

Christchurch District Plan Site of Ecological Significance

Site Significance Statement

Site name: Saddle Hill

Site number: SES/A/26

Physical address of site: Bossu Road, Little River

Summary of Significance:

This site is significant because it contains rare and representative indigenous rock bluff, lowland and montane forest and snow tussock vegetation communities. The narrow leaved snow tussock community, which is of restricted occurrence on Banks Peninsula is probably the best remaining example in the ecological region. The site also has ecosystems that are originally rare on a national scale. These vegetation communities support a high diversity of plant taxa including six nationally At Risk plant species, a large number of species that are uncommon within the ecological region or ecological district, one at its southern national distributional limit on Banks Peninsula and one at its northern national limit. The site provides important habitat for a unique assemblage of indigenous moths including one that is nationally Threatened and only known to occur at the site, one that is nationally At Risk and another two that are endemic to Banks Peninsula. It directly adjoins areas of very high value and is an important ecological linkage.

Site Map



Additional Site Information

Ecological District: Akaroa

Area of SES (ha): 171.00

Central point (NZTM): E1588247, N5150193

Site Description

At 841 m Saddle Hill is highest summit in the Akaroa Ecological District. It is situated on a high ridge between the Okuti and Wainui Valleys. The site includes the upper north-west and south-east facing slopes and main ridge of Saddle Hill. The altitudinal range of the site is from approximately 320 m to 840 m at the summit of Saddle Hill. Most of the site is part of the Saddle Hill Scenic Reserve administered by the Department of Conservation. It is also part of an area that was identified by the Department of Conservation as a Recommended Area for Protection (Akaroa RAP 10 – Saddle Hill) (Wilson 1992).

The main vegetation communities within the site (Wilson 1992, Head 2011, Wildland Consultants unpubl. data 2012a) are:

- Narrow-leaved snow tussock tussockland
- Silver tussock-fescue tussock/browntop grassland on montane hill slopes
- *Coprosma-Dracophyllum acerosum*/narrow-leaved snow tussock shrubland on montane hill slopes
- Mixed small-leaved shrubland on montane hill slopes
- Rocky bluff and rock outcrop communities
- (matai-kahikatea)/ second-growth hardwoods on lowland hill slopes
- Thin-bark totara/mixed hardwood forest on montane hill slopes
- Mixed broadleaved second-growth hardwood forest on lowland and montane hill slopes

The site is botanically rich and includes many species of particular note. The vegetation communities within the site are described in more detail by (Head 2011).

Extent of Site of Ecological Significance

This site includes the rock outcrop and bluff communities and narrow-leaved snow tussock grasslands on the upper north-west and south-east facing slopes and main ridge of Saddle Hill and montane thin-barked totara forest and lowland (matai-kahikatea)/mixed second-growth hardwood forest in the gullies. Silver tussock-fescue tussock/browntop grassland linking these areas is also included within the site. The site is bounded by Bossu Road and Reynolds Roads on its southern and western sides respectively.

The Department of Conservation included the upper catchments of the Wainui and French Farm Valleys on the eastern side of Saddle Hill within the Saddle Hill Recommended Area for Protection (RAP 10) (Wilson 1992). There is no available up-to-date information on these sites, but based on Wilson (1992) (and his unpublished survey data for these sites), they are clearly of exceptionally high ecological value. They are contiguous with the Saddle Hill Site and could be included within this site. Assessment and identification of these areas as Significant Ecological Sites is a very high priority.

Assessment Summary

The Saddle Hill 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). Under these criteria the site is ecologically significant because it meets the representativeness (criteria 1 and 2), 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.

It contains a range of indigenous vegetation communities that are representative of those that would have occurred in the ecological district at a baseline of 1840. These include areas of old-growth podocarp forest (montane thin-barked totara forest (*Podocarpus cunninghamii*) and mature lowland matai (*Prumnopitys taxifolia*)- kahikatea (*Dacrycarpus dacrydioides*)/mixed second-growth hardwood forest), rock bluff communities and narrow-leaved snow tussock (*Chionochloa rigida*) grasslands on the upper slopes.

The narrow-leaved snow tussock community on the upper southern slopes of Saddle Hill is very natural, has relatively few exotic species and is highly representative of the sub-alpine vegetation that occupied exposed, higher altitude sites in the ecological district. It is probably the best remaining example in the Banks Ecological Region (Head 2011).

The large lava domes (including Coffin Rock) rock outcrops and the Saddle Hill massif support rock bluff plant communities. These communities act as refugia for a variety of predominantly indigenous ferns, shrubs and herbs. They are largely unmodified and include a full range of unique and specialised bluff plant communities, including subalpine species, and species endemic to the Peninsula, some of which are classified as nationally threatened (Head 2011).

Areas of old growth thin-bark totara/mixed hardwood forest are highly representative of the original forest cover on montane slopes in the ecological district. Secondary hardwood forest occurs in gullies on the lower north-west facing slopes. Although recovering from historical disturbance, mature matai and kahikatea are present and these forest areas are diverse, relatively natural and typical of (Head 2011) secondary hardwood forest in the Akaroa Ecological District.

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 significant under this criterion.

It supports one of the largest areas of narrow-leaved snow tussock grassland in the Akaroa Ecological District and has extensive indigenous rock outcrop and bluff communities.

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.

The vegetation on the southern side of Saddle Hill between Bossu Road and the Summit and on the upper slopes and ridge of Saddle Hill is significant at the Level 4 land environment scale. It is on a Chronically Threatened land environment (F3.3b) where 17.6% indigenous vegetation is left on this land environment nationally (Walker et al. 2007).

The old growth montane thin-barked totara forest and (matai - kahikatea/mixed hardwood forest and regenerating secondary forest ecosystems are significant under this criterion because they have been reduced to less than 20% of their former extent in the ecological district. Banks Peninsula, including the Akaroa Ecological District, was almost entirely forested prior to the arrival of humans (Harding 2009, Wilson 2013). Following human arrival the extent of forest in the ecological district (and region) was greatly reduced. The present extent of all indigenous forest in the ED is estimated to be 10% (17.8% including manuka and kanuka) (New Zealand Landcover Database (Version 4)). The present extent of old growth forest is estimated to be approximately 800 ha or <1% of its original extent (Wilson 2009).

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.

It has six nationally At Risk plant species, a large number of plant species that are uncommon within the ecological region or ecological district, one invertebrate that is nationally Threatened and only known to occur at the site, one that is nationally At Risk and another two that are endemic to Banks Peninsula.

Plants

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

- Grassland speargrass (*Aciphylla subflabellata*) (At Risk - Declining) (Wildland Consultants unpubl. data 2012a, Head 2011)
- Banks Peninsula blue tussock (*Festuca actae*) (At Risk – Naturally uncommon, endemic to Banks Peninsula) (Head 2011)
- Banks Peninsula hebe (*Hebe strictissima*) (At Risk – Naturally uncommon, endemic to Banks Peninsula) (Head 2011)
- Banks Peninsula sun hebe (*Heliohebe lavaudiana*) (At Risk - Declining, endemic to Banks Peninsula) (Wildland Consultants unpubl. data 2012a, Head 2011)
- Fan-leaved mat daisy (*Raoulia monroi*) (At Risk - Declining) (Wildland Consultants unpubl. data 2012a)
- Yellow rock groundsel (*Senecio glaucophyllus* subsp. *basinudus*) (At Risk – Naturally uncommon) (Wildland Consultants unpubl. data 2012a)

Plant species that have been recorded from within the site that are 'uncommon to rare or very local' on Banks Peninsula (Wilson 2013) are:

- Golden Spaniard (*Aciphylla aurea*) (Wildland Consultants unpubl. data 2012a, Head 2011)
- Aromatic aniseed (*Anisotome aromatica*) (Wildland Consultants unpubl. data 2012a)
- Richard's spleenwort (*Asplenium richardii*) (Wildland Consultants unpubl. data 2012a)
- slender mountain daisy (*Celmisia gracilentia*) (Head 2011)
- narrow-leaved snow tussock (*Chionochloa rigida*) (Wildland Consultants unpubl. data 2012a, Head 2011)
- Tutu (*Coriaria sarmentosa*) (Wildland Consultants unpubl. data 2012a)
- Willow herb (*Epilobium brunnescens*) (Wildland Consultants unpubl. data 2012a)
- Mountain aniseed (*Gingidia montana*) (Wildland Consultants unpubl. data 2012a)
- Water fern (*Histiopteris incisa*) (Wildland Consultants unpubl. data 2012a)
- Pennywort (*Hydrocotyle novae-zeelandiae*) (Wildland Consultants unpubl. data 2012a)
- Pennywort (*Hydrocotyle sulcata*) (Wildland Consultants unpubl. data 2012a)
- *Kelleria dieffenbachii* (Wildland Consultants unpubl. data 2012a, Head 2011)
- Prickly mingimingi (*Leptecophylla juniperina*) (Wildland Consultants unpubl. data 2012a)
- *Leptostigma setulosa* (Wildland Consultants unpubl. data 2012a)
- Alpine clubmoss (*Lycopodium fastigiatum*) (Wildland Consultants unpubl. data 2012a)
- Creeping pōhuehue (*Muehlenbeckia axillaris*) (Head 2011)
- Dwarf strap fern (*Notogrammitis crassior*) (Wildland Consultants unpubl. data 2012a)
- shrub daisy (*Olearia bullata*) (Wildland Consultants unpubl. data 2012a)
- New Zealand holly (*Olearia ilicifolia*) (Head 2011)

- Mountain foxglove (*Ourisia macrophylla* subsp. *lactea*) (Wildland Consultants unpubl. data 2012a, Head 2011)
- *Scleranthus brockiei* (Wildland Consultants unpubl. data 2012a)
- *Scleranthus uniflorus* (Wildland Consultants unpubl. data 2012a)
- Forest violet (*Viola filicaulis*) (Wildland Consultants unpubl. data 2012a, Head 2011)
- New Zealand harebell (*Wahlenbergia albomarginata*) (Wildland Consultants unpubl. data 2012a, Head 2011)

Invertebrates

Nationally Threatened and At Risk invertebrate species recorded from the site (Wildland Consultants unpubl. data 2012b) are:

- *Cnephasia paterna* (a day-flying tortricid moth) (Threatened - Nationally Endangered, endemic to the Akaroa ED) – rediscovered in snow tussock tussockland on the south-eastern slopes below Saddle Hill
- *Dasyuris partheniata* (day flying moth) (At Risk – Recovering, uncommon in the Akaroa ED) – on speargrass (*Aciphylla subflabellata*)

Invertebrates recorded from the site (Wildland Consultants unpubl. data 2012b) that are endemic to Banks Peninsula are:

- *Dichromodes cynica*, (a day flying moth)
- *Asterivora nsp.* (a choreutid moth) – on *Brachyglottis lagopus* on steep rock faces and ledges below the summit of Saddle Hill.

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 is one plant species at its southern national distributional limit on Banks Peninsula and one at its northern national limit:

- Narrow-leaved snow tussock (*Chionochloa rigida*) (northern regional limit) (Wildland Consultants unpubl. data 2012a, Head 2011)
- Turpentine scrub (*Dracophyllum acaesum*) (southern national limit) (Wildland Consultants unpubl. data 2012a, Head 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.

It contains vegetation communities that are distinctive, of restricted occurrence, and that occur within an originally rare ecosystem.

The upper slopes of the site support distinctive tall snow tussock tussockland. Snow tussockland is of very restricted occurrence on Banks Peninsula and only occurs on the tops of the highest peaks. This vegetation type is also at its northern national distributional limit on Banks Peninsula.

There are extensive igneous bluffs, scarps and rock outcrops along the Saddle Hill summit and on the spurs radiating out from the summit. This includes the imposing lava dome of Coffin Rock. At a national scale, basic cliffs, scarps and tors are an originally rare ecosystem (Williams et al. 2007). Where indigenous vegetation occurs on these features within the site they are significant under this criterion.

There are a small number of seepages and flush wetlands on the slopes of Saddle Hill. This ecosystem type is an originally rare ecosystem on a national scale (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.

It includes a discontinuous but relatively intact altitudinal sequence from approximately 320 m to 840 m at the summit of Saddle Hill that is largely within protected land. It comprises a diverse mosaic of vegetation communities including lowland to montane old growth and secondary forest and scrub, and rock bluff communities and sub-alpine vegetation at the highest altitudes. It also spans the summit ridge which encompasses contrasting northern and southern aspects (Head 2011).

The altitudinal and associated climatic gradient (encompassing lowland, montane and sub-alpine environments), topographic variation and range of distinctive ecosystems means the site supports a high diversity of plant taxa (Wilson 1992, Head 2011, Wildland Consultants unpubl. data 2012a) including a relatively high proportion of nationally Threatened and At Risk, endemic and locally uncommon species. A list of the plant taxa recorded from the southern faces and main ridge of Saddle Hill (Wildland Consultants unpubl. data 2012a) is provided in Appendix 1.

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.

It directly adjoins areas of very high value Wilson (1992) in the upper catchments of the Wainui and French Farm Valleys on the eastern side of Saddle Hill. It provides an important ecological linkage between these areas and indigenous forest communities in the Okuti and Peraki Valleys. The site is also part of an important network of indigenous montane and sub-alpine communities along much of the Bossu Road corridor that includes Peraki Saddle Scenic Reserve

and Carews Peak to the south. This network is likely to be particularly important for indigenous invertebrates.

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. Although they are of ecological importance, within the context of the wider landscape the small number of relatively small, seepages and flushes within the site are unlikely to play an important hydrological, biological or ecological role in the natural functioning of a river or coastal system.

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.

It provides important habitat for a unique assemblage of indigenous moths including endemic and nationally Threatened and At Risk species (including one only known to occur within the site) (Wildland Consultants 2012b). It also provides habitat for lizards (Head 2011).

Site Management

Existing Protection Status

The majority of the site is within the 290 ha Saddle Hill Scenic Reserve administered by the Department of Conservation. The remainder is not legally protected.

Threats and risks	Management recommendations	Support package options
<ul style="list-style-type: none">• Biodiversity pest plants. There are very few biodiversity pest plants within the site. Those that are a risk to ecological values are:• Wilding pines are present within the site and nearby plantations will be an ongoing seed source (Wildland Consultants unpubl. data 2012a).• Gorse (<i>Ulex europaeus</i>) - occasionally present and is a threat to the bluff communities (Head 2011)	<ul style="list-style-type: none">• Consider removing all of the wilding pines from the site to prevent further spread.• Consider ongoing surveillance for wilding pines to prevent their establishment, particularly within open tussock, grassland and rock bluff communities.• Consider controlling gorse on rock bluffs and rock outcrops.	<ul style="list-style-type: none">• Discussion with private landowners about benefits to biodiversity of control of wilding pines and gorse.• In collaboration with agencies (particularly DOC) assistance available where appropriate,
<ul style="list-style-type: none">• Animal pests: possums (Head 2011) and hares (Wildland Consultants unpubl. data 2012a)	<ul style="list-style-type: none">• Consider monitoring possum densities and undertake control as required.• Hares are unlikely to be a significant threat to the values at the site, however if densities are high, control could be considered.	<ul style="list-style-type: none">• Advice and guidance to private landowners about monitoring and control of possum and hare populations.• In collaboration with ECan provide assistance where appropriate.

References

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Assessment completed by: Scott Hooson
Date: 11 March 2015

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Date: 11 March 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: Plant Species List, Southern Faces and Ridge of Saddle Hill

Sourced from Wildland Consultants unpubl. data (2012a).

Scientific Name	Common Name(s)
Indigenous species	
<i>Acaena anserinifolia</i>	bidibidi, piripiri
<i>Aciphylla aurea</i>	golden spaniard
<i>Aciphylla subflabellata</i>	speargrass, spaniard, kurikuri
<i>Anaphalioides bellidioides</i>	everlasting daisy, hells bells
<i>Anisotome aromatica</i>	kopoti
<i>Asplenium appendiculatum</i>	ground spleenwort
<i>Asplenium flabellifolium</i>	necklace fern
<i>Asplenium gracillimum</i>	
<i>Asplenium hookerianum</i>	Hooker's spleenwort
<i>Asplenium richardii</i>	Richard's spleenwort
<i>Astelia fragrans</i>	kakaha, bush lily
<i>Blechnum chambersii</i>	lance fern
<i>Blechnum fluviatile</i>	kiwakiwa
<i>Blechnum penna-marina</i>	little hard fern
<i>Blechnum procerum</i>	small kiokio
<i>Brachyglottis lagopus</i>	groundsel
<i>Carex breviculmis</i>	grassland sedge
<i>Cardamine debilis</i>	NZ bitter cress
<i>Carpodetus serratus</i>	marbleleaf, putaputaweta
<i>Celmisia gracilentia</i>	slender mountain daisy, pekapeka
<i>Chionochloa conspicua</i>	hunangamoho, broad-leaved bush tussock
<i>Chionochloa rigida</i>	narrow-leaved snow tussock
<i>Colobanthus strictus</i>	
<i>Coprosma dumosa</i>	mikimiki
<i>Coprosma linariifolia</i>	yellow-wood
<i>Coprosma lucida</i>	karamu
<i>Coprosma propinqua</i>	mingimingi, mikimiki
<i>Coprosma propinqua X robusta</i>	
<i>Coprosma rhamnoides</i>	mingimingi, mikimiki
<i>Coprosma rigida</i>	stiff coprosma
<i>Coprosma rotundifolia</i>	round-leaved coprosma, mikimiki
<i>Corokia cotoneaster</i>	korokio, corokia
<i>Cortaderia richardii</i>	toetoe
<i>Coriaria sarmentosa</i>	tutu
<i>Crassula colligata subsp. colligata</i>	stone crop
<i>Crassula sieberiana</i>	stone crop
<i>Cyathea colensoi</i>	rough tree fern, mountain tree fern
<i>Deyeuxia avenoides</i>	oat grass
<i>Dichelachne crinita</i>	plume grass
<i>Dracophyllum acerosum</i>	turpentine shrub
<i>Elymus solandri</i>	blue wheatgrass
<i>Epilobium atriplicifolium</i>	willow herb
<i>Epilobium brunnescens</i>	willow herb

<i>Epilobium pubens</i>	willow herb
<i>Euchiton species</i>	cudweed
<i>Festuca novae-zelandiae</i>	fescue tussock, hard tussock
<i>Fuchsia excorticata</i>	tree fuchsia, kotukutuku
<i>Gaultheria antipoda</i>	bush snowberry
<i>Gaultheria depressa</i> var. <i>novae-zelandiae</i>	snowberry
<i>Geranium sessiliflorum</i>	geranium
<i>Gingidia montana</i>	mountain aniseed
<i>Grammitis poeppigiana</i>	strap fern
<i>Griselinia littoralis</i>	broadleaf, kapuka
<i>Gunnera monoica</i>	
<i>Hebe salicifolia</i>	koromiko
<i>Helichrysum filicaule</i>	slender everlasting daisy
<i>Heliohebe lavaudiana</i>	Banks Peninsula sun hebe
<i>Hierochloe redolens</i>	holy grass, karetu
<i>Histiopteris incisa</i>	water fern
<i>Hoheria angustifolia</i>	narrow-leaved lacebark, houhere
<i>Hydrocotyle montana</i>	pennywort
<i>Hydrocotyle novae-zeelandiae</i>	pennywort
<i>Hydrocotyle sulcata</i>	pennywort
<i>Hypolepis millefolium</i>	thousand-leaved fern
<i>Juncus distegus</i>	wiwi
<i>Juncus edgariae</i>	leafless rush, wi
<i>Kelleria dieffenbachii</i>	
<i>Kunzea ericoides</i>	kanuka
<i>Leptecophylla juniperina</i>	prickly mingimingi, mikimiki
<i>Leptostigma setulosa</i>	
<i>Leucopogon fraseri</i>	dwarf heath, patotara
<i>Linum monogynum</i>	NZ linen flax
<i>Luzula rufa</i>	woodrush
<i>Lycopodium fastigiatum</i>	alpine clubmoss, mountain clubmoss
<i>Melicytus alpinus</i>	porcupine shrub
<i>Microsorium pustulatum</i>	hounds tongue, kowaowao
<i>Muehlenbeckia complexa</i>	scrub pohuehue, wire vine
<i>Myrsine divaricata</i>	weeping matipo, weeping mapou
<i>Pseudopanax colensoi</i>	mountain five-finger
<i>Olearia bullata</i>	shrub daisy
<i>Ourisia macrophylla</i> subsp. <i>lactea</i>	mountain foxglove
<i>Phormium cookianum</i>	mountain flax, wharariki
<i>Pittosporum eugeniioides</i>	lemonwood, tarata
<i>Podocarpus hallii</i>	thin-bark totara, Hall's totara
<i>Polystichum vestitum</i>	prickly shield fern, puniu
<i>Prasophyllum colensoi</i>	leek orchid
<i>Pseudowintera colorata</i>	horopito, peppertree
<i>Pseudopanax crassifolius</i>	lancewood, horoeka
<i>Pseudognaphalium luteoalbum</i>	jersey cudweed
<i>Pteridium esculentum</i>	bracken
<i>Ranunculus foliosus</i>	buttercup
<i>Raoulia glabra</i>	mat daisy
<i>Raoulia monroi</i>	fan-leaved mat daisy
<i>Raoulia subsericea</i>	turf mat daisy, turf scabweed
<i>Rubus cissoides</i>	bush lawyer, tataramoa

<i>Rytidosperma unarede</i>	danthonia
<i>Scleranthus brockiei</i>	
<i>Scleranthus uniflorus</i>	
<i>Senecio glaucophyllus</i> subsp. <i>basinudus</i>	yellow rock groundsel
<i>Stellaria decipiens</i>	chickweed
<i>Thelymitra species</i>	sun orchid
<i>Uncinia rubra</i>	hook grass
<i>Viola cunninghamii</i>	white violet
<i>Viola filicaulis</i>	forest violet
<i>Wahlenbergia albomarginata</i>	NZ harebell
Exotic species	
<i>Achillea millefolium</i>	yarrow
<i>Agrostis capillaris</i>	brown top
<i>Anthoxanthum odoratum</i>	sweet vernal
<i>Cerastium glomeratum</i>	chickweed
<i>Clinopodium vulgare</i>	wild basil
<i>Cynosurus cristatus</i>	crested dogstail
<i>Hieracium lepidulum</i>	tussock hawkweed
<i>Holcus lanatus</i>	Yorkshire fog
<i>Hypochoeris radicata</i>	catsear
<i>Lolium perenne</i>	ryegrass
<i>Mycelis muralis</i>	wall lettuce
<i>Pilosella officinarum</i>	mouse-ear hawkweed
<i>Pinus species</i>	pine
<i>Rytidosperma racemosum</i>	danthonia
<i>Rumex acetosella</i>	sheeps sorrel
<i>Linum catharticum</i>	purging flax
<i>Trifolium repens</i>	white clover
<i>Ulex europaeus</i>	gorse