

Field trip to Jaguar Road wetland and Lake Rotohokahoka, Mamaku

S.M. Beadel

On a beautiful day on 2nd March 2019, a small group of botanists visited two very interesting wetlands on the Mamaku Plateau, in Tokoroa Ecological District. The first of these, Jaguar Road Wetland, I visited briefly in 2012, shortly after the exotic pine plantation previously surrounding the wetland had been harvested (Beadel 2012; Wildland Consultants 2012). In 2012, the flora of the wetland was relatively diverse, differing from other wetlands in the vicinity, including species such as *Tetraria capillaris*, *Schoenus brevifolius*, and *Lycopodiella lateralis*. These species have not been recorded from any other wetlands in the Ecological District. At that time I resolved to return at a later date to explore the wetland more thoroughly.

So, seven years later, the landowners and manager kindly permitted a field trip to the site. The wetland proved to be as botanically-interesting as had been hoped for. Vegetation cover includes mānuka shrubland with often a dense understorey cover of *Tetraria*, *Gleichenia microphylla*, and other sedges and ferns: *Machaerina* (mainly *M. teretifolia* and *M. rubiginosa*), *Lepidosperma australe*, *Tetraria capillaris*, and *Gleichenia* sedgeland and fernlands - with local patches of *M. tenax*. The wetland was delightfully diverse with mosaics of shrubland and sedgeland throughout. Several species were extremely localised and were only observed over a few square metres: *Schoenus carsei* (Threatened-Nationally Critical), the *Ranunculus macropus* and *R. amphitrichus* hybrid each covered only tens of square metres, and *Lycopodiella lateralis*. Just two stems of *Prasophyllum colensoi* were seen (E1864512 N5764925). Individual *Drosera binata* were scattered in the *Machaerina* sedgeland, and two small patches of *Nertera scapanioides* were seen. Numerous *Thelymitra* seed heads were seen, and karetu (*Hierochloa redolens*) was present locally in one part of the wetland. *Deyeuxia* aff. *quadriseta* (At Risk-Declining) was scattered locally throughout the wetland.

Very few exotic species were present in the wetland, and they were only sparsely distributed. A few seedlings/saplings of grey willow were observed. Control of willow in the wetland now, whilst it is uncommon, would be highly beneficial.

This wetland is of very high ecological value because of the presence of a nationally threatened species (status "Nationally Critical") and its highly diverse flora, several species of which are not known from any other sites in the Ecological District, e.g. *Ranunculus macropus*, *Schoenus carsei*, *S. brevifolius*, *Deyeuxia* aff. *quadriseta*, *Tetraria capillaris*, and *Lycopodiella lateralis*. This may reflect the relative lack of

botanical surveys in the Ecological District, however some of these species are also uncommon in the adjacent Rotorua Lakes Ecological District, and it is possible that this is the only site in which these species occur in Tokoroa Ecological District.

After a late lunch in the paddock where we were parked, we travelled on to Lake Rotohokahoka as we hoped the recent drought might have resulted in low water levels, enabling easy access to the wetlands. After a short walk from South Road, we arrived at the lake to find it full of water, although the abundant *Myriophyllum robustum* (At Risk-Declining) in the lake was well worth the effort. We walked around the lake to the wetland at the western end where there is a mānuka-*Machaerina* sedgeland and shrubland, with assorted scattered indigenous herbs, including *Hydrocotyle pterocarpa*, *Drosera binata*, *Lobelia angulata*, *Myriophyllum propinquum*, sedges such as *Machaerina teretifolia*, *M. tenax*, *M. rubiginosai* and on the wetland margins *Carex dipsacea*. There are a few plants of *Deyeuxia* aff. *quadriseta* (At Risk-Declining) in the sedgeland.

A small patch of giant spike sedge (*Eleocharis sphacelata*) reedland was present at the top end of the lake.

A great day botanising!

References

- Beadel S.M. 2012: Vascular plants of Jaguar Road Wetland. *Wildland Consultants Ltd Contract Report No. 2830r*. Prepared for South Waikato District Council. 3 p.
- Cameron E.K., Cashmore P., and Hobbs J.F. 2005: Mokaihaha EA Mamaku species list. Department of Conservation. 3 p.
- Jane G. 2004: Mokaihaha Lake, Mamaku species list. Department of Conservation. 3 p.
- Wildland Consultants 2012: Significant natural areas within the South Waikato District, 2012. *Wildland Consultants Ltd Contract Report No. 2830h*. Prepared for South Waikato District Council. 66 p.

Vascular plants of Jaguar Road wetland, Mamaku

S.M. Beadel, March 2019

Key

- ¹ These species occur naturally at the site, but may also have been planted around margins.
2012 Recorded in 2012.
2019 Recorded in current survey, RBS visit.

Indigenous species

Gymnosperms

- Dacrycarpus dacrydioides* (2012) kahikatea
Phyllocladus trichomanoides (2019) tānekaha

Monocot trees and shrubs

- Cordyline australis* (2012 and 2019) tī kōuka, cabbage tree

Dicot trees and shrubs

- Coprosma lucida* (2019) karamū, kāramuramu, glossy karamū
Coprosma dumosa (2012 and 2019)
Coprosma robusta (2012 and 2019) karamū, kāramuramu
Coriaria arborea var. *arborea* (2012 and 2019) tutu
Dracophyllum subulatum (2012 and 2019) monoao
Gaultheria antipoda (2012) tāwiniwini, koropuka, takapo, taupuku
Geniostoma ligustrifolium var.
ligustrifolium (2012 and 2019) hangehange
Hebe stricta var. *stricta* (2012 and 2019) koromiko, kōkōmuka
Kunzea robusta (2019) kānuka
Leptospermum scoparium agg.¹ (2012 & 2019) mānuka
Leucopogon fasciculatus (2012 and 2019) mingimingi
Melicytus lanceolatus (2019) māhoe wao
Myrsine australis (2012) māpou, matipou, māpau
*Pittosporum colensoi*¹ (2019) rautāwhiri, rautāhiri
Pittosporum tenuifolium (2012 and 2019) kōhūhū, rautāhiri, rautāwhiri
Pseudopanax arboreus (2012 and 2019) whauwhaupaku, puahou, five-finger
Schefflera digitata (2012 and 2019) patē

Dicot. lianes

- Rubus schmidelioides* var.
schmidelioides (2012 and 2019) tātarāmoa, bush lawyer

Lycopods and psilopsids

- Lycopodiella lateralis* (2012 and 2019)

Ferns

- Dicksonia fibrosa* (2012 and 2019) whekī-ponga, kurīpākā
Dicksonia squarrosa (2012 and 2019) whekī
Gleichenia microphylla (2012 and 2019) waewaekākā,
Histiopteris incisa (2012 and 2019) mātātā, water fern

<i>Microsorium pustulatum</i> (2012 and 2019)	kōwaowao, pāraharaha, hound's tongue fern
<i>Parablechnum minus</i> (2012 and 2019)	swamp kiokio
<i>Parablechnum novae-zelandiae</i> (2012 & 2019)	kiokio
<i>Parablechnum minus</i> × <i>P. novae-zelandiae</i> (2012 and 2019)	
<i>Pteridium esculentum</i> (2019)	rārahu, bracken

Orchids

Microtis unifolia agg. (2012)
Prasophyllum colensoi (2019)
Thelymitra cyanea (2012 and 2019)
Thelymitra sp. (2012)

Grasses

*Austroderia fulvida*¹ (2019) toetoe
Deyeuxia aff. *quadrisseta* (AK 252511;
"Volcanic Plateau") (2012 and 2019)
Hierochloa redolens (2019) kāretu
Rytidosperma gracilis (2019)

Sedges

Carex geminata agg. (2012) rautahi
Carex maorica (2012)
Carex secta (2012) pūrei, makura, pūreirei, pūrekireki, pūkio
Eleocharis acuta (2012 and 2019) spike sedge
Eleocharis gracilis (2012)
Lepidosperma australe (2012 and 2019)
Machaerina arthropophylla (2019)
Machaerina rubiginosa (2012 and 2019)
Machaerina tenax (2012 and 2019)
Machaerina teretifolia (2012 and 2019)
Schoenus carseii (2019)
Schoenus brevifolius (2012)
Tetraria capillaris (2012 and 2019)

Rushes

Juncus edgariae (2012 and 2019) wi, wīwī

Monocot herbs (other than orchids, grasses, sedges, and rushes)

Astelia grandis mauri
Phormium tenax (2012 and 2019) harakeke, flax

Composite herbs

Senecio bipinnatisectus (2019) Australian fireweed

Dicot. herbs (other than composites)

Acaena anserinifolia (2019) piripiri, hutiwai
Drosera binata (2012 and 2019) sundew, wahu

<i>Epilobium pallidiflorum</i> (2012 and 2019)	tawarewa
<i>Lobelia angulata</i> (2019)	pānakenake
<i>Nertera depressa</i> (2012)	
<i>Nertera scapanioides</i> (2012 and 2019)	
<i>Persicaria decipiens</i> (2019)	tutunawai
<i>Ranunculus amphitrichus</i> (2012 and 2019)	kawariki
<i>Ranunculus macropus</i> (2019)	raoriki
<i>Ranunculus amphitrichus</i> × <i>R. macropus</i> (2019)	

Naturalised and exotic species

Note, in 2012 only woody pest plants present were recorded.

Gymnosperms

<i>Pinus pinaster</i> (2019)	maritime pine
<i>Pinus radiata</i> (2012 and 2019)	radiata pine
<i>Pseudotsuga menziesii</i> (2012)	Douglas fir

Dicot. trees and shrubs

<i>Buddleja davidii</i> (2019)	buddleia
<i>Erica lusitanica</i> (2012 and 2019)	Spanish heath
<i>Eucalyptus</i> sp. (2019)	eucalyptus
<i>Leycesteria formosa</i> (2019)	Himalayan honeysuckle
<i>Salix cinerea</i> (2012 and 2019)	grey willow
<i>Ulex europaeus</i> (2019)	gorse

Grasses

<i>Agrostis capillaris</i> (2019)	browntop
<i>Holcus lanatus</i> (2019)	Yorkshire fog

Rushes

<i>Juncus articulatus</i> (2019)	jointed rush
<i>Juncus tenuis</i> var. <i>tenuis</i> (2019)	track rush

Composite herbs

<i>Crepis capillaris</i> (2019)	hawksbeard
<i>Hypochaeris radicata</i> (2019)	catsear
<i>Leontodon taraxacoides</i> (2012 and 2019)	hawkbit
<i>Mycelis muralis</i> (2019)	wall lettuce

Dicot. herbs (other than composites)

<i>Digitalis purpurea</i> (2019)	foxglove
<i>Epilobium ciliatum</i> (2019)	tall willow herb
<i>Lotus pedunculatus</i> (2019)	lotus
<i>Persicaria maculosa</i> (2019)	willow weed
<i>Rumex acetosella</i> (2019)	sheep's sorrel
<i>Stellaria alsine</i> (2019)	bog stitchwort
<i>Trifolium repens</i> (2019)	white clover

Lake Rotohokahoka and margins, - Mokaihaha Ecological Area

S.M. Beadel, March 2019
– including records from G.Jane, 2004

Indigenous species

Gymnosperms

<i>Dacrycarpus dacrydioides</i>	kahikatea
<i>Dacrydium cupressinum</i>	rimu
<i>Phyllocladus trichomanoides</i>	tānekaha
<i>Podocarpus laetus</i>	Hall's tōtara
<i>Prumnopitys ferruginea</i>	miro

Monocot. trees and shrubs

<i>Cordyline indivisa</i> (Jane 2004)	mountain cabbage tree
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Dicot. trees and shrubs

<i>Aristotelia serrata</i>	makomako, wineberry
<i>Beilschmiedia tawa</i> (Jane 2004)	tawa
<i>Carpodetus serratus</i> (Jane 2004)	putaputawētā
<i>Coprosma areolata</i> (Jane 2004)	
<i>Coprosma dumosa</i>	
<i>Coprosma grandifolia</i>	kanono, raurēkau, raurākau, manono
<i>Coprosma lucida</i> (Jane 2004)	karamū, kāramuramu, glossy karamū
<i>Coprosma robusta</i>	karamū, kāramuramu
<i>Coprosma tenuicaulis</i> (Jane 2004)	hukihuki, swamp coprosma
<i>Elaeocarpus dentatus</i> (Jane 2004)	hīnau, whīnau
<i>Elaeocarpus hookerianus</i> (Jane 2004)	pōkākā
<i>Griselinia littoralis</i>	kāpuka
<i>Ixerba brexioides</i>	tāwari
<i>Leptospermum scoparium</i> agg.	mānuka
<i>Leucopogon fasciculatus</i> (Jane 2004)	mingimingi
<i>Melicytus lanceolatus</i> (Jane 2004)	māhoe wao
<i>Melicytus ramiflorus</i> subsp. <i>ramiflorus</i>	māhoe
<i>Myrsine salicina</i> (Jane 2004)	toro
<i>Neomyrtus pedunculata</i>	rōhutu
<i>Pseudopanax arboreus</i>	whauwhaupaku, puahou, five-finger
<i>Pseudopanax crassifolius</i>	horoeka, lancewood
<i>Pseudowintera axillaris</i> (Jane 2004)	horopito
<i>Pseudowintera colorata</i> (Jane 2004)	mountain horopito
<i>Quintinia serrata</i> (Jane 2004)	tāwheowheo
<i>Schefflera digitata</i> (Jane 2004)	patē
<i>Weinmannia racemosa</i>	kāmahi

Monocot. lianes

<i>Ripogonum scandens</i>	supplejack, kareao
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Dicot. lianes

Clematis paniculata (Jane 2004)

Metrosideros diffusa

Rubus cissoides agg.

puawānanga

rātā

tātarāmoa, tātarāheke , bush lawyer

Lycopods and psilopsids

Lycopodium scariosum

Phlegmariurus varius

Tmesipteris tannensis

mātukutuku

Ferns

Asplenium flaccidum (Jane 2004)

Asplenium hookerianum (Jane 2004)

Asplenium polyodon (Jane 2004)

Austroblechnum lanceolatum (Jane 2004)

Austroblechnum colensoi (Jane 2004)

Cranfillia fluviatilis (Jane 2004)

Cyathea smithii (Jane 2004)

Dicksonia fibrosa

Dicksonia squarrosa

Histiopteris incisa

Hymenophyllum demissum (Jane 2004)

Hymenophyllum dilatatum (Jane 2004)

Hymenophyllum flabellatum (Jane 2004)

Hymenophyllum frankliniae (Jane 2004)

Hymenophyllum multifidum (Jane 2004)

Hymenophyllum nephrophyllum (Jane 2004)

Hymenophyllum rarum (Jane 2004)

Hymenophyllum revolutum (Jane 2004)

Hymenophyllum sanguinolentum (Jane 2004)

Hymenophyllum scabrum (Jane 2004)

Leptolepia novae-zelandiae (Jane 2004)

Leptopteris superba

Lindsaea trichomanoides

Lomaria discolor (Jane 2004)

Microsorium pustulatum

Notogrammitis billardiarei (Jane 2004)

Notogrammitis heterophylla (Jane 2004)

Parablechnum minus

Parablechnum novae-zelandiae

Rumohra adiantiformis

Trichomanes venosum

makawe, ngā makawe o Raukatauri

petako

rereti, nini

peretao

kiwikiwi, kiwakiwa

kātote, soft tree fern

whēkī-ponga, kurīpākā

whēkī

mātātā, water fern

irirangi, piripiri, filmy fern

matua mauku, filmy fern

mauku, filmy fern

mauku, filmy fern

mauku, filmy fern

mauku, filmy fern

mauku, filmy fern

piripiri, filmy fern

mauku, filmy fern

heruheru, ngutukākāriki, Prince of Wales feathers

piupiu, crown fern

kōwaowao, pāraharaha, hound's tongue fern

swamp kiokio

kiokio

karuwhai

Orchids

Corybas acuminatus (Jane 2004)

Corybas trilobus agg.

Earina autumnalis

Earina mucronata

raupeka

peka-a-waka

Grasses

<i>Austroderia fulvida</i>	toetoe
<i>Deyeuxia</i> aff. <i>quadriseta</i> (AK 252511; "Volcanic Plateau")	
<i>Hierochloa redolens</i>	kāretu
<i>Microlaena avenacea</i>	bush rice grass

Sedges

<i>Carex dipsacea</i>	
<i>Carex dissita</i>	
<i>Carex erythrovaginata</i> (Jane 2004)	
<i>Carex geminata</i> agg.	rautahi
<i>Carex secta</i>	pūrei, makura, pūreirei, pūrekireki, pūkio
<i>Carex solandri</i>	
<i>Carex subviridis</i> (Jane 2004)	matau
<i>Carex uncinata</i>	kamu matau a Maui, kamu
<i>Carex virgata</i>	pūrei
<i>Carex zotovii</i>	matau
<i>Eleocharis acuta</i>	spike sedge
<i>Eleocharis gracilis</i>	
<i>Eleocharis spachelata</i>	giant spike sedge, ngāwhā,
<i>Gahnia pauciflora</i>	kuta.kutakuta,
<i>Isolepis distigmatosa</i>	takahikahi
<i>Isolepis subtilissima</i>	
<i>Machaerina arthropphylla</i>	
<i>Machaerina rubiginosa</i>	
<i>Machaerina tenax</i>	
<i>Machaerina teretifolia</i>	

Monocot. herbs (other than orchids, grasses, sedges, and rushes)

<i>Astelia fragrans</i> (Jane 2004)	kakaha
<i>Astelia hastata</i>	kahakaha
<i>Astelia solandri</i> (Jane 2004)	kōwharawhara
<i>Dianella nigra</i>	tūrutu
<i>Potamogeton cheesemanii</i>	manihi

Dicot. herbs (other than composites)

<i>Drosera binata</i>	sundew, wahu
<i>Hydrocotyle pterocarpa</i>	
<i>Lobelia angulata</i>	pānakenake
<i>Myriophyllum propinquum</i>	
<i>Nertera villosa</i>	
<i>Ranunculus amphitrichus</i>	kawariki

Mosses

<i>Sphagnum</i> sp.	
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Naturalised and exotic species

Grasses

Agrostis capillaris

browntop

Glyceria declinata

blue sweetgrass

Sedges

Carex demissa

yellow sedge

Rushes

Juncus bulbosus

bulbous rush

Juncus effusus var. *effusus*

soft rush, leafless rush

Juncus microcephalus

South American rush

Dicot. herbs (other than composites)

Ranunculus flammula

spearwort

Rumex acetosella

sheep's sorrel

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## Okareka mistletoe restoration project

### Weed control/plant releasing work day for 2019

Come and join Rotorua Botanical Society to control weeds threatening mistletoe sites and plant new host trees. Activities will involve hand-pulling, cutting, sawing of vines, climbers and small trees.

**When: Sat 12 October – Weed control/plant releasing  
work day**

**Meet: Cnr Summit and Loop Roads (lake end) @ 8:45 am**

**Grade: medium-hard – activities suitable for all ages  
and abilities will be provided**

**Please contact the organiser Paul Cashmore  
027 650 7264 (mob) or 07 349 7432 (work) to RSVP.  
Equipment to bring will be advised.**