

WHANGANUI PLANT LIST NO.80
Vascular Plants of Lake Waiau, Waverley

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With assistance of members of Whanganui Museum Botanical Group

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Updated by CCO on visit 2 Aug. 2000, with P de Lange, G La Cock, J Campbell

Last update: 28 June 2017, including records from Bussell (1988) and nomenclature updated 10 Feb 21

* denotes adventive species; CHR – specimen collected for Landcare Research's Allan, CHR herbarium

Abundance

a = abundant

c = common

o = occasional

u = uncommon

l = local (common in restricted areas)

I = restricted to island in swamp at southern end of lake

I+ = on island and elsewhere on lake fringes

Dicot trees and shrubs

Brachyglottis repanda	rangiora	lc,I+
Carmichaelia australis var. (C. flagelliformis)	NZ broom	lc,I+
Coprosma robusta	karamu	c,I+
Coprosma tenuicaulis	swamp coprosma	o
Geniostoma ligustrifolium ssp. ligustrifolium	hangehange	o,I+
Hebe stricta var. stricta	koromiko	o
Melicytus ramiflorus	mahoe	o, (I+,Ia)
Myrsine australis	mapou	u,I
Olearia solandri	a shrub daisy	o
Olearia virgata ssp. virgata	a shrub daisy	u
Pennantia corymbosa	kaikomako	u (1)I
Pseudopanax crassifolius	lancewood, horoeka	u,I
Pseudopanax crassifolius x P. lessonii ¹ CHR		u (1),I
* Salix x fragilis	crack willow	l
* Sambucus nigra	elderberry	I(1)
Solanum laciniatum ²	poroporo	u,I+
* Ulex europaeus	gorse	Ia,I+

¹ Of garden origin; P lessonii occurs naturally from N Taranaki northwards

² Bussell (1988) listed *S. aviculare*, but NOT *S. laciniatum*; he probably mis-identified it.

Monocot tree

Cordyline australis	cabbage tree	c,I+
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Dicot lianes

Clematis forsteri		o,I
Muehlenbeckia australis ³	pohuehue	u
Parsonsia heterophylla	NZ jasmine	u,I

Dicot herbs

* Bellis perennis	daisy	o
* Bidens sp. (Bussell 1988)	beggar's ticks	o
* Callitriche stagnalis	starwort	o
Centella uniflora		o
* Cerastium glomeratum	annual mouse-ear chickweed	o
* Cirsium vulgare	Scotch thistle	o
* Conium maculatum	hemlock	u,I
* Erigeron sumatrensis ⁴	fleabane	u,I
Cotula coronopifolia	bachelor's button	u
* Crepis capillaris	hawksbeard	u
Drosera binata	forked sundew	lc
Epilobium chionanthum	willowherb	lc
* Epilobium ciliatum	willowherb	u
Epilobium insulare	willowherb	o
Epilobium nerteroides	willowherb	u
Epilobium nummulariifolium	willowherb	u
Epilobium pallidiflorum	willowherb	lc
Euchiton involucratus	cudweed	o
Euchiton limosus	cudweed	o
* Eupatorium cannabinum	hemp agrimony	u
* Galium aparine	cleavers	o,I
Glossostigma elatinoides		u?
Gonocarpus micranthus		lc
Haloragis erecta		u,I
Hydrocotyle moschata	hairy pennywort	u
Hydrocotyle novaezeelandiae		c
Hydrocotyle pterocarpa		o
Hypericum pusillum		o
* Hypochaeris radicata	catsear	u
* Jacobaea vulgaris (Senecio jacobaea)	ragwort	u,I
* Leontodon saxatilis	hawkbit	o

³ Bussell (1988) listed *M. complexa*, but NOT *M. australis*. *M. complexa* is known in swamps in the district and it is possible that both species are (or were) at L Waiau.

⁴ Listed originally as *Conyza albida*, it is probably also what Bussell (1988) called *Erigeron canadensis*

* Lotus pedunculatus	lotus		o
* Myosotis laxa	water forget-me-not		c
Myriophyllum propinquum	water milfoil		l
Myriophyllum triphyllum CHR	water milfoil		la
Oxalis exilis	creeping oxalis		u,I
* Parentucellia viscosa	tarweed		c
* Phytolacca octandra (Bussell 1988)	inkweed		o
* Persicaria hydropiper	water pepper		c
Persicaria decipiens	willow-weed		o
* Prunella vulgaris	self-heal		o
Ranunculus amphitrichus	waoriki		o
Ranunculus macropus			o
* Ranunculus repens	creeping buttercup		c
* Ranunculus sceleratus	celery-leaved buttercup		o
* Rorippa microphyllum	watercress		o
* Rumex crispus	curled dock		u
* Sagina procumbens	pearlwort		o
* Senecio bipinnatisectus	fireweed		u
Senecio minimus	NZ fireweed		u,I
Solanum americanum ⁵	nightshade	u,I	
* Sonchus oleraceus	puwaha		u,I
* Stellaria alsine	bog stitchwort		o
Stellaria parviflora	NZ chickweed		u,I
* Stellaria media	chickweed		u,I
* Trifolium dubium	suckling clover		o
* Trifolium repens	white clover		o
* Veronica anagallis-aquatica	water speedwell		la
* Veronica serpyllifolia	turf speedwell		o

Monocot herbs

Sedges

Carex flagellifera			u,I
Carex geminata agg. "large species"			u
Carex lessoniana ⁶			lc
Carex maorica			c
Carex raoulii			a,I
Carex secta var. secta			c
Carex virgata			u
Cyperus ustulatus	mariscus		o
Eleocharis acuta	spike sedge		o
Eleocharis gracilis	slender spike sedge		c
Eleocharis sphacelata	kuta, bamboo spike sedge		u(1)
Isolepis prolifera			lc

⁵ Including *S. nodiflorum*, listed by Bussell (1988)

⁶ Bussell (1988) listed *Carex coriacea* but NOT *C. lessoniana*, the most likely species which he may have confused with *C. coriacea*

Machaerina (Baumea) articulata	bamboo sedge	la
Machaerina (Baumea) rubiginosa ⁷		c
Schoenoplectus tabernaemontani	kapungawha, kuawa	lc
Schoenus maschalinus		u?

Grasses

* Agrostis capillaris?	browntop	u,I
* Anthoxanthum odoratum	sweet vernal	c
Austroderia toetoe	swamp toetoe	o
* Cynosurus cristatus	crested dogstail	c
* Dactylis glomerata	cocksfoot	u,I
* Lolium (Festuca) arundinaceum	tall fescue	o
* Glyceria declinata	floating sweetgrass	a
* Holcus lanatus	Yorkshire fog	c,(I+u)
Poa anceps ssp. anceps		u
* Poa annua?	annual poa	u,I
* Poa pratensis	Kentucky bluegrass	o

Rushes⁸

* Juncus articulatus	jointed-leaved rush	a
* Juncus bufonius	toad rush	c
* Juncus effusus	soft rush	o
Juncus edgariae		o
Juncus planifolius		o

Orchids

Microtis unifolia	onion-leaved orchid	c
Prasophyllum colensoi	onion-leaved orchid	u
Thelymitra pauciflora	blue sun orchid	u(1)

Monocots other than sedges, grasses, rushes and orchids

* Landoltia (Spirodela) punctata	purple-backed duckweed	u
Lemna disperma	duckweed	c
Phormium tenax	harakeke, NZ flax	a
Potamogeton ochreatus		u?
Ruppia polycarpa (?)	horse's mane weed	u?
Sparganium subglobosum	bur-reed	lc
Triglochin striatum	arrow grass	u
Typha orientalis	raupo	lc
* Zantedeschia aethiopica	arum lily	lc,I

⁷ Bussell (1988) listed *B. teretifolia* but NOT *B. rubiginosa* - I believe he mis-identified his material: CCO.

⁸ Bussell (1988) listed *Juncus australis*, marking it as an adventive. However, *J. australis* is a NZ native and he probably confused it with one of the species listed under 'rushes'

Fern ally

Tmesipteris elongata u?

Ferns

Adiantum cunninghamii	maidenhair fern	o,I
Asplenium gracillimum		la,I
Asplenium flaccidum	hanging spleenwort	u
Asplenium oblongifolium	shining spleenwort	o,I
Blechnum chambersii		u,I
Blechnum fluviatile		u
Blechnum minus	swamp kiokio	c
Blechnum novae-zelandiae	kiokio	o
Dicksonia squarrosa	wheki	o
Diplazium australe (Bussell 1988)		o
Histiopteris incisa	water fern, mata	u
Hiya (Hypolepis) distans		l
Hypolepis ambigua		u
Lastreopsis sp. (Bussell 1988)		
Microsorium pustulatum	hound's tongue	lc,I
Paesia scaberula	ring fern	u
Polystichum sp. ⁹		u,I
Pteridium esculentum	bracken	c
Pteris macilenta		u
Pyrrosia eleagnifolia	leather-leaf fern	u,I

Total of indigenous species of wetland = 72

Total of adventive species of wetland = 36

Indigenous species confined to island = 20

Adventive species confined to island = 11

Totals of indigenous species = 92

Totals of adventive species = 47

⁹ listed in 1994 as *P. richardii*; probably *P. zerophyllum*

Vegetation

The lake contains several native submerged aquatic species, of which *Myriophyllum elatinoides* was seen to form submerged patches offshore, with emergent leafy shoots. Other submerged aquatic plants were found only as drift on the lakeshore.

Two main areas of swamp occur, at opposite ends of the lake. These swamps are dominated by flax, with *Carex secta*, karamu, toetoe as common components. At the swamp/lake ecotone, *Baumea articulata* is the dominant emergent reed in many parts, with raupo and kapungawha in places.

The "island" in the southern areas of swamp is dominated by mahoe forest with a dense ground cover of ferns, especially *Asplenium gracillimum*, and tussocks of *Carex raoulii*.

Notable occurrences

1. Indigenous Species

There are few records in Whanganui Conservancy of DOC of several of the species in Lake Waiau including *Baumea articulata*, *Sparganium subglobosum*, *Ranunculus macropus*, *Myriophyllum triphyllum*, *Ruppia polycarpa* and *Hiya distans*. *Coprosma tenuicaulis*, *Epilobium pallidiflorum*, *E. chionanthum*, *Thelymitra pauciflora*, *Carex raoulii*, *Potamogeton ochreatus* and *Hydrocotyle pterocarpa* are also patchily distributed.

The occurrence of *Tmesipteris* on bases of *Carex secta* is seemingly unrecorded before, except at the nearby Ihupuku Swamp. It was found also on the base of one harakeke plant (PdL, JC; 2000).

This phenomenon warrants further study. An undated Wildlife Service report on L. Waiau mentions the presence of manuka and *Eleocharis sphacelata*. These were almost certainly errors for *Olearia solandri* and *Baumea articulata*, respectively. However, one clump of *E. sphacelata* was found between the "island" and the road in August 2000 (PdL, JC; 2000).

2. Adventive Species

Up to the 1994 survey of L. Waiau, *Eupatorium cannabinum* (hemp agrimony) has only two previous records in New Zealand, viz. a swamp near Hawera in 1975, and Ihupuku Swamp in 1993, and one more recent one at Waipipi (Waverley - Whenuakura coast).

The most pressing need for weed control is elderberry, which occurs as one(?) tree on the island. Its threat is through its potential to spread by bird-carried seed and to over-shade native trees on the island. This tree was not found in August 2000 visit, and may have been removed by DOC staff. Consideration should be given to gorse control. The lake seems to lack serious adventive water weeds (*Lagarosiphon*, *Ceratophyllum* and other such species); the low level of power boat use is probably one reason for this.

Reference

Bussell, M.R. 1988. Mid and late Holocene pollen diagrams and Polynesian deforestation, Wanganui district, New Zealand. *NZ J. Botany* 26: 431-451.