Te Hiku

Te Urungi o Ngati Kuri Dam (Aupouri), NRC Lake No. 49A.

Te Urungi o Ngati Kuri Dam viewed from the western end, with a rank grass or bare substrate surrounding the water body (Aleki Taumoepeau 2023).

Summary	Te Urungi o Ngati Kuri Dam
Surveyed:	2020 (recce), 2023
Overall ranking:	**Moderate to low**: This artificial dam supported a remarkably diverse submerged vegetation, particularly as it is only 11 years since its construction.
Threats:	Situated on private property, pest incursions are unlikely, and the site manager has been informed about vectors of spread. Nutrient enrichment from surrounding orchards is a threat to water quality.
Management recommendations:	Restricted access to the dam for vectors of pest spread (e.g., diggers, fishers) has been recommended. Nutrient management through the construction of swales are planned. There are opportunities to explore the translocation of threatened submerged plants to this site.

Description

The dam is situated (1602805E, 6158740N) in Waimarama Orchard (avocado and blueberry) in Ngataki. It is owned by Te Urungi o Ngati Kuri Ltd, the commercial arm of the Ngati Kuri Iwi Trust Board. It is an irrigation dam constructed in 2012 and occupying 6.4 ha and has a 9.1 m maximum depth, with a 4.6 million litre capacity. The dam margins are either clay or gravel with limited woody vegetation.

Wetland vegetation

There was no emergent vegetation, with scattered *Machaerina juncea* plants above the water line at the time of survey in 2020. *Machaerina articulata* and *Eleocharis acuta* were recorded above the dam margins in 2023. Turf species noted were the indigenous *Glossostigma elatinoides, Myriophyllum propinquum, M. votschii, Centella uniflora* and *Lobelia anceps*, with introduced *Ludwigia palustris, Isolepis marginata* and *Symphyotrichum subulatum*.

Submerged vegetation

In 2023, a diverse submerged vegetation was described, with average cover of 30% with cyanobacteria covering most of the plants. A maximum plant depth of 7.7 m (*Chara australis*) was recorded, with an underwater visibility estimated at 3 m. The turf species *Glossostigma elatinoides* grew from the water's edge to 1.1 m depth with a median cover class of 26 to 50%, with lower covers of *Myriophyllum propinquum* in this depth range. The pondweed *Potamogeton cheesemanii* was found at low covers from 0.5 to a maximum depth of 3.9 m with average height of 0.3 m. The introduced swamp lily (*Ottelia ovalifolia*) and starwort (*Callitriche stagnalis*), along with the invasive *Utricularia gibba* were present at low covers in depths less than 3 m. Charophytes dominated the vegetation, with a meadow (>75% cover) noted to a depth of 2.7 m in one of the three transects. Dominant species (in order of importance) were *Chara australis, Nitella pseudoflabellata, N. leonhardii, C. fibrosa, C. globularis* and *N.* sp. aff. *cristata.*

A recce of the submerged vegetation in 2020 showed that it was dominated by charophytes including *Nitella pseudoflabellata, N. leonhardii, Chara australis* and *C. fibrosa* all recorded. Additional submerged species were the native *Potamogeton ochreatus* (not seen in 2023) and the introduced *Ottelia ovalifolia*.

LakeSPI

An indicative LakeSPI score was generated from the three transect sampled by scuba in 2023. The LakeSPI Index was High (68%), supported by a Native Condition Index of 55%. *Utricularia gibba* was the only invasive species recorded with a low Invasive Impact Index of 15%.

Water birds

Water bird habitat was limited by the lack of emergent cover. Southern black-backed gulls (*Larus dominicanus*) were observed during the 2023 visit.

Fish and aquatic invertebrates

No fish or aquatic invertebrates were recorded.

Endangered species

No endangered species were recorded.

Lake Ecological Value

An ecological value rating of 5 (Moderate to low) was calculated for Te Urungi o Ngati Kuri Dam, predominantly due to the diverse submerged vegetation and minor impact by invasive species.

Threats

Invasive pest plants pose a minor risk as the dam is situated on private property with no public access. The risks posed by contaminated diggers or fishing nets were discussed with the property manager. Planting of nutrient retention swales are planned to prevent nutrient enrichment of the dam.

Management recommendations

This artificial dam supported a remarkably diverse submerged vegetation, particularly as it is only 11 years since its construction. It has potential to be used as a translocation site for the conservation of critically threatened species such as *Trithuria inconspicua* and *Utricularia australis* but would require evaluation of water quality, water level fluctuation and agreement with Ngāti Kurī before attempting this.

No further monitoring is recommended unless the conservation initiative discussed above is to proceed.