Christchurch District Plan
Site of Ecological Significance

Site Significance Statement

Site name: Kaituna Spur

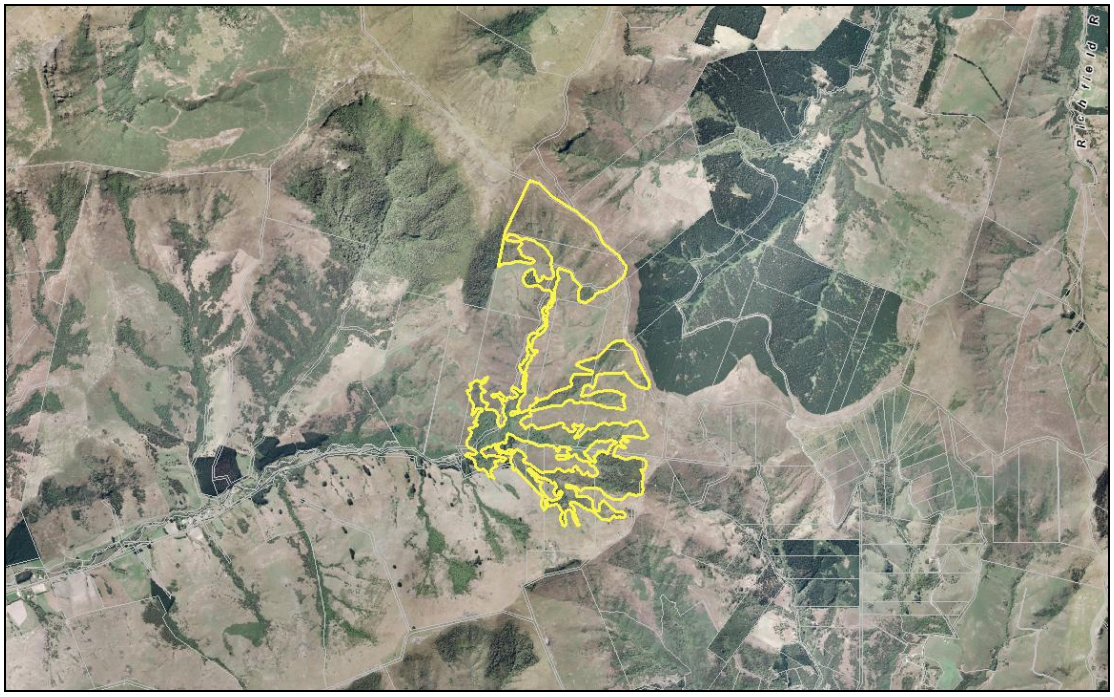
Site number: SES/H/17

Physical address of site: Head of Kaituna Valley, Little River

Summary of Significance:

This site is significant because it contains rare, distinctive and representative vegetation communities including old-growth forest and montane and sup-alpine vegetation. It has a representative assemblage of indigenous forest birds. The site has a large altitudinal sequence and a very high diversity of plant taxa. It supports four plant species that are nationally At Risk (two are also endemic to Banks Peninsula) an outstanding number of plant species that are uncommon within the ecological district or region and four that reach their distributional limits on Banks Peninsula. Two bird species that are uncommon within the ecological district also use the site. The site is an important ecological linkage between Mt Herbert Scenic Reserve and Kaituna Spur Scenic Reserve and within the site forest and scrub in gullies links the lowland podocarp/hardwood forest with the vegetation on the upper slopes.

Site Map



Additional Site Information

Ecological District: Herbert

Area of SES (ha): 141.79

Central point NZTM: E1581193, N5160259

Site Description

The site is situated in the basin-like valley head of Kaituna Valley on the south-eastern side of Mt Herbert Reserve. The landscape is comprised generally of west and south facing moderately steep to steep slopes and gullies. The altitudinal range of the site is from approximately 280 to 870 m above sea level. It includes the Kaituna Spur Scenic Reserve. The Department of Conservation identified the upper catchment south-east of Trig ZZ as part of a Recommended Area for Protection (Herbert RAP 4 – Mt Herbert) (Wilson 1992).

The main vegetation communities within the site (Wildland Consultants unpubl. data 2014, Wilson 2011) are:

- (Matai-kahikatea-lowland totara)/secondary growth mahoe-broadleaf-five finger forest on lowland hill slopes
- (Matai-kahikatea-thin-barked totara)/secondary growth mahoe-tree fuchsia-five finger forest and scrub on lowland and montane hill slopes
- Old-growth thin barked totara/mixed hardwood forest on montane hill slopes
- Montane and sub-alpine scrub and shrubland
- Short tussockland on montane hill slopes

One of the outstanding features of the site is the very large remnant trees of four species of podocarp (kahikatea, matai, lowland totara and thin-barked totara).

Extent of Site of Ecological Significance

The site includes the lowland (podocarp)/secondary growth hardwood forest in the bottom of the valley and a smaller side gully to the east and the (podocarp)/secondary growth mixed hardwood forest and scrub that extend up the gullies to provide important linkages to the old growth thin-barked totara forest in Kaituna Scenic Reserve and the other small patches on upper slopes. Which are part of the site. The site also includes the representative and distinctive montane and sub-alpine vegetation in the upper catchment south-east of Trig ZZ.

Assessment Summary

The Kaituna Spur Site has been evaluated against the criteria for determining significant indigenous vegetation and significant habitats of indigenous fauna listed in Appendix 3 of the Canterbury Regional Policy Statement (Environment Canterbury, 2013) (see below) referring also to the Wildland Consultants (2013) Guidelines and

advice from the relevant Specialist Ecologist Groups. Under these criteria the site is ecologically significant because it meets the representativeness (criterion 1), rarity/distinctiveness (criteria 3, 4, 5 and 6), diversity and pattern (criterion 7) and ecological context criteria (criteria 8 and 10).

Assessment against Significance Criteria

Representativeness

1. ***Indigenous vegetation or habitat of indigenous fauna that is representative, typical or characteristic of the natural diversity of the relevant ecological district. This can include degraded examples where they are some of the best remaining examples of their type, or represent all that remains of indigenous biodiversity in some areas.***

   The site is significant under this criterion.

   The bottom of the valley and a smaller side gully to the east contain secondary growth lowland hardwood forest with many very large impressive kahikatea and matai trees. These trees provide support for numerous epiphytes and vines, and seedlings of all three podocarp species are common. This forest is representative of the lowland podocarp forest that was once much more common in the ecological district.

   Montane old-growth thin-barked totara forest has survived in the Kaituna Spur Scenic Reserve and in several small patches at the head of the valley. The canopy is dense and these remnants are representative of this old-growth forest community.

   Although regenerating following historic burning and grazing, the upper cool temperate and sub-alpine vegetation communities in the upper catchment south-east of Trig ZZ contain a diverse range of indigenous plant taxa including many of the locally restricted species characteristic of the Mt Herbert area (Wilson 2011).

   The site supports a representative assemblage of Banks Peninsula forest bird species (Wildland Consultants unpubl. data 2014, Wilson 2011). A high proportion of the species in the "Banks Peninsula native bush bird species assemblage" (Crossland unpubl. data 2014) have been recorded at the site (Appendix 1) even though no formal bird monitoring has been undertaken.

2. ***Indigenous vegetation or habitat of indigenous fauna that is a relatively large example of its type within the relevant ecological district.***

   The site is not significant under this criterion. It is comprised of a number of indigenous vegetation communities but none are significant as being a large example of its type within the ecological district.

Rarity/Distinctiveness

3. ***Indigenous vegetation or habitat of indigenous fauna that has been reduced to less than 20% of its former extent in the Region, or relevant land environment, ecological district, or freshwater environment.***

The site is significant under this criterion.

In the context of the Herbert Ecological District the indigenous forest within the site is significant under this criterion because it has been reduced to less than 20% of its former extent in the ecological district. Banks Peninsula, including the Herbert Ecological District, was almost entirely forested prior to the arrival of humans (Harding 2009, Wilson 2013). The present extent of all other indigenous forest (excluding manuka and/or kanuka) in the ED is estimated to be 7% (10.9% including manuka and/or kanuka) (New Zealand Landcover Database (Version 4)).

Montane thin-barked totara forest has survived in the Kaituna Spur Scenic Reserve and as several small patches at the head of the valley. The bottom of the valley and a smaller side gully to the east contain secondary growth lowland hardwood forest with large emergent remnant podocarps (kahikatea, matai, and lowland totara). These examples of old growth forest are extremely rare on Banks Peninsula. Old growth forest has been reduced to approximately 800 ha or <1% of its original extent on Banks Peninsula (Wilson 2009).

The indigenous vegetation in the lower part of the site (below approximately 400 m) is on a Chronically Threatened land environment (F3.1b) where 12.2% indigenous vegetation is left on this land environment nationally (Walker et al. 2007). This land environment includes the majority of the lowland forest that contains the large remnant podocarp trees.

4. ***Indigenous vegetation or habitat of indigenous fauna that supports an indigenous species that is threatened, at risk, or uncommon, nationally or within the relevant ecological district.***

The site is significant under this criterion.

The site supports four plant species that are nationally At Risk (two are also endemic to Banks Peninsula) and an outstanding number of plant species that are also uncommon within the ecological district or region. Two bird species are present that are also uncommon within the Herbert Ecological District.

Plants

Nationally At Risk plant species (de Lange et al. 2013) recorded from the site are:

- *Aciphylla subflabellata* (At Risk – Declining) (Wilson 2011)
- *Coprosma virescens* (At Risk – Declining) (Wildland Consultants unpubl. data 2014)
- *Heliohebe lavaudiana* (At Risk – Declining, endemic to Banks Peninsula)
- *Hebe strictissima* (At Risk - Naturally Uncommon, endemic to Banks Peninsula) (Wilson 2011)

An outstanding number of indigenous plant species have been recorded from the site that are “uncommon to rare or very local” on Banks Peninsula (Wilson 2013) are:

- *Acaena caesiiglauca* (Wilson 2011)
- *Acaena dumicola* (Wilson 2011)
- *Aciphylla aurea* (Wilson 2011)
- *Adiantum cunninghamii* (Wilson 2011)
- *Anisotome aromatica* (Wilson 2011)
- *Aristotelia fruticosa* (Wilson 2011)
- *Blechnum montanum* (Wilson 2011)
- *Blechnum novae-zelandiae* (Wildland Consultants unpubl. data 2014, Wilson 2011)
- *Blechnum vulcanicum* (Wildland Consultants unpubl. data 2014)
- *Celmisia gracilenta* (Wilson 2011)
- *Chaerophyllum ramosum* (Wilson 2011)
- *Chionochloa conspicua* (Wilson 2011)
- *Coprosma ciliata* (Wilson 2011)
- *Epilobium brunnescens* (Wilson 2011)
- *Epilobium insulare* (Wilson 2011)
- *Epilobium rotundifolium* (Wilson 2011)
- *Epilobium tenuipes* (Wilson 2011)
- *Hymenophyllum multifidum* (Wilson 2011)
- *Isolepis habra* (Wilson 2011)
- *Juncus novae-zelandiae* (Wilson 2011)
- *Juncus planifolius* (Wilson 2011)
- *Juncus sarophorus* (Wilson 2011)
- *Kelleria dieffenbachia* (Wilson 2011)
- *Lachnagrostis pilosa* (Wilson 2011)
- *Lastreopsis glabella* (Wildland Consultants unpubl. data 2014)
- *Leptospermum scoparium* (Wilson 2011)
- *Leptostigma setulosum* (Wilson 2011)
- *Lobelia angulata* (Wilson 2011)
- *Luzula picta* (Wilson 2011)
- *Lycopodium fastigiatum* (Wilson 2011)
- *Lycopodium scariosum* (Wildland Consultants unpubl. data 2014)
- *Lycopodium volubile* (Wilson 2011)
- *Microlaena avenacea* (Wilson 2011)
- *Nertera depressa* (Wilson 2011)
- *Notogrammitis crassior* (Wilson 2011)
- *Olearia arborescens* (Wilson 2011) – restricted to the Herbert Ecological District within the Banks Ecological Region (Wilson 1992)
- *Olearia ilicifolia* (Wilson 2011)
- *Ourisia macrophylla subsp. lacteal* (Wilson 2011)
- *Paesia scaberula* (Wildland Consultants unpubl. data 2014, Wilson 2011)
- *Phlegmariurus varius* (Wilson 2011)
- *Plantago raoulii* (Wilson 2011)
- *Pyrrosia eleagnifolia* (Wildland Consultants unpubl. data 2014, Wilson 2011)
- *Rytidosperma corinum* (Wilson 2011)
- *Scleranthus biflorus* (Wilson 2011)
- *Uncinia clavata* (Wilson 2011)
- *Viola filicaulis* (Wilson 2011)

Birds

Two bird species that are uncommon in the Herbert ecological district have been recorded from the site (Wilson 2011):

- New Zealand falcon (At Risk – Recovering (Robertson et al. 2012), uncommon in the ecological district)
- Tui (uncommon in the ecological district)

5. The site contains indigenous vegetation or an indigenous species at its distribution limit within Canterbury Region or nationally.

The site is significant under this criterion.

There are three plant species that are at their southern regional or national distributional limits on Banks Peninsula and one at its northern distributional limit (Wilson 2013). These species are:

- *Dracophyllum acerosum* (southern national limit) (Wildland Consultants unpubl. data 2014, Wilson 2011)
- *Hedycarya arborea* (southern regional limit) (Wildland Consultants unpubl. data 2014)
- *Piper excelsum* (southern national limit) (Wildland Consultants unpubl. data 2014)
- *Rytidosperma corinum* (northern regional limit) (Wilson 2011)

6. Indigenous vegetation or an association of indigenous species that is distinctive, of restricted occurrence, occurs within an originally rare ecosystem, or has developed as a result of an unusual environmental factor or combinations of factors.

The site is significant under this criterion.

The site is distinctive in that it supports very large remnant trees of four species of podocarp (kahikatea, matai, lowland totara and thin-barked totara). All four species are regenerating (Wilson 2011).

It also supports upper cool temperate montane and sub-alpine vegetation that contain a high diversity of plant taxa (Wilson 2011). Sup-alpine vegetation is of restricted occurrence on Banks Peninsula where it occurs only as small (often isolated) relics in the highest, coolest and most exposed sites.

There are scattered rock bluffs and outcrops on the upper slopes of the site including within the Kaituna Spur Scenic Reserve. At a national scale, basic cliffs, scarps and tors are an originally rare ecosystem (Williams et al. 2007).

Diversity and Pattern

7. Indigenous vegetation or habitat of indigenous fauna that contains a high diversity of indigenous ecosystem or habitat types, indigenous taxa, or has changes in species composition reflecting the existence of diverse natural features or ecological gradients.

The site is significant under this criterion.

The site has an altitudinal sequence from 280 to 870 m above sea level that includes lowland, montane and sub-alpine zones. This large altitudinal gradient is reflected in the composition of the vegetation communities. Lowland podocarp/hardwood forest, montane thin-barked totara/hardwood forest, montane scrub and shrublands and sub-alpine shrublands and tussockland all occur within the site. As a result the site contains a very high diversity of plant taxa (Wildland Consultants unpubl. data 2014, Wilson 2011). Wilson (2011) recorded 188 indigenous vascular plant species during a preliminary botanical assessment of the property and comments that further survey work will reveal many more. His preliminary list included 23 native trees, (50 native trees and shrubs) and 37 ferns and fern allies.

Ecological Context

8. ***Vegetation or habitat of indigenous fauna that provides or contributes to an important ecological linkage or network, or provides an important buffering function.***

   The site is significant under this criterion.

   The vegetation within the site provides an important ecological linkage between Mt Herbert Scenic Reserve and Kaituna Spur Scenic Reserve. Both reserves are of outstanding ecological value. The montane and sub-alpine scrub and shrublands south-east of Trig ZZ adjoin and buffer the Mt Herbert Scenic Reserve.

   Narrow fingers of secondary forest and scrub in the gullies provide important ecological linkages within the site between the lowland podocarp/hardwood forest and the upper catchment, including the Kaituna Spur Scenic Reserve and the montane and sub-alpine vegetation south-east of Trig ZZ.

   The old-growth forest within the site is also part of a network of ecologically important forest patches in the wider area including Mt Herbert, Kaituna Spur and Waipuna Saddle Scenic Reserves and forested areas in the head of Prices Valley. These areas are important 'stepping stones' for the movement and dispersal of mobile indigenous fauna such as New Zealand pigeon.

9. ***A wetland which plays an important hydrological, biological or ecological role in the natural functioning of a river or coastal system.***

   The site is not significant under this criterion. There are no wetlands within the site.

10. ***Indigenous vegetation or habitat of indigenous fauna that provides important habitat (including refuges from predation, or key habitat for feeding, breeding, or resting) for indigenous species, either seasonally or permanently.***

    The site is significant under this criterion.

The forest, and particularly the old-growth podocarp forest, provides important permanent habitat for a high diversity of indigenous forest birds and important seasonal feeding habitat for New Zealand pigeon (Wildland Consultants unpubl. data 2014, Wilson 2011).

Existing Protection Status

The part of the site that is in private ownership (the majority) has recently been legally protected under as a Banks Peninsula Conservation Trust Covenant and fenced to exclude stock. The remaining part of the site is within the Kaituna Spur Scenic Reserve (conservation unit no. N36031).

Threats and risks	Management recommendations	Support package options
• Biodiversity pest plants. The main threats to the ecological values of the site are: Chilean flame creeper, old mans beard and wilding conifers (radiata pine and macrocarpa). (Wildland Consultants unpubl. data 2014, Wilson 2011).	• Consider controlling Chilean flame creeper, old mans beard and wilding conifers. These species are the highest priority species for control (Wilson 2011). • Consider ongoing surveillance for other biodiversity pest plants such as sycamore and Darwin's barberry and spur valerian (on rock outcrops.	• In collaboration with BPCT and DOC, advice and guidance for landowner about pest plant monitoring and control. • Assistance available as appropriate
• Domestic stock. It is understood that the entire Banks Peninsula Conservation Trust covenant has been fenced to exclude stock.	• Consider periodic fence inspections of the covenants perimeter fence and maintenance as required to ensure fences remain stock-proof.	• N/A
• Deer, goats and pigs	• Consider monitoring the site for deer, goats and pigs (and their sign) and controlling them, if possible, when they are present within the site.	• Advice and guidance for landowner about control of deer, goats and pigs. • In collaboration with DOC, assistance available as appropriate.
• Other pest animals. Possums, rabbits, hares, stoats, mice, rats, hedgehogs.	• Control of pest animals (e.g. by trapping, poisoning or shooting) using a multi-species control programme would benefit native fauna (birds, lizards and larger invertebrates). However, due to the time and cost of establishing and maintaining such a control programme and the lack of barriers to invasion, only consider implementing an	• In collaboration with BPCT and DOC, advice and guidance for landowner about pest animal monitoring and control. • Assistance available as appropriate.

	animal pest control programme if long-term, effective control can be ensured.	

References

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Assessment completed by: Scott Hooson
Date: 4 February 2015

Statement completed by: Scott Hooson
Date: 4 February 2015

Statement updated by: XXX
Date: XXX

PLEASE NOTE THIS STATEMENT IS BASED ON INFORMATION AVAILABLE AT THE TIME OF WRITING. DUE TO THE DYNAMIC NATURE OF ECOSYSTEMS, FUTURE REASSESSMENT OF THE SITE MAY BE NECESSARY TO REFLECT ANY CHANGES IN KNOWLEDGE OF ITS ECOLOGICAL SIGNIFICANCE.

Appendix 1: Indigenous Banks Peninsula Native Bush Bird Species Assemblage

Comparison of bird species recorded at the site (Wilson 2011, Wildland Consultants unpubl. data 2014a) with the "Banks Peninsula Native Bush Bird Species Assemblage" (Crossland 2014).

N.B. this is not a full inventory of the bird species that may use the site. Rather it is based on incidental observations during field visits.

Species recorded at the site are marked with a tick ✓.

	Common name	**Scientific Name**
✓	Australasian harrier	*Circus approximans*
✓	Bellbird	*Anthornis melanura melanura*
✓	Brown creeper	*Mohua novaeseelandiae*
✓	Grey warbler	*Gerygone igata*
	Morepork	*Ninox novaeseelandiae novaeseelandiae*
✓	New Zealand falcon	*Falco novaeseelandiae*
	New Zealand kingfisher	*Halcyon sancta vagans*
✓	New Zealand pigeon	*Hemiphaga novaeseelandiae novaeseelandiae*
✓	Shining cuckoo	*Chrysococcyx lucidus lucidus*
✓	Silvereye	*Zosterops lateralis lateralis*
✓	South Island fantail	*Rhipidura fuliginosa fuliginosa*
	South Island rifleman	*Acanthisitta chloris chloris*
✓	South Island tomtit	*Petroica macrocephala macrocephala*
✓	Tui	*Prosthemadera novaeseelandiae novaeseelandiae*
✓	Welcome swallow	*Hirundo tahitica neoxena*

Appendix 2: Plant Species List

Sourced from Wildland Consultants unpubl. data (2014).

Scientific Name	Common Name(s)
Indigenous species	
Acaena anserinifolia	bidibidi, piripiri
Acaena novae-zelandiae	red bidibidi
Anaphalioides bellidioides	everlasting daisy, hells bells
Aristotelia serrata	wineberry, makomako
Asplenium appendiculatum	ground spleenwort
Asplenium flaccidum	hanging spleenwort, raukatauri
Asplenium flabellifolium	necklace fern
Asplenium gracillimum	
Asplenium hookerianum	Hooker's spleenwort
Blechnum chambersii	lance fern
Blechnum discolor	crown fern, piupiu
Blechnum fluviatile	kiwakiwa
Blechnum novae-zealandiae	kiokio
Blechnum penna-marina	little hard fern
Blechnum procerum	small kiokio
Blechnum vulcanicum	triangular hard fern
Calystegia tuguriorum	NZ bindweed
Cardamine debilis	NZ bitter cress
Carpodetus serratus	marbleleaf, putaputaweta
Clematis paniculata	puawananga
Coprosma crassifolia	thick-leaved coprosma, mikimiki
Coprosma dumosa	mikimiki
Coprosma linariifolia	yellow-wood
Coprosma propinqua	mingimingi, mikimiki
Coprosma propinqua X robusta	
Coprosma rhamnoides	mingimingi, mikimiki
Coprosma robusta	karamu
Coprosma rotundifolia	round-leaved coprosma, mikimiki
Coprosma virescens	mikimiki
Cyathea dealbata	silver fern, ponga
Cyathea smithii	Smith's tree fern, katote
Dacrycarpus dacrydioides	kahikatea, white pine
Dicksonia squarrosa	wheki, rough tree fern
Dracophyllum acerosum	turpentine scrub
Fuchsia excorticata	tree fuchsia, kotukutuku
Gaultheria antipoda	bush snowberry
Griselinia littoralis	broadleaf, kapuka
Gunnera monoica	native gunnera
Hedycarya arborea	pigeonwood, porokaiwhiri
Helichrysum filicaule	slender everlasting daisy
Helichrysum lanceolatum	niniao
Hoheria angustifolia	narrow-leaved lacebark, houhere

Hydrocotyle heteromeria	pennywort
Hydrocotyle moschata	pennywort
Hypolepis rufobarbata	sticky pig fern
Ileostylus micranthus	green mistletoe
Juncus distegus	wiwi
Juncus edgariae	leafless rush, wi
Kunzea ericoides	kanuka
Lastreopsis glabella	smooth shield fern
Leptinella dioica	button daisy
Leptopteris hymenophylloides	crepe fern, heruheru
Lophomyrtus obcordata	rohutu, NZ myrtle
Lycopodium scariosum	
Melicytus alpinus	porcupine shrub
Melicytus ramiflorus	mahoe, whiteywood
Melicope simplex	poataniwha
Metrosideros diffusa	white climbing rata
Microsorum pustulatum	hounds tongue, kowaowao
Muehlenbeckia australis	large-leaved pohuehue
Myrsine australis	red mapou, red matipo
Paesia scaberula	ring fern, pig root fern
Parsonsia heterophylla	native jasmine, akakaikiore
Pellaea rotundifolia	round-leaved fern, tarawera
Pennantia corymbosa	kaikomako, ducks foot
Pittosporum eugenioides	lemonwood, tarata
Pittosporum tenuifolium	kohuhu, black matipo
Pneumatopteris pennigera	gully fern, pakau
Poa cita	silver tussock
Podocarpus cunninghamii	mountain totara, thin-barked totara
Podocarpus totara	lowland totara
Polystichum oculatum	shield fern
Polystichum vestitum	prickly shield fern, puniu
Prumnopitys taxifolia	matai, black pine
Pseudopanax arboreus	five-finger, whauwhaupaku
Pseudowintera colorata	horopito, peppertree
Pseudopanax crassifolius	lancewood, horoeka
Pteridium esculentum	bracken
Pyrrosia eleagnifolia	leatherleaf fern
Ranunculus reflexus	hairy buttercup, maruru
Raoulia glabra	mat daisy
Ripogonum scandens	supplejack, kareao
Rubus cissoides	bush lawyer, tataramoa
Rubus schmidelioides	bush lawyer, tataramoa
Rubus squarrosus	leafless bush lawyer, tataramoa
Schefflera digitata	pate, seven-finger
Solanum laciniatum	poroporo
Sophora microphylla	kowhai, small-leaved kowhai
Urtica ferox	ongaonga, tree nettle
Exotic Species	
Achillea millefolium	yarrow
Agrostis capillaris	brown top
Anthoxanthum odoratum	sweet vernal

Arctium minus	burdock
Bellis perennis	daisy
Cerastium fontanum	mouse-ear chickweed
Cirsium arvense	Californian thistle
Cirsium vulgare	Scotch thistle
Clematis vitalba	old man's beard
Crepis capillaris	hawksbeard
Cupressus macrocarpa	macrocarpa, Monterey cypress
Cynosurus cristatus	crested dogstail
Cytisus scoparius	scotch broom
Dactylis glomerata	cocksfoot
Digitalis purpurea	foxglove
Dryopteris dilatata	broad buckler fern
Galium aparine	cleavers
Geranium molle	
Holcus lanatus	Yorkshire fog
Hypochoeris radicata	catsear
Mycelis muralis	wall lettuce
Pilosella officinarum	mouse-ear hawkweed
Pinus radiata	radiata pine, Monterey pine
Plantago major	broad-leaved plantain
Prunella vulgaris	selfheal
Ranunculus repens	creeping buttercup
Ribes species	currant
Rubus fruticosus	blackberry
Rumex acetosella	sheeps sorrel
Solanum nigrum	black nightshade
Stellaria media	chickweed
Trifolium pratense	red clover
Trifolium repens	white clover
Tropaeolum speciosum	Chilean flame creeper
Ulex europaeus	gorse