

Poutō Peninsula

Waingata (Poutō), NRC Lake No. 371.



Figure Error! No text of specified style in document.-1: Waingata. Photo showing the re-establishment of emergent vegetation within the fenced area (Photo: Paul Champion 19 September 2018).

Summary	Waingata
Surveyed:	2005, 2010, 2018 (reconnaissance) and 2021
Overall ranking:	Moderate: Mostly de-vegetated by grass carp, but emergent vegetation starting to re-establish in fenced areas indicating grass carp numbers have declined below the threshold where grazing pressure can suppress plant growth. Freshwater mussels present.
Threats:	Low risk of introduction and establishment of invasive weeds. Water quality poor.
Management recommendations:	No regular lake native biodiversity value monitoring until grass carp numbers are insufficient to prevent submerged vegetation reestablishment.

Description

A small (9 ha) dune lake (1703256E, 5976471N) of 9.5 m depth, set in a pastoral catchment. Access through 2 km private farmland, mostly on a well-formed track and requiring 4-WD if wet. Small boats can be launched with 4-WD from northern lake edge.

Wetland vegetation

Emergent species were noted in 2018, for the first time since grass carp were stocked, within an area where stock were excluded by fencing. Species included *Schoenoplectus tabernaemontani*, *Eleocharis acuta*, oioi (*Apodasmia similis*) and *Juncus pallidus*. The pest plant alligator weed (*Alternanthera philoxeroides*) was well established around the lake in 2001 and has continued to proliferate.

In 2021, lake levels were very low with a marginal fringe of bare sand/silt between tall emergent species and the lake. A number of opportunistic weed species were recorded in this zone along with native annual species like *Centipeda aotearoana* and turf species such as *Lilaeopsis novae-zelandiae*, *Limosella lineata*, *Myriophyllum votschii*, *Elatine gratioloides*, *Gratiola sexdentata* and *Glossostigma elatinoides*. Strand forms of *Myriophyllum propinquum* and *Potamogeton cheesemanii* were also locally present.

Submerged vegetation

The turf community was described as emergent in 2005 and 2010, with *Lilaeopsis novae-zelandiae*, *Elatine gratioloides* and *Glossostigma elatinoides*, noted in water less than 30 cm deep in 2018. The lake was turbid with a cyanobacterial bloom, no taller submerged species were recorded.

A similar poor water clarity/turbidity was recorded in 2021 with no submerged species seen.

LakeSPI

A LakeSPI score was not generated as the lake is devegetated as a result of grass carp stocking.

Water birds

The lake provides minimal bird habitat. Despite this, 17 black swan (*Cygnus atratus*), 10 mallard (*Anas platyrhynchos*) and two pairs of paradise shelduck (*Tadorna variegata*) with ducklings were seen in 2018. Additionally, two pairs of dabchick (*Poliocephalus rufopectus*) and 38 black shag (*Phalacrocorax carbo*) and one little shag (*P. melanoleucos*) were seen on this survey.

Fish

The lake was stocked with rainbow trout (*Oncorhynchus mykiss*) in the 1950's until 1980 but have since died out. Īnanga (*Galaxias maculatus*) was present in the lake and was recorded as abundant in 1997. Common bully (*Gobiomorphus cotidianus*) were the only other fish present in Waingata until 67 grass carp (*Ctenopharyngodon idella*) were introduced in 1995 to eradicate the pest plant elodea (*Elodea canadensis*). There are very few, if any, grass carp remaining in the lake with two dead fish (~75 cm long) seen on the lake shore. Bullies were common in 2021.



Dead grass carp on the margin of Waingata (Paul Champion 2021)

Aquatic invertebrates

Several introduced snails *Physa acuta*, were seen among emergent vegetation in 2018. Freshwater mussels (*Echyridella menziesii*) of various sizes (including juveniles with shells < 1 cm long) were noted in the 2021 survey. This is the first recording of these molluscs in Waingata although they are abundant in the nearby Rotokawau.

Endangered species

At Risk Declining freshwater mussels (*Echyridella menziesii*) were found in Waingata in 2021. The At Risk Declining lake-bound population of īnanga (*Galaxias maculatus*) is likely to persist in this lake. Threatened birds seen in 2018 included the At Risk Recovering dabchick and At Risk Naturally Uncommon black shag, the large numbers of this species indicating an abundance of fish in Waingata.

Lake Ecological Value

An ecological value rating of 6 (Moderate) was assigned to Waingata, a partially fenced small lake with poor water quality and largely devegetated due to the introduction of grass carp in 1995. The score had increased in 2021 due to increased diversity of plants and the presence of the ecologically important freshwater mussels.

Threats

The isolation of the lake provides a low risk of introduction and establishment of invasive weeds. However, carp browsing pressure has apparently reduced sufficiently for emergent species to grow where cattle are excluded from the lake margin. Water quality is currently poor but is likely to improve in the future with fencing, riparian planting and increase in freshwater mussel numbers.

Management recommendations

No regular lake native biodiversity value monitoring is advocated until grass carp numbers are insufficient to prevent submerged vegetation reestablishment.