## Poutō Peninsula

### Black Lake North (Poutō), NRC Lake No. 349

**Figure: Black Lake North.** Photo taken from the centre of the lake looking north, showing dark tea-stained water and high covers of marginal emergent species. (Photo: Daniel Clements, 10 August 2022).

| Summary | Black Lake North |
|---|---|
| **Surveyed:** | Recce 2022 |
| **Overall ranking:** | **Moderate**: A small lake with highly stained water, native submerged and emergent vegetation. |
| **Threats:** | Nutrient inputs from land use in the catchment may have led to an enriched water quality causing algal blooms and loss of freshwater mussels and dense submerged vegetation. Submerged weed invasion is unlikely due to the lake's isolation but hornwort is present in several lakes to the north. |
| **Management recommendations:** | Limited further monitoring, e.g., surveillance for submerged weeds every five years. |

## Description

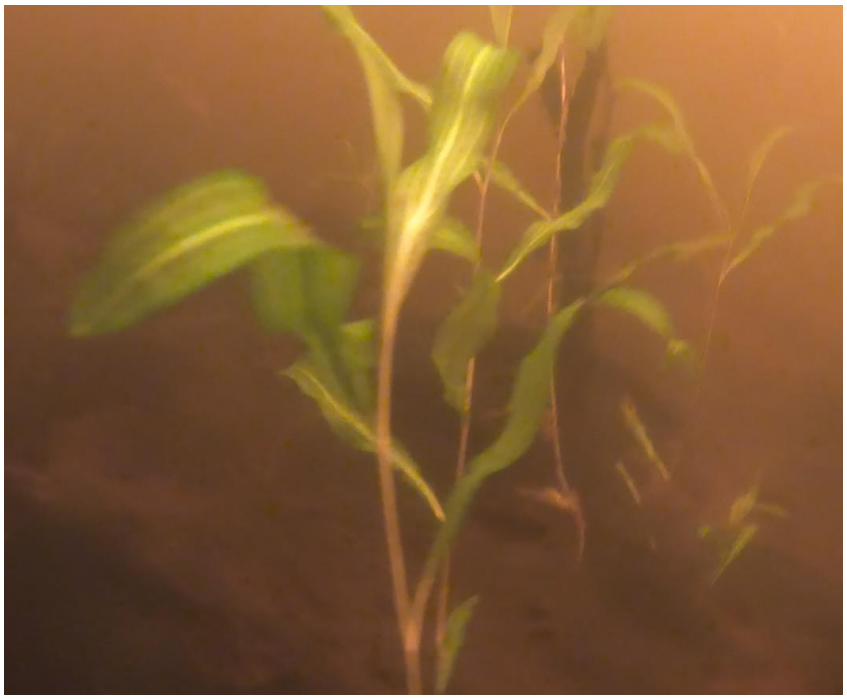
Black Lake North (1694123E 5979989N) is a 0.38 ha dune lake in a deflation hollow in Holocene sands, with a maximum depth of 4.2 m. There are three further lake basins south of this lake, collectively known as the Black Lakes. Access to those lakes was not possible and water clarity appeared much lower than Black Lake North. The catchment is approximately 50% kānuka scrub and 50% pine plantation. Access to the lakes is from forestry roads north from Lake Mokeno, with roadside access to the lake. Vehicles can get close to the lake and small boats can be launched from the northeastern lake edge. Lake water was heavily tea-stained with an estimated clarity of around 1 m.

## Wetland vegetation

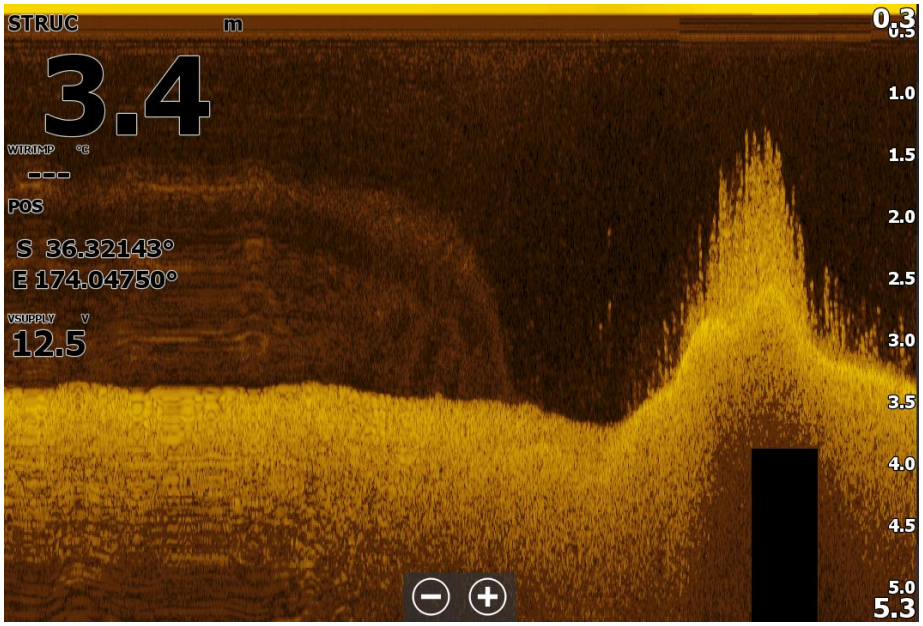
The lake is surrounded by an entire narrow fringe of emergent species including (in descending order of abundance) *Machaerina articulata, M. juncea, Schoenoplectus tabernaemontani,* raupō (*Typha orientalis*), *M. rubiginosa* and *Carex secta*. Other species recorded on the lake margin include harakeke, *Cyperus ustulatus*, swamp millet (*Isachne globosa*), kiokio (*Parablechnum novae-zelandiae*) and *Thelypteris confluens*.

## Submerged vegetation

In 2022, the submerged vegetation was surveyed using snorkel, rake and sonar. Underwater visibility was poor, estimated at 1 m, mostly due to heavy brown staining but also with floccy material from a recent algal bloom. Native species formed low covers, with the pondweed *Potamogeton cheesemanii* and the charophyte *Chara australis*. They were found at a maximum depth of 3.6 m with an average cover of < 5% on the four transect sites. The invasive weed *Utricularia gibba* was found at low covers amongst marginal emergent vegetation.



***Potamogeton cheesemanii* in Black Lake North** (Photo: Daniel Clements 10 August 2022)




**Local high cover of *Potamogeton cheesemanii*** (right of sonar scan) **in Black Lake North.**

## LakeSPI

A LakeSPI assessment has not been undertaken for Black Lake North.

## Water birds

A pair of dabchicks (*Poliocephalus rufopectus*) were recorded.

## Fish

No fish were seen.

## Aquatic invertebrates

No aquatic invertebrates were noted although dead freshwater mussel shells were found.

## Endangered species

The rare fern *Thelypteris confluens* (At Risk Naturally Uncommon) was present, growing amongst emergent species at the water's edge.

## Lake Ecological Value

The Lake Ecological Value score for 2022 was assessed as 6 "Moderate", predominantly due to the small size of the lake and low species diversity.

## Threats

The lake is accessible by a well formed forestry track but introduction of pest species appears unlikely compared with lakes with beach access.

Nutrient inputs from land use in the catchment may have led to an enriched water quality causing algal blooms and loss of freshwater mussels and dense submerged vegetation.

## Management recommendations

Limited further monitoring is recommended, e.g., surveillance for submerged weeds every five years.