

The Battle to Save Lake Omapere

In 20 years, Omapere's environmental status went from healthy lake to giant murky pond, near the point of collapsing into a toxic brew. With a surface area of 1200 hectares, Omapere is the largest lake in Northland.

Had the lake 'collapsed' it would have wiped out all aquatic life, and threatened animals and humans as far downstream as the shellfish beds of Hokianga Harbour.

Where thousands of healthy eels once fattened themselves swimming lazily over acres of mussel beds, the lake had been turned into a murky battleground, its life-sustaining sunlight blocked out. Pitted against each other in the final rounds were an aggressive South American invader *Egeria densa* (oxygen weed) and a trio of potentially toxic blue-green algae. It was shaping up as a battle of mass destruction.

Recently, however, there has been good news. A last-gasp human intervention, plus some cyclical good luck with the weather and other natural phenomena, and the lake has come back to life.

Considered a taonga of the Ngapuhi people, the lake has been one of the most controversial and threatened regional features in recent years. Following the introduction of oxygen weed in the early 1970s the lake entered a deadly spiral.

As described in a Maori Affairs Committee inquiry, chaired by the Hon. John Tamihere in April 2001, Lake Omapere was suffering from nutrient-rich farm run-off. This allowed *Egeria densa* to take advantage of the shallow lake, aggressively colonising its bed and reaching for the surface, blocking out all sunlight.

When the temperatures warmed, loss of oxygen began killing the weed causing a further pulse of nutrient release from the dying plant material.

This provided near-perfect conditions for a surface algal bloom which killed more weed, reinforcing algal domination in the lake.

The weed had already choked the freshwater mussel beds which would normally filter out most of the algae. In 1985 there was a small-scale dress rehearsal when algae got the upper hand and poisoned parts of the lake and the Utukura River which drains it. People in nearby Kaikohe, reliant on the lake for domestic water, became ill. Four marae on the Utukura had to

who had fishing rights along Omapere's shores.

In 1926, a Land Court judge noted that if the lake's Ngapuhi owners had wanted to drain it to create more land they could easily have done so but they preferred it as a lake.

By 1987 the lake was well studied. The Northland Regional Council had estimated the number of cows living nearby and calculated how much nutrient leached into the lake. They had even figured out how much the swans ate and therefore the amount of

bureaucracy paid off.

An ecological intervention, this time carefully planned, now seems to have tipped the scales in favour of a healthy lake.

The unlikely 'white knights' are grass carp — a quick-growing, slow-moving fresh water fish from Asia, with a big appetite for aquatic weeds. Scientists are confident that this species cannot breed in the wild in New Zealand.

A recent statement from the Northland Regional Council says the lake is now largely weed free and no longer threatened



MALCOLM PULLMAN

Rex Faithfull drives his farm buggy across a paddock beside Lake Omapere in Northland. He says Lake Omapere is now back in good health and the introduction of grass carp has helped. Farm run-off is a factor in the threatened biological collapse of the lake. While not keen on a riparian planting strip being established on all of his lakeside property, Rex Faithfull says he would be willing to plant out the flats in the foreground.

abandon traditional summer activities.

The Tamihere report confirmed that lots was known about the lake but that different agencies had passed the buck to such an extent that nothing had been achieved to protect it. The politics, in parallel with the health of the lake, were fairly murky — dotted with long delays, human factions and scientific uncertainty.

Samuel Marsden was the first to write a report on the lake. In 1815 he described an abundance of eels, 'canoes constantly plying the waterway,' and named many of the hapu

phosphorous being deposited via swan excreta. (Some algal species were probably introduced when black swan arrived many years before.)

Since then the lake bed has been mapped by echo sounders, numerous experts have sampled and analysed the waters, checked bottom specimens with microscopes to identify tiny seeds, and botanists have donned snorkelling gear to search for rare plants.

Yet, it was not until the lake seemed near its last gasp that all the years of talking, report writing, arguing, dithering and other processes consistent with

with collapse. The council attributes this mainly to 20,000 adult grass carp introduced in January 2002.

After 20 years of threatened status the lake seems to be somewhere back near a healthy balance. Keeping it this way and where possible enhancing it is the challenge now facing the lake's owners, the Ngapuhi iwi. A spokesman for the lake's trustees, Kevin Prime, reports good progress on a long-term management plan, with most adjoining landowners agreeing to establish a substantial riparian planting strip.

— MALCOLM PULLMAN