

# Christchurch District Plan Site of Ecological Significance

## Site Significance Statement

**Site name:** Pigeon Bay Road Bush

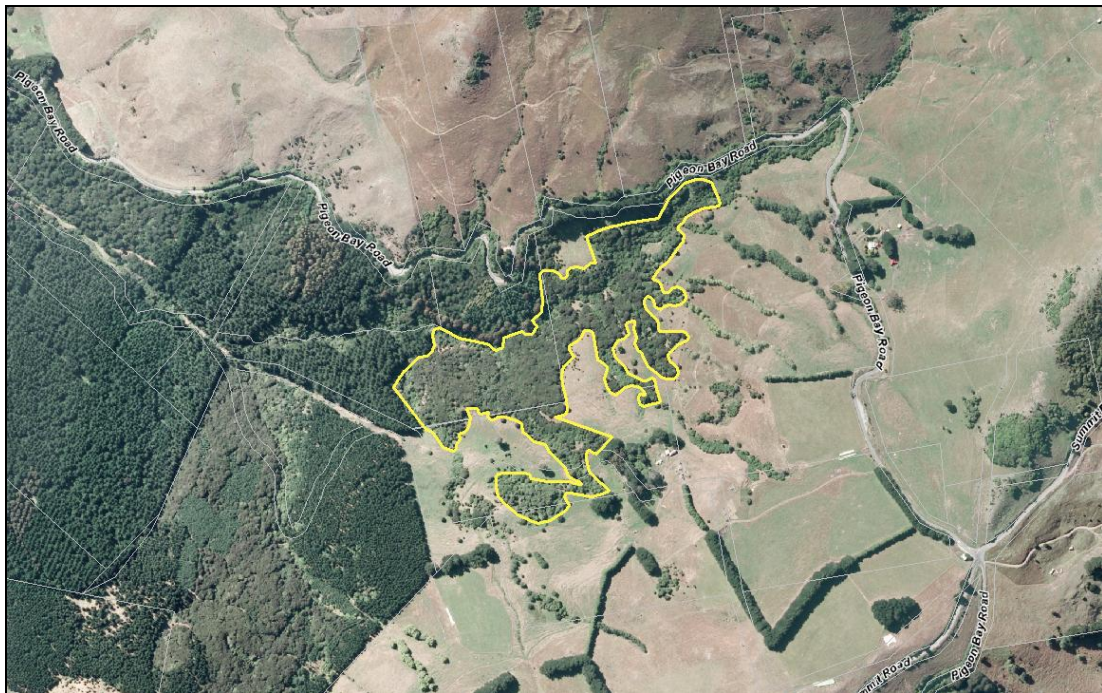
**Site number:** SES/H/5

**Physical address of site:** Pigeon Bay Road, Pigeon Bay

### Summary of Significance:

The site is significant because it has indigenous forest that has been reduced to less than 20% of its former extent at the Region and ecological district scales. It supports an indigenous plant species that is nationally At Risk and two others that are uncommon within the ecological region or ecological district. It also provides habitat for a bird species that is uncommon in the ecological district.

### Site Map



## **Additional Site Information**

**Ecological District:** Herbert

**Area of SES (ha):** 11.88

**Central point (NZTM):** E1593042, N5158374

## **Site Description**

The site is situated on a moderately steep, north to north-west facing hill slope in the headwaters of Pigeon Bay Stream on the southern side of Pigeon Bay Road. The elevation of the site is between approximately 180 – 300 m above sea level. Pigeon Bay Stream and several small tributaries flow through the site.

The dominant vegetation type within the site is indigenous secondary growth kanuka-mahoe forest with a small number of emergent old-growth podocarp trees. The canopy is dominated by kanuka and mahoe, with lesser amounts of tree fuchsia, kowhai, kaikomako and five-finger. Podocarps (kahikatea, totara and matai), although rare, are a conspicuous feature of the site and there are occasional juveniles of totara and matai. Native vines, particularly native jasmine and large-leaved pohuehue are abundant throughout the site, and form dense patches in the narrow tongues of forest which occur along the tributary streams on the north-facing slopes. The site has exotic plantation forest (pines and eucalypts) on its northern and western boundaries. Stock have been excluded from the western side of the site, while the remainder is grazed by cattle and sheep. In the ungrazed part, there is vigorous regeneration of palatable species such as mahoe, lemonwood and karamu, however the understorey in the grazed areas is much more open, and mainly consists of ferns and less palatable species (Wildland Consultants unpubl. data 2012). Plant species recorded from within the site are listed in Appendix 1.

Information on birds is limited to those species recorded during the botanical survey: bellbird, grey warbler, kereru, South Island rifleman and silvereye (Wildland Consultants unpubl. data 2012).

## **Extent of Site of Ecological Significance**

The site includes secondary growth kanuka-mahoe forest. Two large remnant kahikatea grow in pasture outside the site boundaries, these trees are ecologically important and they are worthy of protection via alternative methods.

This site is connected to another area of kanuka dominant forest further to the west that has not been surveyed. There is insufficient information available to assess its significance.

## Assessment Summary

The Pigeon Bay Road 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 rarity/distinctiveness criteria (criteria 3, 4 and 5).

## 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 not significant under this criterion. Although there are a small number of large remnant podocarp trees on the upper (south-eastern) margins of the site most of the site is young secondary growth kanuka-mahoe forest. While there is vigorous regeneration occurring in the unfenced half of the site, the north-eastern half is grazed and the understorey is much more modified and comprised largely of less palatable plant species (Wildland Consultants unpubl. data 2012). Overall, this site is not typical of the vegetation and habitats that would have been present in the ED at a baseline of 1840 and does not 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 not significant under this criterion. It is not a relatively large example of its type within 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.*

The site is significant under this criterion.

The existing vegetation within the site is comprised of secondary growth forest dominated by kanuka and mahoe, with a small number of emergent old-growth podocarp trees (Wildland Consultants unpubl. data 2012). Lowland podocarp-hardwood forest has been reduced to a fragment of its former extent at the Region and ecological district scales. 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. It supports indigenous vegetation that is on a Chronically Threatened land environment (F3.1b) where 12.2% indigenous vegetation is left on these land environments 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 an indigenous plant species that is nationally At Risk, and two others that are uncommon within the ecological region or ecological district. It also provides habitat for a bird species that is uncommon in the ecological district.

**Plants**

Nationally Threatened and At Risk plant species (de Lange et al. 2013) recorded from the site (Wildland Consultants unpubl. data 2012) are:

- *Brachyglottis sciadophila* (At Risk – Declining) (there are occasional patches in the northeastern part of site).

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:

- *Microlaena polynoda* (uncommon in the ecological region and in Canterbury (Wilson 1992)). This species grows in a seepage next to the stream in the north-western part of the site.
- Kiokio (*Blechnum novae-zealandiae*)

**Birds**

The bird species recorded from the site (Wildland Consultants unpubl. data 2012) that is uncommon in the ecological district (Crossland unpubl. data 2014) is:

- South Island rifleman

**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 species (Wildland Consultants unpubl. data 2012) that is at its southern regional distributional limits on Banks Peninsula (Wilson 2013):

- Pigeonwood (*Hedycarya arborea*)

**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 not significant under this criterion. It does not support 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.

## **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 not significant under this criterion. It only contains one vegetation community. It does not contain a high diversity of indigenous ecosystems or habitat types or have has changes in species composition reflecting the existence of diverse natural features or ecological gradients. The diversity of indigenous plant species is not particularly high for this vegetation type.

## **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 not significant under this criterion. It is not a particularly important ecological link, although like many of Banks Peninsula's indigenous forest patches it is likely to play some role as a stepping stone for indigenous fauna within the wider landscape. It does not provide a buffer to other high value areas, but it does buffer a small section of Pigeon Bay Stream. The site itself is currently buffered to some extent by exotic plantation forest (pines and eucalypts) on its northern and western boundaries. Overall, the extent to which this site contributes to local ecological processes is not important enough for it to meet the threshold for significance under this criterion.

**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 the threshold for significance under 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.***

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

## Site Management

### Existing Protection Status

The site is not legally protected.

<b>Threats and risks</b>	<b>Management recommendations</b>	<b>Support package options</b>
<ul style="list-style-type: none"><li>Biodiversity pest plants: old man's beard, hawthorn, sweet cherry and crack willow (Wildlands unpubl. data 2012).</li></ul>	<ul style="list-style-type: none"><li>Consider controlling high priority biodiversity pest plants such as old man's beard.</li><li>Consider ongoing surveillance for, and control if detected, of other biodiversity pest plants such as banana passionfruit and sycamore that are known to occur in the vicinity of the site.</li></ul>	<ul style="list-style-type: none"><li>Advice and guidance for landowners about monitoring and control of pest plants.</li></ul>
<ul style="list-style-type: none"><li>Stock</li></ul>	<ul style="list-style-type: none"><li>Consider fencing the north-eastern half of the site that is currently unfenced.</li></ul>	<ul style="list-style-type: none"><li>Discussion with landowner about the benefits to biodiversity of stock management and about the options available.</li><li>Assistance available as appropriate and with landowner agreement.</li></ul>

## References

- Crossland, A. 2014. List of Threatened, At Risk and Uncommon Species within Local Ecological Districts. Unpublished data. (TRIM: 14/783696).
- 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.
- 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.).
- Wildland Consultants (2012). *Botanical Survey Results – Pigeon Bay Road Community descriptions and abundance*. Unpublished data. TRIM: 13/217826.
- 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:** 6 August 2014

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**Date:** 6 August 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)
<b>Indigenous species</b>	
<i>Acaena anserinifolia</i>	bidibidi, piripiri
<i>Aristolelia serrata</i>	wineberry, makomako
<i>Asplenium appendiculatum</i>	ground spleenwort
<i>Asplenium flaccidum</i>	hanging spleenwort, raukatauri
<i>Asplenium gracillimum</i>	
<i>Asplenium hookerianum</i>	Hooker's spleenwort
<i>Blechnum chambersii</i>	lance fern
<i>Blechnum fluviatile</i>	kiwakiwa
<i>Blechnum minus</i>	swamp kiokio
<i>Blechnum novae-zealandiae</i>	kiokio
<i>Blechnum penna-marina</i>	little hard fern
<i>Brachyglottis sciadophila</i>	climbing groundsel
<i>Calystegia tuguriorum</i>	NZ bindweed
<i>Cardamine debilis</i>	NZ bitter cress
<i>Carex forsteri</i>	cutty grass
<i>Carpodetus serratus</i>	marbleleaf, putaputaweta
<i>Clematis paniculata</i>	puawananga
<i>Coprosma areolata</i>	mingimingi, mikimiki
<i>Coprosma crassifolia</i>	thick-leaved coprosma, mikimiki
<i>Coprosma dumosa</i>	mikimiki
<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 robusta</i>	karamu
<i>Coprosma rotundifolia</i>	round-leaved coprosma, mikimiki
<i>Coriaria arborea</i>	tree tutu
<i>Cyathea dealbata</i>	silver fern, ponga
<i>Cyathea smithii</i>	Smith's tree fern, katote
<i>Dacrycarpus dacrydioides</i>	kahikatea, white pine
<i>Dicksonia squarrosa</i>	wheki, rough tree fern
<i>Euchiton species</i>	cudweed
<i>Fuchsia excorticata</i>	tree fuchsia, kotukutuku
<i>Griselinia littoralis</i>	broadleaf, kapuka
<i>Hebe salicifolia</i>	koromiko
<i>Hedycarya arborea</i>	pigeonwood, porokaiwhiri
<i>Helichrysum lanceolatum</i>	niniao
<i>Hoheria angustifolia</i>	narrow-leaved lacebark, houhere
<i>Hydrocotyle heteromeria</i>	pennywort
<i>Hydrocotyle moschata</i>	pennywort
<i>Hypolepis ambigua</i>	pig fern
<i>Ileostylus micranthus</i>	green mistletoe
<i>Juncus edgariae</i>	leafless rush, wi
<i>Kunzea ericoides</i>	kanuka
<i>Lagenifera strangulata</i>	parani

<i>Lophomyrtus obcordata</i>	rohutu, NZ myrtle
<i>Meliccytus ramiflorus</i>	mahoe, whiteywood
<i>Melicope simplex</i>	poataniwha
<i>Metrosideros diffusa</i>	white climbing rata
<i>Microlaena polynoda</i>	bamboo rice grass
<i>Microsorium pustulatum</i>	hounds tongue, kowaowao
<i>Muehlenbeckia australis</i>	large-leaved muehlenbeckia, pohuehue
<i>Myrsine australis</i>	red mapou, red matipo
<i>Parsonsia heterophylla</i>	native jasmine, akakaikiore
<i>Pellaea rotundifolia</i>	round-leaved fern, tarawera
<i>Pennantia corymbosa</i>	kaikomako, ducks foot
<i>Pittosporum tenuifolium</i>	kohukohu, black matipo
<i>Pneumatopteris pennigera</i>	gully fern, pakau
<i>Podocarpus totara</i>	lowland totara
<i>Polystichum neozelandicum</i>	shield fern
<i>Polystichum oculatum</i>	shield fern
<i>Polystichum vestitum</i>	prickly shield fern, puniu
<i>Prumnopitys taxifolia</i>	matai
<i>Pseudopanax arboreus</i>	five-finger, whauwhaupaku
<i>Pseudowintera colorata</i>	horopito, peppertree
<i>Pseudopanax crassifolius</i>	lancewood, horoeka
<i>Pteridium esculentum</i>	bracken
<i>Ranunculus reflexus</i>	hairy buttercup, maruru
<i>Ripogonum scandens</i>	supplejack, kareao
<i>Rubus cissoides</i>	bush lawyer, tataramoa
<i>Rubus schmidelioides</i>	bush lawyer, tataramoa
<i>Schefflera digitata</i>	pate, seven-finger
<i>Senecio minimus</i>	native fireweed
<i>Solanum laciniatum</i>	poroporo
<i>Sophora microphylla</i>	kowhai, weeping kowhai
<i>Uncinia leptostachya</i>	hook grass
<i>Urtica ferox</i>	ongaonga, tree nettle
<b>Exotic species</b>	
<i>Achillea millefolium</i>	yarrow
<i>Agrostis capillaris</i>	brown top
<i>Anthoxanthum odoratum</i>	sweet vernal
<i>Callitriche stagnalis</i>	starwort
<i>Cirsium vulgare</i>	Scotch thistle
<i>Clematis vitalba</i>	old man's beard
<i>Crataegus monogyna</i>	hawthorn
<i>Dactylis glomerata</i>	cocksfoot
<i>Digitalis purpurea</i>	foxglove
<i>Dryopteris filix-mas</i>	male fern
<i>Eucalyptus globulus</i>	eucalypt, blue gum
<i>Holcus lanatus</i>	Yorkshire fog
<i>Lotus pedunculatus</i>	lotus
<i>Mimulus guttatus</i>	monkey musk
<i>Mycelis muralis</i>	wall lettuce
<i>Nasturtium officinale</i>	watercress
<i>Plantago lanceolata</i>	narrow-leaved plantain
<i>Prunus avium</i>	sweet cherry
<i>Prunella vulgaris</i>	selfheal

<i>Ranunculus repens</i>	creeping buttercup
<i>Rubus fruticosus</i>	blackberry
<i>Salix fragilis</i>	crack willow
<i>Sambucus nigra</i>	elderberry
<i>Stellaria media</i>	chickweed
<i>Trifolium pratense</i>	red clover
<i>Ulex europaeus</i>	gorse
<i>Verbena officinalis</i>	vervain