

## Central and East Northland

Owhareiti (Central Northland), NRC Lake No. 177



**Owhareiti.** Photo taken from the north to show the main basin and pastoral catchment on volcanic soils. (30 April 2018)

### Summary

Surveyed 2001, 2006, and 2018.

### Overall ranking

**Moderate:** This large lake was severely impacted by the pest plant *Egeria densa* and water quality is poor but provides valuable habitat for endangered water birds.

### Threats

Highly impacted by pest plants and nutrient enrichment.

### Description

This lake (1685502E 6083555N) is 95.9 ha in area, with a maximum depth of 16 m. It was formed by a volcanic flow damming the outlet. Surrounding catchment is mostly pasture. The lake has one inflow (to the south east) but no outflows. Access is through well-formed private roads and with gate access to adjacent farmland. Boat access requires a 4-WD.

## Wetland vegetation

There was a fringe of emergent vegetation around much of the lake, 5-10 m across to 2.5 m deep. It was dominated by *Eleocharis sphacelata* with lesser amounts of *Machaerina articulata* and *Schoenoplectus tabernaemontani* (first recorded in 2018). There was cattle access to much of the lake, with several fences collapsed or broken.

## Submerged vegetation

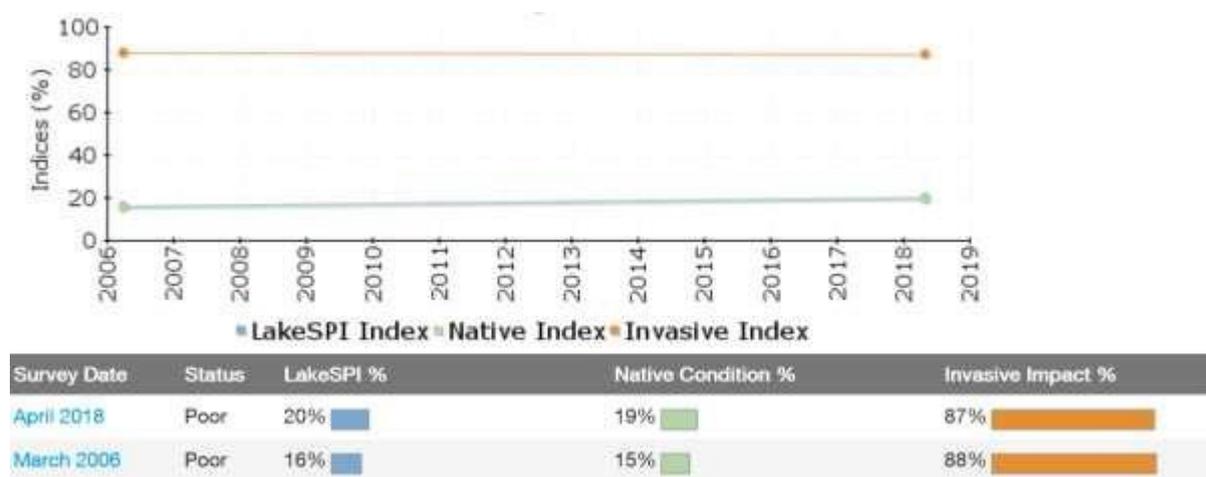
In 2001, the submerged vegetation was composed of four species with *Egeria densa* dominant between 0.3 m and ~4 m water depth with isolated shoots to 5 m. *Myriophyllum propinquum*, *Potamogeton cheesemanii* and *P. ochreatus* had low covers and were all present in water <1 m deep.

In 2006, the submerged vegetation was dominated by tall beds of the exotic *Egeria densa* growing from the emergent vegetation zone to 4 m, with scattered plants to 5 m deep.

*Egeria* also was the dominant submerged species in 2018, growing to a maximum depth of 6.1 m. Scattered native plants included *Potamogeton ochreatus*, *P. cheesemanii*, *Myriophyllum propinquum* and *Chara australis*, along with the invasive *Utricularia gibba*, with the turf species *Gratiola sexdentata*, *Glossostigma elatinoides* and *Lilaeopsis novae-zelandiae* found in areas lacking tall emergent vegetation.

## LakeSPI

Lake Owhareiti Submerged Plant Indicators



The low LakeSPI Index was driven by the very high Invasive Impact Index with *E. densa* dominating the vegetation and displacing native values. A slight improvement between 2006 and 2018 may reflect improving water clarity, but invasive impact still remained high.

## Water birds

The large areas of emergent and wetland vegetation provide good habitat for many aquatic birds. A recent OSNZ survey reported over 1000 birds seen including the following regionally rare species: fernbird (*Bowdleria punctata vealeae*), dabchick (*Poliocephalus rufopectus*), Australasian little grebe (*Tachybaptus novaehollandiae*) and scaup (*Aythya novaezeelandiae*), with 6 nationally endangered bittern (*Botaurus poiciloptilus*) seen in 1990.

## Fish

Common bullies (*Gobiomorphus cotidianus*) were seen in the lake.

## Aquatic invertebrates

Few aquatic invertebrates were noted.

## Endangered species

No threatened species have been observed in and around Lake Owhareiti.

## Lake Ecological Value

Owhareiti ecological value rating is assessed as 6 - "Moderate", a relatively large and deep water body, with a poorly buffered habitat, low biodiversity, invasive plants present and no threatened species.

## Threats

*Egeria densa* had a major impact on other submerged vegetation, displacing other species from much of the depth range, but if introduced, hornwort could displace the egeria and lead to greater invasive impacts.

There was livestock access to the lake, contributing to the poor water quality.

## Management recommendations

No monitoring is recommended.