Christchurch District Plan
Site of Ecological Significance

Site Significance Statement

Site name: Wainui Pass Wetland

Site number: SES/A/2

Physical address of site: XXX

Summary of Significance:

The site is significant because it contains a seepage wetland. Wetlands have been reduced to less than 20% of its former extent at the regional and freshwater biogeographic unit scales. Although relatively common on Banks Peninsula seepages are 'originally rare' ecosystems at a national scale. The wetland supports three indigenous plant species that are uncommon within the ecological region or ecological district.

Site Map

Additional Site Information

Ecological District: Akaroa

Area of SES (ha): 1.06

Central point (NZTM): E1590819, N5153087

Site Description

The site is a spring-fed seepage that has formed on an area of gently sloping south-facing hillslope at 220 – 280 m above sea level on the eastern ridge of French Hill above Winery Road. The site contains wi (*Juncus edgariae*) rushland, a small area of riparian kanuka (*Kunzea robusta*) forest and an area of raupo (*Typha orientalis*) reedland. The descriptions of these vegetation communities are sourced from Jensen (unpubl. data 2014).

The wi rushland is fed by a spring at the top (eastern) end of the site. Sharp spike sedge is common at the source of the spring and there is a small area of water fern (*Azolla rubra*). From the spring the rushland divides and seeps downslope in two long linear arms. The true left seep drains downslope to the south and ends in a small group of trees containing narrow-leaved lacebark (*Hoheria angustifolia*) and kanuka. The true right seep drains in a south-westerly direction against the toe of the hillslope above into a small area of kanuka forest. The rushland is grazed and pugged by stock and the cover is mainly exotic Yorkshire fog (*Holcus lanatus*), jointed rush (*Juncus articulatus*) and monkey musk (*Erythranthe guttata*) but wi lines the margins of the long linear seeps. Occasional *Coprosma rigida,* ongaonga (*Urtica ferox*) and narrow-leaved lacebark occur on the drier margins.

From the wi rushland a stream descends through a small area of tall kanuka forest via a rocky bed into a small wetland dominated by raupo reedland. Amongst the kanuka are occasional trees of tree fuchsia (*Fuchsia excorticata*), mahoe (*Melicytus ramiflorus*) and kaikomako (*Pennantia corymbosa*). The vines large-leaved pohuehue (*Muehlenbeckia australis*) and bush lawyer (*Rubus cissoides*) are also common. Under the kanuka canopy the understorey is relatively bare as stock have access to the forest. The few species present in the understorey are scattered kiwakiwa (*Blechnum fluviatile*), *Coprosma rhamnoides* and some tree fuchsia seedlings. On the margins of the kanuka are scattered foxglove (*Digitalis purpurea*), *Coprosma rigida*, *C. dumosa* and *C. rotundifolia*.

The raupo reedland grows in a very wet flush dominated by raupo with tall *Hypolepis lacteal* (an indigenous fern), abundant wi and frequent swamp kiokio (*Blechnum minus*). The raupo is browsed and broken down by stock, leaving few tall stems. Exotic creeping buttercup (*Ranunculus repens*) and the grass creeping bent (*Agrostis stolonifera*) are abundant with monkey musk and glaucous sweetgrass (*Glyceria declinata*). The flush is edged by kanuka on drier ground.

Plant and invertebrate species lists from botanical and entomological surveys are provided in Appendices 1 and 2 respectively.

Extent of Site of Ecological Significance

The site includes the wetland area and the small area of riparian kanuka forest linking the wi rushland and the raupo reedland.

Assessment Summary

The Wainui Pass Wetland 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 6). It is recommended that this site is included as a Significant Ecological Site in the District Plan.

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 few examples of similar wetland communities in the Akaroa ED, this site is highly modified and there are better examples. All three vegetation communities within the site have been degraded by stock (Jensen unpubl. data 2014). The wi rushland has been grazed and pugged by stock and has a mainly exotic cover of Yorkshire fog, jointed rush and monkey musk. The kanuka forest is secondary forest and the structure of the understorey and ground tiers has been substantially modified by stock. The raupo is browsed and broken down by stock with few tall stems and although raupo is dominant and other indigenous species are common, introduced plants including creeping buttercup, creeping bent, monkey musk and glaucous sweetgrass are also common (Jensen 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. This site is small and there are larger examples of mesotrophic spring-fed seepage wetlands within the Akaroa 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.

   Wetland ecosystems have been reduced to less than 20% of their former extent at the regional and freshwater biogeographic unit scales. Ausseil et al. (2008) estimate that wetlands have been reduced to 10.6% of their original extent in the Canterbury Region and 7.0% in the Canterbury freshwater biogeographic unit. On Banks Peninsula, most of the original wetlands have been cleared and drained and only remnants remain.

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

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

   - Common maidenhair (*Adiantum cunninghamii*)
   - *Hypolepis lactea* (uncommon in Canterbury (Wilson 1992))
   - Water fern (*Azolla rubra*)
   - Raupo (*Typha orientalis*)

5. ***The site contains indigenous vegetation or an indigenous species at its distribution limit within Canterbury Region or nationally.***

   The site is not significant under this criterion. It does not contain indigenous vegetation or an indigenous species that are at their distribution limit within Canterbury Region or nationally.

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.

   Mesotrophic wetlands are of restricted occurrence in the Akaroa ED (Grove and Parker 2013) and seepages and flushes, although relatively common on Banks Peninsula (Grove and Parker 2013), are classified as 'originally rare' ecosystems at 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 not significant under this criterion. The site does not contain a high diversity of indigenous ecosystems or habitat types or indigenous taxa, or have changes in species composition reflecting the existence of diverse natural features or ecological gradients. There are only three vegetation communities within the site and indigenous plant diversity within all three is low (Jensen unpubl. data 2014). Invertebrate density is also low (Wildland Consultants unpubl. data 2014).

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 small and relatively isolated and is unlikely to provide or contribute to an important ecological linkage or network, or provide an important buffering function.

   The small area of indigenous kanuka forest between the wi rushland and the raupo reedland is included within this site because it provides an ecological linkage between the two wetland communities.

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. This relatively small wetland is unlikely to provide important benefits to the areas and ecosystems beyond its immediate boundaries. It is fed by hill slope springs and is situated high on a hill slope where it does not 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 not significant under this criterion. Its small size and modified nature mean it does not provide important habitat for indigenous species.

Existing Protection Status

The site is not legally protected.

Threats and risks	Management recommendations	Support package options
• Stock	• Consider fencing the wetland, or otherwise excluding stock.	• Discussion with landowner about the impacts of stock and about options for management.

References

Ausseil, A-G., Gerbeaux, P., Chadderton, W.L., Stephens, T., Brown, D., Leathwick, J. (2008). *Wetland ecosystems of national importance for biodiversity: Criteria, methods and candidate list of nationally important inland wetlands.* Landcare Research Contract Report: LC0708/158. 174pp.

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

Grove, P. and Parker, M (2013). *Banks Peninsula Wetlands – a discussion paper prepared for the Banks Peninsula Water Management Zone.* Unpublished report prepared for the Banks Peninsula Water Management Zone Committee, May 2013. 6 pp.

Jensen C. (2014). *Banks Peninsula Ecological Study: Wainui Pass Wetland Botanical Survey.* Unpublished data collected for the Christchurch City Council February, 2014. (Trim: 14/385957).

Wildland Consultants (2014). *Banks Peninsula Ecological Study: Wainui Pass Wetland Invertebrate Survey.* Unpublished data collected for the Christchurch City Council February, 2014. (Trim: 14/619307).

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. (2013). *Plant Life on Banks Peninsula.* Manuka Press, Cromwell. 412 pp.

Assessment completed by: Scott Hooson
Date: 26 November 2014

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Date: 26 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: Indigenous 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	
Azolla rubra	water fern
Blechnum fluviatile	kiwakiwa
Blechnum minus	swamp kiokio
Blechnum penna-marina	little hard fern
Coprosma dumosa	mikimiki
Coprosma rhamnoides	mingimingi, mikimiki
Coprosma rigida	stiff coprosma
Coprosma rotundifolia	round-leaved coprosma, mikimiki
Eleocharis acuta	sharp spike sedge
Epilobium atriplicifolium	willow herb
Fuchsia excorticata	tree fuchsia, kotukutuku
Hoheria angustifolia	narrow-leaved lacebark, houhere
Hypolepis lactea	
Juncus edgariae	leafless rush, wi
Kunzea robusta	kanuka
Lophomyrtus obcordata	rohutu, NZ myrtle
Melicytus ramiflorus	mahoe, whiteywood
Muehlenbeckia australis	large-leaved pohuehue
Muehlenbeckia complexa	scrub pohuehue, wire vine
Nasturtium microphyllum	one-rowed cress
Parsonsia heterophylla	native jasmine, akakaikiore
Pennantia corymbosa	kaikōmako, ducks foot
Polystichum vestitum	prickly shield fern, puniu
Rubus cissoides	bush lawyer, tataramoa
Typha orientalis	raupo, bull rush
Urtica ferox	ongaonga, tree nettle

Appendix 2: Invertebrate Species List

Sourced from Wildland Consultants unpubl. data (2014).

* = exotic species

ORDER/Family/genus/species	Common Name
HEMIPTERA	
Tibicinidae	cicada
Amphipsalta zelandica	clapping cicada
Pentatomidae	shieldbug
Dictyotis caenosus	
Acanthosomatidae	
Rhopalimorpha obscura	
ORTHOPTERA	
Tettigoniidae	katydid
Conocephalus bilineatus	
Gryllidae	cricket
Pteronemobius bigelowi	
Acrididae	grasshoppers
Phaulacridium marginale	
Coccinellidae	
Coccinella leonina	ladybird
Scarabaeidae	chafers
Costelytra zelandica	
HYMENOPTERA	
Formicidae	ant
Monomorium antarcticum	
Pompilidae	spider wasp
Priocnemis carbonarius	
Vespulidae	
Vespula vulgaris	common wasp
LEPIDOPTERA	
Hepialidae	porina moths
Wiseana umbraculata	
Glyphipterigidae	
Glyphipterix triselena	
Elachistidae	
Cosmiotes ombrodoca	
Oecophoridae	
Xyloryctinae	
Scieropepla typhicola	
Plutellidae	
Plutella antiphona	
Tortricidae	leaf rollers
Capua semiferana	
**Cydia succedana*	
Epichorista siriana	
Crambidae	

Eudonia feredayi	
Eudonia leptalea	
Eudonia sabulosella	
Eudonia submarginalis	
Orocrambus flexuosellus	
Orocrambus ramosellus	
GEOMETRIDAE	
Asaphodes abrogata	
Epyaxa rosearia	
Helastia corcularia	
Scopula rubraria	
Lycaenidae	coppers/ blues
Zizina oxleyi	southern blue
ODONATA	
Coenagrionidae	damselfly
Xanthocnemis zelandica	