

Christchurch District Plan Site of Ecological Significance

Site Significance Statement

Site name: Mt Evans

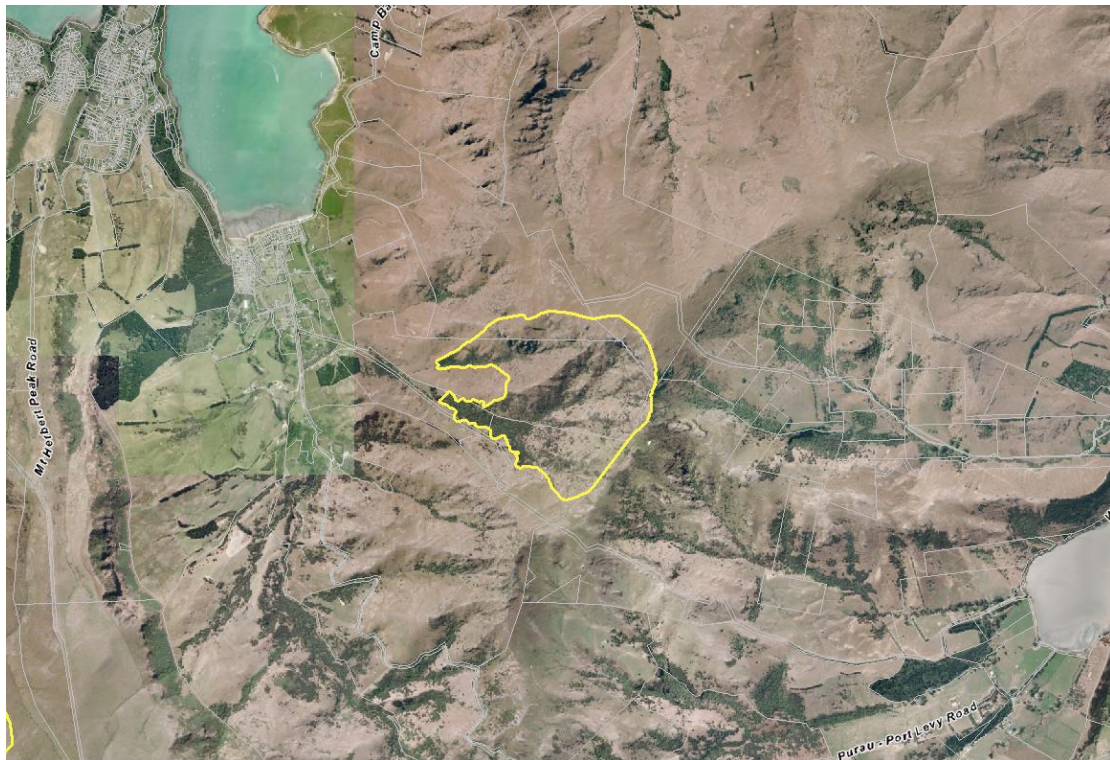
Site number: SES/H/29

Physical address of site: Purau Port Levy Road

Summary of Significance:

The site is significant because it contains both representative and rare indigenous vegetation growing on an originally rare ecosystem (basic igneous bluffs, scarps and rock outcrops) that is also a large example of its type in the ecological district. It supports the largest known population of the Threatened - Nationally Critical Lyttelton forget-me-not (*Myosotis lytteltonensis*), another eight nationally At Risk plant species, (six Threatened and Risk species are also endemic to Banks Peninsula) and several plant species that are uncommon within the ecological district or region and three plant species that are at their distributional limits on Banks Peninsula. The site provides an important linkage between the western slopes of Mt Evans and other areas of high ecological value on its eastern slopes.

Site Map



Additional Site Information

Ecological District: Herbert

Area of SES (ha): 102.3

Central point: E1581862 N5167188

Site Description

This site is in Purau Bay on the steep western slopes of Mt Evans above and east of the Purau – Port Levy Road. It encompasses very steep, west-facing, drought-prone slopes, bluffs and gullies rising from about 160 m to 703 m at the summit of Mount Evans (Wilson 1992) and two tributary streams that flow into Purau Stream. The site is part of a larger area that was identified by the Department of Conservation as a Recommended Area for Protection (Herbert RAP 2 – Mount Evans) (Wilson 1992).

The main vegetation communities within the site (Wilson 1992) are:

- Mixed broadleaved second-growth hardwood forest and treeland on lowland hill slopes
- Kanuka-dominant second-growth hardwood forest and treeland on lowland hill slopes
- Montane podocarp and podocarp/hardwood treeland on hill slopes
- Small-leaved scrub and shrubland on lowland and montane hill slopes
- Short tussockland on lowland and montane hill slopes
- Fernland on lowland hill slopes
- Lowland flaxland on lowland hill slopes
- Lowland and montane rockland communities

Extent of Site of Ecological Significance

The site includes the forest, scrub, shrublands, fernland, tussock grassland and the extensive rock bluff and outcrop vegetation communities in the two gullies on the western slopes of Mt Evans from approximately 160 m to its summit.

The Department of Conservation included the contiguous steep slopes and rock bluffs to the north and south of this site (Wilson's sites 25 and 27) within the Mt Evans Recommended Area for Protection (Herbert RAP 2) (Wilson 1992). There is no available up-to-date information on these sites, and only a limited amount of information in Wilson's unpublished survey data for these areas. However, based on Wilson (1992) and his for these areas, they were of high ecological value when he surveyed them and are likely to be significant. They are contiguous with this site and are a logical extension to it if they are significant. Survey and assessment of these two areas is a high priority.

Assessment Summary

The Mt Evans 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 (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.

The extensive rock bluffs and scarps within the site support indigenous plant communities that are representative and characteristic of these communities in the Herbert Ecological District. They act as refugia for a variety of indigenous shrubs, herbs and grasses and ferns. With the exception of exotic plants, including grasses and broom (Pender 1999a,b), they are relatively intact and support a full range of unique and specialised rock bluff plants, including a high proportion of nationally Threatened and At Risk species, and species endemic to Banks Peninsula (Pender 1999b, Wilson unpubl. data, no date).

- 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.

The igneous bluff and scarp vegetation communities on Mt Evans (as well as those connected bluff systems to the north and south of the site) are extensive and support rock bluff and rock outcrop vegetation communities that together are a very large example of their type in the Herbert 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.***

In the context of the Herbert Ecological District the mixed broadleaved second-growth hardwood forest in the gullies and small areas of montane podocarp and podocarp/hardwood treeland within the site are significant under this criterion because indigenous forest 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 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)).

The seral woody vegetation communities such as mixed second growth hardwood forest and small-leaved indigenous scrub and shrubland that occur within the site have expanded their range in the ecological district as a result of human disturbance. However, the extent of all indigenous woody vegetation in the ecological district is estimated to be only 10.9% (New Zealand Landcover Database (Version 4)).

The site is not significant at the level 4 Land environment scale. It is on an At Risk land environment (F3.3a) where 21.1% 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 supports one Threatened - Nationally Critical plant species, eight nationally At Risk plant species and several plant species that are uncommon within the ecological district or region.

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

- Lyttelton forget-me-not (*Myosotis lytteltonensis*) (Threatened - Nationally Critical, endemic to Banks Peninsula) – the site supports the largest known population of *Myosotis lytteltonensis* (Threatened - Nationally Critical) (Pender 1999 a,b, Wilson unpubl. data, no date) (estimated to be between 200-300 plants (Pender 1999a, Anon. no date)).
- *Coprosma virescens* (At Risk – Declining) (Wilson unpubl. data, no date)
- Banks Peninsula sun hebe (*Heliohebe lavaudiana*) (At Risk – Declining, endemic to Banks Peninsula) (Pender 1999b, Wilson unpubl. data, no date)
- Banks Peninsula blue tussock (*Festuca actae*) (At Risk – Naturally Uncommon, endemic to Banks Peninsula) (Pender 1999b, Wilson unpubl. data, no date)
- Banks Peninsula hebe (*Hebe strictissima*) (At Risk – Naturally Uncommon, endemic to Banks Peninsula) (Wilson unpubl. data, no date)
- *Gingidia enysii* var. *peninsulare* (At Risk – Naturally Uncommon, endemic to Banks Peninsula) (Wilson unpubl. data, no date)
- Banks Peninsula button daisy (*Leptinella minor*) (At Risk – Naturally Uncommon, endemic to Banks Peninsula) (Wilson unpubl. data, no date)
- *Myosotis spathulata* (At Risk – Naturally Uncommon) (Wilson unpubl. data, no date)
- Yellow rock groundsel (*Senecio glaucophyllus* subsp. *basinudus*) (At Risk – Naturally Uncommon) (Wilson unpubl. data, no date)

Indigenous plant species have been recorded from the site (Wilson unpubl. data no date) that are “uncommon to rare or very local” on Banks Peninsula (Wilson 2013) are:

- Common maidenhair (*Adiantum cunninghamii*)
- *Australina pusilla*
- Slender mountain daisy (*Celmisia gracilentia*)
- Tutu (*Coriaria sarmentosa*)
- Climbing fuchsia (*Fuchsia perscandens*)
- Spider orchid (*Nematoceras macranthum*)
- Comb fern (*Notogrammitis heterophylla*)
- Blue tussock (*Poa colensoi*)
- Danthonia (*Rytidosperma corinum*)

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.

It has three plant species (Wilson unpubl. data no date) that are at their distributional limits on Banks Peninsula (Wilson 2013):

- Kawakawa (*Piper excelsum*) (southern national limit)
- Pigeonwood (*Hedycarya arborea*) (southern regional limit)
- Danthonia (*Rytidosperma corinum*) (northern 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.

Mt Evans has extensive basic igneous bluffs, scarps and rock outcrops that support a diverse range of highly specialised indigenous vegetation (Pender 1999b, Wilson unpubl. data, no date). At a national scale these features 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.

It includes a continuous altitudinal sequence that includes lowland secondary-growth forest and scrub, montane scrub, fernland, tussock grassland and rock bluff communities from approximately 160 m to 703 m at the summit of Mt Evans. The altitudinal and associated climatic gradient (encompassing lowland and montane environments), aspect and topographic variation means the site

supports a relatively high diversity of indigenous vegetation communities. It has a remarkable dry climate flora, with plants of more moist conditions at higher elevations (Wilson unpubl. data, no date). A list of the plant taxa recorded within the site (Wilson unpubl. data, no date) is provided in Appendix 1.

The rock bluff communities support a relatively high diversity of specialist rock outcrop plant species including a proportion of nationally Threatened and At Risk, endemic and locally uncommon species (Wilson unpubl. data, no date).

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 indigenous vegetation within the site and on the summit of Mt Evans provides an important linkage between the western slopes and other areas of high ecological value on its eastern slopes. The riparian forest, treeland and scrub in the gullies within the site also buffers the headwaters of two tributaries of Purau Stream that flow from the upper slopes of Mt Evans.

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.*

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

Site Management

Existing Protection Status

The site is not legally protected.

Threats and risks	Management recommendations	Support package options
Decline or loss of the <i>Myosotis lytteltonensis</i> (Threatened - Nationally Critical) population. Threats include biodiversity pest plants (e.g. scotch broom (<i>Cytisus scoparius</i>)), introduced grasses and browsing animals such as sheep, goats, rabbits, hares and possibly possums (Pender 1999 a,b).	- Consider implementing a programme to reduce threats to the survival of the species such as regular control of exotic woody weeds and annual releasing from introduced grasses. - DOC and/or Council to consider undertaking ongoing regular monitoring of the population. - Continue to propagate seedlings¹ and establish this species in other suitable habitats at other locations on Banks Peninsula and the Port Hills. - Consider promoting applied research (i.e. in collaboration with Universities) to benefit the management of this species.	- Discussion with landowner about benefits to biodiversity of pest plant monitoring and control. - Assistance available where possible. - With landowner agreement, collaborate with other agencies and Universities to undertake propagation and research.
Goats	Consider removing goats. Goats are a serious threat to the ecological values of the site. They also have the potential to spread onto neighbouring properties and into other areas with high ecological values. Not removing goats poses a significant threat to the success of the multi-agency Banks Peninsula Feral Goat Eradication Programme.	- Discussion with the landowner about the benefits to biodiversity of goat control. - Assistance for the landowner with goat control if agreed.
Domestic stock. Stock are likely to be preventing natural regeneration of indigenous vegetation	Wilson (1992) commented that adequate protection of many of the ecological values within the site could be achieved by continuing	Discussion with landowner about benefits to biodiversity of stock management options and provide

¹ *Myosotis lytteltonensis* is easily propagated by germinating seeds (refer to Pender 1999b for information on propagation and cultivation).

communities where they are accessible to them. However, much of the more intact rock bluff vegetation is naturally protected by the steep terrain.	present farming practices (moderate grazing by sheep). • However, fencing the secondary-growth forest in the gullies to keep stock out would promote seedling recruitment and recovery of the understorey.	advice, guidance and assistance where appropriate.
---	---	---

References

- Anon. (no date). *The Conservation Status of Myosotis australis var lytteltonensis (Boraginaceae) in Canterbury*. 6p
- 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.
- 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.
- New Zealand Landcover Database (Version 4). <http://www.lcdb.scinfo.org.nz/>. Retrieved 24/11/2014.
- Pender, R. (1999a). *Urtica linearifolia* and *Myosotis australis* var. *lytteltonensis* - two threatened plants. *Canterbury Botanical Society Journal* 33: 38-45.
- Pender, R. (1999b). Three Locally Threatened Plants. Unpublished report prepared for the Department of Conservation, September 1999. 41 p.
- Walker, S., Cieraad, E., Grove, P., Lloyd, K., Myers, S., Park, T., & Porteous, T. (2007). *Guide for users of the threatened environment classification* (Ver 1.1.).
- Williams, P. A., Wiser, S., Clarkson, B. R., & Stanley, M. C. (2007). New Zealand's historically rare terrestrial ecosystems set in a physical and physiognomic framework. *New Zealand Journal of Ecology* 31(2), 119–128.
- Wilson, H.D. (no date). *Banks Peninsula Botanical Survey Card Number 8. Herbert. Mt Evans, Purau Slopes*. Unpublished data collected by Hugh Wilson.
- Wilson, H.D. (1992). Banks Ecological Region: Port Hills, Herbert and Akaroa Ecological Districts. *Protected Natural Areas Programme Survey Report No. 21*. Department of Conservation, Canterbury. 342 pp.
- Wilson, H.D. (2013). *Plant Life on Banks Peninsula*. Manuka Press, Cromwell. 412 pp.

Assessment completed by: Scott Hooson
Date: 27 March 2015

Statement completed by: Scott Hooson
Date: 27 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 for Mt Evans, Purau Slopes (Site 8)

Source: Wilson unpubl. data (no date).

Scientific Name	Common Name(s)
Indigenous species	
<i>Adiantum cunninghamii</i>	maidenhair
<i>Aristotelia serrata</i>	wineberry, makomako
<i>Australina pusilla</i>	
<i>Blechnum penna-marina</i>	little hard fern
<i>Brachyglottis lagopus</i>	groundsel, yellow rock daisy
<i>Calystegia tuguriorum</i>	NZ bindweed, pōwhiwhi
<i>Carmichaelia australis</i>	native broom, common broom
<i>Carpodetus serratus</i>	marbleleaf, putaputāwētā
<i>Celmisia gracilentia</i>	slender mountain daisy, pekapeka
<i>Clematis afoliata</i>	leafless clematis
<i>Clematis foetida</i>	yellow clematis
<i>Colobanthus buchananii</i>	
<i>Convolvulus waitaha</i>	grass convolvulus
<i>Coprosma areolata</i>	mingimingi, mikimiki
<i>Coprosma crassifolia</i>	thick-leaved coprosma, mikimiki
<i>Coprosma propinqua</i>	mingimingi, mikimiki
<i>Coprosma virescens</i>	mikimiki
<i>Cordyline australis</i>	cabbage tree, tī kōuka
<i>Coriaria sarmentosa</i>	tutu
<i>Corokia cotoneaster</i>	korokio
<i>Euchiton audax</i>	native cudweed
<i>Festuca actae</i>	Banks Peninsula blue tussock
<i>Fuchsia excorticata</i> x <i>perscandens</i>	
<i>Fuchsia perscandens</i>	climbing fuchsia
<i>Geranium microphyllum</i>	
<i>Gingidia enysii</i>	
<i>Heliohebe lavaudiana</i>	Banks Peninsula sun hebe
<i>Hebe strictissima</i>	Banks Peninsula hebe
<i>Hedycarya arborea</i>	pigeonwood, porokaiwhiri
<i>Hoheria angustifolia</i>	narrow-leaved lacebark, houhere
<i>Korthalsella lindsayi</i>	dwarf mistletoe
<i>Kunzea ericoides</i>	kānuka
<i>Leptinella minor</i>	Banks Peninsula button daisy
<i>Leptecophylla juniperina</i>	prickly mikimiki
<i>Libertia ixioides</i>	mikoikoi, native iris
<i>Lophomyrtus obcordata</i>	rōhutu, NZ myrtle
<i>Melicope simplex</i>	poataniwha
<i>Melicytus alpinus</i>	porcupine shrub
<i>Melicytus ramiflorus</i>	māhoe, whiteywood
<i>Metrosideros diffusa</i>	white climbing rātā
<i>Microsorium pustulatum</i>	hounds tongue, kōwaowao
<i>Myoporum laetum</i>	ngaio
<i>Myosotis lytteltonensis</i>	Lyttelton forget-me-not

<i>Myosotis spathulata</i>	
<i>Myrsine divaricata</i>	weeping matipo, weeping māpou
<i>Nematoceras macranthum</i>	spider orchid
<i>Notogrammitis heterophylla</i>	comb fern
<i>Oxalis exilis</i>	yellow oxalis
<i>Parsonsia heterophylla</i>	native jasmine, akakaikiore
<i>Pennantia corymbosa</i>	kaikōmako, ducks foot
<i>Phormium cookianum</i>	mountain flax, wharariki
<i>Piper excelsum</i>	kawakawa
<i>Plagianthus regius</i>	lowland ribbonwood, mānatu
<i>Poa cita</i>	silver tussock, wī
<i>Poa colensoi</i>	blue tussock
<i>Poa imbecilla</i>	weak poa
<i>Podocarpus cunninghamii</i>	mountain tōtara, thin-barked tōtara
<i>Podocarpus totara</i>	lowland tōtara
<i>Polytrichum sp.</i>	
<i>Pteridium esculentum</i>	bracken, rārahu, rauaruhe
<i>Rubus cissoides</i>	bush lawyer, tātarāmoa
<i>Rubus schmidelioides</i>	bush lawyer, tātarāmoa
<i>Rubus squarrosus</i>	leafless bush lawyer, tātarāmoa
<i>Rytidosperma corinum</i>	danthonia, bristle grass
<i>Senecio glaucophyllus subsp basinudus</i>	yellow rock groundsel
<i>Sophora microphylla</i>	small-leaved kōwhai
<i>Sophora prostrata</i>	dwarf kōwhai, prostrate kōwhai
<i>Stellaria decipiens</i>	native chickweed
<i>Thelymitra longifolia</i>	white sun orchid
<i>Uncinia leptostachya</i>	hook grass
Exotic species	
<i>Anthriscus caucalis</i>	beaked parsley
<i>Carduus pycnocephalus</i>	slender winged thistle
<i>Claytonia perfoliata</i>	miners lettuce
<i>Crataegus monogyna</i>	hawthorn
<i>Dryopteris filix-mas</i>	male fern
<i>Geranium molle</i>	dovesfoot cranesbill
<i>Hypochaeris glabra</i>	smooth catsear
<i>Melanoselenium sp.</i>	
<i>Myosotis stricta</i>	forget-me-not
<i>Sherardia arvensis</i>	field madder
<i>Silybum marianum</i>	variegated thistle
<i>Solenogyne gunnii</i>	
<i>Stuartina muelleri</i>	
<i>Ulex europaeus</i>	gorse