

Poutō Peninsula

Wairere (Poutō), NRC Lake No. 339 & Round Hill Lake 2.



Lake Wairere south end showing the mobile dune on the western shore (Photo: Daniel Clements 12 August 2022).

Summary Lake Wairere and Round Hill Lake 2	
Surveyed:	2005, 2014 and 2022
Overall ranking:	High: Isolated and set within a mostly indigenous catchment with diverse native aquatic vegetation, but subject to planktonic cyanobacterial blooms. Endangered bird species present.
Threats:	Moderate risk of introduction of invasive weeds, greatly increased with the discovery of hornwort in the nearby Lake Tutaki. Poor water quality and algal blooms are impacting most lakes on the western side of Poutō Peninsula although much of the immediate lake catchments are vegetated in native scrub.
Management recommendations:	Lake ecological assessment monitoring every 5 years. Investigate the causes of poor water quality and algal blooms.

Description

This narrow (~2 km long, <100 m wide) dune lake (1691256E, 5985189N) is 16.5 ha in size and 4.5 m deep. There are two small cut-offs to the north. Round Hill Lake 2 (1690678E, 5986484N) was situated just north of Wairere. Wairere has a margin of steep scrub covered cliff to the east and rough pasture, wetland and mobile sand dunes to the west. Access is difficult via the West Coast traversing the sand dunes. Difficult boat access. Water clarity was poor (0.7 m visibility) in these water bodies in 2022.

Wetland vegetation

Extensive wetlands occurred in the southwest of the lake with *Typha orientalis*, *Schoenoplectus tabernaemontani*, *Machaerina articulata*, *M. arthropylla*, *Eleocharis acuta*, *E. sphacelata* and *Carex secta* common. The southern end of the lake was fringed with a dense 5-10 m bed of raupo (*Typha orientalis*).

Additional native emergent species seen in 2014 were *Machaerina juncea*, *Carex virgata*, *C. maorica*, *Cyperus ustulatus*, *Isachne globosa*, *Isolepis prolifera*, *Persicaria decipiens* and *Juncus pallidus* and the exotic grass *Paspalum distichum*.

A small duckweed was found associated with *Lemna disperma* in the marginal emergent vegetation of Round Hill Lake 2. It is possibly *Lemna perpusilla*, a species not previously recorded in New Zealand, probably naturally introduced.



The two duckweeds *Lemna disperma* (yellow arrow) and *Lemna perpusilla* (orange arrow) in the marginal emergent vegetation of Round Hill Lake 2 (Photo: Paul Champion 12 August 2022).

Submerged vegetation

The 2022 survey was conducted by snorkelling, rake and sonar. In Lake Wairere and Round Hill Lake 2, species recorded (in order of abundance) were *Chara australis*, *C. globularis*, *Potamogeton ochreatus*, *Myriophyllum triphyllum*, *Utricularia gibba* and *P. cheesemanii*. Scattered plants were recorded from 1.8 to 4.5 m depth in Lake Wairere and to 2.4 m in Round Hill Lake 2. Similar species were found in 2014, with *C. globularis* also recorded.



Lake Wairere, examining the submerged vegetation sampled using a rake (Photo: Aleki Taumoepeau 12 August 2022).

LakeSPI

Reconnaissance only – no LakeSPI scores were generated.

Water birds

The lake and surrounding wetlands provide excellent bird habitat. DOC SSBI (1977) recorded the Nationally Threatened bittern (*Botaurus poiciloptilus*) and regionally threatened dabchick (*Poliocephalus rufopectus*) and scaup (*Aythya novaeseelandiae*). A spotless crake (*Porzana tabuensis tabuensis*) was seen in the wetland during the 2014 field visit.

Fish

Eels were seen.

Endangered species

No nationally threatened plant, fish or aquatic invertebrate species were recorded, although At Risk Declining longfin eel (*Anguilla dieffenbachii*) were potentially present (eel species were not determined during the ecological survey). Spotless crake (*Porzana tabuensis plumbea*) are assessed as At Risk Declining.

Lake Ecological Value

Lake Wairere was first surveyed in 2005 with a heavy algal bloom (0.3 m of visibility) and some remnant plant communities. Water clarity was considerably better in 2014 (around 2.5 m) and more extensive submerged vegetation was present. An increase of species richness has resulted in an

improved Lake Ecological Value of 10 “High”. In 2022, water clarity was poor (0.7 m) but there was no change to the Lake Ecological Value from 2014.

Threats

The isolation of the lake was initially thought to pose a low risk of introduction of invasive weeds but establishment is likely should this occur. However, Lake Tutaki ~ 1 km south of Lake Wairere (Lake# 344) was found to be invaded by the two most invasive submerged species hornwort (*Ceratophyllum demersum*) and egeria (*Egeria densa*) in 2020. Introduction is likely to have occurred through contaminated eel nets, potentially the same vector could introduce those species to Lake Wairere.

Water clarity is variable, probably due to nutrient additions from the forestry area to the east or influences from farming further north. While conditions were suitable for macrophyte growth in 2014, nutrient losses from land management practices are likely cause periodic algal blooms that threaten water quality and ecological health.

Management Recommendations

Lake ecological assessment monitoring every 5 years.

Investigate the causes of poor water quality and algal blooms.