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Significant Natural Area Assessment			
Project No: <i>11001/021</i>		Property Name: <i>Hillend Station</i> Site Name: <i>Hillend SNA B</i>	
		Ecologist: <i>Dawn Palmer</i> Date: 20 December 2011	
Survey Undertaken By: <i>Dawn Palmer (NSN) and Ralph Henderson (QLDC).</i>		Waypoint No (mid-point of survey area): <i>1288852E 5035915N</i> <i>Waypoint 24 view W 3:34 pm</i> <i># Waypoint 25 3:50 pm</i> <i>Waypoint 26 4:05 pm #</i>	
LENZ Units: <i>N4.1d and Q2.2a</i> Ecological District: <i>Wanaka</i>		Photo No.(s): <i>See attached.</i>	
Topography: <i>Gully dissected convex hill slopes.</i>	Slope: <i>Steep (18° in the southern area) to Very steep (>35° in the northern gully).</i>	Altitude: <i>480 to 680 masl</i>	Aspect: <i>Gullies have a SW axis, slopes are north west and south east facing.</i>
Threatened Environment Status: <i>N4.1d – category 2 – Chronically threatened</i> <i>Q2.2a – category 4 – Critically under protected</i>		Area Size (ha): <i>47.67</i>	
Representativeness: <i>Grey Shrubland</i> Bands of shrubland formerly provided the dominant vegetation cover within a band of 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 SNA, the shrubland remaining on the lower slopes of the Spotts Creek catchment provides a representative example of the range of grey shrubland communities remaining.			
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)		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:

The shrubland of SNA B was viewed from the farm track that traversed the slope uphill of the vegetation. *Discaria toumatou*, *Coprosma propinqua*, kanuka – manuka and less so *Olearia odorata* dominated the vegetation community. It is similar to the shrubland of SNA A but has a lesser proportion of *Olearia* and a higher proportion of the exotic species briar (*Rubus rubiginosa*) and elder (*Sambucus nigra*).

Degree of Modification:

The area was last burnt in about 1995.

Pasture grasses and *Hieracium lepidulum* are well established in the understory while elder and briar form a common component of the shrubland canopy. The vegetation is also browsed by sheep.

Overall Health:

The shrubland is predominantly indigenous but contains an obvious exotic component of briar and elder.

Provide onsite description of fauna habitat:

The shrubland provides 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 (including this area) 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 and infestations of elder pose a threat to the shrubland as it may form groves that hinder natural regeneration. Conifers are also present lower in the catchment as are hawthorn. These may be spread by wind or birds (respectively) into the shrubland adding to the existing weed burden.

Rarity:

The shrubland provides habitat for the prey species of the Eastern Falcon, an 'at risk' species.

The shrubland lowest on the hill slope is within the land environment N4.1d. The threatened environment classification identifies this environment as having 18.6 % of the indigenous cover remaining with just 2.3% of that being protected. Following extensive land clearance within the District grey shrubland communities have regenerated into areas that were previously vegetated by beech forests. The shrubland communities in this catchment provide an example of such seral stage regeneration.

Area Size and Shape (degree to which the area may be or is becoming self-sustaining):
The grey shrubland community is found within the tributary gully slopes along the true left of Spotts Creek. The shrubland is an irregular shape but occupies a large proportion of the lower valley slopes in the Spotts Creek catchment.

Under the current management regime, the process of natural regeneration within and spread from the existing shrubland may be limited by browsing and competition from pasture grasses.

Diversity and Pattern (is there a notable range of species and habitats, aspects, sequences?):
The shrubland contains the dominant species normally associated with grey shrubland communities although it has also sustained a substantial level of infestation by woody weeds (briar and elder).

Distinctiveness/special ecological characteristics (unusual veg. & landform features, distribution limits?):
The shrubland contains the dominant species normally associated with grey shrubland communities. It contains no special or distinctive characteristics.

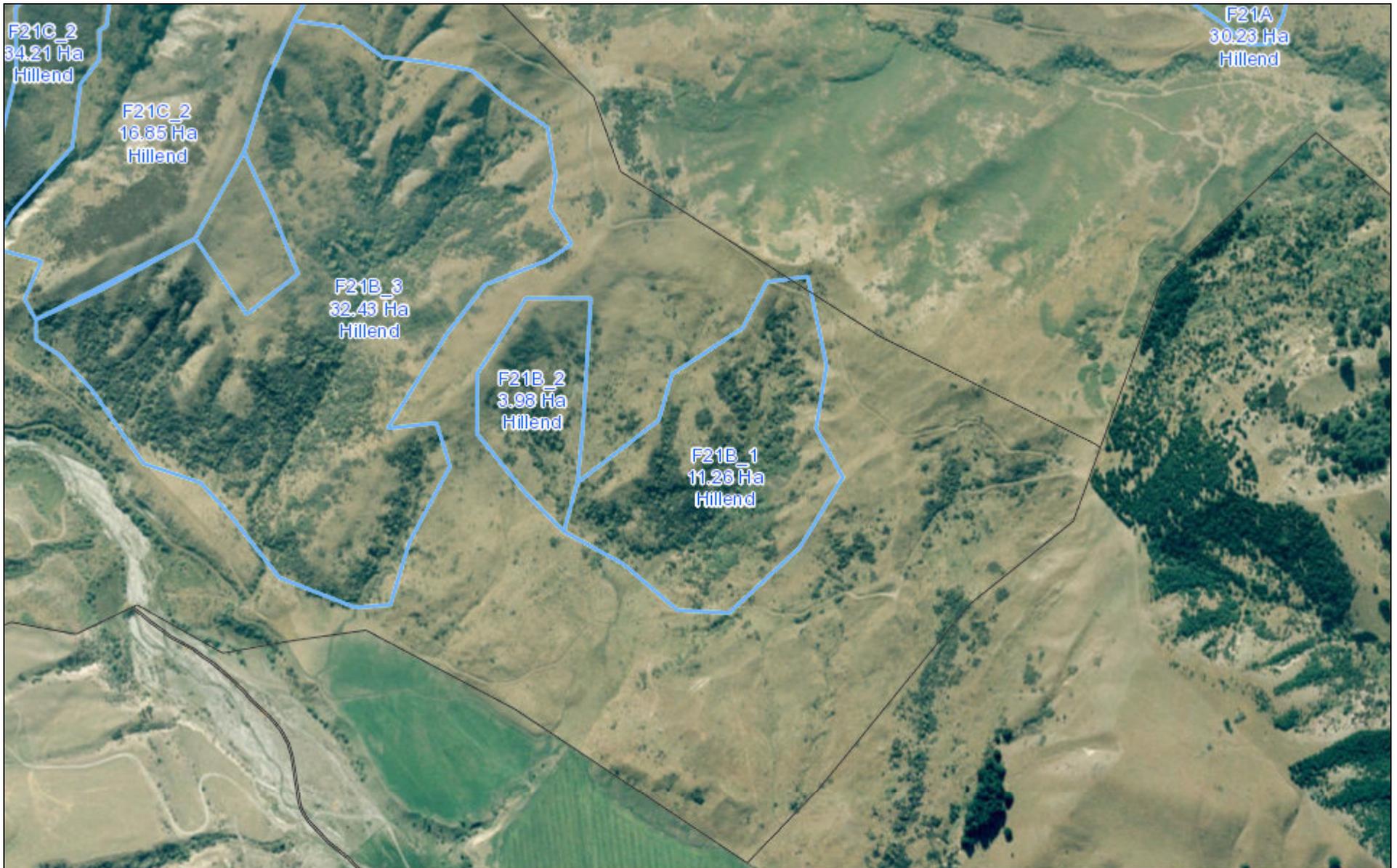
Connectivity (how is the site connected to surrounding communities/areas?):
Connectivity has been maintained between this area of shrubland and similar areas within the Spotts Creek catchment and nearby Cardrona tributary catchments. Many of the species found within the shrubland community are insect pollinated and wind or bird dispersed. The potential for infilling and genetic exchange between the remnant patches of shrubland is therefore moderately good if unimpeded by land management practices such as clearance.

Sustainability (does the site possess the resilience to maintain its ecological integrity and processes?):
The shrubland has a substantial component of woody weeds and while briar can be over topped by continued maturation of the indigenous shrubland, elder is a hardy, deciduous tree tolerant of the full range of climatic conditions of this site. Dispersal by birds enables this species to form groves that may inhibit natural regeneration.

Recommendation (Accept/Decline):
The grey shrubland is modified example of the historically more widespread shrubland community that historically formed a band below the beech forests upslope. Within the district communities such as these have been reduced to remnant pockets within farmed landscapes. The shrubland is expected to provide habitat for invertebrate fauna and particularly passerines that are the prey of the eastern NZ falcon.

While the integrity of the vegetation community has been diminished by the weed infestations, the extent of vegetation loss within N4.1d environments **and** its location within what is likely to be a falcon territory warrants a recommendation to accept this shrubland as an SNA.

Figure 1: The area of potential significance - Hillend SNA B - F21B_1-3.



October 3, 2014

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

1:8,000
0 0.05 0.1 0.2 mi
0 0.1 0.2 0.4 km
Please note the area shown is indicative and only for discussion purposes.

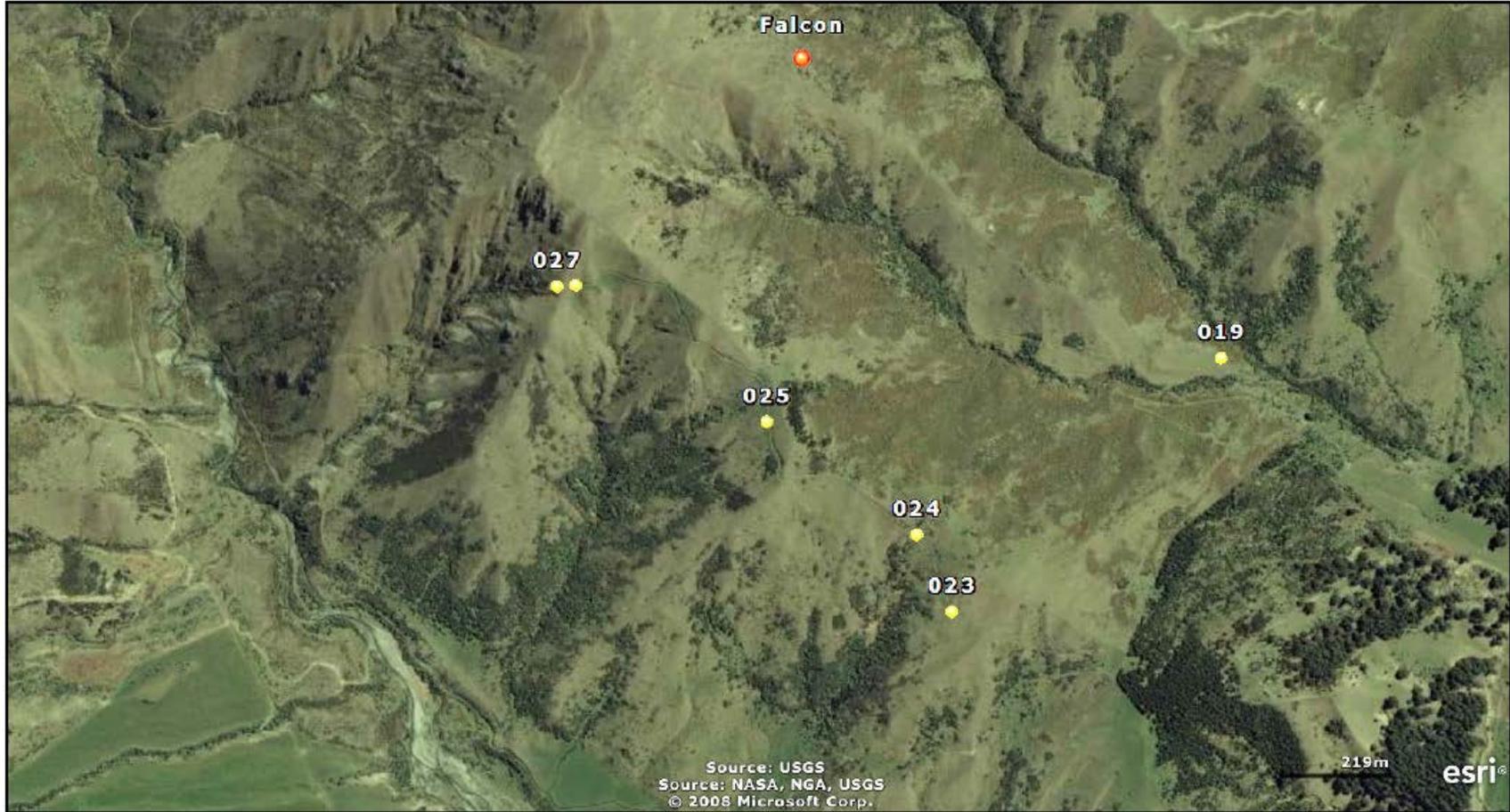


Figure 2: Location of falcon sighting in relation to the potential SNA B.



Figure 3: above: View west from waypoint 23 (GR 1289565E 5035705N), elder and briar are in flower. Photo by D Palmer 20/12/11.

Figure 4: view southwest from waypoint 24 (GR1289487E 5035858N). Matagouri - Coprosma and Olearia shrubland with white, flowering elder in the mid slope area. Photo by D Palmer 20/12/11.





Figure 5: Matagouri- Coprosma – kanuka/ manuka shrubland in a tributary gully on true left side of lower Spotts Creek. View south from the farm track at waypoint 25 (GR 1289176E 5036074N). Elder and kanuka/ manuka higher on the ridges can be seen in flower. Photo by D Palmer 20/12/11.