
Northland Lakes Ecological Status 2009



Waitahora Lagoon, an outstanding pristine wetland complex.

**NIWA Client Report: HAM2009-103
June 2009**

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Prepared for

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Executive Summary

Northland Regional Council (NRC) engaged NIWA to assist achievement of its goal “to prevent deterioration in water quality and loss of biodiversity value in Northland lakes”.

This report presents a summary of information gathered on 80 Northland lakes. The core information in this report is a ‘living’ document to be added to and modified to incorporate changes in lake values as they change. This information is key for the NRC Lakes Strategy as it is essential for managers to know what they are managing and monitor responses to management initiatives.

The report was updated in 2009 by:

1. Re-surveying the Waitahora Lagoon and Lakes Ngakaketa North, Morehurehu, Te Kahika, Waihopo, and Rotokawau (Waipapakauri), with vegetation descriptions, ecological observations, and LakeSPI.
2. Re-surveying Lake Swan and establishing a baseline assessment protocol as this lake was scheduled for invasive weed eradication using grass carp. Grass carp were introduced into Lake Swan in May 2009 by NRC.
3. Rapid assessment of Lake Heather submerged vegetation prior to initiation of a grass carp eradication programme by NRC.
4. Weed surveillance monitoring of Lakes Ngatu, Waiporohita, Kai-iwi, Taharoa, Waikere, Humuhumu, Swan and Rotokawau (all at-risk, high priority water bodies).

No new invasions of oxygen weed were found in the weed surveillance survey of the high priority lakes. In Lake Heather, a crack willow cutting was found planted near the maimai and poses a significant threat to the lake. It is recommended that all crack willow planted by the maimai be removed and efforts be made to inform the ‘vector’ of the potential harm of this practice. The pest fish perch was noted by a diver in Lake Ngatu during surveillance monitoring. Perch are piscivorous and threaten land-locked inanga and other fish in this lake.


















Utricularia gibba is increasingly more widespread and abundant in Northland lakes. Unfortunately little can be done to prevent the spread of this weed as waterfowl are likely to be dispersing it.





















All lakes have been ranked (summarised in table form below) based on assessment of ecological significance, and this information is intended to facilitate prioritisation of lakes for monitoring and assist managers to make decisions that could preserve, protect or enhance lake condition and ecological values. Changes to previous rankings were: Ngakeketa North degraded from High to Moderate-High (with spread of egeria) and elevation of Lake Rotokawau from Moderate-High up to High (with relocation of a healthy population of the nationally rare *Utricularia australis*).























Assessment of biosecurity risks posed by the freshwater pest plants are also re-presented and updated, with recommendations for monitoring and control. This work is part of the NRC Regional Surveillance Strategy for management of freshwater pests within Northland Region. This approach is justified as native aquatic flora and fauna are highly susceptible to displacement by invasive species, and freshwater systems are much more vulnerable than forest and other terrestrial ecosystems. Northland Region has some of New Zealand's highest ranked examples of intact natural aquatic ecosystems. They are being lost at an alarmingly rapid rate as new invasive species continue to be spread as a result of human activities. Most pristine lakes are now situated in remote areas with difficult access. With community support and active protection, such exceptional lakes could be maintained in a pristine state for perpetuity. Protection requires that no introductions occur via accidental means. Fishing nets, non-resident boats, boat trailers and drainage machinery need to be prohibited or strictly controlled from the highest ranking water bodies including any inflows and outflows within the catchment.





















Table: Ranked lakes and summary of monitoring recommendations. Lakes are listed alphabetically within four geographic areas, with a Northland Regional Council lake number and rankings colour-coded (by colours of the rainbow) as outstanding, high, high to moderate, moderate, low to moderate, low:






Name	NRC Lake Number	Rank	Lake Condition Monitoring	Pest Plant Surveillance
Aupouri				
Austria	22	 Moderate		
Bulrush	49	 Low		
Carrot or Ngakapua West	118	 High	5 yrs	
Forest Lake or Deans Swamp	14	 Low		
Little Gem	123	 Outstanding	5 yrs	
Half Mile Lagoon	62	 Low		
Heather	125	 High	5 yrs	
Katavich	103	 Low		
Kihona	31	 Low		
Mini(Split)	130	 low		
Morehurehu	32	 Outstanding	5 yrs	
Morehurehu South	36	 Moderate-High		
Ngakapua	115 & 117	 Moderate-High	5 yrs	
Ngakaketa	14	 Low		
Ngakaketa North (Te Paki)	13	 Moderate-High	5 yrs	
Ngatu	120	 Outstanding	5 yrs	1 yr
Ngatuwhete	23	 Low		

Name	NRC Lake Number	Rank	Lake Condition Monitoring	Pest Plant Surveillance
Pretty	24	 Moderate		
Rotokawau	116	 High	5 yrs	
Rotoroa	126	 High	5 yrs	
Salt	48	 Low		
Te Arai Ephemeral Wetland & Pond	46	 Moderate		
Te Arai Lake	47	 Low		
Te Kahika	29	 Outstanding	5 yrs	
Te Paki dune	15	 High	5 yrs	
Te Werahi Lagoon	6	 Low		
Wahakari	35	 Outstanding	5 yrs	
Waihopo	78	 Outstanding	5 yrs	
Waimimiha North	136	 Low		
Waimimiha South	137	 Low		
Waipara/Dead	25	 Moderate	5 yrs	
Waiparera	102	 Moderate-High	5 yrs	
Waitahora lagoon	2	 Outstanding	10 yrs	
Waitahora lakes	3 & 4	 Outstanding	10 yrs	
West Coast Rd	121	 High	5 yrs	
Yelavich	105	 High	5 yrs	
Karikari Peninsula, central and east				
Horahora Dune	199A	 Moderate		

Name	NRC Lake Number		Rank	Lake Condition Monitoring	Pest Plant Surveillance
Jacks	180		Low		
Roadside pond, Matai			Low		
Manuwai	146		Low		
Omapere	173		Low		
Ora	205		Low		
Owhareiti	177		Low		
Rotokawau East	96		Moderate		
Rotokawau West	95		Moderate		
Rotopokaka	104		Moderate		
Sand's Lake	309A		Moderate		
Smith's Dam	199B		Low		
Stanner's Rd Dam	148A		Low		
Tapui Rd Quarry Lake	199C		Low		
Waingaro	167		Low		
Waiporohita	99		Outstanding	5 yrs	1 yr
Waro	410		Moderate-High		
Whau Dam	206		Low		
Kai Iwi lakes & north Dargaville					
Freidrich's	282		Low		
Kai-iwi	236		Outstanding	5 yrs	1 yr
McEvoy	277		Low		
Midgeley	257		Moderate-High	5 to 10 yrs	

Name	NRC Lake Number		Rank	Lake Condition Monitoring	Pest Plant Surveillance
Shag	221		Low		
Taharoa	229		Outstanding	5 yrs	1 yr
Te Riu	201		High	5 yrs	
Waikere	227		Outstanding	5 yrs	1 yr
Waingata	200A		High		
Pouto Peninsula					
Grevilles Lagoon	295		Moderate		
Humuhumu	350		Outstanding	5 yrs	1 yr
Kahuparere	384		High	5 yrs	
Kanono	377		Outstanding	5 yrs	3-5 yrs
Kapoai	296		Low-Moderate	5 yrs	
Karaka	347		High	10 yrs	5-10 yrs
Mokeno	356		Outstanding	5 yrs	5 yrs
Parawanui	297		Low		
Phoebe's	346		Low		
Rotokawau	364		High	5 yrs	1 yr
Roto-otuauru (Swan)	355		Moderate		
Rotopouua	348		Outstanding	5 yrs	
Rototuna	328		High	5 yrs	
Waingata	371		Low		

Name	NRC Lake Number	Rank	Lake Condition Monitoring	Pest Plant Surveillance
Wainui	305	 Moderate to High	5 yrs	
Wairere	339	 Moderate to High	10 yrs	
Whakaneke	390	 High	5 yrs	