

# Restoring the life force



TARARUA TE MAUNGA

WAI PUNAHAU TE MOANA

TUTEREMOANA TE TANGATA

MUAUPOKO TE IWI



**M**any travel State Highway 1 beneath the ranges of Tararua and through Levin unaware the biggest west coast lake lies close by on the seaward side of the town. Waipunahau, Horowhenua lake, the heart of the ancient Muaupoko iwi. It is their most precious taonga, and had been the kumete of the iwi, their food bowl, for centuries.

Muaupoko kaumatua, Joe Tukupua speaks of the mauri, the life force of the lake. Ohine koku ngawari o Rarangi te Rangimarie Takawae o Ngaru. He talks too of the spirituality of the lake and source waters, and the need for care when intervening – such as sinking bores that endanger the mauri.

Eel-filled lakes, streams and swamp forests are precious. The area abounded in tuna (eel), inanga (whitebait), freshwater koura, patiki (flounder), kakahi, water birds and kereru. "Our people did not need to garden any kai" says lake trustee Jim

Broughton. It is not that they did not manipulate the environment, for as well as the lived-in clearings and eel channels, they had a long tradition of constructing islands within this thousand acre lake to form island pa.

## THE NATURE OF THE PLACE

Levin sits on the alluvial terrace that fronts Tararua. Waipunahau is impounded against the terrace by the sand dunes. It is one of a series of dune lakes, the largest one. Generally forest-surrounded until about 1880, there was matai, totara and rimu forest on the drier flats and dunes, plus abundant kahikatea, pukatea and rata forest on the swamp and lake margins.

Picture these west coast lowlands of the southern north island as formerly being similar to the rich forested lowlands of South Westland today. Strangely, today the "norm" in New Zealand is for flat land to have become cleared of almost all indigenous forest. We tend to think of the forest as belonging to slopes – hillsides, gullies and banks. But it is the fertile flats, and in particular those flats of the Horowhenua, which would have supported the richest forests of Aotearoa.

First Europeans considered the Horowhenua dune lake country the most picturesque in the North Island, with "banks clothed with beautiful evergreens to the water's edge, studded with lovely wooded islets, fringes of raupo alternating with overhanging bush". Then there were 20 years of destruction for farm development from 1880 – "never before or since has a New Zealand landscape been so quickly and ruthlessly cleared" (Park, 1995). This was supported by penalties for leaving bush standing!

The Waipunahau lake level was lowered and controlled. Adjoining wetlands were drained along

with the eel channels. The islands then merged into shorelands. Cattle grazed and browsed any remnant of nature, any wetland vegetation that tried to persist.

With the lake outlet weir, the loss of forest, the trampled and bare shore, and, the polluted farm and town waters into the lake, lake fish and bird life have been severely limited. The sewage of Levin was pumped into this handy lake. The lake is hypertrophic, with very high nutrient levels. There is not one kereru.

## A TIME OF CHANGE

Vested in their Lake Horowhenua Trust, Muaupoko own the lake bed, a riparian strip and the outlet stream, Hokio, to the sea. They are taking control of the lake health – cleaning up to bring back the life of the lake; to restore the mauri and the mana of the lake. The trustees aim for the waters to again be drinkable, the fish and birds returned. Recently they have fenced the full 13 km boundary and this year revegetation planting of the lake shores has begun at a furious rate.

In the four months since the Lucas Associates planting plan has been completed, 8 km of harakeke has been established in a 100m wide shoreland planting around the lake – 50,000 plants so far. It is not merely a project by and for the iwi. It is a project by and for the country. Support from Lottery Grants Board, Labour Department, Employment Service, Horowhenua District Council, Department of Conservation, Horowhenua Branch of Forest and Bird, the local Polytechnic and schools clearly indicates the importance of the project and the agreement with the trustees' approach.

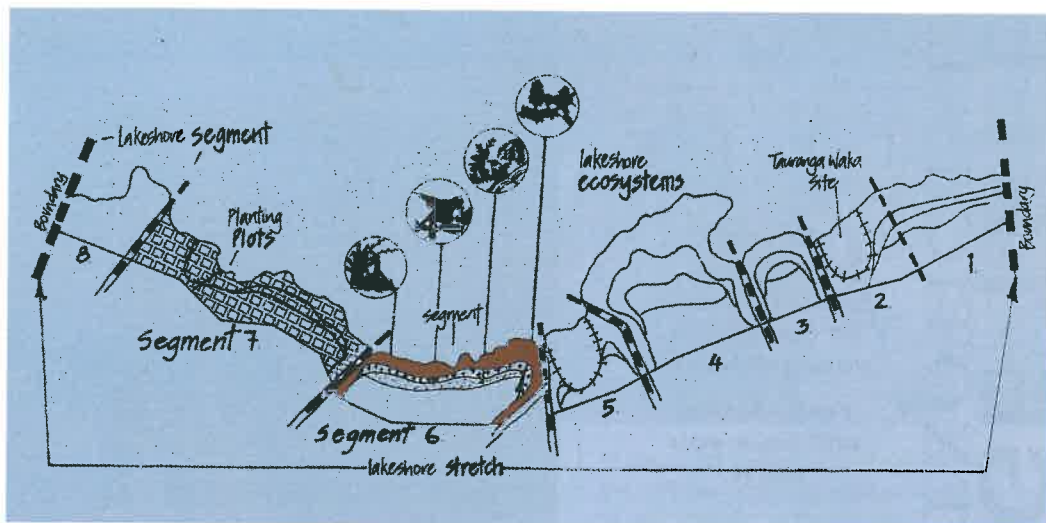
A catchment management regime is underway with the Manawatu-Wanganui Regional Council



**Opposite page:** Waipunabau - Lake Horowhenua.

**Right:** The lakeshore was divided into 75 segments of about one hectare.

**Below:** Forest option - cross section of ecosystem with each segment.



who have the duty to maintain the lake level. Not just the quantity of water, but also the quality needs to be addressed. Matt McMillan, the extraordinarily skilled Lake Trustees Chairman, notes the increasing recognition among various stakeholders that it is time to address the Waipunabau ecosystem in total.

#### PLAN DEVELOPMENT

In late 1996, Lucas Associates was commissioned by the Lake Trustees to prepare the lakeshore replanting plan. The terms of reference were set by the Lottery Grants Board, and the plan prepared in consultation with Muaupoko, ecologist Geoff Park who has researched the landscape history of the Horowhenua dune lakes, and, archaeologist Susan Forbes who had undertaken a no-dig archaeological survey of Waipunabau.

Local remnant and historic cover were explored as models for the potential lakeshore cover. On the nearby sand plain lake, Papaitonga, the remnant forest is a model for planning some of the restoration. Here there are some ancient kahikatea, the traditional fruit basket of the forest, still entwined by kiekie.

The plan acknowledges the culture as well as the nature of the place. Muaupoko whakapapa

here from the year 1100. For centuries this has been an intensively lived-in place. Traditional use patterns are celebrated, for example, to denote tauranga waka, the former canoe landing sites, they are encircled with a toetoe band. Whenua pou may later be installed and waka or raft access is a future option. Karaka are traditionally located. A process has been established for managing the archaeological sites encountered, with low planting, harakeke or shrubland generally permitted. Because lake levels have been lowered, most archaeological sites are, however, outside the fenced lakeshore.

It is a huge project, probably the biggest replanting project being undertaken in Aotearoa New Zealand. As implementation skills, timing, budgets and methods were completely unknown,

the plan was structured to allow for a range of approaches. The 13km lakeshore was divided into 9 stretches – named through liaison with the kaumatua council to provide meaningful and useful names – Makomako, Arawhata, Kouturoa, O Taewa, Hokio, Te Rae o te Karaka, Te Puru, Kawiu, and Te Kapa.

Each stretch was divided into a number of segments. The resultant 75 segments are each a possible separate project area of about one hectare in size. Criteria were developed to prioritise their planting order, and provision made for recognising both known and unknown special sites such as pa, tauranga waka, midden and clearings.

The lakeshore profile was divided into land units in response to varying drainage, soil, elevation and shelter. Based on these lake-shore land units,



Raupo/pukio/tuna/  
kahikatea/kotuku ecosystem

Harakeke/mingimingi/  
bittern ecosystem

Harakeke/ti kouka/tui  
ecosystem

Manuka/kowhai/  
korimako ecosystem

Kahikatea/pukatea/  
kereru ecosystem

Ngaio/nikau/piwakawaka  
ecosystem

Totara/karaka/ruru  
ecosystem



*Above: Farmland dominates lake edge.*

*Right: Dawn ceremony that began the surveying of the lakeshore lands prior to fencing, officiated by Muaupoko kaumatua Joe Broughton with Miller Wabo (left) and Marokopa Wiremu-Matakatea, now the lake project manager (right) - a totara will later mark the site.*

moderated to address special sites and traditional clearings, the full length of the shore was mapped as a series of seven ecosystems. A name and symbol show key plants and animals indicating the ecological potential that the plan seeks to realise. For example, the "kahikatea/pukatea/kereru ecosystem of the gently sloping lake-shore".

For the ecosystems mapped in the plan, two alternative planting regimes are outlined. The owners implementing the planting plan can choose between a forest option or a shrubland option for each segment of lakeshore, to respond to archaeological, historic or visual landscape reasons. Whether choosing the forest or the low cover, the option involves a different staged planting.

Being so exposed to prevailing winds, a three-stage planting regime has been designed. Stage 1 provides rapid cover as a nurse crop to shelter less hardy species, to begin filtering runoff, and as a buffer against weed invasion - harakeke is the main species. The tree and shrub canopy species will be established several years later, followed by more tender species, ferns and rimu.

Revegetation is thus not primarily aimed at reconstructing the picturesque, the pretty lake backdrop for the town. The revegetation is not primarily to reconstruct the patterns existing prior to European clearance. The revegetation is primarily to maximise the ecological opportunity,



the maximum that nature would provide on these shores, within the constraints of land ownership and edge effects from drainage, weeds, and winds. It is for the owners to decide on their degree of recognition of historic landscape patterns through selection of the appropriate option.

#### **IMPLEMENTATION**

Nga Kai Mahi O Nga Hau E Wha Ltd Levin runs an ETSA 42 week training course for the lakeshore revegetation work. It will be a NZQA accredited horticulture course. This is through the Community Employment Group of the Labour Department. Twenty school leavers, mostly Muaupoko lads, are excitedly learning about their heritage and actively helping to restore this treasure for the nation. Headed by Peter Huria of Muaupoko, who has extensive forestry experience

as well as experience in the subtleties of restoration of dunelands, and an intense love for this place. These skills in broadscale planting projects are very valuable in organising and undertaking the huge re-planting. Accessing rooted harakeke fan cuttings, delicately but in bulk, was a challenge he and his team have leapt to.

In scarce remnant trees, the young Muaupoko climb high to use ancient techniques to collect seed; not as food, but to grow, so that the new lakeshore forest can include the pukatea, rata, nikau, kiekie and maire tawake in a few years.

A weed identification programme and weed workshop have involved trainees, trustees and elders, to work on understanding the invasive weed threats to lakeshore forests. Certain garden weeds were identified as major threats of the future. A community awareness programme is being developed to encourage Levin householders to eliminate such potential threats as euonymus, privet, cotoneaster and ivy. Initiated by the iwi, this will be in liaison with local councils and environmental groups.

Other revegetation assistance is now being provided by Justice Department periodic detention workers. Hearing of a worker's excited intent to bring his children to show what he has planted for the lake, I realise what staunch kaitiaki they will be.

**Right:** Lake trustees chairman, Matt McMillan (left), and Muaupoko kaumatua Joe Tukupua at Kawiu.

The Trustees have organised for some \$250,000 worth of restoration planning and implementation to already have been undertaken. Much more is planned. The plan does not set the action "in concrete", for it provides for on-going decision-making and review by the owners. A professional advisory group has been established to guide the Lake Trustees and those undertaking the implementation.

As Marokopa Wiremu-Matakatea, the lake project manager, says at a meeting of owners, "It is Muaupoko that hold the rangitiratanga and the kaitiakitanga. No one else." It is Muaupoko that will ensure the lake recovers, and they will decide on how it should be managed in future. It is a task they are doing with great organisational skill and commitment, with dignity, pride and love.

Joe Tukupua describes the replanting programme as the beautiful beginning of the regeneration of mother earth, the bringing back and embracing of mother earth. The public need



to respect the ownership, the responsibility and the importance of Waipunahau to Muaupoko. For all seek again the "industrious and joyful activity" symbolising the health again of Waipunahau when the eel and inanga run seaward to breed. ■

*Lucas Associates' landscape planning team, Di Lucas, Mike Thomas, Nikki Grey, Matt Steel.*

*Reference: Park, Geoff. 1995. Nga Uruora. The Groves of Life. Victoria University Press.*

*Credit Kevin Jones, Department of Conservation, aerial slide.*