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Field Trip Report: Oakley Creek Te Auaunga, Waterview Saturday, 16 May 2009

Kristy Hall, Mike Wilcox and Wendy John

Participants: Chris Aston, Romily Atkinson, Colleen Brewer, Jan Butcher, Brian Cumber, Donna D'Costa, Abigail Forbes, Simon Grant, Leslie Haines, Kristy Hall, Peter Hutton, Wendy John (Friends of Oakley Creek & field trip leader), Helen Preston Jones, Dorothy Maddock (Friends of Oakley Creek), Christine Major, Melissa Marler (Wai Care), Elaine Marshall, Alistair McArthur, Barrie McLeay, Annette Pegler, Juliet Richmond, Bec Stanley, Adrienne Stanton (Friends of Oakley Creek), Shirley Tomlinson, Alison Wesley, Rowena West, Mike Wilcox, Tony Williams.

full swing. Community members raised concerns over the absence of a tunnel for the whole length of the extension, impacts of traffic and noise, as well as the location of the motorway in relation to Oakley Creek.

The trip was therefore a timely reminder of some of the treasures that we have on our back doorstep, and the ongoing threat posed by development to our natural environment and ecosystems.

Wendy John is a member of the Auckland Botanical Society and is also the Chairperson of the Friends of Oakley Creek. This community-based restoration group was established in 2005 after local residents became concerned about the neglected state of the stream. The aim of the group is "to protect, preserve, enhance and restore the ecological health of Oakley Creek and its environs". Volunteers participate in monthly working bees for planting, weeding, and stream clean-ups, and are now undertaking an extensive monitoring and pest control programme. The group was keen to learn more about the flora of the Oakley Creek, including whether there are any unusual or threatened species present.



Fig. 1. The proposed SH20 Waterview Connection runs parallel to Oakley Creek. Source: <http://www.transit.govt.nz/projects/waterviewconnection/>.

Introduction

The Oakley Creek field trip coincided with the release of the preferred option for the State Highway 20 Waterview Connection by the New Zealand Transport Agency (NZTA). This scheme proposes 5 km of new motorway involving a combination of open and tunnelled sections, running almost parallel to Oakley Creek (Fig. 1). During the days preceding the trip the issue had been prime time news, not merely because campaigning for the Mount Albert electorate was in



Fig. 2. Tree privet canopy being thinned out. Photo: M.D. Wilcox, 29 Sep 2008.

Highlights of the field trip

The field trip commenced at Unitec, where the Auckland Botanical Society holds its monthly meetings. Participants were introduced to Wendy John, who gave us a brief introduction to the area. The Friends of Oakley Creek currently put most of their efforts into the section of stream between Great North Road, Waterview and New North Road, Mt Albert although they are keen to conduct restoration along the entire 15 km of the stream. We were aware that botanical pace would not allow for 15 km of

stream to be covered(!), so we concentrated our efforts on the area from Great North Road upstream to Phyllis Reserve.

The first part of the trip took us downstream through an area that has been extensively planted and weeded by Friends of Oakley Creek. An area of tree privet canopy (*Ligustrum lucidum*) was in the process of being crown-lifted and thinned out, providing habitat and shade while planted native trees and sub-canopy species grow up beneath them (Fig. 2). Kristy Hall spotted a number of clumps of the exotic grey sedge (*Carex divulsa*) which she pointed out. This species has characteristic seed heads which allow them to be distinguished from native species such as *Carex flagellifera*, *C. lambertiana* and *C. solandri* that are also present (Fig. 3).



Fig. 3. *Carex divulsa*, Oakley Creek. Photo: M.D. Wilcox, 10 Oct 2009.

Next was the beautiful Wairaka Wetland where a small tributary, the Wairaka Stream, which comes from the Wairaka Spring in the Unitec grounds, flows into Oakley Creek. The Buchanan Rehabilitation Centre garden group, under the guidance of Friends of Oakley Creek, have planted dense swathes of swamp sedge (*Carex virgata*), rautahi (*C. lessoniana*), and giant umbrella sedge (*Cyperus ustulatus*), with patches of harakeke (*Phormium tenax*), which provide a lovely view from the adjacent boardwalk and bridge (Figs. 4 & 5). The dense cover is sufficient to exclude most weeds, with only small amounts of arum lily (*Zantedeschia aethiopica*), nasturtium (*Tropaeolum majus*) and climbing dock (*Rumex sagittatus*) trying to

establish. This shows the effectiveness of hand weeding which allows groups to target individual weeds whilst leaving native plants to thrive. Too often chemical sprays affect both the weeds and native plants, particularly where smaller plants such as *Carex* are present.



Fig. 4. Boardwalk through Wairaka Wetland near Unitec. Photo: K.L. Hall, 09 July 2009.

Within and adjacent to the wetland, Friends of Oakley Creek has planted putaputaweta (*Carpodetus serratus*), swamp maire (*Syzygium maire*) and pukatea (*Laurelia novae-zelandiae*). Other canopy trees on Oakley Creek include karaka (*Corynocarpus laevigatus*), puriri (*Vitex lucens*), kohekohe (*Dysoxylum spectabile*), totara (*Podocarpus totara*), kowhai (*Sophora microphylla*), and taraire (*Beilschmiedia tarairi*). These complement planted pioneer species such as manuka (*Leptospermum scoparium*), kanuka (*Kunzea ericoides*), hoheria (*Hoheria populnea*), koromiko (*Hebe stricta*), tarata (*Pittosporum eugenioides*) and kohuhu (*P. tenuifolium*).

Plantings include some coastal species such as houpara (*Pseudopanax lessonii*) and karo (*P. crassifolium*), both widespread and naturalising, pohutukawa (*Metrosideros excelsa*), ngaio (*Myoporum laetum*), whau (*Entelea arborescens*), and rengarenga lily (*Arthropodium bifurcatum*). Coastal species are commonly established in restoration plantings as they are extremely hardy with consequently good survival rates, although are less suitable for restoration projects that are inland or in other habitats where the plants do not naturally occur. This mirrors the case of puka (*Griselinia lucida*), which is also present.

There are a few species on site which are outside of their natural range. These include tawapou (*Planchonella costata*) and korokio (*Corokia cotoneaster*) which are planted occasionally and occur naturally on Auckland's West Coast. The offshore island kawakawa (*Macropiper excelsum* subsp. *peltatum*) has been planted in some areas instead of *Macropiper excelsum* subsp. *excelsum*. The offshore

island race has glossier often peltate leaves, and larger seeds and is naturally present only on the Poor Knights, Mokohinau, Hen and Great Barrier Islands. There is also the occasional cultivar planted including *Olearia* cv. 'Dartonii' (*O. lineata* × *O. traversiorum*) near the old rock walls, and a variegated cultivar of *Coprosma repens* in a landscape style planting behind the old landfill site. Many of these species were planted prior to the formation of the Friends of Oakley Creek and have not been planted since this time.



Fig. 5. Dense *Carex lessoniana* and *Cyperus ustulatus* beside the tributary in Wairaka Wetland. Photo: M.D. Wilcox, 16 May 2009.

Two types of poroporo are naturalising on site, *Solanum laciniatum* and *S. aviculare* var. *latifolium*. *Solanum laciniatum* became popular in cultivation during the 1970s and due to its rapid growth and bird dispersed fruit it is now a common native urban 'weed'. This species has all but replaced the locally indigenous *S. aviculare* var. *aviculare* which is now close to, if not extinct within urban Auckland (de Lange, pers. comm.). The closely allied *S. aviculare* var. *latifolium*, a mostly northern offshore island race of *S. aviculare* is also naturalised within the Oakley Creek catchment. *S. aviculare* var. *latifolium* has acute (pointed) tips to the leaves (Fig. 6) and small seeds <2mm long, unlike *S. aviculare* var. *aviculare*, which has emarginate (notched) tips and larger seeds >2mm long. There are also some difference in flower and stem colour. The leaves of both varieties may be entire or pinnatifid (lobed) even on the same plant. *S. aviculare* var. *latifolium*, like *S. laciniatum*, has bird dispersed fruit. It seems likely that the plants seen in

the Oakley Creek catchment have established from plantings made locally in the grounds of the former Mt Albert Research Centre.



Fig. 6. *Solanum aviculare* var. *latifolium*. Note the very broad leaves and sharply acute apices. Photo: M.D. Wilcox, 21 May 2009.

Downstream adjacent to New North Road there are screen plantings of Tasmanian blackwood (*Acacia melanoxylon*), bangalay (*Eucalyptus botryoides*), with some Yunnan poplar (*Populus yunnanensis*). Dense groves of black alder (*Alnus glutinosa*) and white poplar (*Populus alba*) have been planted on the upper stream slopes (Fig. 7), the latter spreading from root suckers. This (left) bank of the stream is weedier than the right bank with less planted vegetation, and appears to have been worked on for a shorter time by Friends of Oakley Creek.



Fig. 7. Black alder and white poplar on the upper stream bank near New North Road. Photo: M.D. Wilcox, 16 May 2009.

There are large numbers of crack willow (*Salix fragilis*) growing adjacent to the stream (Fig. 8). If these trees are to be removed, this will need to be done carefully so as not to alter the light levels and so affect the bryophyte communities bordering the creek, particularly those aquatic species that require moderate levels of shade, e.g., *Fissidens berteroi*. Exotic alligator weed (*Alternanthera philoxeroides*) is

also common on the stream bank. Buttercup (*Ranunculus repens*), onion weed (*Allium triquetrum*) and broadleaf weeds are widespread as these species are tolerant of Glyphosate, the main herbicide used by contractors and one of few chemicals that is reasonably safe to use around waterways.



Fig. 8. Oakley Creek with crack willow canopy and some plantings. Photo: K.L. Hall, 9 July 2009.

Other exotic species common on Oakley Creek include Chinese privet (*Ligustrum sinense*), tree privet (*Ligustrum lucidum*) and Japanese spindle berry (*Euonymus japonicus*). There is also hawthorn (*Crataegus monogyna*), elaeagnus (*Elaeagnus xreflexa*), brush wattle (*Paraserianthes lophantha*), oak (*Quercus robur*), coral tree (*Erythrina xsykesii*), Lombardy poplar (*Populus nigra* cv. 'Italica'), black wattle (*Acacia mearnsii*), cedar wattle (*Acacia elata*) and some evergreen buckthorn (*Rhamnus alaternus*), Jerusalem cherry (*Solanum pseudocapsicum*) and woolly nightshade (*Solanum mauritianum*).



Fig. 9. The picturesque waterfall. Photo: M.D. Wilcox, 16 May 2009.

From Great North Road we made our way upstream, crossing a number of pedestrian bridges which provide views of the Creek. We had lunch by the water where Mike Wilcox pointed out the attractive, bright pink flowers of exotic *Oxalis purpurea* growing on a grassed bank. In the water, native *Nitella hookeri*

was spotted growing on some rocks as well as the less desirable *Egeria densa*. Further upstream we had a scenic stop at the Oakley Creek waterfall, the first time some of the group had even seen it (Fig. 9). The bright green plants that could be seen on the rocks behind the waterfall included the native round leaved willow herb (*Epilobium rotundifolia*) and large thalloid liverwort *Monoclea forsteri*. The waterfall is a unique habitat in urban Auckland, and it is here that the moss *Fissidens rigidus* var. *pseudostrictus* and liverwort *Triandrophyllum subtrifidum*, have been found.



Fig. 10. Upstream of the falls are areas of regenerating bush and mature pine trees. Photo: K.L. Hall, 09 July 2009.

Above the waterfall the vegetation changes (Fig. 10). There are areas of regenerating vegetation with tree ferns (*Cyathea dealbata*), mapou (*Myrsine australis*), mahoe (*Melicactus ramiflorus*), as well as Chinese privet. There are also large areas of mature pine trees (*Pinus radiata*), estimated to be over 100 years old. Further upstream there is a mixture of old plantings behind the landfill, younger plantings next to the stream, plus areas of exotic vegetation as well as some weeds. One property across the stream is a source of giant reed (*Arundo donax*). In places along the stream bank, and especially under the mahoe dominated forest before the Phyllis Reserve can be found occasional plants of *Doodia squarrosa*. This fern is also locally present higher up the catchment near Hendon Ave where it grows on exposed basalt lava outcropping in the creek bed. In one muddy seepage near the track also grows *Epilobium pedunculare*, a regionally threatened willowherb. This population is especially vulnerable to track maintenance.

An encouraging feature of the stream banks is the diversity of ferns becoming established. *Blechnum membranaceum*, *B. novae-zelandiae*, *Adiantum aethiopicum*, *Doodia australis*, the rare *Doodia squarrosa* (Fig. 11), the introduced *Cystopteris fragilis* (Fig. 12), *Deparia petersenii*, *Diplazium australe* and *Pneumatopteris pennigera* are all present. Common throughout on rocky slopes is *Pteris tremula*, while the tree ferns *Cyathea dealbata* and *C. medullaris* are well established.



Fig. 11. *Doodia squarrosa*, Oakley Creek.
Photo: M.D. Wilcox, 10 Oct 2009.

Whilst there is no natural native bush in the area, there are a few native shrubs firmly established along the stream bank, coming up beneath the predominantly exotic canopy. This includes mapou (*Myrsine australis*), mahoe (*Melicactus ramiflorus*), kawakawa (*Macropiper excelsum*), poroporo (*Solanum laciniatum*), hangehange (*Geniostoma ligustrifolium*). Karamu (*Coprosma robusta*) includes both wild and planted specimens. Toatoa (*Haloragis erecta*) is becoming abundant, and there are isolated wild clumps of the sedges *Gahnia lacera* and *G. setifolia*. Wild native herbs present include *Epilobium rotundifolium* and *E. pedunculare*, *Hydrocotyle moschata*, *H. heteromeria*, *Centella uniflora*, *Dichondra repens* and *Alternanthera nahui*.

The site visit concluded at Phyllis Reserve. Wendy and the other volunteers at Friends of Oakley Creek should be congratulated at the time and effort they are putting in to make this such an amazing place. Too often urban streams are neglected and degraded whereby, if they are cared for, they can be an asset to the whole community.



Fig. 12. *Cystopteris fragilis*, Oakley Creek
Photo: M.D. Wilcox, 10 Oct 2009.

Unusual, Rare and Threatened Flora
Oakley Creek has a number of rare and threatened flora, many of which have been identified by Peter de Lange, John Braggins and Jessica Beever. The Creek has a surprising diversity of mosses and liverworts, plants which are very vulnerable to changes in the microclimate and water quality of the catchment.

Table 1. Summary of naturally occurring rare and threatened flora.

Latin Name	Notes, Threat Classification
<i>Doodia squarrosa</i>	Naturally Uncommon (de Lange et al. 2009)
<i>Epilobium pedunculare</i>	Regionally uncommon (Stanley et al. 2005), with only two recent records (since 1959) from the Tamaki Ecological District
<i>Fissidens berteroi</i>	Nationally Endangered aquatic moss
<i>Fissidens rigidulus</i> var. <i>pseudostrictus</i>	Uncommon moss.
<i>Geranium</i> aff. <i>retrorsum</i> "Oakley Creek"	Only known site in Auckland. (see Mitchell et al. 2009 and Gardner 2009).
<i>Triandrophyllum subtrifidum</i>	Liverwort beneath waterfall. First record for the Auckland Ecological Region (Engel & Glenny 2008)

References

- de Lange, P.J.; Norton, D.A.; Courtney, S.P.; Heenan, P.B.; Barkla, J.W.; Cameron, E.K.; Hitchmough, R.; Townsend, A.J. 2009: Threatened and uncommon plants in New Zealand (2008 revision). *New Zealand Journal of Botany* 47: 61-96.
- Engel, J.J.; Glenny, D. 2008: *A flora of the liverworts and hornworts of New Zealand. Vol. 1.* Monographs in Systematic Botany from the Missouri Botanical Garden, Missouri Botanical Garden Press, St Louis, USA.
- Gardner, R. 2009: The story of *Geranium gardneri*. *Auckland Botanical Society Journal* 64(1): 77-78.
- Mitchell, A.D.; Heenan, P.B.; Patison, A.M 2009: Phylogenetic relationships of *Geranium* species indigenous to New Zealand. *New Zealand Journal of Botany* 47: 21-31.
- Stanley, R.; de Lange, P.; Cameron, E.K. 2005. Auckland Regional Threatened & Uncommon Vascular Plants List. *Auckland Botanical Society Journal* 60: 152-157.

Acknowledgements

Thank you to Peter de Lange for comments on the draft article and additions to the species list.

OAKLEY CREEK SPECIES LIST: by Mike Wilcox, Peter de Lange & Wendy John

* = naturalised exotic; *§ =cultivated exotic; § = cultivated native; X = eradicated

BOTANICAL NAME	COMMON NAME
Ferns and lycopods	
<i>Adiantum aethiopicum</i>	maidenhair
<i>Adiantum cunninghamii</i>	common maidenhair
<i>Adiantum hispidulum</i>	rosy maidenhair
<i>Asplenium flaccidum</i>	hanging spleenwort
<i>Asplenium oblongifolium</i>	shining spleenwort
§ <i>Blechnum discolor</i>	crown fern
<i>Blechnum membranaceum</i>	
<i>Blechnum novae-zelandiae</i>	kiokio
<i>Cyathea dealbata</i>	silver fern, ponga
<i>Cyathea medullaris</i>	black tree fern, mamaku
* <i>Cystopteris fragilis</i>	bladder fern
<i>Deparia petersenii</i>	
<i>Dicksonia squarrosa</i>	wheki
<i>Diplazium australe</i>	
<i>Doodia australis</i>	rasp fern
<i>Doodia squarrosa</i>	
<i>Microsorium pustulatum</i>	hounds tongue
<i>Pneumatopteris pennigera</i>	gully fern
<i>Pteridium esculentum</i>	bracken
* <i>Pteris cretica</i>	cretan brake
<i>Pteris macilenta</i>	sweet fern
<i>Pteris tremula</i>	shaking brake
<i>Pyrrosia eleagnifolia</i>	leather fern
* <i>Selaginella kraussiana</i>	selaginella
Conifers	
§ <i>Agathis australis</i>	kauri
*§ <i>Cryptomeria japonica</i>	Japanese cedar
*§ <i>Cupressus lusitanica</i>	Mexican cypress
§ <i>Dacrycarpus dacrydioides</i>	kahikatea
§ <i>Dacrydium cupressinum</i>	rimu
§ <i>Libocedrus plumosa</i>	kawaka
*§ <i>Metasequoia glyptostroboides</i>	dawn redwood
§ <i>Phyllocladus trichomanoides</i>	tanekaha, celery pine
*§ <i>Pinus pinaster</i>	maritime pine
*§ <i>Pinus radiata</i>	radiata pine
§ <i>Podocarpus totara</i>	totara
§ <i>Prumnopitys ferruginea</i>	miro
§ <i>Prumnopitys taxifolia</i>	matai
Dicot trees, shrubs and woody climbers	
§ <i>Alectryon excelsus</i>	titoki
* <i>Acacia elata</i>	cedar wattle
* <i>Acacia mearnsii</i>	black wattle
*§ <i>Acacia melanoxylon</i>	blackwood
*§ <i>Acer pseudoplatanus</i>	sycamore
*§ <i>Alnus glutinosa</i>	black alder
* <i>Araujia hortorum</i>	moth plant
§ <i>Aristolelia serrata</i>	wineberry

<i>§ Beilschmiedia tarairi</i>	taraire
<i>Brachyglottis repanda</i>	rangiora
<i>§ Carpodetus serratus</i>	putaputaweta, marbleleaf
<i>§ Coprosma lucida</i>	shining karamu
<i>Coprosma macrocarpa</i>	coastal karamu
<i>§ Coprosma propinqua</i>	mingimingi
<i>§ Coprosma repens</i>	taupata
<i>Coprosma robusta</i>	karamu
<i>§ Corokia cotoneaster</i>	korokio
<i>§ Corynocarpus laevigatus</i>	karaka
<i>*Crataegus monogyna</i>	hawthorn
<i>§ Dodonaea viscosa</i>	akeake
<i>§ Dysoxylum spectabile</i>	kohekohe
<i>*Elaeagnus xreflexa</i>	elaeagnus
<i>§ Entelea arborescens</i>	whau
<i>*§ Eriobotrya japonica</i>	loquat
<i>*§ Erythrina xsykesii</i>	coral tree
<i>*§ Eucalyptus botryoides</i>	bangalay
<i>*Euonymus japonicus</i>	Japanese spindleberry
<i>Geniostoma ligustrifolium</i>	hangehange
<i>*Gomphocarpus fruticosus</i>	swan plant
<i>*§ Grevillea robusta</i>	silky oak
<i>§ Griselinia littoralis</i>	broadleaf
<i>§ Griselina lucida</i>	shining broadleaf
<i>Haloragis erecta</i>	toatoa, shrubby haloragis
<i>§ Hebe parviflora</i>	hebe
<i>§ Hebe speciosa</i>	napuka, titirangi
<i>§ Hebe stricta</i>	koromiko
<i>§ Hedycarya arborea</i>	pigeonwood
<i>§ Hoheria populnea</i>	lacebark, houhere
<i>§ Hoheria sexstylosa</i>	houhere, lacebark
<i>*Hypericum androsaemum</i>	tutsan
<i>§ Knightia excelsa</i>	rewarewa
<i>§ Kunzea ericoides</i>	kanuka
<i>§ Laurelia novae-zelandiae</i>	pukatea
<i>§ Leptospermum scoparium</i>	manuka
<i>§ Leucopogon fasciculatus</i>	mingimingi
<i>*Ligustrum lucidum</i>	tree privet
<i>*Ligustrum sinense</i>	Chinese privet
<i>*§ Liquidambar styraciflua</i>	sweet gum
<i>§ Litsea calicaris</i>	mangeao
<i>*Lonicera japonica</i>	Japanese honeysuckle
<i>Macropiper excelsum</i> subsp. <i>excelsum</i>	kawakawa, pepper tree
<i>§ Macropiper excelsum</i> subsp. <i>peltatum</i>	kawakawa, pepper tree
<i>*§ Magnolia grandiflora</i>	evergreen magnolia
<i>§ Melicope ternata</i>	wharangi
<i>Melicytus ramiflorus</i>	mahoe, whitey wood
<i>§ Metrosideros excelsa</i>	pohutukawa
<i>§ Myoporum laetum</i>	ngaio
<i>Myrsine australis</i>	mapou, red matipo
<i>§ Olearia albida</i>	
<i>§ Olearia</i> cv. 'Dartonii'	
<i>§ Olearia traversiorum</i>	Chatham Is akeake
<i>*Paraserianthes lophantha</i>	brush wattle
<i>*§ Persea americana</i>	avocado
<i>§ Pittosporum crassifolium</i>	karo
<i>§ Pittosporum eugenioides</i>	tarata, lemonwood
<i>§ Pittosporum tenuifolium</i>	kohuhu

<i>§ Planchonella costata</i>	tawapou
<i>§ Plagianthus regius</i>	ribbonwood
* <i>§ Platanus xacerifolia</i>	London plane
* <i>Plectranthus ciliatus</i>	plectanthus
* <i>Populus alba</i>	white poplar
* <i>§ Populus nigra</i>	Lombardy poplar
* <i>§ Populus yunnanensis</i>	Yunnan poplar
* <i>§ Prunus persica</i>	peach
* <i>Prunus serrulata</i>	hill cherry
<i>§ Pseudopanax arboreus</i>	fivefinger
<i>§ Pseudopanax lessonii</i>	houpara
* <i>§ Quercus robur</i>	pedunculate oak
* <i>× Rhamnus alaternus</i>	Italian evergreen buckthorn
* <i>× Ricinus communis</i>	castor oil plant
* <i>Rubus fruticosus</i>	blackberry
* <i>Salix fragilis</i>	crack willow
<i>§ Schefflera digitata</i>	pate
<i>Solanum aviculare</i> var. <i>latifolia</i>	poroporo
<i>Solanum laciniatum</i>	poroporo
* <i>Solanum mauritianum</i>	woolly nightshade
* <i>Solanum pseudocapsicum</i>	Jerusalem cherry
<i>§ Sophora microphylla</i>	kowhai
<i>§ Streblus banksii</i>	milk tree
<i>§ Syzygium maire</i>	swamp maire
* <i>Syzygium smithii</i>	lilly pilly, monkey apple
* <i>Ulex europaeus</i>	gorse
<i>§ Vitex lucens</i>	puriri

Dicot herbs and creepers

* <i>Acanthus mollis</i>	bear's bitches
* <i>Ageratina riparia</i>	mist flower
<i>Alternanthera nahui</i>	nahui
* <i>Alternanthera philoxeroides</i>	alligator weed
* <i>Anagallis arvensis</i>	scarlet pimpernel
* <i>Bellis perennis</i>	lawn daisy
* <i>Brassica juncea</i>	Indian mustard
* <i>Brassica rapa</i> subsp. <i>sylvestris</i>	mustard
<i>Centella uniflora</i>	centella
* <i>Callitriche stagnalis</i>	water starwort
<i>Calystegia sepium</i> subsp. <i>roseata</i>	pink bindweed
* <i>Calystegia silvatica</i>	great bindweed
* <i>Calystegia sepium</i> subsp. <i>roseata</i> × <i>C. silvatica</i>	hybrid bindweed
* <i>Cardamine hirsuta</i>	bitter cress
* <i>Cerastium glomeratum</i>	mouse-ear chickweed
* <i>Cirsium vulgare</i>	Scotch thistle
* <i>Conium maculatum</i>	hemlock
* <i>Conyza sumatrensis</i>	broad-leaved flea-bane
* <i>Crepis capillaris</i>	hawksbeard
* <i>Cymbalaria muralis</i>	ivy-leaved toadflax
<i>Dichondra repens</i>	Mercury Bay weed, dichondra
* <i>Epilobium ciliatum</i>	tall willowherb
<i>Epilobium pedunculare</i>	willowherb
<i>Epilobium rotundifolium</i>	round-leaved willowherb
* <i>Erigeron karvinskianus</i>	Mexican daisy
* <i>Euphorbia lathyris</i>	caper spurge
* <i>Euphorbia peplus</i>	milkweed
* <i>Foeniculum vulgare</i>	fennel

* <i>Fumaria capreolata</i>	rampant fumitory
* <i>Galium aparine</i>	cleavers
* <i>Galium divaricatum</i>	slender bedstraw
* <i>Geranium dissectum</i>	cut-leaved geranium
* <i>Geranium gardneri</i>	Gardners geranium
<i>Geranium homeanum</i>	
* <i>Geranium purpureum</i>	small herb robert
<i>Geranium</i> aff. <i>retrorsum</i> "Oakley Creek"	
* <i>Helminthotheca echioides</i>	oxtongue
<i>Hydrocotyle heteromeria</i>	waxweed
<i>Hydrocotyle moschata</i>	hairy waxweed
* <i>Hydrocotyle tripartita</i>	Australian hydrocotyle
* <i>Ipomoea indica</i>	blue morning glory
* <i>Lamium amplexicaule</i>	henbit
* <i>Lapsana communis</i>	nipplewort
* <i>Leucanthemum vulgare</i>	oxe-eye daisy
* <i>Lotus pedunculatus</i>	lotus
* <i>Lotus suaveolens</i>	hairy birdsfoot trefoil
* <i>Myosotis discolor</i>	grassland forget-me-not
* <i>Nasturtium officinale</i>	watercress
* <i>Nicandra physalodes</i>	apple of Peru
<i>Oxalis exilis</i>	creeping oxalis, yellow oxalis
* <i>Oxalis incarnata</i>	lilac oxalis
* <i>Oxalis purpureum</i>	large-flowered oxalis
* <i>Pericallis</i> × <i>hybrida</i>	cineraria
<i>Persicaria decipiens</i>	swamp willow weed
* <i>Persicaria maculosa</i>	willow weed
* <i>Phytolacca octandra</i>	inkweed
* <i>Plantago lanceolata</i>	narrow-leaved plantain
* <i>Plantago major</i>	broad-leaved plantain
* <i>Prunella vulgaris</i>	selfheal
<i>Pseudognaphalium luteoalbum</i>	Jersey cudweed
* <i>Ranunculus repens</i>	creeping buttercup
* <i>Rumex obtusifolius</i>	broad-leaved dock
* <i>Rumex pulcher</i>	fiddle dock
* <i>Rumex saggitatus</i>	climbing dock
* <i>Senecio bipinnatisectus</i>	Australian fireweed
<i>Senecio esleri</i>	Eslers fireweed
* <i>Senecio mikanioides</i> (<i>Delairea odorata</i>)	German ivy
* <i>Senecio skirrhodon</i>	gravel groundsel
* <i>Senecio vulgaris</i>	groundsel
* <i>Sherardia arvensis</i>	field madder
<i>Solanum nodiflorum</i>	small flowered nightshade
* <i>Solanum chenopodioides</i>	velvety nightshade
* <i>Solanum nigrum</i>	black nightshade
* <i>Sonchus oleraceus</i>	puha
* <i>Taraxacum officinale</i>	dandelion
* <i>Trifolium pratense</i>	red clover
* <i>Trifolium repens</i>	white clover
* <i>Tropaeolum majus</i>	nasturtium
* <i>Verbena litoralis</i>	blue vervain
* <i>Veronica arvensis</i>	field speedwell
* <i>Veronica persica</i>	scrambling speedwell
* <i>Vicia sativa</i>	vetch
* <i>Vinca major</i>	periwinkle
* <i>Viola odorata</i>	violet

Monocots

* <i>Agrostis stolonifera</i>	creeping bent
* <i>Allium triquetrum</i>	onion weed
* <i>Aristea ecklonii</i>	
* <i>Arrhenatherum elatius</i>	tall oat grass
§ <i>Arthropodium bifurcatum</i>	broad-leaved rengarenga lily
* <i>Arundo donax</i>	giant reed
* <i>Asparagus asparagoides</i>	smilax
* <i>Asparagus scandens</i>	climbing asparagus
§ <i>Astelia grandis</i>	swamp astelia
*§× <i>Bambusa oldhamii</i>	green bamboo
* <i>Bromus diandrus</i>	rip-gut brome
* <i>Bromus willdenowii</i>	prarie grass
* <i>Canna indica</i>	Indian shot
§ <i>Carex dissita</i>	
* <i>Carex divulsa</i>	grey sedge
<i>Carex inversa</i>	creeping lawn sedge
§ <i>Carex flagellifera</i>	trip me up
<i>Carex lambertiana</i>	forest sedge
<i>Carex lessoniana</i>	rautahi, cutty grass
§ <i>Carex solandri</i>	forest sedge, Solanders sedge
§ <i>Carex secta</i>	pukio
§ <i>Carex virgata</i>	swamp sedge
§ <i>Cordyline australis</i>	cabbage tree
§ <i>Cortaderia fulvida</i>	toetoe
§ <i>Cortaderia splendens</i>	coastal toetoe
* <i>Cortaderia selloana</i>	pampas grass
* <i>Crocosmia xrocosmiiflora</i>	montbretia
* <i>Cyperus congestus</i>	purple umbrella sedge
* <i>Cyperus eragrostis</i>	mbrella sedge
§ <i>Cyperus ustulatus</i>	giant umbrella sedge
* <i>Dactylis glomerata</i>	cocksfoot
§ <i>Dianella nigra</i>	blueberry
* <i>Egeria densa</i>	egeria, oxygen weed
* <i>Ehrharta erecta</i>	veld grass
* <i>Freesia laxa</i>	freesia
<i>Gahnia lacera</i>	coastal gahnia
<i>Gahnia setifolia</i>	
* <i>Glyceria fluitans</i>	floating sweetgrass
* <i>Hedychium gardnerianum</i>	kahili ginger
* <i>Holcus lanatus</i>	Yorkshire fog
* <i>Ixia paniculata</i>	butt ixia
§ <i>Juncus pallidus</i>	giant rush, leafless rush
* <i>Juncus tenuis</i>	track rush
* <i>Kniphophia uvaria</i>	red hot poker
§ <i>Libertia ixioides</i>	mikoikoi, NZ iris
* <i>Lolium perenne</i>	perennial rye grass
* <i>Melaspheerula ramosa</i>	
<i>Microlaena stipoides</i>	meadow rice grass
<i>Oplismenus hirtellus</i>	bush panic grass
* <i>Paspalum dilatatum</i>	paspalum
* <i>Pennisetum clandestinum</i>	Kikuyu grass
* <i>Phoenix canariensis</i>	phoenix palm
§ <i>Phormium cookianum</i>	mountain flax
§ <i>Phormium tenax</i>	flax, harakeke
* <i>Phyllostachys nigra</i> var. <i>nigra</i>	black bamboo
* <i>Poa annua</i>	annual poa

* <i>Potamogeton crispus</i>	blunt pondweed
* <i>Pseudosasa japonica</i>	arrow bamboo
§ <i>Rhopalostylis sapida</i>	nikau palm
* <i>Schedonorus arundinaceus</i>	tall fescue
* <i>Setaria palmifolia</i>	palm grass
* <i>Setaria pumila</i>	yellow bristle grass
* <i>Sporobolus africanus</i>	ratstail
* <i>Tradescantia fluminensis</i>	tradescantia
* <i>Zantedeschia aethiopica</i>	arum lily

Mosses

Achrophyllum dentatum
Camptochaete arbuscula
Camptochate deflexa
Cyathophorum bulbosum
Fissidens berteroi
Fissidens leptocladus
Fissidens rigidulus var. *pseudostrictus*
Fissidens rigidulus var. *rigidulus*
Fissidens waiensis
Hypopterygium rotulatum
Syntrichia antarctica
Thuidium furfurosum

Liverworts

Archilejeunea olivacea
Asterella australis
Balantiopsis diplophylla var. *hockenii*
Chiloscyphus austrigenus var. *okaritanus*
Chiloscyphus herzogii
Chiloscyphus subporosus subsp. *inflexifolius*
Fossombronia wondraczeckii
Heteroscyphus biciliatus
Heteroscyphus cuneistipulus
Lejeunea sinclairii
Lepidolaena taylorii
Lunularia cruciata
Marchantia pileata
Monoclea forsteri
Riccia crystallina
Solenostoma novaezelandiae
Triandrophyllum subtrifidum
Zoopsis macrophylla

Fungi:

<i>Favolaschia calocera</i>	
<i>Auricularia polytricha</i>	wood ear fungus
<i>Aseroe rubra</i>	stinkhorn fungus

Algae:

<i>Nitella hookeri</i>	charophyte
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