

Christchurch District Plan Site of Ecological Significance

Site Significance Statement

Site name: Cloud Farm

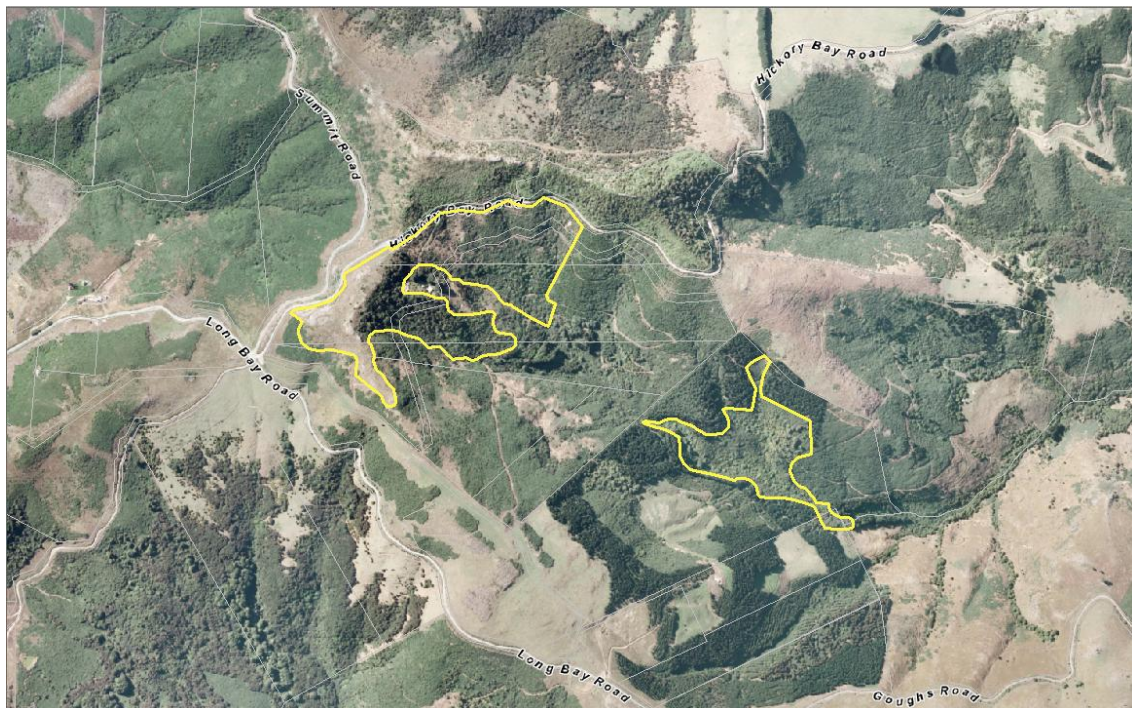
Site number: SES/A/4

Physical address of site: 68 Hickory Bay Road and 304 Goughs Bay Road

Summary of Significance:

The site is significant because it contains vegetation communities that are representative, distinctive and/or of restricted occurrence, supports a number of plant and invertebrate species that are either nationally At Risk, endemic, or uncommon and at their distributional limits. It buffers the southern boundary of Ellangowan Scenic Reserve.

Site Map



Additional Site Information

Ecological District: Akaroa

Area of SES (ha): 24.15

Central point (NZTM): E1602125, N5150238

Site Description

The site is situated in the head of the Goughs Bay catchment on moderately steep south facing hill slopes on the lower (southern side) of Hickory Bay Road and immediately south of Ellangowan Scenic Reserve. The altitudinal range of the site extends from approximately 300 to 680 m above seal level.

Jensen unpubl. data (2014) describes the main vegetation communities at the site. They are:

- *Chionochloa rigida* tussockland on a high exposed grassland knob above The Cabstand;
- (Thin-bark totara)/fuchsia-broadleaf old growth forest on a steep south-east facing gully;
- Regenerating mountain five finger-fuchsia-thin-bark totara scrub and shrubland on south-facing slopes;
- (Red beech)-(thin-bark totara)/fuchsia-lancewood-broadleaf scrub

These communities are described in more detail below (from Jensen unpubl. data 2014).

The *Chionochloa rigida* tussockland on the high exposed grassland knob above The Cabstand has scattered tall tussocks with rocky outcrops. The rocky outcrops support a range of native shrubs, grasses and herbs. *Raoulia monroi* (At Risk - Declining) and *Hebe lavaudiana* (At Risk - Declining) occur here. Other notable plants associated with the rock outcrops include *Leucopogon fraseri*, *Colobanthus strictus*, *Crassula colligata*, *Brachyglottis lagopus*, *Rytidospermum corinum*, *Raoulia glabra* and the grasses *Dichelachne crinita* and *Elymus solandri*. This area is under a QEII covenant and is not grazed. There are a few small scattered gorse plants in the grassland and a large patch at the lower southern end above Long Bay Road.

The (thin-bark totara)/tree fuchsia-broadleaf montane old growth forest in the steep south-east facing gully has a lush understorey of fuchsia and mountain five finger with some large old broadleaf trees and a dense ferny ground cover. A notable feature is the amount of goblin moss (*Weymouthia mollis*) hanging from the very large old totara trees and fuchsia. This moss can be locally abundant in moist upland forest. Epiphytes (including *Asplenium flaccidum*, *Huperzia varia* and hounds tongue) are abundant hanging from mossy tree trunks and branches. The primary hardwood forest is under a QEII covenant and is not grazed and there is a very dense ground cover of ferns and copious tree seedlings. There were no weeds present in the forest.

Regenerating mountain five finger-tree fuchsia-thin-bark totara scrub and shrubland with some grassy clearings covers the steep hill slopes above the house. Dense scrub covers the slope across to a Douglas fir plantation to the east. Gorse is present but there is vigorous regeneration with taller totara, broadleaf and fuchsia overtopping the gorse. There are tracks cross the slope but they are becoming eroded and considerable regeneration is taking place on the tracks and banks. Around and below the house there is considerable regeneration of native shrubs and trees but also numerous planted exotic trees and shrubs. This area is part of a QEII covenant and is not grazed.

An area of regenerating scrub and low forest with several large red beech and several groups of large totara is situated further down in the valley. This area is completely surrounded by planted pines and macrocarpa. Several tall red beech trees survive in dense scrub/low forest on the valley floor. The slopes above are completely covered in dense regenerating forest with several clusters of remnant totara. The mixed broadleaf scrub/low forest has a dense canopy of totara, broadleaf, lancewood, horopito, mahoe, fuchsia and narrow-leaved lacebark. Tree ferns including soft fern, silver fern and rough tree fern are common.

Indigenous birds recorded at the site during the botanical survey were New Zealand pigeon, bellbird, rifleman, brown creeper and tomtit (Jensen unpubl. data 2014).

Extent of Site of Ecological Significance

The site includes the *Chionochloa rigida* tussockland, (thin-bark totara)/fuchsia-broadleaf old growth forest and regenerating mountain five finger-fuchsia-thin-bark totara scrub and shrubland in the upper part of the site south of Ellangowan Scenic Reserve. It excludes the house and the gardens, grassy clearings and mixture of planted trees (including macrocarpa, Eucalyptus, Acacia, monkey puzzle and fruit trees) and regenerating native shrubs and trees around and below the house. It also excludes the gorse covering much of the valley floor down to the lower Trought property boundary, the Douglas fir plantation on the south facing slopes below Hickory Bay Road and the pines on the steeper hill slopes on the Sage property.

Assessment Summary

The Cloud Farm 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 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 (thin-bark totara)/fuchsia-broadleaf old growth forest is highly representative and significant under this criterion. It is old growth vegetation, has a very dense ground cover of ferns and regenerating seedlings and there are no weeds present in the forest (Jensen unpubl. data 2014).

The Lepidoptera assemblage is characteristic of a montane old-growth forest in the Akaroa Ecological District (Wildland Consultants unpubl. data 2014).

- 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 does not contain vegetation communities or habitats of indigenous fauna that are relatively large examples of their type within the relevant 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.

The old growth montane thin-barked totara forest, red beech forest and second-growth forest within the site 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 old growth forest is estimated to be approximately 800 ha or <1% of its original extent (Wilson 2009) and 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)).

- 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.

A number of plant and invertebrate species have been recorded from the site that are nationally At Risk, endemic, or uncommon either within the ecological district or region.

Plants

Nationally At Risk plant species (de Lange et al. 2013) recorded from the site (Jensen unpubl. data 2014) are:

- *Hebe strictissima* (At Risk - Naturally Uncommon and endemic to Banks Peninsula) (red beech/thin bark totara scrub and regenerating scrub and shrubland)
- *Heliohebe lavaudiana* (At Risk - Declining and endemic to Banks Peninsula) (*Chionochloa rigida* tussockland /rock outcrops)
- *Raoulia monroi* (At Risk - Declining) (*Chionochloa rigida* tussockland /rock outcrops)

Plant species recorded from the site (Jensen unpubl. data 2014) that are “uncommon to rare or very local” on Banks Peninsula (Wilson 2013) are:

- *Phlegmariurus varius* (old-growth thin-bark totara forest)
- *Fuscospora fusca* (regenerating scrub and shrubland and red beech/thin bark totara scrub)
- *Anisotome aromatica* (*Chionochloa rigida* tussockland /rock outcrops)
- *Colobanthus strictus* (*Chionochloa rigida* tussockland /rock outcrops)
- *Gonocarpus montanus* (*Chionochloa rigida* tussockland /rock outcrops)
- *Rytidosperma corinum* (*Chionochloa rigida* tussockland /rock outcrops)

Wilson (unpubl. data, no date) recorded a number of additional plant species within the site that are “uncommon to rare or very local” on Banks Peninsula (Wilson 2013).

Birds

One bird species that is uncommon in the Akaroa ED occurs at the site:

- South Island rifleman

Invertebrates

Invertebrate species recorded from the site (Wildland Consultants unpubl. data 2014) that are nationally At Risk and endemic to Banks Peninsula are:

- The tree weta *Hemideina ricta* (At Risk – Naturally Uncommon and endemic to Banks Peninsula)
- The stonefly *Zelandobius wardi* (At Risk – Naturally Uncommon and endemic to Banks Peninsula)

The site also supports another endemic invertebrate (Wildland Consultants unpubl. data 2014):

- *Asterivora* ‘new species’ (Banks Peninsula jet)

One invertebrate that is uncommon in the Akaroa Ecological District has been recorded from the site (Wildland Consultants unpubl. data 2014):

- *Glyphipterix aulogramma* (first record for Banks Peninsula).

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 two plant species at their distributional limits on Banks Peninsula (Jensen unpubl. data 2014).

The plant species at its southern national limit is:

- *Dracophyllum acerosum* (regenerating scrub and shrubland)

The species at its northern regional limit is:

- *Chionochloa rigida* (*Chionochloa rigida* tussockland /rock outcrops and regenerating scrub and shrubland)

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 vegetation communities at the site that are distinctive or of restricted occurrence are:

- (Red beech)-(thin-bark totara)/fuchsia-lancewood-broadleaf scrub
- *Chionochloa rigida* tussockland
- Old growth (thin-bark totara)/fuchsia-broadleaf cloud forest

On Banks Peninsula vegetation supporting red beech is a distinctive. Red beech is unique to the Akaroa ED, and is restricted to small patches in the wettest, coolest uplands in the south-east corner of the district (Wilson 2009).

Chionochloa rigida tussockland is of restricted occurrence on Banks Peninsula and is only found on the tops of the highest peaks on the peninsula.

Old growth cloud forest is restricted to high altitude areas at the eastern end of Banks Peninsula.

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 vegetation types contain a moderate diversity of indigenous species for their type. The site contains four distinct vegetation communities. With the exception of the original thin-bark totara forest, the pattern and distribution across the site reflects changes in aspect and altitude and different stages of vegetation succession following modification by humans.

The site supports a relatively diverse number of indigenous invertebrates across a number of orders. A recent survey (Wildland Consultants unpubl. data 2014b) which targeted Lepidoptera (moths and butterflies) found 79 indigenous invertebrate species, of which 65 were moths and butterflies. A list of the invertebrate species recorded at the site is provided in Appendix 2.

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 upper part of the site is significant under this criterion.

Although there is a road between Ellangowan Scenic Reserve and the upper part of the site, it buffers and extends the southern margin of the reserve. The site is also part of a network of protected and un-protected areas of indigenous habitats in the surrounding area.

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 that meet this criterion.

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 nationally At Risk invertebrates and invertebrates that are endemic to Banks Peninsula (Bowie et al. 2011, Wildland Consultants unpubl. data 2014).

Site Management

Existing Protection Status

With the exception of the (red beech)-(thin-bark totara)/fuchsia-lancewood-broadleaf scrub further down the valley the site is protected by QEII covenants.

Threats and risks	Management recommendations	Support package options
Existing accessways. There is a driveway and farm several tracks within the site.	The landowner will continue to be able to use and maintain existing accessways.	Ensure that the landowner is informed
Garden escapes from the dwelling adjacent to the site are a potential threat.	Consider ongoing surveillance for, and control of garden escapes and other biodiversity pest plants.	Advice and guidance to landowner about garden escapes and other pest plants. Possible assistance with control where appropriate.
Spread of Douglas fir and pines from adjoining and nearby plantations. Douglas fir in particular is a highly invasive species.	Consider ongoing surveillance for, and control of seedling Douglas fir and pines.	Advice and guidance to landowners about wilding pines. Possible assistance where appropriate.
Gorse spreading into the <i>Chionochloa rigida</i> tussockland	Consider controlling gorse to prevent further spread into the <i>Chionochloa rigida</i> tussockland.	Advice and guidance to landowner about gorse. Possible assistance where appropriate.

References

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- de Lange, P. J., Rolfe, J. R., Champion, P. D., Courtney, S. P., Heenan, P. B., Barkla, J. W., Cameron, E.K., Norton, D.A., Hitchmough, R. A. (2013). *Conservation status of New Zealand indigenous vascular plants, 2012* (New Zealand Threat Classification Series No. 3). Department of Conservation, Wellington.
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- Wilson, H.D. No date. *Banks Peninsula Botanical Survey Card Number 65. Akaroa*. Head of Goughs Bay Valley near Cabstand. Bates Covenant. Unpublished data.
- Wilson, H.D. No date. *Banks Peninsula Botanical Survey Card Number 66. Akaroa*. Head of Goughs Bay Valley below Ellangowan. Unpublished data.
- Wilson, H.D. (2009). *Natural History of Banks Peninsula*. Canterbury University Press, Canterbury. 144 pp.
- Wilson, H.D. (2013). *Plant Life on Banks Peninsula*. Manuka Press, Cromwell. 412 pp.

Assessment completed by: Scott Hooson
Date: 9 October 2014

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Date: 9 October 2014

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

Sourced from Jensen unpubl. data (2014).

N.B. exotic species were not recorded during this survey.

Scientific Name	Common Name(s)
Indigenous species	
<i>Acaena anserinifolia</i>	bidibidi, piripiri
<i>Anaphalioides bellidioides</i>	everlasting daisy, hells bells
<i>Anisotome aromatica</i>	kopoti
<i>Anthosachne solandri</i>	native wheatgrass, blue wheatgrass
<i>Aristotelia serrata</i>	wineberry, makomako
<i>Asplenium appendiculatum</i>	ground spleenwort
<i>Asplenium flaccidum</i>	hanging spleenwort, raukatauri
<i>Asplenium gracillimum</i>	
<i>Astelia fragrans</i>	kakaha, bush lily
<i>Blechnum chambersii</i>	lance fern
<i>Blechnum discolor</i>	crown fern, piupiu
<i>Blechnum fluviatile</i>	kiwakiwa
<i>Blechnum procerum</i>	small kiokio
<i>Brachyglottis lagopus</i>	groundsel, yellow rock daisy
<i>Carex breviculmis</i>	grassland sedge
<i>Carex forsteri</i>	cutty grass
<i>Carpodetus serratus</i>	marbleleaf, putaputāwētā
<i>Chionochoa rigida</i>	narrow-leaved snow tussock
<i>Colobanthus strictus</i>	
<i>Coprosma dumosa</i>	mikimiki
<i>Coprosma propinqua</i>	mingimingi, mikimiki
<i>Coprosma rhamnoides</i>	mingimingi, mikimiki
<i>Coprosma robusta</i>	karamū
<i>Coprosma rotundifolia</i>	round-leaved coprosma, mikimiki
<i>Crassula colligata</i>	stonecrop
<i>Cyathea colensoi</i>	rough tree fern, mountain tree fern
<i>Cyathea dealbata</i>	silver fern, ponga
<i>Cyathea smithii</i>	Smith's tree fern, kātote
<i>Dichelachne crinita</i>	plume grass
<i>Dicksonia squarrosa</i>	whēkī, rough tree fern
<i>Dracophyllum acerosum</i>	turpentine scrub
<i>Epilobium pubens</i>	willow herb
<i>Euchiton audax</i>	native cudweed
<i>Fuchsia excorticata</i>	tree fuchsia, kōtukutuku
<i>Fuchsia x colensoi</i>	
<i>Fuscospora fusca</i>	red beech
<i>Gaultheria antipoda</i>	bush snowberry
<i>Geranium brevicaule</i>	short-flowered cranesbill
<i>Gonocarpus montanus</i>	
<i>Griselinia littoralis</i>	broadleaf, kāpuka
<i>Gunnera monoica</i>	native gunnera
<i>Hebe salicifolia</i>	koromiko

<i>Hebe strictissima</i>	Banks Peninsula hebe
<i>Helichrysum filicaule</i>	slender everlasting daisy
<i>Heliohebe lavaudiana</i>	Banks Peninsula sun hebe
<i>Hierochloa redolens</i>	holy grass, kāretu
<i>Histiopteris incisa</i>	water fern, mātātā
<i>Hoheria angustifolia</i>	narrow-leaved lacebark, houhere
<i>Huperzia varia</i>	clubmoss
<i>Hydrocotyle heteromeria</i>	pennywort
<i>Hydrocotyle moschata</i>	pennywort
<i>Hypolepis millefolium</i>	thousand-leaved fern
<i>Hypolepis rufobarbata</i>	sticky pig fern
<i>Juncus edgariae</i>	leafless rush, wi
<i>Kunzea robusta</i>	kānuka
<i>Leptopteris hymenophylloides</i>	crepe fern, heruheru
<i>Leucopogon fraseri</i>	dwarf heath, pātōtara
<i>Libertia ixioides</i>	mikoikoi, native iris
<i>Luzula banksiana</i> var. <i>orina</i>	woodrush
<i>Melicytus alpinus</i>	porcupine shrub
<i>Melicytus ramiflorus</i>	māhoe, whiteywood
<i>Microsorium pustulatum</i>	hounds tongue, kōwaowao
<i>Microtis unifolia</i>	onion orchid, maikaika
<i>Muehlenbeckia australis</i>	large-leaved pōhuehue
<i>Muehlenbeckia complexa</i>	scrub pōhuehue, wire vine
<i>Myrsine australis</i>	red māpou, red matipo
<i>Notogrammitis heterophylla</i>	comb fern
<i>Phormium cookianum</i>	mountain flax, wharariki
<i>Pittosporum eugeniioides</i>	lemonwood, tarātā
<i>Pittosporum tenuifolium</i>	kōhūhū, black matipo
<i>Poa cita</i>	silver tussock, wī
<i>Poa matthewsii</i>	Matthew's poa
<i>Podocarpus cunninghamii</i>	mountain tōtara, thin-barked tōtara
<i>Polystichum vestitum</i>	prickly shield fern, pūniu
<i>Prasophyllum colensoi</i>	leek orchid
<i>Pseudopanax arboreus</i>	five-finger, whauwhaupaku
<i>Pseudopanax colensoi</i>	mountain five-finger
<i>Pseudopanax crassifolius</i>	lancewood, horoeka
<i>Pseudowintera colorata</i>	horopito, peppertree
<i>Pteridium esculentum</i>	bracken, rārahu, rauaruhe
<i>Raoulia glabra</i>	mat daisy
<i>Raoulia monroi</i>	fan-leaved mat daisy
<i>Rubus cissoides</i>	bush lawyer, tātarāmoa
<i>Rytidosperma corinum</i>	danthonia, bristle grass
<i>Rytidosperma unarede</i>	danthonia
<i>Schefflera digitata</i>	patē, seven-finger
<i>Thelymitra longifolia</i>	white sun orchid
<i>Uncinia uncinata</i>	hook grass
<i>Urtica ferox</i>	ongaonga, tree nettle

Appendix 2: Invertebrate Species List

Sourced from Wildland Consultants unpubl. data (2014b)

* = exotic species

ORDER/Family/genus/species	Common Name
MECOPTERA	scorpionfly
Nannochoristidae	
<i>Nannochorista philpotti</i>	
MEGALOPTERA	dobsonfly
Corydalidae	
<i>Archichauliodes diversus</i>	
Pentatomidae	shieldbug
<i>Dictyotis caenosus</i>	
ORTHOPTERA	
Acrididae	grasshoppers
<i>Phaulacridium marginale</i>	
Anastostomatidae	
<i>Hemideina ricta</i>	
<i>Hemiandrus new species</i>	
Rhaphidophoridae	
<i>Pleiopectron simplex</i>	
COLEOPTERA	
Cerambycidae	
<i>Prionoplus reticularis</i>	<i>huhu</i>
Curculionidae	weevils
<i>Tribe Eugnomini</i>	
<i>Undescribed genus and species</i>	
HYMENOPTERA	
Pompilidae	spider wasp
<i>Epipompilus insularis</i>	
Ichneumonidae	
<i>Small species</i>	
DIPTERA	
<i>Trupanea imperfecta</i>	<i>fruit fly</i>
LEPIDOPTERA	
Micropterigidae	
<i>Sabatinca aenea</i>	
Hepialidae	porina moths
<i>Wiseana umbraculata</i>	
Nepticulidae	
<i>Stigmella fulva</i>	
Psychidae	
<i>Liothula omnivora</i>	
Glyphipterigidae	
<i>Glyphipterix alchoyossa</i>	
<i>Glyphipterix triselena</i>	
<i>Glyphipterix aulogramma</i>	

Gracillariidae	
<i>Acrocercops panacicorticis</i>	
<i>Acrocercops panacitorsens</i>	
Elachistidae	
<i>Cosmiotes ombrodoca</i>	
Plutellidae	
<i>Chrysorthenches porphyritis</i>	
Batrachedridae	
<i>Batrachedra "grey"</i>	
Depressariidae	
<i>*Agonopterix umbellana</i>	
<i>Eutorna caryochroa</i>	
<i>Eutorna symmorpha</i>	
<i>Nymphostola galactina</i>	
Gelechiidae	
<i>Megacraspedus calamogonus</i>	
Oecophoridae	
<i>Gymnobathra caliginosa</i>	
<i>Gymnobathra parca</i>	
<i>Gymnobathra sarcoxantha</i>	
<i>Leptocroca scholaea</i>	
<i>Phaeosaces apocrypta</i>	
<i>Stathmopoda horticola</i>	
<i>Tingena apertella</i>	
<i>Tingena marcida</i>	
<i>Tingena macarella</i>	
<i>Tingena melinella</i>	
<i>Tingena plagiatella</i>	
<i>Trachypepla euryleucota</i>	
<i>Trachypepla species</i>	
<i>Terachypepla aspidephora</i>	
Pterophoridae	plumemoth
<i>Aciptilia monospilalis</i>	
<i>Platyptilia repletalis</i>	
<i>Stenoptilia orites</i>	
<i>*Stenoptilia zophodactyla</i>	
Choreutidae	jets
<i>Asterivora new species</i>	
Tortricidae	leaf rollers
<i>*Cydia succedana</i>	
<i>Dipterina imbriferana</i>	
<i>Harmologa amplexana</i>	
<i>Leucotenes coprosmae</i>	
<i>Planotortrix excessana</i>	
Crambidae	
<i>Deana hybreasalis</i>	
<i>Eudonai chlamydata</i>	
<i>Eudonia sabulosella</i>	
<i>Glaucoccharis pyrsophanes</i>	
<i>Orocrambus flexuosellus</i>	
<i>Orocrambus ramosellus</i>	
<i>Orocrambus vittellus</i>	
<i>Udea flavidalis</i>	

<i>Udea marmarina</i>	
GEOMETRIDAE	
<i>*Chloroclystis filata</i>	
<i>Chloroclystis sphragitis</i>	
<i>Cleora scriptaria</i>	
<i>Declana egregia</i>	
<i>Declana floccosa</i>	
<i>Declana leptomera</i>	
<i>Declana junctilinea</i>	
<i>Ischalis fortinata</i>	
<i>Pseudocoremia fasciculata</i>	
<i>Sestra flexata</i>	
Noctuidae	
<i>Feredayia graminosa</i>	
<i>Graphania mollis</i>	
<i>Graphania mutans</i>	
<i>Graphania omoplaca</i>	
<i>Tmetolophota atristriga</i>	
<i>Tmetolophota purdii</i>	
Lycaenidae	coppers/ blues
<i>Lycaena "comon copper" complex</i>	
<i>Lycaena feredayi</i>	
Nymphalidae	admirals
<i>Vanessa gonerilla</i>	red admiral
PLECOPTERA	stonefly
Gripopterygidae	
<i>Zelandobius wardi</i>	