



Significant Natural Area Assessment			
Project No: <i>11001/021</i>	Property Name: <i>Hillend Station</i> Site Name: <i>Hillend SNA C</i>	Ecologist: <i>Dawn Palmer</i> Date: <i>20 December 2011</i>	
Survey Undertaken By: <i>Dawn Palmer (NSN) and Ralph Henderson (QLDC).</i>		Waypoint No (mid-point of survey area): <i>1288360E 5036588N</i> Waypoint 27 – <i>1288742E 5036330N</i>	
LENZ Units: <i>Q2.2a</i> Ecological District: <i>Wanaka</i>		Photo No.(s): <i>See attached.</i>	
Topography: <i>Steep gully and bluff system</i>	Slope: <i>Steep to Very steep (>35°)</i>	Altitude: <i>500 to 800 masl</i>	Aspect: <i>North-west: southeast and north-south</i>
Threatened Environment Status: <i>Q2.2a – Category 4 – Critically under protected.</i>		Area Size (ha): <i>51.06</i>	
Representativeness: <i>Beech Forest</i> There are only a few beech forest fragments remaining in this portion of the Wanaka Ecological District and Lakes Ecological Region. Pre-settlement beech forest would have dominated the cover from low to mid elevations up to the tree line at about 1100masl. The small fragment of beech forest within SNA C is representative of the historical vegetation.			
<i>Grey Shrubland</i> Bands of shrubland formerly provided the dominant vegetation cover on mid to lower elevation slopes in the drier areas of the Wanaka Ecological District and Lakes Ecological Region. Matagouri dominated the drier slopes while a more diverse mix of divaricating shrubland containing Coprosmas and Matagouri as well as kanuka and manuka were found in moist gullies and hill slopes ¹ . Within this proposed SNA, the shrubland communities provide a representative example of the historical shrubland communities. Due to their modified state, they are at the low value end of the spectrum of representativeness.			
Are there threatened species expected/identified in the survey area? If so, list species and threat status.			
Threatened Species		Threat Status	
<i>Falco novaezealandiae</i> “eastern” (eastern NZ Falcon) – a pair was seen between SNA A and SNA C.		At Risk – Recovering.	

¹ http://ourenvironment.scinfo.org.nz/ourenvironment#layers=new_water_cache_nztm,transport_cache_nztm,text_cache_nztm,lcr_basemap_notext_cache_nztm,bw_lcr_basemap_notext_cache_nztm,painted_relief_cache_nztm,shaded_relief_cache_nztm,new_coastpoly_cache_nztm,reg_councils_cache_nztm,terr_auth_cache_nztm,wards_cache_nztm,po_grid_2193,lenz_potnatveg_g_cache_nztm

Provide onsite description of vegetation:

Beech forest fragments with extensive areas of regenerating shrubland – probably dominated by manuka/kanuka with matagouri-Coprosma and Olearia in the riparian areas.

Degree of Modification:

Areas affected by burning in 1995 have been slow in their progress towards recovery with charred tussocks and manuka/kanuka stems still evident on north facing slopes. Bracken growth and regenerating kanuka/manuka shrubland dominate the cover in these areas.

Southern tributary gullies are comparatively more intact but shrubland is open, fragmented and include infestations of briar (*Rubus rubiginosa*) and elder (*Sambucus nigra*) along with *Hieracium lepidulum*.

Overall Health:

The beech forest and shrubland communities were viewed from a distance therefore recruitment within them could not be ascertained.

Provide onsite description of fauna habitat:

The beech forest and shrubland areas provide habitat for both exotic and native passerines that are the prey of the eastern New Zealand falcon.

A falcon was heard calling, before flying low and landing among rock outcrops near the ridge (GR 1289210E 5036820N). The vicinity of the grid reference provided should be checked more closely for nesting. The availability of shrubland habitat within a 5 kilometre radius of this sighting is limited rendering the shrubland communities present more valuable as habitat for prey species of the falcon.

Threats/Risks to vegetation and flora/fauna species? (Weeds, predators, current management practices):

Continued vegetation clearance (e.g. an escaped fire) and continued spread of *Hieracium*, elder, hawthorn and briar within the shrubland on moist and/ or south facing slopes poses a continuing threat to the integrity of the communities.

Rarity:

The shrubland provides habitat for the prey species of the Eastern Falcon, a 'At Risk' species.

The beech forest and shrubland in SNA C are within land environment Q2.2a. The threatened environment classification system identifies the Q2.2a environment as having 39.92% of the indigenous vegetation remaining with just 5.07% protected.

Following extensive land clearance within the District beech forest communities have been substantially lost east of the Divide and areas that were previously vegetated by beech forest, are now regenerating grey shrubland communities, where these have not also been cleared.

The beech forest fragment is therefore considered rare within this eastern catchment of the Lakes Ecological Region.

Area Size and Shape (degree to which the area may be or is becoming self-sustaining):
The beech forest fragments are confined to the base of the steep sided tributary gullies.

The shrublands are open and fragmented although mature and large.

Diversity and Pattern (is there a notable range of species and habitats, aspects, sequences?):
The vegetation of SNA C was not closely inspected, but is likely that beech forests are comprised of silver beech.

The grey shrubland contains the species normally associated with grey shrubland communities although it has also sustained a substantial level of infestation by woody weeds (e.g. briar and elder).

Distinctiveness/special ecological characteristics (unusual veg. & landform features, distribution limits?):

The presence of small patches of silver beech (and possibly mountain beech) within the tributary gullies of this proposed SNA provides an indication of the historical distribution and diversity of beech forests. The presence of beech forest is distinctive in this area given the loss within the area of their historical distribution.

The shrubland contains no special or distinctive characteristics.

Connectivity (how is the site connected to surrounding communities/areas?):

The beech forest patches in this portion of the Lakes Ecological Region are found in just a few of the tributary catchments of the Cardrona River, the Motatapu catchment to the north and Luggate Creek at the eastern end of the Pisa Range. Connectivity between forest patches is therefore very limited.

By comparison, connectivity between shrubland within the Spotts Creek catchment and nearby Cardrona tributary catchments is more likely to exist. Many of the species found within the shrubland community are insect pollinated and wind or bird dispersed. The potential for infilling and genetic exchange between the remnant patches of shrubland is therefore reasonably good if unimpeded by land management practices such as clearance.

Sustainability (does the site possess the resilience to maintain its ecological integrity and processes?):

Regeneration within the beech forest was not assessed, but browsing is likely to inhibit substantial spread and regeneration from the existing stands. Winged seeds are most likely to be dispersed onto the immediately adjacent slopes and downstream within the confined catchments.

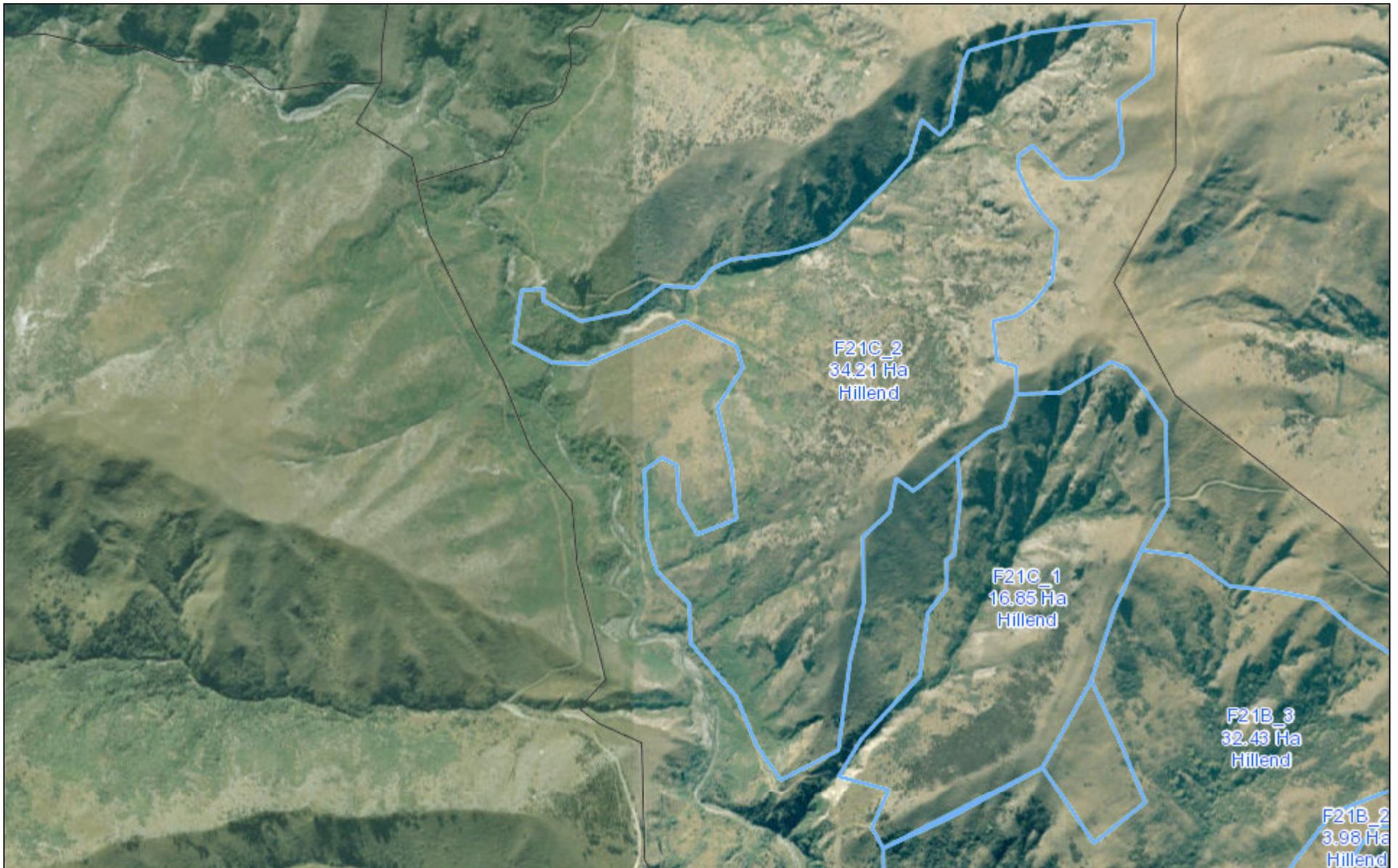
Shrubland species are predominantly pollinated by invertebrates with wind and birds being the mechanism of seed dispersal. Regeneration within and between pockets of shrubland is therefore possible, but also likely to be hindered by browsing and competition with pasture grasses.

Recommendation (Accept/Decline):

Accept the SNA C area, given:

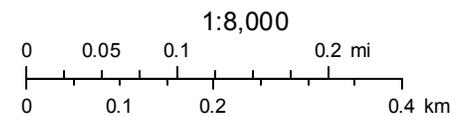
- The silver/mountain beech patch within the Q2.2a environments as a significant representative sample of the formerly more widespread mixed beech forest community.
- The grey shrubland is modified example of the historically more widespread shrubland community that formed a band below the beech forests upslope. Within the district, communities such as these have been reduced to remnant pockets within farmed landscapes.
- While the integrity of the matagouri- Coprosma – Olearia shrubland community was considered to be diminished by the infestation of briar and elder and is open and fragmented in condition, it is likely to provide habitat for invertebrate fauna and particularly passerines that are the prey of the eastern NZ falcon.

Figure 1: The area of potential significance - Hillend SNA C - F21C_1-2.



October 3, 2014

- Proposed Significant Natural Area
- Parcels
- Proposed Significant Natural Area



Please note the area shown is indicative and only for discussion purposes.



Figure 2: Above: kanuka – Matagouri – Coprosma – Olearia shrubland with beech forest - view west from waypoint 27 (GR 1288742E 5036330N). Photograph taken by Dawn Palmer 20 December, 2011.



Figure 3: Photograph of beech forest – Olearia and briar – zoom view from waypoint 27; 20/12/2011.