No	No	Eutrophic*	Poor	n/a	nd		Lake SPI	4			
	Lake Ngakeketa North/ Te Pahi	21434	2488803	6742780	Dune	17.8	Water quality monitoring to establish a baseline. Lake condition monitoring 3–5 yearly.	No	Yes	No	No	Eutrophic*	High	n/a	nd		TLI, Lake SPI				Two samples December 2005 and March 2006
	Lake Ngatu	23691	2528991	6685099	Dune	6.5	Water quality monitoring to establish a baseline. Lake condition monitoring annually. Annual weed surveillance.	No	Yes	Yes	Yes	Eutrophic*	High	Declining quality*	nd		TLI, Lake SPI				
Lake Ngatuhete	19576	2500440	6735971	Reservoir	5.1	n/a	No	No	No	No	Eutrophic*	Moderate	Improving quality*	nd		Lake SPI					

Region	Lake name	LID	Easting	Northing	Lake type	Maximum depth (m)	Monitoring programme	NZLWQMP 1992–1996	WQ monitored	Bathing water monitored	Cyano-bacteria monitored	Trophic state	LakeSPI condition	TLI trends	LakeSPI trends	Possible causes	Indicators used	TLI (most recent)	LakeSPI trend period	WQ trend period	WQ results period
Northland	Lake Omapere	23721	2582424	6650338	Volcanic	2	Monthly monitoring at two sites (epilimnion and hypolimnion) since September 2003. Since December 2003 extra samples were taken to monitor cyanobacteria growth. Freshwater fish survey carried out in May 2005. Macrophyte and mussel survey in 2004.	Yes	Yes	Yes	Yes	Hypertrophic	Poor	Declining quality*	Declining condition	Grass carp, loss of macrophytes and reduced WQ. Cf change from phytoplankton dominated to macrophyte dominated in 1990s, diminishing release of dissolved nutrients form the sediments and resuspension. Little change in catchment use.	TLI	6.66			
	Lake Owhareiti	24039	2596296	6645467	Volcanic	16	Water quality monitoring to establish a baseline.	No	No	No	No	Eutrophic*	n/a	n/a	n/a		Lake SPI				
	Lake Pretty	19559	2495430	6735393	Dune	4.4	N/A	No	No	No	No	Mesotrophic*	Excellent	n/a	nd		Lake SPI	3.46			One sample November 2004
	Lake Rotokawau	18719	2529694	6686962	Dune	3.1	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly.	No	Yes	No	No	Mesotrophic*	High	n/a	nd		TLI, Lake SPI				
	Lake Rotokawau	50413	2613515	6538562	Dune	12	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly. Annual surveillance for exotic (invasive)plants.	No	Yes	No	No	Mesotrophic*	Moderate	n/a	nd		TLI, Lake SPI				
	Lake Rotokawau East	24423	2540200	6703300	Dune	1	n/a	No	No	No	No	Hypertrophic*	n/a	n/a	n/a		Lake SPI				
	Lake Rotokawau West	24422	2538899	6703399	Dune	12	n/a	No	No	No	No	Hypertrophic*	n/a	Declining quality*	n/a		Lake SPI				
	Lake Roto-otuauru/ Swan	50403	2612909	6540500	Dune	5.5	n/a	No	No	No	No	Eutrophic*	n/a	n/a	n/a		n/a	4.33			Spot samples 1990–2005
	Lake Rotoroa	23681	2528743	6682513	Dune	8	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly.	No	Yes	No	No	Eutrophic*	Moderate	No change*	nd		TLI, Lake SPI				9 samples since 1989
	Lake Rototuna	50345	2604000	6549499	Dune	5.5	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly.	No	Yes	No	No	Eutrophic*	High	n/a	nd		TLI, Lake SPI				
	Lake Taharoa	21917	2568979	6599048	Dune	37	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly. Annual surveillance of exotic (invasive)plants. Sampling since 1995.	No	Yes	No	No	Oligotrophic*	n/a	n/a	n/a		TLI, Lake SPI	2.23			1995–2006
	Lake Te Kahika	24633	2511098	6730897	Dune	10.8	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly.	No	Yes	No	No	Mesotrophic* ?	n/a	No change*	n/a		TLI, Lake SPI				
	Lake Wahakari	24620	2504499	6727499	Dune	12	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly. Annual surveillance for exotic (invasive)plants.	No	Yes	No	No	Mesotrophic*	High	Improving quality*	nd		TLI, Lake SPI				
	Lake Waihopo	24511	2514907	6716189	Dune	3.5	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly.	No	Yes	No	No	Eutrophic*	High	No change*	nd		TLI, Lake SPI				
	Lake Waikere	21926	2567517	6600108	Dune	31	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly. Sampling since 1990.	Yes	Yes	No	No	Oligotrophic*	High	n/a	nd		TLI, Lake SPI	2.97			2002–2006
	Lake Waingaro	24271	2590830	6659628	Reservoir	10	n/a	No	No	No	No	Eutrophic*	n/a	n/a	n/a		Lake SPI				
	Lake Waingata	50377	2613929	6538348	Dune	9.5	n/a	No	No	No	No	Eutrophic*	n/a	No change	n/a		n/a	4.62			1990–2004

Region	Lake name	LID	Easting	Northing	Lake type	Maximum depth (m)	Monitoring programme	NZLWQMP 1992–1996	WQ monitored	Bathing water monitored	Cyano-bacteria monitored	Trophic state	LakeSPI condition	TLI trends	LakeSPI trends	Possible causes	Indicators used	TLI (most recent)	LakeSPI trend period	WQ trend period	WQ results period
Northland	Lake Wainui	17761	2589944	6566348	Dune	11.8	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly.	No	Yes	No	No	Eutrophic*	n/a	n/a	n/a		TLI, Lake SPI				2004
	Lake Waipara	19575	2497633	6735057	Dune	5	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly.	No	Yes	No	No	Eutrophic*	n/a	n/a	n/a		TLI, Lake SPI				2004
	Lake Waiparera	13467	2527246	6695313	Dune	6	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly.	No	Yes	No	No	Eutrophic*	Moderate	n/a	nd		TLI, Lake SPI				
	Lake Waiporohita	24415	2542680	6700020	Dune	3	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly. Sampling since 1990.	No	Yes	No	No	Hypertrophic*	Excellent	n/a	nd		TLI, Lake SPI				
	Midgley's Lake	21814	2574814	6590038	Dune	3	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly.	No	Yes	No	No	Eutrophic*	High	n/a	nd		TLI, Lake SPI				
	Te Paki Dune Lake	19585	2492052	6741158	Dune	2.2	Water quality monitoring to establish a baseline. Lake condition monitoring five-yearly.	No	Yes	No	No	Eutrophic*	Excellent	n/a	nd		TLI, Lake SPI				
	West Coast Road Lake	23689	2527609	6685521	Dune	1	Lake condition monitoring five-yearly.	No	No	No	No	n/a	n/a	n/a	n/a		TLI, Lake SPI				
Otago	Lake Dunstan	54737	2212200	5567700	Reservoir	>30	Bimonthly water quality monitoring for SOE reporting.	No	Yes	No	No	Oligotrophic*	n/a	n/a	n/a		WQ	2.23			February 2004–February 2005
	Lake Hawea	54736	2212400	5615300	Glacial	384	Baseline monitoring (ie, surface water quality of lake outflow).	No	Yes	No	No	Microtrophic*	n/a	n/a	n/a		WQ	1.38			February 2004–February 2005
	Lake Hayes	54190	2179400	5573300	Glacial	32	Monthly sampling of 1 site mid-lake from December 2005. Where sample is taken from depends on stratifications status Burns et al (2002) protocol applied. Also bimonthly water quality monitoring from outlet since 1994/95.	Yes	Yes	No	No	Mesotrophic*	n/a	n/a	n/a	Catchment is undergoing rapid residential development. Many houses have on-site wastewater treatment systems.	TLI	3.18			February 2004–February 2005
	Lake Johnson	53707	2173600	5569100	nd	27	Monthly sampling of 1 site mid-lake from December 2005. Where sample is taken from depends on stratifications status Burns et al (2002) protocol applied. Also bimonthly water quality monitoring from edge since 1994/95.	No	Yes	No	No	Eutrophic*	n/a	n/a	n/a		TLI	4.24			February 2004–February 2005
	Lake Onslow	1553	2244500	5511600	Glacial	nd	Bimonthly water quality monitoring from outlet since 1994/95. Baseline monitoring and TLI at outflow.	No	Yes	No	No	Oligotrophic*	n/a	n/a	n/a		TLI	n/a			February 2004–February 2005
	Lake Tuakitoto	44599	2265400	5436600	nd	shallow	Bimonthly water quality monitoring at outflow. TLI monitoring to start in 2007.	No	Yes	No	No	Eutrophic*	n/a	n/a	n/a		WQ	4.87			February 2004–February 2005
	Lake Waihola	44391	2284442	5461518	Riverine	shallow	Monthly sampling of three sites mid-lake from 2002–2005. Single sample from top (initial sampling found no difference between top and bottom). Sampling by Otago University 1997–1998. Also, bimonthly water quality monitoring from jetty since 1994/95.	No	Yes	No	No	Supertrophic	n/a	No change	n/a	Receives backflow from the Waipori and Taieri Rivers that receive oxidation pond effluent from the Waihola township and agricultural runoff from various drains on the Lower Taieri Plains.	TLI	5.03			February 2005–February 2006

Region	Lake name	LID	Easting	Northing	Lake type	Maximum depth (m)	Monitoring programme	NZLWQMP 1992–1996	WQ monitored	Bathing water monitored	Cyano-bacteria monitored	Trophic state	LakeSPI condition	TLI trends	LakeSPI trends	Possible causes	Indicators used	TLI (most recent)	LakeSPI trend period	WQ trend period	WQ results period
Otago	Lake Waipori	44694	2285867	5466795	riverine	Shallow	Monthly sampling of two sites mid-lake from 2002–2005. Single sample from top (initial sampling found no difference between top and bottom). Sampling by Otago Univeristy 1997–1998. Also, bimonthly water quality monitoring from SE corner since 1994/95.	No	Yes	No	No	Eutrophic	n/a	No change	n/a	Receives a direct input of agricultural drainage water from the western area of the Lower Taieri Plains via the Waipori Pumping Station.	TLI	4.58			February 2005–February 2006
	Lake Wakatipu	53532	2173800	5566700	Glacial	380	Monthly sampling of three sites (Queenstown arm, Frankton arm and mid lake) from December 2005. Where samples are taken from depends on stratification status. Burns et al (2002) protocol applied. Also bimonthly water quality monitoring from outlet since 1994/95. TLI and baseline monitoring (ie, surface water quality of lake outlet).	Yes	Yes	No	No	Microtrophic*	n/a	n/a	n/a		TLI	1.68	1991–2003		February 2005–February 2006
	Lake Wanaka	54672	2204700	5608900	Glacial	311	Monthly sampling of three sites (Dublin Bay, Roys Bay and mid lake) from December 2005. Where samples are taken from depends on stratification status. Burns et al (2002) protocol applied. Also bimonthly water quality monitoring from outlet since 1994/95. TLI and baseline monitoring (ie, surface water quality of lake outlet).	No	Yes	No	No	Microtrophic*	n/a	n/a	n/a		TLI	1.68	1991–2003		February 2004–February 2005
Southland	Lake Manapouri	54735	2086900	5504900	Glacial	444	Based on Burnes et al (2002). Mid-lake, samples from both epilimnion and hypolimnion. DO–temperature profile to about 20m. Single DO spot reading from hypolimnion sample.	No	Yes	Yes	No	Oligotrophic	n/a	No change	n/a		TLI	2.25			July 2004–June 2005
	Lake Te Anau	52566	2092400	5526770	Glacial	417	Based on Burnes et al (2002). Mid-lake, samples from both epilimnion and hypolimnion. DO–temperature profile to about 20m. Single DO spot reading from hypolimnion sample.	No	Yes	Yes	No	Oligotrophic	n/a	No change	n/a		TLI	2.2	1991–2001		Average July 2004–June 2005
	Mavora Lake South	53338	0	0	Glacial	30	Monthly monitoring of the outlet since 1995 as part of river SoE monitoring programme (upstream site for Mararoa River).	No	Yes	Yes	No	Oligotrophic*	n/a	No change*	n/a		WQ	2.32	1991–2005	1995–2000	2003–2006
	Waituna Lagoon	54742	2174919	5395255	Lagoon	<4		No	Yes	No	No	Eutrophic*	n/a	n/a	n/a		TLI modified	4.55	1991–2003		Average July 2004–June 2005
Taranaki	Lake Rotomanu	20904	2606400	6239900	Reservoir	3	Lake Rotomanu is monitored as part of the bathing beach monitoring programme. 13–20 samples are collected during the bathing season. There is a scan for cyanobacteria and cell counts if needed (2005–2006).	No	No	Yes	Yes	n/a	n/a	n/a	n/a						
	Lake Rotorangi	7506	2245000	6183500	Reservoir	60	Lake Rotorangi has been sampled four times per year since 1984: pre-stratification (October), stable summer (February), pre-overturn (March), and post overturn (June).	No	Yes	No	Yes	Mesotrophic	n/a	No change	n/a		TLI	3.9		1990–2006	Median 1990–2004
Tasman District	Cobb Reservoir	24969	2481380	6009498	Reservoir	20	n/a some sampling by Cawthron.	No	No	No	No	n/a	n/a	n/a	n/a		n/a	n/a			
	Lake Rototiti	27762	2496555	5931561	Glacial	84	n/a some sampling by NIWA.	Yes	No	No	No	Microtrophic*	n/a	n/a	n/a		n/a	1.62	1989–2004		July 1999
Waikato	Lake Areare	15034	2704400	6390400	Peat	5.1	Lake SPI survey 2004/05 and comparison with past data.	No	No	No	No	n/a	Poor	n/a	Stable		Lake SPI	n/a	1992–2003	1991–2006	

Region	Lake name	LID	Easting	Northing	Lake type	Maximum depth (m)	Monitoring programme	NZLWQMP 1992–1996	WQ monitored	Bathing water monitored	Cyano-bacteria monitored	Trophic state	LakeSPI condition	TLI trends	LakeSPI trends	Possible causes	Indicators used	TLI (most recent)	LakeSPI trend period	WQ trend period	WQ results period
	Lake Hakanoa	49200	2701700	6403100	Riverine	2.5	Fortnightly water quality samples from 2002–present. Previously 1990–1994.	No	Yes	Yes	Yes	Hypertrophic	Poor	n/a	Stable		TLI, Lake SPI	6.7	1991–2003	1991–2006	October 2002–April 2006
Waikato	Lake Harihari	12830	2661000	6331000	Dune	8	Lake SPI survey 2004/05 and comparison with past data.	No	No	No	No	n/a	High	n/a	nd		Lake SPI	n/a	1991–2005		
	Lake Hotoananga	15033	2702900	6391500	Peat	3	Lake SPI survey 2004/05 and comparison with past data.	No	No	No	No	n/a	Poor	n/a	Declining condition		Lake SPI	n/a	1989–2004		
	Lake Kainui	15037	2707300	6389400	Peat	6.7	Lake SPI survey 2004/05 and comparison with past data.	No	No	Yes	No	n/a	High	n/a	Improving condition		Lake SPI	n/a	1996–2004		
	Lake Kimihia	49239	2703871	6406172	Riverine	3.3	Lake SPI survey 2004/05 and comparison with past data.	No	No	No	No	n/a	Poor	n/a	Stable		Lake SPI	n/a	1987–2004		
	Lake Mangahia	14418	2706200	6366800	Peat	3.2	Monthly water quality sampling between September 1988 and June 1994. No further monitoring is recommended as the lake is hypertrophic.	No	Yes	No	Yes	Hypertrophic	n/a	No change	n/a		TLI	6.62	1997–2004	1988–1994	1990–1994
	Lake Mangakawhare	14405	2705300	6360900	Peat	4.8	Monthly water quality samples from 2002–present. Lake SPI survey 2004/05.	No	Yes	No	Yes	Hypertrophic	High	n/a	Improving condition		TLI, Lake SPI	6.7	1999–2003		1990–1994
	Lake Maratoto	14422	2712900	6366000	Peat	shallow	Monthly water quality samples from 2002–present.	Yes	Yes	No	Yes	Supertrophic*	n/a	Improving quality*	n/a		TLI	5.2	1987–2004		2002–April 2006
	Lake Ngahewa	14208	2805072	6315383	Volcanic	7.5	Lake SPI survey 2004/05 and comparison with past data.	No	No	No	No	n/a	Poor	n/a	Declining condition		Lake SPI	n/a	1991–2003		
	Lake Ngaroto	14406	2711300	6358300	Peat	4	Monthly water quality sampling between September 1988 and June 1994.	No	Yes	Yes	Yes	Hypertrophic	Poor	No change	Stable		TLI, Lake SPI	6.34	1991–2001	1995–2001	January 1997–July 2002
	Lake Ohinewai	49090	2702300	6409800	Riverine	4.5	Lake SPI survey 2004/05 and comparison with past data.	No	No	No	No	n/a	Poor	n/a	Stable		Lake SPI	n/a			
	Lake Okowhao	49176	2699500	6406300	Riverine	2.2	Lake SPI survey 2004/05 and comparison with past data.	No	No	No	No	n/a	Poor	n/a	Declining condition		Lake SPI	n/a	1991–2005		
	Lake Opouri	14179	2801530	6312902	Volcanic	25	Lake SPI survey 2004/05 and comparison with past data.	No	No	No	No	n/a	High	n/a	Improving condition		Lake SPI	n/a	1992–2005		
	Lake Otamateaoroa	49291	2659769	6432761	Dune	5	Lake SPI survey 2004/05 and comparison with past data.	No	No	No	No	n/a	Moderate	n/a	Declining condition		Lake SPI	n/a	1991–2005		
	Lake Parkinson	49294	2659700	6430600	Dune	8	Lake SPI survey 2004/05 and comparison with past data.	No	No	No	No	n/a	Moderate	n/a	Declining condition		Lake SPI	n/a	1991–2005		
	Lake Puketi	49295	2658529	6434532	Dune	7	Lake SPI survey 2004/05 and comparison with past data.	No	No	No	No	n/a	Moderate	n/a	Improving condition		Lake SPI	n/a	1991–2005		
	Lake Rotoaira	21367	2744593	6235587	Volcanic	14.6	Lake SPI survey 2004/05 and comparison with past data.	No	No	No	No	n/a	Moderate	n/a	Declining condition		Lake SPI	n/a	1981–2004		
	Lake Rotaiti	54730	2811077	6346106	Dune	7	Lake SPI survey 2004/05 and comparison with past data.	No	No	No	No	n/a	Moderate	n/a	Improving condition		Lake SPI	n/a	1999–2003		
	Lake Rotokauri	15013	2703800	6380000	Peat	4	Monthly water quality sampling between 1997–2001. Lake SPI survey in 2004/05.	No	Yes	No	Yes	Hypertrophic	Poor	No change	Declining condition	Collapse of macrophytes	TLI, Lake SPI	6.36	1983–2001	August 1997–December	August 1997–July 2002
	Lake Rotomanuka North	14428	2713700	6361600	Peat	8.7	Monthly water quality sampling between September 1995–present. Lake SPI survey in 2004/05.	No	Yes	No	Yes	Eutrophic	Poor	No change	Declining condition	Collapse of macrophytes in 1996/97.	TLI, Lake SPI	4.94	1991–2002	1995–2001	January 2000–May 2006
	Lake Rotomanuka South/ Lake Ginn	14427	2714100	6361200	Peat	4.8	Monthly water quality sampling between September 1995–2001. Lake SPI survey in 2004/05.	No	Yes	No	Yes	Hypertrophic	Poor	Declining quality	nd	Contaminants from pastoral farming. Treated dairy farm effluent.	TLI, Lake SPI	6.64		1995–2001	1995–2001
Lake Rotongaro	49186	2697500	6410500	Riverine	3.3	Lake SPI survey 2004/05 and comparison with past data.	No	No	No	No	n/a	Poor	n/a	Declining condition		Lake SPI	n/a	1990–2005			
Lake Rotongaroiti	49187	2696500	6411500	Riverine	0.5	Lake SPI survey 2004/05 and comparison with past data.	No	No	No	No	n/a	Poor	n/a	Stable		Lake SPI	n/a	1992–2003			
Lake Rotopiko East	14425	2714000	6358900	Peat	4.4	Monthly water quality samples from 2002–present. Lake SPI survey 2004/05.	No	Yes	No	No	No	Eutrophic	Excellent	n/a	Stable		TLI, Lake SPI		1991–2005	January 2002–June 2006	January 2002–June 2006

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Waikato	Lake Rotopiko North	14426	2714000	6359800	Peat	4	Monthly water quality samples from 2002–present. Lake SPI survey 2004/05.	No	Yes	No	No	Eutrophic	Excellent	n/a	Improving condition		TLI, Lake SPI			February 2002–June 2006	February 2002–June 2006
	Lake Rotopiko South	14424	2714100	6358700	Peat	3.6	Lake SPI survey 2004/05.	No	No	No	No	n/a	High	n/a	Improving condition		Lake SPI	n/a			
	Lake Rotopounamu	21370	2747000	6238300	Volcanic	nd	Lake SPI survey 2004/05 and comparison with past data.	No	No	No	No	n/a	High	n/a	Declining condition		Lake SPI	n/a			
	Lake Rotoroa (Hamilton)	15022	2710700	6375500	Peat	6	Monthly water quality sampling between September 1995–present. Lake SPI survey in 2004/05. NIWA on behalf of Hamilton CC.	Yes	Yes	Yes	Yes	Eutrophic	High	Improving quality	Improving condition	Establishment of macrophytes.	TLI, Lake SPI			1992–2004	1992–2004
	Lake Taharoa	12876	2662500	6336000	Dune	9.2	Lake SPI survey 2004/05 and comparison with past data.	Yes	No	No	No	n/a	Moderate	n/a	Declining condition		Lake SPI	n/a			
	Lake Taupo	54734	2772000	6266000	Volcanic	160	Monthly monitoring since 1994. Epilimnion and hypolimnion sampling from three sites in the lake. Temperature–DO profiles and calculation of hypolimnetic oxygen demand.	No	Yes	Yes	Yes	Oligotrophic	Moderate	Declining Quality	Declining condition		Lake SPI	2.13			
	Lake Tutaeinanga	14071	2800480	6313578	Volcanic	3	Lake SPI survey 2004/05 and comparison with past data.	No	No	No	No	n/a	High	n/a	nd		Lake SPI	n/a			
	Lake Waahi	41314	2697800	6401300	Riverine	5	Bimonthly water quality sampling from 1995 to present. Lake SPI survey 2004/05.	No	Yes	Yes	Yes	Supertrophic	Poor	No change	Stable		TLI, Lake SPI	5.37		1995–2001	January 2000–April 2006
	Lake Waikare	50782	2706500	6416700	Riverine	1.8	Sampling was under at various stages between 1995–2001 to obtain a comprehensive database for identified small lakes in the region. Water quality samples were collected bimonthly between February 1993 and December 2001.	No	Yes	Yes	Yes	Hypertrophic	Poor	Declining quality	Stable	Sediment from erosion in catchment and resuspension from lake bed.	TLI, Lake SPI	6.61		1993–2001	January 200–April 2006
	Lake Whangape	49180	2692300	6413400	Riverine	3.5	Bimonthly water quality sampling from 2002 to present. NIWA sampled weekly between 1992 and 1996. Lake SPI survey 2004/05.	Yes	Yes	Yes	Yes	Hypertrophic	Poor	Declining quality*	Declining condition	External nutrient loads. Re-establishment of macrophytes after collapse in 1987.	TLI, Lake SPI	6.5			2002–April 2006
West Coast	Lady Lake	38665	2392322	5844248	nd	22	Not currently monitored. Was part of New Zealand lake monitoring programme 1992–1994.	Yes	No	No	No	Mesotrophic	n/a	n/a	n/a		n/a	3.2			NZLMP 1992–1994
	Lake Brunner	38974	2382200	5842200	Glacial	111	Quarterly monitoring between 1995–1997. Monthly TLI monitoring.	Yes	Yes	Yes	No	Oligotrophic	n/a	Declining quality	n/a	Manure and fertiliser from dairy farms in Crooked River catchment. Septic tanks, urban development, invasive flora and fauna, discharges from boats.	TLI	2.96		1992–1996	Mean 2005–2006

* State based on a modified version of the TLI, eg. no secchi depth or chlorophyll a measurement.

• Trends based on observations since the NZLMP (1992–1996).