Christchurch District Plan
Site of Ecological Significance

Site Significance Statement

Site name: Upper Port Levy

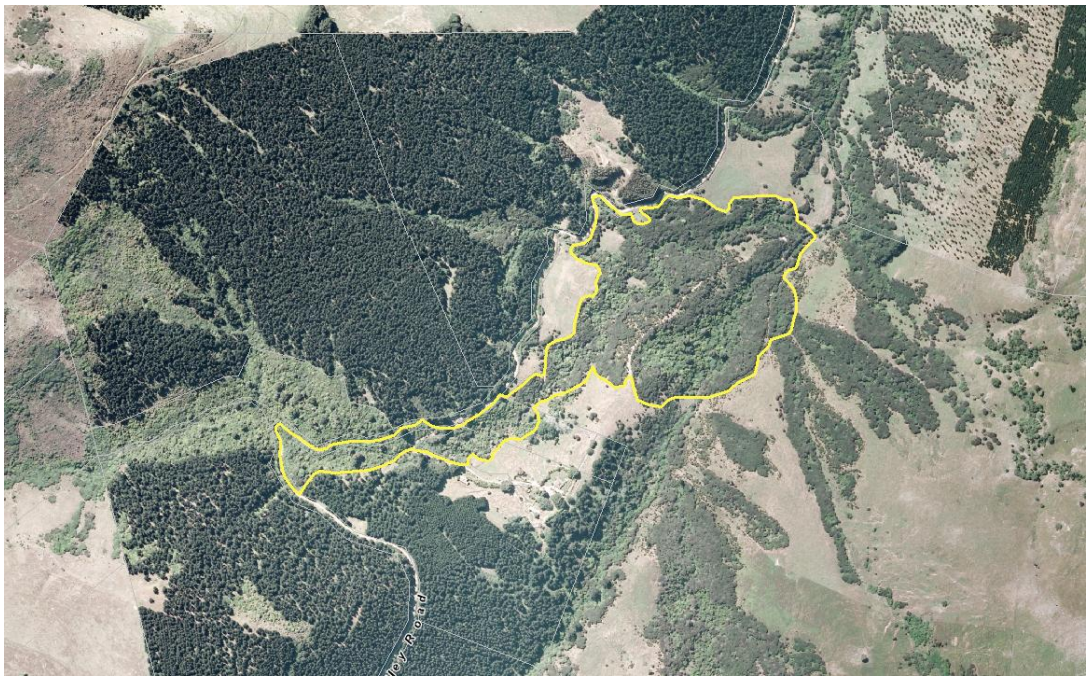
Site number: SES/H/10

Physical address of site:

Summary of Significance:

The site is significant because it contains representative and rare (podocarp)/lowland hardwood forest on a Chronically Threatened land environment. It has large remnant podocarp trees including miro, a species that is very rare on Banks Peninsula, and a diverse range of indigenous plant taxa including species that are “uncommon to rare or very local” and at their distributional limits on Banks Peninsula. It also forms part of a network of connected indigenous forest in the upper part of the catchment.

Site Map



Additional Site Information

Ecological District: Herbert

Area of SES (ha): 20.05

Central point NZTM: E1582933, N5162075

Site Description

This site is comprised of secondary hardwood forest with emergent podocarps along two stream gullies which flow into Te Kawa Stream and secondary kanuka forest on drier slopes and ridges (Wildland Consultants unpubl. data 2012). It is situated between approximately 140 and 310 m above sea level and has a predominantly northerly aspect.

The secondary growth hardwood forest has remnant emergent podocarps (kahikatea, matai, totara, and miro) and seedlings and saplings of kahikatea, matai, and totara are also present. The canopy is mainly mahoe and kanuka, with lesser amounts of other hardwood species. Native vines are abundant and small-leaved coprosma/mikimiki species and ongaonga are the most common understorey species. The understorey also contains a wide variety of ferns, including three species of tree fern and one epiphytic filmy fern (*Trichomanes venosum*). The eastern stream gully is larger and deeper than the western gully, and the vegetation is more diverse and less disturbed by stock. Most of the remnant podocarps are in this eastern gully (Wildland Consultants unpubl. data 2012).

The secondary growth kanuka forest is of various ages and occurs on the central ridge separating the two stream gullies and the drier slopes on either side of the two gullies. Young mahoe seedlings were frequently seen under the kanuka, however the understorey is dominated by small-leaved coprosma/mikimiki species and ongaonga. Native vines are very common in the canopy. Kanuka treeland occurs along the central ridge where young kanuka is colonising exotic grassland.

A full list of the plant species recorded within the site is provided in Appendix 1.

The indigenous fauna recorded at the site during the botanical survey were bellbird, grey warbler, shining cuckoo, silvereye and copper and red admiral butterflies (Wildland Consultants unpubl. data 2012).

Extent of Site of Ecological Significance

The site includes the secondary growth hardwood forest with remnant emergent podocarps and secondary growth kanuka forest on the eastern side of Western Valley Road. Small areas of pasture have been included because excluding them would fragment the site and reduce its ecological integrity.

There are gullies of kanuka and secondary hardwood forest (to the north, east and south) that are connected to this site that are also likely to be significant, however there is currently insufficient information available to assess their significance.

Assessment Summary

The Upper Port Levy 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) 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 (criteria 1 and 2), rarity/distinctiveness (criteria 3, 4, 5 and 6), diversity and pattern (criterion 7) and ecological context criteria (criterion 8).

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.

   Although a large proportion of the site is in secondary kanuka forest there are remnant trees of four podocarp species: kahikatea, matai, totara, and miro. Seedlings and saplings of kahikatea, matai, and totara are also present. The canopy contains a diverse number of hardwood species and is also representative (Wildland Consultants unpubl. data 2012). Because there are very few examples of lowland podocarp/hardwood forest remaining in the ED, even degraded examples meet this criterion.

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 is a relatively large example of lowland podocarp/secondary hardwood forest within the Herbert ED.

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 site contains old-growth podocarp trees (kahikatea, matai, totara, and miro) which have been substantially reduced in extent in the ecological district and

region. The present extent of old growth forest is estimated to be approximately 800 ha or <1% of its original extent (Wilson 2009).

Banks Peninsula, including the Herbert Ecological District, was almost entirely forested prior to the arrival of humans (Harding 2009, Wilson 2013) (Harding (2009)) estimates that the original extent of podocarp/hardwood forest in the ED (as a % of the ED) was 51 - 75%). The present extent of all indigenous forest (including manuka and/or kanuka) in the ED is estimated to be 10.9% (New Zealand Landcover Database (Version 4)).

This site also meets this criterion at the Level IV land environment scale. Almost all of the indigenous vegetation within the site is on a Chronically Threatened land environment (F3.1b) where 10-20% indigenous vegetation is left on this land environment nationally (Walker et al. 2007).

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 several indigenous plant species that are uncommon within the ecological region or ecological district.

   There is a large remnant miro tree within the site (Wildland Consultants unpubl. data 2012). This species is very rare within the ED and on Banks Peninsula where it grows in only a few valleys inland of Port Levy and Pigeon Bay (Wilson 2013).

   Other plant species recorded from the site (Wildland Consultants unpubl. data 2012) that are "uncommon to rare or very local" on Banks Peninsula (Wilson 2013) are:

   - *Brachyscome radicata*
   - *Epilobium rotundifolium*
   - *Lastreopsis glabella*
   - *Microlaena avenacea*
   - *Pterostylis banksii*

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 species (Wildland Consultants unpubl. data 2012) that are at their southern national or regional distributional limits on Banks Peninsula (Wilson 2013). These species are:

   - Kawakawa (southern national limit)
   - Pigeonwood (southern regional limit)

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 forest supports remnant trees of four podocarp species: kahikatea, matai, totara, and miro. Lowland podocarp forests with all four podocarp species are of very restricted extent in the Banks Ecological Region.

   Miro is of very restricted occurrence in the ecological region and in Canterbury. This site is one of only a few known localities with this species on Banks Peninsula. Scattered individual trees grow in only a few other locations inland of Port Levy and Pigeon Bay (Wilson 2013).

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 is only comprised of two broad vegetation communities: secondary hardwood forest with emergent podocarps and secondary kanuka forest, and does not contain a high diversity of indigenous ecosystems or habitat types. However, it meets this criterion because it supports a relatively high diversity of indigenous plant species, and is notable for the diversity of indigenous ferns (a total of 21 species), which includes three species of tree ferns (*Cyathea dealbata, C. smithii* and *Dicksonia squarrosa*) (Wildland Consultants unpubl. data 2012).

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 forms part of a network of connected indigenous forest in the upper part of the catchment which is likely to be an important ecological corridor for the movement and dispersal of indigenous fauna.

   Te Kawa Stream flows through the site and the indigenous riparian vegetation within the site plays a role in shading and buffering the stream. In conjunction with other riparian vegetation in the upper catchment this buffering function is important for the ecological functioning of the stream.

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. It does not have any wetland ecosystems.

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.***

    There is insufficient information to assess the site against this criterion.

Site Management

Existing Protection Status

The site is not legally protected.

Threats and risks	Management recommendations	Support package options
• Existing access ways. A driveway and several farm tracks pass through the site.	• The landowner will continue to be able to use and maintain existing access ways.	• Ensure that the landowner is aware of this.
• Domestic stock.	• Consider fencing the site, or at least the high value areas of forest to keep stock out and promote recovery of the understorey.	• Discussion with landowner about benefits to biodiversity of stock management and options available. • Assistance where appropriate.
• Biodiversity pest plants. Chilean flame creeper, old man's beard (occasional vines and seedlings throughout the site), ash and crack willow, tutsan, and hawthorn (Wildland Consultants unpubl. data 2012).	• Consider controlling biodiversity pest plants. Chilean flame creeper, old man's beard are the highest priorities for control. • Consider ongoing surveillance for and control of other biodiversity pest plants such as Darwin's barberry, sycamore and banana passionfruit.	• Advice and guidance to landowner about monitoring and control of pest plants. • Assistance where appropriate.

References

Environment Canterbury. (2013). *Canterbury Regional Policy Statement 2013*. Environment Canterbury.

Harding, M. A. (2009). *Canterbury Land Protection Strategy: A Report to the Nature Heritage Fund Committee.* Wellington: Nature Heritage Fund. 125 pp.

Walker, S., Cieraad, E., Grove, P., Lloyd, K., Myers, S., Park, T., & Porteous, T. (2007). *Guide for Users of the Threatened Environment Classification* (Version 1.1).

Wildland Consultants (2012). 2012/13 Botanical Survey Report for Site 13, Upper Port Levy (Melissa Hutchison). Unpublished data collected for the Christchurch City Council, December 2012. (TRIM: 13/233167)

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: 27 November 2014

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Date: 27 November 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 Wildland Consultants unpubl. data (2012)

Scientific Name	**Common Name(s)**
Indigenous species	
Acaena anserinifolia	bidibidi, piripiri
Acaena juvenca	bidibidi, piripiri
Acaena novae-zelandiae	red bidibidi
Aristotelia serrata	wineberry, makomako
Asplenium appendiculatum	ground spleenwort
Asplenium flabellifolium	necklace fern
Asplenium gracillimum	
Asplenium hookerianum	Hooker's spleenwort
Blechnum chambersii	lance fern
Blechnum discolor	crown fern, piupiu
Blechnum fluviatile	kiwakiwa
Blechnum penna-marina	little hard fern
Blechnum procerum	small kiokio
Brachyscome radicata	
Calystegia tuguriorum	NZ bindweed
Cardamine debilis	NZ bitter cress
Carex species	cutty grass
Carpodetus serratus	marbleleaf, putaputaweta
Coprosma crassifolia	thick-leaved coprosma, mikimiki
Coprosma linariifolia	yellow-wood
Coprosma lucida	karamu
Coprosma propinqua	mingimingi, mikimiki
Coprosma propinqua X robusta	mikimiki-karamu hybrid
Coprosma rhamnoides	mingimingi, mikimiki
Coprosma rotundifolia	round-leaved coprosma, mikimiki
Coriaria arborea	tree tutu
Cyathea dealbata	silver fern, ponga
Cyathea smithii	Smith's tree fern, katote
Dacrycarpus dacrydioides	kahikatea, white pine
Dicksonia squarrosa	wheki, rough tree fern
Epilobium rotundifolium	willow herb
Fuchsia excorticata	tree fuchsia, kotukutuku
Fuchsia excorticata X perscandens	shrubby fuchsia
Griselinia littoralis	broadleaf, kapuka
Hebe salicifolia	koromiko
Hedycarya arborea	pigeonwood, porokaiwhiri
Helichrysum lanceolatum	niniao
Hoheria angustifolia	narrow-leaved lacebark, houhere
Hydrocotyle heteromeria	pennywort
Hydrocotyle moschata	pennywort
Ileostylus micranthus	green mistletoe
Juncus species	
Kunzea ericoides	kanuka
Lagenifera strangulata	parani
Lastreopsis glabella	smooth shield fern

Leptopteris hymenophylloides	crepe fern, heruheru
Macropiper excelsum	kawakawa
Melicytus ramiflorus	mahoe, whiteywood
Metrosideros diffusa	white climbing rata
Microlaena avenacea	bush rice grass
Microsorum pustulatum	hounds tongue, kowaowao
Muehlenbeckia australis	large-leaved pohuehue
Myrsine australis	red mapou, red matipo
Parsonsia heterophylla	native jasmine, akakaikiore
Pellaea rotundifolia	round-leaved fern, tarawera
Pennantia corymbosa	kaikomako, ducks foot
Pittosporum eugenioides	lemonwood, tarata
Pittosporum tenuifolium	kohukohu, black matipo
Plagianthus regius	lowland ribbonwood, manatu
Pneumatopteris pennigera	gully fern, pakau
Poa imbecilla	weak poa
Podocarpus totara	lowland totara
Polystichum neozelandicum subsp. zerophyllum	shield fern
Polystichum vestitum	prickly shield fern, puniu
Prumnopitys ferruginea	miro
Prumnopitys taxifolia	matai, black pine
Pseudopanax arboreus	five-finger, whauwhaupaku
Pseudopanax crassifolius	lancewood, horoeka
Pterostylis banksii	green-hooded orchid
Pteridium esculentum	bracken
Ranunculus reflexus	hairy buttercup, maruru
Ripogonum scandens	supplejack, kareao
Rubus cissoides	bush lawyer, tataramoa
Rubus schmidelioides	bush lawyer, tataramoa
Schefflera digitata	pate, seven-finger
Sophora microphylla	kowhai, small-leaved kowhai
Stellaria decipiens	chickweed
Trichomanes venosum	filmy fern
Urtica ferox	ongaonga, tree nettle
Introduced Species	
Achillea millefolium	yarrow
Agrostis capillaris	brown top
Anthriscus caucalis	beaked parsley
Anthoxanthum odoratum	sweet vernal
Callitriche stagnalis	starwort
Cerastium glomeratum	chickweed
Cirsium arvense	Californian thistle
Cirsium vulgare	Scotch thistle
Clematis vitalba	old man's beard
Crataegus monogyna	hawthorn
Cynosurus cristatus	crested dogstail
Cytisus scoparius	scotch broom
Dactylis glomerata	cocksfoot
Digitalis purpurea	foxglove
Dryopteris filix-mas	male fern
Fraxinus excelsior	ash

Galium aparine	cleavers
Holcus lanatus	Yorkshire fog
Hypericum androsaemum	tutsan
Mimulus moschatus	musk
Mycelis muralis	wall lettuce
Pilosella officinarum	mouse-ear hawkweed
Pinus radiata	radiata pine
Plantago major	broad-leaved plantain
Prunella vulgaris	selfheal
Ranunculus repens	creeping buttercup
Rubus fruticosus	blackberry
Rumex obtusifolius	broad-leaved dock
Salix fragilis	crack willow
Sambucus nigra	elderberry
Stellaria media	chickweed
Trifolium pratense	red clover
Trifolium repens	white clover
Tropaeolum speciosum	Chilean flame creeper
Ulex europaeus	gorse
Vicia sativa	vetch