

## Central and East Northland

Kaiwai (Central Northland), NRC Lake No 193.



Kaiwai.

### Summary

**Survey date:** 2012.

### Overall ranking

**Moderate-Low;** although submerged vegetation is sparse, the wide emergent vegetation zone grading into indigenous forest on surrounding western hills and the presence of rare plants and animals make this a regionally important lake.

### Threats

Few, the landowners are keen to maintain the lake in its current condition and were informed of potential threats from pest plant and fish introductions.

### Management recommendations

Lake ecological assessment every 5 years. Livestock should be excluded from the wetland margin.

## Description

A small (7.5 ha) peat lake (2595306E, 6641419N) with a maximum depth of 8.0 m. The lake is a naturally dammed stream with two arms situated in plantation forest, regenerating native bush and farmland. The outlet, the Terewatoa Stream flows into the Orauta Stream, discharging into the southern part of the Bay of Islands. Access is across private farm land, with no trailer boat access, and no powered craft permitted by the owners.

## Wetland vegetation

The lake was ringed with emergent vegetation up to 30 m wide and *Typha orientalis* (growing to 1 m deep) with lesser amounts of *Eleocharis sphacelata*, *Machaerina articulata*, *M. arthropophylla* and *M. teretifolia* with the native swamp millet (*Isachne globosa*). *E. sphacelata* extended to 2.5 m water depth. *Potamogeton cheesemanii* and *Myriophyllum robustum* were present amongst the marginal species and *Utricularia gibba* formed mats to 0.5 m depth throughout the wetland margins. Closer to the shore, the vegetation also contained mats of *Sphagnum cristatum* with emergent flax (*Phormium tenax*), *Gleichenia dicarpa*, *Juncus bulbosus*, *J. fockei* and *J. prismatocarpus* with the regionally rare maru (*Sparganium subglobosum*). Much of the lake margin was forested with manuka fringe vegetation and further from the lake, diverse podocarp dominated vegetation on the western side and plantation pine forest on the eastern side.

## Submerged vegetation

Dark stained water significantly reduced light penetration effectively removing visibility beyond 2.5 m. Profiles from the deep emergent fringe descended steeply to 6 m before levelling off. No submerged vegetation was found although some floating fragments of *Potamogeton ochreatus* were noted.

## LakeSPI

This lake generates a default LakeSPI Index of 0% (Non-vegetated) on account of submerged plants being recorded at <10% cover.

## Water birds

The lake provides significant bird habitat with waterfowl noted in the margins including the regionally significant fernbird (*Bowdleria punctata vealeae*), with the nationally endangered bittern (*Botaurus poiciloptilus*) reported (Paki Thompson, landowner, pers. comm.).

## Fish

Longfin and shortfin eels and common bullies have been recorded in the lake and the Terewatoa Stream.

## **Aquatic invertebrates**

None recorded.

## **Endangered species**

Threatened species included the At-Risk Declining *Myriophyllum robustum*, fernbird (*Bowdleria punctata vealeae*) and longfin eel (*Anguilla dieffenbachii*).

## **Lake Ecological Value**

Kaiwai was assessed with a Lake Ecological Value score of 5 “Moderate to Low”) based on the highly buffered habitat and presence of at-risk declining species. However, submerged vegetation was sparse, with only detached pondweed plants seen in 2012.

## **Threats**

Few, the isolated nature of the lake and access through private land should reduce the risk of pest transfer. Land owners do not permit the use of motorised boats (Paki Thompson pers. comm.) and the risk posed by contaminated eel fishing nets was discussed during the 2012 field visit.

## **Management recommendations**

Conduct a survey of the fish fauna. Local landowners were keen to exclude cattle from the wetland margins and financial assistance available to fence off the wetland was discussed by NRC staff with the owner.