# MANGARAKAU WETLANDS: THE SWAMP THAT WOULD NOT GO AWAY

**EDITH SHAW**
84 North Road, Nelson. Email: treelady@actrix.co.nz

## INTRODUCTION

Mangarakau is on the west coast of Golden Bay, 200 km from Nelson and only 5 km north of Patarau. From Collingwood, take the road towards Farewell Spit but turn off at Pakawau on to the Pakawau-Anitori road. From Pakawau hall to Mangarakau is 35 km. The straight tar-sealed road soon changes to gravel and earth, with a series of causeways, one way bridges, tight bends and hills, but the scenery is spectacular. Although the distance is short, the journey takes the best part of an hour, depending on road conditions. If the surface is very rough, the fog is dense around Whanganui Inlet, or the journey is made at night, it is quite easy to become disorientated, and to experience the feeling that Mangarakau has disappeared off the map. The last fuel stop is Takaka, 100 km from Mangarakau.

Whanganui Inlet is the largest and shallowest enclosed estuary and associated swamp on the west coast of the South Island, being a drowned river valley 13 km long and 2-3 km wide. Numerous streams flow into it. Mangarakau Wetland, a freshwater area of 350 hectares, lies to the south. Patarau River is on its southern boundary, and centuries ago it flowed through Mangarakau Wetland into Whanganui Inlet. Both inlet and wetland are relatively pristine, and the proximity of Kaihoka Lakes and Lake Otuhie further increases the value of the wetland complex for wild life.

Mangarakau and Whanganui Inlet are exposed to the full force of westerly weather systems which produce high rainfall in Northwest Nelson. The surrounding terrain is hilly rather than mountainous. There are no large rivers or true alpine areas, and the wetlands are all located in the lowland bioclimatic zone. The basin which contains the wetland collects water from the surrounding hills, and limestone springs in the north-west provide water rich in nutrients. The hills to the south and east provide less fertile run off because it comes from acidic soils under beech forest.

Mangarakau Wetland has a complex of vegetation types and is the largest lowland freshwater wetland remaining in the Nelson-Marlborough region.

The original kahikatea-pukatea swamp forest and harakeke remained largely undisturbed until the arrival of British settlers. Since then there has been gold and coal mining, harakeke harvesting, and logging, followed by repeated attempts to drain and burn the wetland to develop farmland, but the wetland has endured.

## THE PLANT COMMUNITIES

### Baumea sedgelands

Mosaics and clumps of the rush-like sedges *Baumea arthrophylla* (syn. *B. huttonii), B. rubiginosa, B. tenax and B. teretifolia* provide 70-100% of the plant cover. Up to 30% cover is contributed by *Coprosma tenuicaulis, Gleichenia dicarpa, Lepidosperma australe,* manuka (*Leptospermum scoparium),* raupo (*Typha orientalis*) and occasional clumps of harakeke (*Phormium tenax*). Sphagnum moss forms an understorey.

### Harakeke and raupo co-dominant

Harakeke and raupo in varying proportions provide 70-100% cover. Up to 30% is comprised of baumea mosaics, *Coprosma tenuicaulis* and manuka. Harakeke dominates along drainage channels and in transitions between baumea sedge land and swamp forest remnants.

### Raupo reedlands

70-100% cover consists of raupo, with up to 30% being harakeke, baumea, and *Coprosma tenuicaulis.* In some parts there is a mixture of *Coprosma propinqua, C. rhamnoides, C. robusta, and C. propinqua* x *C. robusta* hybrids.

### Shrublands

A mixture of *Coprosma tenuicaulis,* manuka and occasional clumps of harakeke grow together in four isolated patches, which adjoin manuka groves. Pure stands of manuka occur in the north-west and as a small area near the southern boundary. *Coprosma tenuicaulis* and hutu (*Ascarina lucida)* occur sparsely, and baumea forms the ground cover. *Gahnia xanthocarpa* often grows by itself or, in other parts of the wetland, mixed with *G. rigida.*

### Lowland forest remnants

A variety of trees occurs in these remnants that have survived fires: hard beech (*Nothofagus truncata),* hinau and pokaka (*Elaeocarpus dentatus* and *E. hookerianum),* kahikatea (*Dacrycarpus dacrydioides*), kamahi (*Weinmannia racemosa),* nikau *(Rhopalostylis sapida),* northern and southern rata *(Metrosideros robusta* and *M. umbellata),* pukatea (*Laurelia*

*novae-zelandiae),* rimu (*Dacrydium cupressium*), and cyathea and dicksonia tree ferns. Both understorey and canopy trees are richly covered with climbers and epiphytes, including clubmoss, ferns, lichens, liverworts and mosses.

**Dryland areas**

These have been burnt several times, and their vegetation consists of gorse (*Ulex euroapeus*), manuka and pasture with scattered kahikatea. There are large patches of heathland with *Epacris pauciflora, Gaultheria antipoda, Leucopogon fasciculatus* and lancewood *(Pseudopanax crassifolius*), bounded by shrublands of *Dracophyllum urvilleanum, Coprosma* (several species), broadleaf (*Griselinia littoralis*), hutu, kanuka (*Kunzea ericoides),* lacebark *(Hoheria ovata* and hybrid*),* makomako *(Aristotelia serrata),* toro *(Myrsine salicina),* mapou *(M. australis),* porokaiwhiri or pigeonwood *(Hedycarya arborea,)* putaputaweta or marble leaf *(Carpodetus serratus),* and turepo or milk tree *(Streblus heterophyllus).*

**Freshwater lakes and channels**

The ecotone includes: *Baumea rubiginosa, Myriophyllum propinquum, M. robustum, M. triphyllum, Potamogeton cheesmanii, Pratia perpusilla,* punakuru or shore lobelia (*Lobelia anceps)*, swamp nettle *(Urtica linearifolia)* and raupo. The introduced swamp lily (*Ottelia ovalifolia*) has invaded two small areas.

**Pakihi wetlands**

Where forest once grew on boggy, podzolised soils**,** its removal led to loss of the peaty surface, heavy rains leached out nutrients, and pakihi evolved. Under the acidic topsoil, a cemented pan of gravels and iron sands prevents downward drainage and leaves the topsoil constantly water logged. Pakihi is a treasure trove of botanical wonders, including stunted shrubs, rare and unusual ferns, plus a profusion of orchids and other herbs. The ferns are either very tiny and camouflaged, like *Lindsaea linearis, L. trichomanoides,* and three species of comb fern (*Schizaea australis, S. bifida* and *S. fistulosa)*, or conspicuous, like umbrella fern *(Sticherus cunninghamii).* September to December is the best time to see orchids, such as *Caladenia carnea, Petalochilus variegatus* (syn. *Caladenia chlorostyla*), *Corybas oblongus, Spiranthes novae-zelandiae* (syn. *Spiranthes sinensis*), *Thelymitra carnea, T. cyanea, T. ixioides, T. longifolia, T. nervosa, T. pauciflora, T. pulchella* and *T. venosa* (St George 1999). On the pakihi fringes, rimu and hard beech grow in association with silver pine (*Lagarostrobus colensoi*) and yellow silver pine (*Lepidothamnus intermedius*).

### Spaghnum bogs

Biologically, sphagnum bogs are uncharted territory. Limited investigations have revealed resident weta, moths, dragon flies, beetles, spiders and insect larvae, many of them unique to the environment and possibly new to science. Because moss is the habitat for a myriad of plants and animals, commercial moss harvesting should be discouraged.

## DISCUSSION

Most freshwater swamps are destined to ultimately disappear, as accumulation of debris and invasion by woody plants result in dry land. Mangarakau appears to defy this rule, as from time to time heavy rain causes the water level in the swamp to rise dramatically, so that excess silt, vegetation and other debris are flushed out of the basin, keeping its pools open and the aquatic plants dominant. The limestone escarpments to the northwest provide a protective backdrop, the topography of the swamp is such that it has resisted every attempt to drain it, and it has recovered from serious fire damage. Its tenacity for survival is astonishing; hence my subtitle – "The swamp that would not go away."

The ecological importance, national rarity and vulnerability of wetlands are poorly recognized. Nature conservation tends to fare badly among competing interests for the use of wetlands, especially those that are not permanently wet. In Northwest Nelson, I fear that some well-meaning person may try to "enhance" such areas by bulldozing them or planting trees.

Wetlands are special because they are home to a wide range of plants and creatures that depend on constant wetness for survival. Huge areas of raupo and baumea recall fields of grain blowing in the wind. During the mighty storms at Mangarakau, the clashing of harakeke stalks and leaves are evocative of a boat heaving and pitching on a rough sea. The wetland has evolved to cope with these conditions and after a storm that has raged for several days and nights, a calm and silent new day can dawn, with colours, light, and textures reflected in the water and distant horizons beckoning. Then, the peace and tranquility of the wetland can make newspapers, TV, and world news seem far away.

Mangarakau Wetland has a long and growing species list which can be obtained from me at the above address. Native trees, shrubs, climbers

and creepers number 100; orchids 33; ferns and fern allies 80; native herbs 70; naturalized plants 60; birds 50; fish and amphibians 13; and insects and land invertebrates 60. Plants and animal species total 466 so far, many of them being uncommon or rare, and more await discovery.

Mangarakau Wetland is owned by the Native Forest Restoration Trust and protected by a Queen Elizabeth II National Trust covenant. Friends of Mangarakau Incorporated was formed specifically to help restore and manage it. One must visit the area to fully experience its magic; field centre accommodation is available throughout the year - contact Jo-Anne Vaughan, Ferntown, R.D.1, Collingwood.

## ACKNOWLEDGEMENT

Special thanks to Simon Walls of the Department of Conservation, Takaka, for help with details of zonation.

## REFERENCE

St. George, I. 1999: "New Zealand Native Orchids." Godwit Press, Auckland. 176 pp.

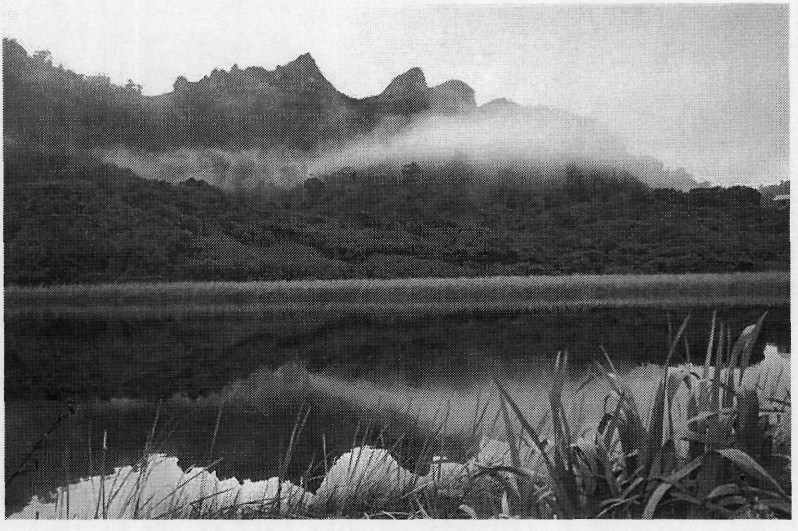

Figure 1: Lake Mangarakau