

Field trip to the eucalyptus forest east of Mimiha Stream, Pikowai, 8 July 2023

Sarah Beadel

A small group met at Pikowai on a blustery winter's day to explore natural regeneration occurring under the *Eucalyptus* (*Eucalyptus botryoides*) forest on the dunes to the east of Mimiha Stream. This exploration followed two earlier field trips in 2021 and 2022 that explored the dunes west of Matatā (Rotorua Botanical Newsletters 77 and 79), and a study of indigenous regeneration in the understorey of the *Eucalyptus* stand in 2007 (Wildland Consultants 2007). All plant species observed in the eucalyptus forest in 2007, 2021, 2022, and 2023 are listed in the attached list, and the 2022 species list for the dunes between Murphy's Holiday Camp and Pikowai has been annotated to include observations from 2023. The *Eucalyptus* was planted at least as early as 1920, for railway sleepers, around the time when the railway line was built. The field trip start time was delayed to successfully avoid a forecasted heavy downpour around 9.00 am, and the trip proceeded with some sun and only about five minutes of light rain which conveniently occurred when we were under the *Eucalyptus* trees.

The *Eucalyptus* canopy is relatively open, probably as a result of the impacts of the brown lace lerp (*Cardiaspina fiscella*), which is a defoliating psyllid that causes severe damage to *E. botryoides* foliage. In places the forest is *Eucalyptus*/houpara (*Pseudopanax lessonii*) forest with *Eucalyptus* trees up to 24 metres tall emergent over houpara approximately eight metres tall, with local pōhutukawa (*Metrosideros excelsa*). Houpara is part of a diverse understorey beneath these two species, which includes kawakawa (*Piper excelsum* subsp. *excelsum*), and pigeonwood (*Hedycarya arborea*), with some *Asplenium oblongifolium* and many other species. We saw locally common nikau (*Rhopalostylis sapida*) seedlings and saplings, one whau (*Entelea arborescens*), and a few mangeao (*Litsea calicaris*), local karaka (*Corynocarpus laevigatus*), and two pūriri (*Vitex lucens*). We also saw a few *Carex flagelliflora*.

We then explored the foredune looking for *Kunzea toelkenii* (Threatened-Nationally Critical), and found one small clump, which is now the most westerly known population of this species (one patch was at grid reference NZTM

E1925402 N5802372). Along with spinifex (*Spinifex sericeus*) on the foredune there were a few small patches of pingao (*Ficinia spiralis*; At Risk-Declining) and scattered *Lachnagrostis billardi*. However, disappointingly, patches of marram (*Ammophila arenaria*) were quite common. Control of these would enhance the ecological values of the dunes.

We had a brief look at the very wet wetlands immediately to the west of the *Eucalyptus* which are dominated by tall reedland including *Machaerina articulata*, *Bolboschoenus fluviatilis*, and raupō (*Typha orientalis*), with a few *Carex secta*, *C. virgata*, *Eleocharis acuta*, and a small number of scattered small grey willow (*Salix cinerea*) shrubs.

Recent indigenous plantings near the front of the foredune included coastal māhoe (*Melicytus novae-zelandiae*), harakeke (*Phormium tenax*), taupata (*Coprosma repens*), tī kōuka (*Cordyline australis*), *Kunzea tolkenii*, pōhutukawa, karo (*Pittosporum crassifolium*), and houpara. The nearest naturally-occurring coastal māhoe is on the Thornton dunes, near Walker Road.

We then split into two groups, one group returning home whilst Sarah continued to explore the dunes west of Mimiha Stream through to the Pikowai Camping Ground, which were very interesting. There were relatively extensive areas of spinifex on the foredunes and local patches of *Carex pumila*. A few scattered houpara were covered in fruit.

In places there were dune slack wetlands dominated by *Machaerina juncea*, local harakeke, marsh ribbonwood (*Plagianthus divaricatus*), and sea rush (*Juncus kraussii* var. *australiensis*). In one of the dune slack wetlands it was exciting to find *Alternanthera nahui*.

Closer to Pikowai Camping Ground I met up with Jo Bonner and we walked quickly back to our vehicles to avoid the imminent rain. It was a very interesting day and I look forward to continuing the exploration of the dunes to the west over the next few years.

Vascular plants observed in the dunes, wetlands, and eucalyptus forest between Matatā and Pikowai Camping Ground (July 2021, 2022, and 2023) — species list

Sarah Beadel

Notes

- E = new record in 2021/2022/2023 for beneath eucalyptus-houpara-pōhutukawa forest (see Wildland Consultants 2007)
- Threat rankings are from de Lange *et al.* (2018)
- 1 = Observed 2021 (Beadel 2021a)
- 2 = Observed 2022 (Beadel 2022)
- 3 = Observed 2023
- 4 = Planted
- 5 = Planted and natural
- 6 = Recorded in or near the wetland east of Pikowai Stream, 2023
- 7 = Observed 2021, 2022, and 2023

Indigenous Species

Monocot. trees and shrubs

<i>Cordyline australis</i> (4,7)	tī kōuka, cabbage tree
<i>Cordyline pumilio</i> (2)	tī rauriki
<i>Cordyline banksii</i> × <i>C. pumilio</i> (2)	
<i>Phormium cookianum</i> subsp. <i>hookeri</i> (2)	wharariki, mountain flax
<i>Phormium tenax</i> (1,3)	harakeke, flax
<i>Rhopalostylis sapida</i> (7)	nīkau

Dicot. trees and shrubs

<i>Brachyglottis repanda</i> subsp. <i>repanda</i> (1,3)	rangiora
<i>Coprosma grandifolia</i> (7)	kanono, raurēkau, raurākau, manono
<i>Coprosma lucida</i> (7)	karamū, kāramuramu, glossy karamū
<i>Coprosma repens</i> (4,7)	taupata
<i>Coprosma robusta</i> (7)	karamū, kāramuramu
<i>Coriaria arborea</i> var. <i>arborea</i> (7)	tutu
<i>Dodonaea viscosa</i> (7)	akeake
<i>Entelea arborescens</i> (2,3)	whau
<i>Geniostoma ligustrifolium</i> var. <i>ligustrifolium</i> (7)	hangehange
<i>Hedycarya arborea</i> (7)	porokaiwhiri; pigeonwood
<i>Knightia excelsa</i> (7)	rewarewa
<i>Kunzea robusta</i> (Threatened-Nationally Endangered) (7)	kānuka
<i>Kunzea toelkenii</i> (Threatened-Nationally Vulnerable) (E) (4,7)	Thornton kānuka
<i>Leptospermum scoparium</i> agg. (At Risk-Declining) (4,7)	mānuka
<i>Leucopogon fasciculatus</i> (2,3)	mingimingi
<i>Litsea calicularis</i> (2,3)	mangeao
<i>Melicytus ramiflorus</i> subsp. <i>ramiflorus</i> (7)	māhoe

<i>Metrosideros excelsa</i> (Threatened-Nationally Vulnerable) (4,7)	pōhutukawa
<i>Meliccytus novae-zelandiae</i> (4,6)	coastal māhoe
<i>Myoporum laetum</i> (2)	ngaio
<i>Myrsine australis</i> (7)	māpou, matipou, māpau
<i>Piper excelsum</i> subsp. <i>excelsum</i> (7)	kawakawa
<i>Pittosporum crassifolium</i> (P) (7)	karo
<i>Plagianthus divaricatus</i> (3,6)	marsh ribbonwood mākaka
<i>Pseudopanax arboreus</i> var. <i>arboreus</i> (7)	whauwhaupaku, five finger
<i>Pseudopanax crassifolius</i> × <i>P. lessonii</i> (1,2)	
<i>Pseudopanax lessonii</i> (7)	houpara
<i>Veronica arborea</i> (2)	
<i>Veronica stricta</i> var. <i>stricta</i> (7)	koromiko, kōkōmuka
<i>Vitex lucens</i> (2,3)	puriri
Monocot. lianes	
<i>Ripogonum scandens</i> (2)	kareao, supplejack
Dicot. lianes	
<i>Calystegia sepium</i> subsp. <i>roseata</i> (7)	pink bindweed
<i>Calystegia sepium</i> × <i>C. soldanella</i> (2)	
<i>Calystegia soldanella</i> (7)	panahi, shore bindweed
<i>Muehlenbeckia australis</i> (7)	puka
<i>Muehlenbeckia complexa</i> var. <i>complexa</i> (7)	small-leaved pōhuehue
Ferns	
<i>Asplenium flaccidum</i> subsp. <i>flaccidum</i> (7)	makawe
<i>Asplenium oblongifolium</i> (2,3)	huruwhuru whenua, shining spleenwort
<i>Asplenium polyodon</i> (7)	petako
<i>Blechnum parrisiae</i> (2,3)	pukupuku
<i>Cyathea dealbata</i> (7)	ponga, silver fern
<i>Cyathea medullaris</i> (7)	mamaku
<i>Deparia petersenii</i> subsp. <i>congrua</i> (3)	
<i>Diplazium australe</i> (7)	
<i>Histiopteris incisa</i> (1,3)	mātātā, water fern
<i>Hypolepis ambigua</i> (3)	
<i>Icarus filiformis</i> (3)	pānako, thread fern
<i>Microsorium pustulatum</i> (7)	kowaowao, hound's tongue fern
<i>Paesia scaberula</i> (7)	matata
<i>Parablechnum novae-zelandiae</i> (1,7)	kiokio
<i>Pellaea falcata</i> (3,6)	
<i>Pneumatopteris pennigera</i> (1)	pakau, gully fern
<i>Pteridium esculentum</i> (7)	rārahu, bracken
<i>Pteris macilenta</i> (3)	titipo, sweet fern
<i>Pteris tremula</i> (7)	turawera, shaking brake
Grasses	
<i>Lachnagrostis billardiarei</i> (1,3)	sand wind grass
<i>Microlaena stipoides</i> (7)	pātītī, meadow rice grass

<i>Oplismenus hirtellus</i> subsp. <i>imbecillis</i> (7)	
<i>Spinifex sericeus</i> (3)	kōwhangatara, spinifex
Sedges	
<i>Bolboschoenus fluviatilis</i> (1,3)	pūrua grass, kukuraho
<i>Bolboschoenus medianus</i> (1)	pūrua grass
<i>Carex breviculmis</i> (1)	
<i>Carex geminata</i> (7)	
<i>Carex inversa</i> (1,2)	
<i>Carex maorica</i> (1)	
<i>Carex pumila</i> (7)	
<i>Carex raotest</i> (3,6)	
<i>Carex solandri</i> (2)	
<i>Carex secta</i> (3)	purei
<i>Carex testacea</i> (1,3)	
<i>Carex uncinata</i> (2)	kamu matau a Maui, kamu
<i>Carex virgata</i> (7)	
<i>Cyperus ustulatus</i> f. <i>ustulatus</i> (7)	toetoe upoko-tangata
<i>Eleocharis acuta</i> (3,6)	spike sedge
<i>Ficinia nodosa</i> (7)	wīwī
<i>Ficinia spiralis</i> (At Risk-Declining) (7)	pīngao
<i>Gahnia pauciflora</i> (E) (1)	takahikahi
<i>Isolepis prolifer</i> (3,6)	
<i>Machaerina articulata</i> (3,6)	
<i>Machaerina juncea</i> (6)	
<i>Machaerina sinclairii</i> (E) (2,3)	toetoe tūhara, pēpepe
Rushes	
<i>Apodasmia similis</i> (3,6)	oioi
<i>Juncus edgariae</i> (1,3)	wi
<i>Juncus kraussii</i> var. <i>australiensis</i> (3,6)	wi, wīwī sea rush
Monocot. herbs (other than orchids, grasses, sedges, and rushes)	
<i>Dianella nigra</i> (7)	tūrutu
<i>Phormium cookianum</i> subsp. <i>hookeri</i> (2)	wharariki, mountain flax
<i>Phormium tenax</i> (3,6)	harakeke, flax
<i>Triglochin striata</i> (3,6)	arrow grass
<i>Typha orientalis</i> (1,3)	raupō
Composite herbs	
<i>Pseudognaphalium luteoalbum</i> agg. (1)	
Dicot. herbs (other than composites)	
<i>Alternanthera nahui</i> (3,6)	nahui
<i>Dichondra repens</i> (2)	Mercury Bay weed
<i>Crassula sieberiana</i> (3,6)	
<i>Haloragis erecta</i> subsp. <i>erecta</i> (7)	toatoa
<i>Oxalis rubens</i> (1)	sand oxalis
<i>Persicaria decipiens</i> (1,3)	tutunawai
<i>Solanum americanum</i> (2)	

Naturalised and exotic species

Gymnosperms

Pinus radiata (3)

radiata pine

Dicot. trees and shrubs

Acacia mearnsii (3,6)

black wattle

Erica lusitanica (3)

Spanish heath

Eucalyptus botryoides (7)

eucalyptus, bangalay

Helichrysum petiolare (1)

liquorice plant

Ligustrum sinense (2,3)

Chinese privet

Lupinus arboreus (7)

lupin

Lycium ferocissimum (1,3)

boxthorn

Myoporum insulare (1)

Paraserianthes lophantha (1)

brush wattle

Rubus phoenicolasius (7)

Japanese wineberry

Rubus sp. (*R. fruticosus* agg.) (7)

blackberry

Salix cinerea (7)

grey willow

Ulex europaeus

gorse

Monocot. lianes

Asparagus asparagoides

smilax

Dicot. lianes

Ipomoea indica (1)

blue morning glory

Lonicera japonica (7)

Japanese honeysuckle

Grasses

Agrostis stolonifera (1)

creeping bent

Ammophila arenaria (1,3)

marram

Anthoxanthum odoratum (1)

sweet vernal

Bromus willdenowii (1)

prairie brome

Cenchrus clandestinus (7)

kikuyu grass

Cortaderia selloana (7)

pampas

Cynodon dactylon (1)

Indian doab

Dactylis glomerata (7)

cocksfoot

Ehrharta erecta (7)

veldt grass

Glyceria maxima (3,6)

reed sweetgrass

Holcus lanatus (1,3)

Yorkshire fog

Lagurus ovatus (7)

harestail

Lolium arundinaceum subsp. *arundinaceum* (7)

tall fescue

Paspalum dilatatum (1,3)

paspalum

Pennisetum clandestinum (7)

kikuyu grass

Setaria gracilis (3)

knot-root bristle grass

Setaria palmifolia (1)

palm grass

Sporobolus africanus (7)

ratstail

Sedges

Cyperus eragrostis (7)

Cyperus involucratus (1)

umbrella sedge

Rushes

Juncus effusus (3) soft rush

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

Agapanthus praecox (1,2) agapanthus

Asparagus asparagoides (1,2) smilax

Crocasmia ×crocosmiiiflora (2) montbretia

Gladiolus sp. (3) gladiolus

Hedychium gardnerianum (1,2) kahili ginger

Tradescantia fluminensis (2) tradescantia

Watsonia sp. (2) watsonia

Yucca sp. (2)

Zantedeschia aethiopica (1) arum lily

Composite herbs

Achillea millefolium (1) yarrow

Aster subulatus (1,3) sea aster

Crepis capillaris (1,3) hawksbeard

Erigeron sumatrensis (7) broad-leaved fleabane

Gamochaeta coarctata (1) cudweed

Hypochaeris radicata (7) catsear

Lactuca serriola (2) prickly lettuce

Lapsana communis (3) nipplewort

Leontodon taraxacoides (3) hawkbit

Osteospermum fruticosum (3,6) rain daisy, dimorphotheca

Senecio elegans (3) purple groundsel

Senecio jacobaea (3) ragwort

Sonchus oleraceus (7) puha, sow thistle

Taraxacum officinale (3) dandelion

Dicot. herbs (other than composites)

Anagallis arvensis (1) scarlet pimpernel

Begonia sp. (2) begonia

Cakile maritima sea rocket

Crassula multicava (2) fairy crassula

Daucus carota (3) wild carrot

Digitalis purpurea (1) foxglove

Euphorbia peplus (2) milkweed

Foeniculum vulgare (1) fennel

Fumaria muralis (7) scrambling fumitory

Galium aparine (2,3) cleavers

Geranium robertianum (2) herb Robert

Lepidium africanum agg. (1) pepper cress

Lotus pedunculatus (7) lotus

Modiola caroliniana (1) creeping mallow

Myosotis discolor (2) grassland forget-me-not

Oenothera stricta (1) evening primrose

Orobancha minor (2) broomrape

Pelargonium ×hortorum (2) geranium

<i>Phytolacca octandra</i> (2,3)	inkweed
<i>Plantago lanceolata</i> (7)	narrow-leaved plantain
<i>Plantago major</i> (E) (1)	broad-leaved plantain
<i>Polycarpon tetraphyllum</i> (3,6)	allseed
<i>Prunella vulgaris</i> (1,3)	selfheal
<i>Ranunculus repens</i> (7)	creeping buttercup
<i>Rumex acetosella</i> (3)	sheep's sorrel
<i>Rumex obtusifolius</i> (1,2)	broad-leaved dock
<i>Silene gallica</i> (1,3)	catchfly
<i>Solanum chenopodioides</i> (1,3)	velvety nightshade
<i>Solanum nigrum</i> (1,2)	black nightshade
<i>Solanum tuberosum</i> (3,6)	potato
<i>Stellaria media</i> (3,6)	chickweed
<i>Trifolium repens</i> (1)	white clover
<i>Verbena incompta</i> (1,2)	purple-top
<i>Veronica anagallis-aquatica</i> (1)	water speedwell
<i>Veronica arvensis</i> (1)	field speedwell
<i>Vicia sativa</i> (1,3)	vetch

Vascular plants of eucalyptus forest at Matata — species list

Sarah Beadel and Jenny Lux

Original list from July 2007; updated 8 July 2021 (Beadel 2021b);

9 July 2022 and 8 July 2023 (Sarah Beadel¹)

Key

1. Observed in 2007
2. Natural, and planted in Vegetation Type 15¹ (young indigenous plantings near train lines east of Holiday Camp)
3. One young plant seen; appeared to be *Phormium cookianum* (wharariki, mountain flax) but could be *P. tenax*
4. Seedling(s) only
6. Seedlings and saplings only
7. Greg Jenks (Coast Care Bay of Plenty) pers. comm. 2007
8. Environmental pest plant
9. Observed in 2021 (Beadel 2021b)
10. Observed in 2022 (Beadel 2022c)
11. Observed in 2023

Indigenous species

Monocot. trees and shrubs

<i>Cordyline australis</i> (1,2,9,10,11)	tī kouka, cabbage tree
<i>Cordyline pumilio</i> (10)	tī rauriki
<i>Phormium</i> sp. (1,3,11)	

¹ Location and extent shown in Figure 1 in Wildland Consultants (2007).

<i>Phormium cookianum</i> subsp. <i>hookeri</i> (10)	wharariki, mountain flax
<i>Cordyline banksii</i> × <i>C. pumilio</i> (10)	
<i>Phormium tenax</i> (1,2,9,11)	harakeke, flax
<i>Rhopalostylis sapida</i> (1,4,9,10,11)	nikau
Dicot. trees and shrubs	
<i>Beilschmiedia tawa</i> (1,4)	tawa
<i>Brachyglottis repanda</i> subsp. <i>repanda</i> (1,9,11)	rangiora
<i>Coprosma grandifolia</i> (1,9,10,11)	kanono
<i>Coprosma lucida</i> (1,9,10,11)	karamū
<i>Coprosma repens</i> (1,9,10,11)	taupata
<i>Coprosma robusta</i> (1,9,10,11)	karamu
<i>Coriaria arborea</i> var. <i>arborea</i> (1,9,10,11)	tutu
<i>Corynocarpus laevigatus</i> (1,10,11)	karaka
<i>Dodonaea viscosa</i> (1,9,10,11)	akeake
<i>Entelea arborescens</i> (1,7,10,11)	whau
<i>Fuchsia excorticata</i> (1,6)	kotukutuku
<i>Geniostoma ligustrifolium</i> var. <i>ligustrifolium</i> (1,9,10,11)	hangehange
<i>Hebe stricta</i> var. <i>stricta</i> (1,9,10,11)	koromiko
<i>Hedycarya arborea</i> (1,9,10,11)	porokaiwhiri
<i>Knightia excelsa</i> (1,9,10,11)	rewarewa
<i>Kunzea robusta</i> (1,9,10,11)	kānuka
<i>Kunzea toelkenii</i> (1,10,11)	
<i>Leptospermum scoparium</i> agg. (1,9,10,11)	mānuka
<i>Leucopogon fasciculatus</i> (1,10,11)	mingimingi
<i>Litsea calicularis</i> (1,6,10,11)	mangeao
<i>Melicytus ramiflorus</i> subsp. <i>ramiflorus</i> (1,9,10,11)	mahoe
<i>Metrosideros excelsa</i> (1,2,9,10,11)	pohutukawa
<i>Myoporum laetum</i> (1,10)	ngaio
<i>Myrsine australis</i> (1,9,10,11)	mapou
<i>Piper excelsum</i> subsp. <i>excelsum</i> (1,2,9,10,11)	kawakawa
<i>Pittosporum crassifolium</i> (1,9,10,11)	karo
<i>Pseudopanax arboreus</i> var. <i>arboreus</i> (1,9,10,11)	whauwhaupaku, five finger
<i>Pseudopanax crassifolius</i> × <i>P. lessonii</i> (1,9,10)	
<i>Pseudopanax lessonii</i> (1,9,10)	houpara
<i>Vitex lucens</i> (1,6,10,11)	puriri
Monocot. lianes	
<i>Ripogonum scandens</i> (1,4,10)	kareao, supplejack
Dicot. lianes	
<i>Calystegia sepium</i> subsp. <i>roseata</i> (1,9,10,11)	pohue
<i>Calystegia sepium</i> × <i>C. soldanella</i> (1,10,11)	
<i>Calystegia soldanella</i> (1,9,10,11)	panahi
<i>Muehlenbeckia australis</i> (1,9,10,11)	puka
<i>Muehlenbeckia complexa</i> (1,9,10,11)	pohuehue
Ferns	
<i>Asplenium flaccidum</i> subsp. <i>flaccidum</i> (1,9,10,11)	makawe

<i>Asplenium oblongifolium</i> (10,11)	huruhuru whenua, shining spleenwort
<i>Asplenium polyodon</i> (1,9,10)	petako
<i>Blechnum filiforme</i> (11)	pānako, thread fern
<i>Blechnum parrisiae</i> (10,11) (<i>Doodia australis</i>)	pukupuku
<i>Cyathea dealbata</i> (1,9,10,11)	ponga
<i>Cyathea medullaris</i> (1,9,10,11)	mamaku
<i>Deparia petersenii</i> subsp. <i>congrua</i> (11)	
<i>Dicksonia fibrosa</i> (1)	wheki-ponga
<i>Diplazium australe</i> (1,9,10,11)	
<i>Histiopteris incisa</i> (11)	mātātā, water fern
<i>Hypolepis ambigua</i> (1,11)	
<i>Microsorium pustulatum</i> (1,9,10,11)	kowaowao, hounds tongue fern
<i>Paesia scaberula</i> (1,9,10,11)	matata
<i>Parablechnum novae-zelandiae</i> (1,9,10,11)	kiokio
<i>Pneumatopteris pennigera</i> (1,9)	pakau
<i>Polystichum neozelandicum</i> (11)	
<i>Pteridium esculentum</i> (1,9,10,11)	bracken, rarahū
<i>Pteris macilenta</i> (11)	titipo, sweet fern
<i>Pteris tremula</i> (1,9,10,11)	turawera, shaking brake

Grasses

<i>Lachnagrostis billardierei</i> (1,9)	perehia
<i>Microlaena stipoides</i> (1,9,10,11)	patiti, meadow rice grass
<i>Oplismenus hirtellus</i> subsp. <i>imbecillis</i> (1,9,10,11)	

Sedges

<i>Bolboschoenus fluviatilis</i> (1,9)	ririwaka
<i>Carex</i> aff. <i>raoulii</i> ("raotest") (11)	
<i>Carex breviculmis</i> (1,9)	
<i>Carex flagellifera</i> (11)	manaia
<i>Carex geminata</i> (1,9,10,11)	
<i>Carex inversa</i> (1,9,10)	
<i>Carex maorica</i> (1,9)	
<i>Carex pumila</i> (1,9,10,11)	
<i>Carex secta</i> (1,11)	purei
<i>Carex solandri</i> (1,10)	
<i>Carex testacea</i> (1,9,11)	
<i>Carex uncinata</i> (10)	kamu matau a Maui, kamu
<i>Carex virgata</i> (1,9,10,11)	purei
<i>Cyperus ustulatus</i> (1,9,10,11)	toetoe upokotangata
<i>Ficinia nodosa</i> (1,9,10,11)	wīwī
<i>Gahnia pauciflora</i> (9)	takahikahi
<i>Machaerina sinclairii</i> (E) (10,11)	toetoe tūhara, pēpepe

Rushes

<i>Juncus edgariae</i> (1,9)	wi
<i>Juncus planifolius</i> (1)	

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

<i>Dianella nigra</i> (1,9,10,11)	turutu
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<i>Lemna disperma</i> (11)	karearea
<i>Typha orientalis</i> (1,9)	raupo
Composite herbs	
<i>Pseudognaphalium luteoalbum</i> agg. (1,9)	
<i>Senecio hispidulus</i> (1)	
<i>Senecio bipinnatisectus</i> (1)	Australian fireweed
Dicot. herbs (other than composites)	
<i>Dichondra repens</i> (10)	Mercury Bay weed
<i>Geranium solanderi</i> (1)	
<i>Haloragis erecta</i> subsp. <i>erecta</i> (1,9,10)	toatoa
<i>Oxalis rubens</i> (1,9)	
<i>Persicaria decipiens</i> (1,9,11)	
<i>Solanum americanum</i> (1,10,11)	
Adventive species	
Dicot. trees and shrubs	
<i>Eucalyptus botryoides</i> (1,8,9,10,11)	eucalyptus, bangalay, southern mahogany
<i>Ligustrum sinense</i> (10,11)	Chinese privet
<i>Lupinus arboreus</i> (1,9,10,11)	lupin
<i>Lycium ferocissimum</i> (1,8,9,11)	African boxthorn
<i>Myoporum insulare</i> (1,8,9)	Australian ngaio; Tasmanian boobialla
<i>Paraserianthes lophantha</i> (1,8,9,11)	brush wattle
<i>Rubus phoenicolasius</i> (1,9,10,11)	Japanese wineberry
<i>Rubus</i> sp. (<i>R. fruticosus</i> agg.) (1,8,9,10,11)	blackberry
<i>Salix cinerea</i> (1,8,9)	grey willow
<i>Salix</i> × <i>fragilis</i> (1,8)	crack willow
<i>Solanum mauritianum</i> (11)	woolly nightshade
<i>Syzygium smithii</i> (11)	lillypilly, monkey apple
Dicot. lianes	
<i>Lonicera japonica</i> (1,8,9,10,11)	Japanese honeysuckle
Grasses	
<i>Agrostis capillaris</i> (1)	browntop
<i>Agrostis stolonifera</i> (1,9)	creeping bent
<i>Alopecurus geniculatus</i> (1)	kneed foxtail
<i>Anthoxanthum odoratum</i> (1,9)	sweet vernal
<i>Axonopus fissifolius</i> (1)	narrow-leaved carpet grass
<i>Bromus willdenowii</i> (1,9)	prairie brome
<i>Cortaderia selloana</i> (1,8,9,10,11)	pampas
<i>Cynodon dactylon</i> (1,9)	Indian doab
<i>Dactylis glomerata</i> (1,9,10,11)	cocksfoot
<i>Ehrharta erecta</i> (1,9,10,11)	veldt grass
<i>Elytrigia pycnantha</i> (1,8)	sea couch
<i>Holcus lanatus</i> (1,9)	Yorkshire fog
<i>Lagurus ovatus</i> (1,9)	harestail
<i>Lolium arundinaceum</i> subsp. <i>arundinaceum</i> (1,9,10,11)	tall fescue

<i>Paspalum dilatatum</i> (1,9,11)	paspalum
<i>Paspalum distichum</i> (1)	Mercer grass
<i>Pennisetum clandestinum</i> (1,8,9,10,11)	kikuyu grass
<i>Poa pratensis</i> (1)	Kentucky bluegrass
<i>Setaria gracilis</i> (1)	knot-root bristle grass
<i>Setaria palmifolia</i> (1,9)	palm grass
<i>Sporobolus africanus</i> (1,9,10,11)	ratstail
<i>Stenotaphrum secundatum</i> (1)	buffalo grass

Sedges

<i>Cyperus eragrostis</i> (1,9,10)	
<i>Cyperus involucratus</i> (1,8,9)	umbrella sedge

Rushes

<i>Juncus bufonius</i> (1)	
<i>Juncus effusus</i> (1,11)	soft rush
<i>Juncus tenuis</i> (1)	track rush

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

<i>Agapanthus praecox</i> (1,8,9,10)	agapanthus
<i>Amaryllis belladonna</i> (1,8)	naked lady, belladonna lily
<i>Asparagus asparagoides</i> (1,8,9,10)	smilax
<i>Canna indica</i> (1,8)	canna lily
<i>Crocasmia ×crocosmiiflora</i> (1,8,10,11)	montbretia
<i>Hedychium gardnerianum</i> (1,8,9,10)	kahili ginger
<i>Tradescantia fluminensis</i> (10,11)	tradescantia
<i>Watsonia</i> sp. (10,11)	watsonia
<i>Yucca</i> sp. (10)	
<i>Zantedeschia aethiopica</i> (1,8)	arum lily

Composite herbs

<i>Achillea millefolium</i> (1,9)	yarrow
<i>Artemisia verlotiorum</i> (1)	Chinese mugwort
<i>Aster subulatus</i> (1,9)	sea aster
<i>Cirsium arvense</i> (1)	California thistle
<i>Cirsium vulgare</i> (1,11)	Scotch thistle
<i>Crepis capillaris</i> (1,9,11)	hawksbeard
<i>Erigeron sumatrensis</i> (1,9,10,11)	fleabane
<i>Gamochaeta coarctata</i> (1,9,11)	cudweed
<i>Hypochaeris radicata</i> (1,9,10,11)	catsear
<i>Lactuca serriola</i> (1,10,11)	prickly lettuce
<i>Lapsana communis</i> (1,11)	nipplewort
<i>Leontodon taraxacoides</i> (1,10,11)	hawkbit
<i>Osteospermum jucundum</i> (1,8)	freeway daisy
<i>Senecio jacobaea</i> (1,11)	ragwort
<i>Senecio skirrhodon</i> (1)	gravel groundsel
<i>Sonchus oleraceus</i> (1,9,10,11)	puha
<i>Taraxacum officinale</i> (1,10,11)	dandelion

Dicot. herbs (other than composites)

<i>Anagallis arvensis</i> (1,9)	scarlet pimpernel
<i>Begonia</i> sp. (10)	
<i>Chenopodium album</i> (1)	fathen
<i>Crassula multicaeva</i> (10)	fairy crassula
<i>Daucus carota</i> (11)	wild carrot
<i>Dichondra micrantha</i> (11)	Mercury Bay weed
<i>Euphorbia peplus</i> (1,10)	milkweed
<i>Foeniculum vulgare</i> (1,10)	fennel
<i>Fumaria muralis</i> (1,9,10)	scrambling fumitory
<i>Galium aparine</i> (1,10)	cleavers
<i>Galium divaricatum</i> (1)	
<i>Geranium robertianum</i> (1,10,11)	herb Robert
<i>Lotus pedunculatus</i> (1,10,11)	lotus
<i>Modiola caroliniana</i> (1,9)	creeping mallow
<i>Myosotis discolor</i> (10)	grassland forget-me-not
<i>Myosotis sylvatica</i> (1,11)	garden forget-me-not
<i>Orobanche minor</i> (1,10)	broomrape
<i>Oxalis incarnata</i> (10,11)	
<i>Oxalis</i> sp. (1,9)	oxalis
<i>Pastinaca sativa</i> (1)	wild parsnip
<i>Pelargonium xhortorum</i> (1,8,10)	geranium
<i>Physalis peruviana</i> (1,11)	cape gooseberry
<i>Phytolacca octandra</i> (110,11)	inkweed
<i>Plantago lanceolata</i> (1,9,10,11)	narrow-leaved plantain
<i>Plantago major</i> (9)	broad-leaved plantain
<i>Polycarpon tetraphyllum</i> (1)	allseed
<i>Portulaca oleracea</i> (1)	wild portulaca
<i>Prunella vulgaris</i> (1,9,11)	selfheal
<i>Ranunculus repens</i> (1,9,10,11)	creeping buttercup
<i>Rumex obtusifolius</i> (1,9,10)	dock
<i>Silene gallica</i> (1,9,11)	catchfly
<i>Sison amomum</i> (1)	stone parsley
<i>Solanum chenopodioides</i> (1,9,11)	velvety nightshade
<i>Solanum nigrum</i> (1,9,10)	black nightshade
<i>Spergularia rubra</i> (1)	sand spurrey
<i>Trifolium repens</i> (1)	white clover
<i>Verbena incompta</i> (1,9,10)	purple-top
<i>Verbena officinalis</i> (1)	vervain
<i>Veronica anagallis-aquatica</i> (1,9)	water speedwell
<i>Veronica arvensis</i> (1,9)	field speedwell
<i>Veronica persica</i> (1)	scrambling speedwell
<i>Veronica serpyllifolia</i> (1)	turf speedwell
<i>Vicia sativa</i> (1,9,11)	vetch
<i>Vinca major</i> (1)	periwinkle
<i>Viola arvensis</i> (1)	field pansy
<i>Wahlenbergia</i> sp. (1)	harebell

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