

WANGANUI PLANT LIST NO 104

Vascular plants of Lake Kaitoke, Wanganui

**CC Ogle 30 November 1997; CCO & J Campbell 5 Oct 2001; Wanganui Botanical
Group 1 Apr. 2007**

Last amended 18 Oct 2007

Species listed by Kelly (1978), and by C&W (Champion & Wells 2003) are indicated separately. Those actually seen by C&W are listed without brackets, those recorded by Ogle and by Kelly are in brackets, as obtained in pers.comm. from P. Champion after publication of their report.

W = species in water or swampy fringes (NZMS R22 26870E, 61360N); **D** = plants of adjoining drylands (the dryland list is a partial list only) (NZMS R22 26876E, 61350N).

All species listed with an abundance rating were recorded by CCO in 1997 and/or 2001. Plant abundances: a = abundant; c = common; o = occasional; u = uncommon; l = local (found in few places, but can be common or abundant in those places, hence la = locally abundant, etc.); x = present, but abundance not assessed.

* denotes adventive species to the Wanganui district.

<i>Latin name</i>	Common Name	W	D	K 1978	C&W 2003
Gymnosperm tree					
* <i>Cupressus macrocarpa</i>	macrocarpa		1 ¹		
* <i>Pinus radiata</i>	radiata pine		la ¹		
Dicot trees, shrubs and lianes					
* <i>Acacia armata</i>			u ²		
* <i>Acacia longifolia</i> s.s.	wattle		u		
<i>Coprosma propinqua</i>		o	u		
<i>Coprosma propinqua</i> X <i>C. robusta</i>		u			
* <i>Corynocarpus laevigatus</i>	karaka		u		
* <i>Crataegus monogyna</i>	hawthorn	u	o		
* <i>Cytisus scoparius</i>	broom		u		
<i>Leptospermum scoparium</i>	manuka		u		
* <i>Lycium ferocissimum</i>	boxthorn	u	o		
<i>Melicetyus ramiflorus</i>	mahoe	u	l		
<i>Muehlenbeckia australis</i>	pohuehue		u		
<i>M. complexa</i>	small-leaved pohuehue	u	u		
<i>Myrsine australis</i>	mapou		u		

¹ Planted only (none seen self-establishing)

² At least 2 trees (maybe planted) + 3 or more 1.0-2.0 m seedlings

<i>Latin name</i>	Common Name	W	D	K 1978	C&W 2003
<i>Pittosporum tenuifolium</i>	kohuhu		u		
* <i>Populus</i> sp.(unidentified)	poplar		u		
* <i>Rubus fruticosus</i> agg.	blackberry	o	c		
* <i>Salix babylonica</i>	weeping willow		o		
* <i>S. cinerea</i>	grey willow	lc			
* <i>S. fragilis</i>	crack willow	c	u		
* <i>S.</i> sp.			u ³		
<i>Solanum laciniatum</i>	poroporo		u ⁴		
* <i>Solanum mauritianum</i>	woolly nightshade		u		
<i>Sophora godleyi</i> (?)	kowhai		u		
* <i>Ulex europaeus</i>	gorse	u	la		
Monocot trees, 'shrubs' & lianes					
* <i>Agave americana</i>	century plant		lc		
* <i>Asparagus asparagoides</i>	smilax	u	lc ⁵		
<i>Cordyline australis</i>	ti kouka (cabbage tree)	o	u		
Dicot herbs					
* <i>Amaranthus lividus</i>	purple amarath	lc			
* <i>Apium nodiflorum</i>	water celery	la			(C&W)
* <i>Aster subulatus</i>	sea aster	o			
* <i>Bidens frondosa</i>	beggar's ticks	o			
<i>Callitriche petriei</i>	NZ starwort	la			C&W
* <i>C. stagnalis</i>	starwort	lc			(C&W)
<i>Centella uniflora</i>		u			
* <i>Cirsium arvense</i>	Californian thistle	o			
* <i>Conyza sumatrensis</i>	fleabane	o	o		
<i>Cotula coronopifolia</i>	batchelor's button	o			
<i>Crassula ruamahanga</i>		la			
* <i>Foeniculum vulgare</i>	fennel	u	o		
* <i>Galium aparine</i>	cleavers	u			
* <i>Galium palustre</i>	marsh bedstraw	c	u		
* <i>Glechoma hederacea</i> CHR	ground ivy	la			
<i>Glossostigma elatinoides</i>		o			C&W
<i>Euchiton involucrata</i> (= <i>Gnaphalium involucratum</i>)	cudweed	o			
<i>Hydrocotyle hydrophila</i>		lc			

³ at least 3 large trees, planted near lake below driveway to owners' home

⁴ One large shrub in fruit, 1.4.07

⁵ Common under the pine forest

<i>Latin name</i>	Common Name	W	D	K 1978	C&W 2003
<i>H. novaeseelandiae</i>	swamp pennywort	c			
<i>H. pterocarpa</i>		o			
<i>Lilaeopsis</i> sp.(cf. <i>L. ruthiana</i> /L. nz)	tape measure plant	l			(C&W ⁶)
<i>Limosella lineata</i> ⁷		lc			C&W
* <i>Lotus pedunculatus</i>	lotus	lc	lc		
* <i>Ludwigia palustris</i>		c		K	(C&W)
* <i>Lythrum hyssopifolia</i>	hyssop loosestrife	o			
* <i>Mentha pulegium</i>	pennyroyal	o-c			
* <i>Myosotis laxa</i> ssp. <i>caespitosa</i>	water forget-me-not	o			C&W
* <i>Mysiophyllum aquaticum</i> CHR	parrot's feather	c		K	C&W
<i>M. propinquum</i>	water milfoil	a		K	
<i>M. triphyllum</i>					C&W ⁸
* <i>Oxalis chnoodes</i>			l		
<i>Oxalis exilis</i>	creeping oxalis		u		
* <i>Phytolacca octandra</i>	inkweed	u	o?		
* <i>Physalis peruviana</i>	Cape gooseberry	u			
* <i>Polygonum hydropiper</i> (K as <i>P.</i> spp)	water pepper	x		K.	
<i>P. salicifolia</i>	willow weed	c			(C&W ⁹)
<i>Potentilla anserinoides</i>	silver weed	o			
<i>Lobelia (Pratia) perpusilla</i> CHR		u ¹⁰			
<i>Pseudognaphalium</i> sp. (<i>P. luteo-album</i> agg.)	cudweed	u			
* <i>Ranunculus repens</i>	creeping buttercup	c	u		
* <i>Ranunculus sceleratus</i>	celery-leaved buttercup	c			
* <i>Ranunculus trichophyllus</i>	water buttercup	u ¹¹			
<i>Ranunculus</i> sp. (unidentified; <i>R. amphitrichus</i> or <i>R. glabrifolius</i>)	waoriki	u			(C&W ¹²)
<i>Rorippa palustris</i>		o			
* <i>Rumex crispus</i>	curled dock	u			
* <i>Sagina procumbens</i>	pearlwort	u	o		
* <i>Senecio bipinnatisectus</i>	Australian fireweed	u			
* <i>Senecio glastifolius</i>		u	o-lc		
<i>Senecio glomeratus</i>	NZ fireweed	u			

⁶ C& W recorded *L. nz*; I was unable to identify the *Lilaeopsis* to species: CCO

⁷ Called *L. australis* by C&W (2003)

⁸ Note that C&W did not record *M. propinquum* however

⁹ Recorded by C&W as *Persicaria decipiens*

¹⁰ One patch on delta of main in-flow stream 1.4.07

¹¹ 1st seen 29.1.09, one delta of inlet stream

¹² C&W recorded *R. amphitrichus* without actually seeing it themselves; in fact I was unable to identify my sightings of waoriki specifically to *R. amphitrichus* or *R. glabrifolius*: CCO.

<i>Latin name</i>	Common Name	W	D	K 1978	C&W 2003
<i>Senecio minimus</i>		u			
* <i>Solanum chenopodioides</i>	velvety nightshade	o	o		
* <i>Stellaria graminea</i>	stitchwort	lc			
<i>Urtica linearifolia</i>	swamp nettle	lc			
* <i>Urtica urens</i>	nettle		lc?		
* <i>Veronica anagallis-aquatica</i>	water speedwell	?			(C&W)
* <i>Veronica serpyllifolia</i>	marsh speedwell	u			
Monocot herbs					
* <i>Agrostis stolonifera</i>	creeping bent	c			
* <i>Arum italicum</i>	Italian arum	u	lc		
<i>Bolboschoenus fluviatilis</i>	kukuraho	la			
<i>Carex dipsacea</i> CHR		o			
* <i>C. divulsa</i>		l			
<i>C. lessoniana</i>		o			
<i>C. maorica</i>		o			
* <i>C. scoparia</i> ¹³		o			
<i>C. secta</i>	purei	lc			(C&W)
<i>C. sinclairii</i> CHR		la			
<i>C. virgata</i>		la			
<i>Cortaderia toetoe</i>	toetoe	o			
* <i>Cyperus eragrostis</i>		o	u		
<i>Cyperus ustulatus</i>	mariscus	la	u		
* <i>Dactylis glomerata</i>	cocksfoot	o	o		
<i>Eleocharis acuta</i>	sharp spike-sedge	u			C&W
<i>Eleocharis gracilis</i>	slender spike sedge	u			
* <i>Elodea canadensis</i> ¹⁴	oxygen weed	u?			
* <i>Glyceria declinata</i>	floating sweet-grass	o			(C&W)
* <i>Holcus lanatus</i>	Yorkshire fog	o	o		
<i>Isachne globosa</i>	swamp millet	u			(C&W)
* <i>Juncus articulatus</i>	jointed-leaved rush	o			
* <i>J. bufonius</i>	toad rush	u			
* <i>J. effusus</i>	soft rush	c	c		
<i>J. edgariae</i>		c	c		
<i>J. planifolius</i>		o			
<i>J. sarophorus</i>		o	o		
* <i>J. imbricatus</i> var. <i>chamissonis</i> ¹⁵ CHR & AK		o-lc			

¹³ Peter Johnston collected this species, somewhere close to the road

¹⁴ Few bits found in drift on 1.4.07 – new record

<i>Latin name</i>	Common Name	W	D	K 1978	C&W 2003
<i>Lemna disperma</i>	duckweed	?		K	C&W
<i>Microlaena stipoides</i>	meadow ricegrass		la		
* <i>Paspalum distichum</i>	Mercer grass	lc			C&W
<i>Phormium tenax</i>	harakeke, NZ flax	u		K	
* <i>Poa trivialis</i>		lc?			
* <i>Potamogeton crispus</i>	curled pondweed	la			(C&W)
<i>P. ochreatus</i>	blunt pondweed	o?			(C&W)
<i>P. pectinatus</i>	fennel-leaved pondweed	c?		K	(C&W)
* <i>Schedonorus arundinaceus</i> (= <i>Festuca arundinacea</i>)	tall fescue	u?	?		
<i>Schoenoplectus pungens</i>	three-square	l			(C&W)
<i>S. tabernaemontani</i> (K. as <i>Scirpus lacustris</i>)	kapungawha	lc		K	(C&W)
<i>Schoenus maschalinus</i>		u			
<i>Typha orientalis</i>	raupo	la		K	C&W
<i>Wolffia australiana</i>	watermeal	?		K	(C&W)
Ferns					
<i>Asplenium flaccidum</i>	hanging spleenwort	u	u		
<i>A. oblongifolium</i>	shining spleenwort	u	u		
<i>A. polyodon</i>	sickle spleenwort	u			
<i>Azolla rubra</i>	Pacific azolla	la		K	C&W
<i>Blechnum minus</i> (of NZ authors)	swamp kiokio	lc			
<i>Cyathea dealbata</i>	ponga	u			
<i>C. medullaris</i>	mamaku	u			
<i>Dicksonia squarrosa</i>	wheki	u			
<i>Histiapteris incisa</i>	water fern	u			
<i>Hypolepis ambigua</i>		o	o		
<i>Microsorium pustulatum</i>	hound's tongue fern	u			
<i>Paesia scaberula</i>	ring fern	u			
<i>Pellaea rotundifolia</i>	button fern		u		
<i>Polystichum neozelandicum</i> ssp. <i>zerophyllum</i> ¹⁶	hard shield fern		u		
<i>Pteridium esculentum</i>	bracken fern	l	u		
<i>Pteris tremula</i>	shaking brake		u		

¹⁵ Found 1.4.07 in damp pasture along lake edge (occasional to loc. common) – tufted, leafless, capsules much > tepals, 4-5 mm long, shiny chestnut brown; identified by Ewen Cameron 18.10.07 – Flora of NZ Vol.3 says it is only known in S.Is, but EC says it has been around Auckland for 20 years or so. New record for Wanganui Conservancy of DOC.

¹⁶ Probable identity of plants listed in 1997, 2001 as *P. richardii*.

NOTES

1. Only the eastern and southeastern edges of the lake were surveyed in November 1997; the whole eastern end and the southern shore from Kaitoke Road to the western end of the lake was covered in Oct 2001; the eastern end and the southern shore from Kaitoke Road as far as the large agave colony on 1.4.07.
2. Vegetation: crack willow forest, some grazed through by stock and an ungrazed area between Kaitoke Road and the lake. Grazed areas have native turf plants on and between willow roots: *Crassula ruamahanga*, *Hydrocotyle hydrophila*, *Callitriche petriei*. Ungrazed areas have dense *Carex* beds and water celery. Local areas along the lake shore are dominated by grey willow, often with weeping and crack willows, and *Coprosma propinqua*, toetoe, *Carex secta* and, rarely, harakeke. There are locally dense stands around the shore of raupo or kukuraho and, more rarely, kapungawha. In the northeast corner is a large area of *C. secta*, *C. virgata* and *Cyperus ustulatus*.

A band of *Carex sinclairii* often occupies a zone close to the lake edge in grazed and ungrazed areas. This is a habitat of NZ swamp nettle in the ungrazed area between Kaitoke Road and the lake.

At various places around the shore between the 'pasture' and, usually, a tall sedge zone, are small areas of native turf plants in full light conditions. Such plants require periodic immersion for their survival and to keep 'land plants' from invading their habitat, but they need some exposure for flowering and fruiting. At Lake Kaitoke, these turf plants include two of those named above as being under willows (*Crassula ruamahanga*, *Callitriche petriei*). Other specialised plants of the turfs include *Lilaeopsis* sp., *Glossostigma elatinoides*, *Limosella lineata*, *Myriophyllum propinquum* (also grows in deeper water), batchelor's button and the taller three-square sedge. On 1.4.07 we found mats of turf plants on wet sand at the delta of the main in-flow stream; much of the southern shore had been fenced (within past 12 months?) and, although some grazing still occurs inside the fence, the native turf plants and taller plants were in much better condition than seen on previous visits.

3. Notable plants

Species with a national conservation status (de Lange et al. 2004):

***Crassula ruamahanga* (a tiny mat-forming succulent) – status = “at risk – sparse”.**

Scattered at Lake Kaitoke on the bases of willow trees in or close to the water and in turf communities in open on lake margins, including some damp silt and peat. Also known at L. Wiritoa, including shore of “Scoutlands”, and the east end of L Pauri. These 3 locations are the only known ones in Wanganui Conservancy and, until a recent (2000) find in the Waikato, the furthest north in NZ (next nearest to Lakes Wiritoa and Kaitoke is the type locality, near Carterton).

***Urtica linearifolia* (NZ swamp nettle); national status = chronically threatened – gradual decline.**

The western-most record for this species, and nearest to Wanganui. Scattered plants around lake edges among ungrazed sedges, including *Carex sinclairii*, *C. secta*, *Cyperus ustulatus*, and on bases of willows.

Potamogeton pectinatus (fennel-leaved pondweed): **national status = chronically threatened – gradual decline.** Recorded in 7 of the 95 lakes of the Horizons Regional Council area surveyed by Champion and Wells (2003).

Regionally uncommon or declining species of the wetlands include:

***Carex sinclairii* (a soft “cutty-grass”)**

An uncommon plant in lowland North Island; more common in montane wetlands and South Island. The L. Kaitoke population is by far the largest known in lowlands of Wanganui Conservancy. It was eliminated in Rotokawau subdivision near Virginia Lake in about 1995; small amounts remain near Awahuri, L. Marahau, by SH3 at Westmere, behind the Hospice in Virginia Road and at end of Durie Vale Road. All but the last-named are on sand country.

Also uncommon and/or declining regionally: *Callitriche petriei*, *Potamogeton ochreatus*, *Isachne globosa*, *Carex dipsacea*, *Myriophyllum triphyllum*, *Hydrocotyle pterocarpa*, *H. hydrophila*, *Pratia perpusilla*

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