



Significant Natural Area Assessment			
Project No: 11011/035	Property Name: <i>Queensberry Station</i> Site Name: <i>Sheepskin Creek SNA A</i>	Ecologist: <i>Simon Beale</i> Date: <i>February 2012</i>	
Survey Undertaken By: <i>Simon Beale and Glenn Davis</i>		Waypoint No (mid-point of survey area): <i>G40 - E: 2217000 N:5598800</i>	
LENZ Unit: <i>Predominantly N5.1c and N4.1d. Q2.2a.</i> Ecological District: <i>Pisa</i>		Photo No.(s): <i>See attached.</i>	
Topography: <i>Hill slopes, undulating land & rocky outcrops and scarps.</i>	Slope: <i>>20°</i>	Altitude: <i>Approx. 260 – 600 m asl</i>	Aspect: <i>NW - NE</i>
Threatened Environment Status: <i>Acutely and Chronically Threatened. Critically Underprotected.</i>		Area Size (ha): <i>110.98</i>	
Representativeness: Diverse scrub/shrubland communities form dominant cover in mid to lower reaches of the Sheepskin Creek catchment with intervening areas of pasture. Vegetation pattern reflects succession towards a scrub/shrubland woodland community dominated by kanuka.			
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	
<i>Naultinus gemmeus</i> (Jewelled gecko)		At Risk – Declining	
<i>Olearia lineata</i>		At Risk – Declining	
Provide onsite description of vegetation:			
Vegetation types: Kanuka scrub and shrubland. Mixed kanuka/mingimingi (<i>Coprosma propinqua</i>) –matagouri shrubland. Sub-dominant species include <i>Coprosma crassifolia</i> , <i>Melicope simplex</i> , <i>Olearia lineata</i> , <i>Carmichealia</i> spp.			
Structural Classes: Scrub, shrubland and grassland			
Shrubland Canopy: kanuka/mingimingi – matagouri Shrubland Sub-Dominants: <i>Coprosma crassifolia</i> , <i>Melicope simplex</i> , <i>Corokia cotoneaster</i> . Shrubland Ground Cover: <i>Blechnum penna-marina</i> , short tussock, tussock hawkweed Shrubland Climbers/Vines: <i>Rubus schmidelioides</i> , <i>Meuhlenbeckia australis</i> , <i>Muehlenbeckia complexa</i> .			

Degree of Modification: The area has experienced frequent disturbance events in the past (e.g. fire).

Degree of Recruitment: Strong regeneration of kanuka dominated scrub and shrubland communities mainly on gentle to steep sloping hill slopes and within gully systems.

Overall Health: The more extensive areas of shrubland at the northern end of the property are intact and have a closed canopy. The majority of the kanuka cover is shrubland with grey shrubs and sweet briar as sub-dominant species. Rabbit population is extreme with browse damage evident on woody plants.

Provide onsite description of fauna habitat – species recorded or expected to be present: The kanuka and kanuka/grey shrubland provides suitable habitat for insectivorous birds (fantail, grey warbler), while the shrubland–open pasture vegetation pattern provides favourable hunting opportunities for eastern falcon and Australasian harrier.

Indigenous shrubs such as *Coprosma crassifolia*, porcupine scrub (*Melicytus alpinus*) and thickets of bush lawyer growing amongst the rocky outcrops provide high quality habitat for lizards such as Cromwell gecko, while the more extensive areas of kanuka may provide habitat for the nationally threatened jewelled gecko.

Many of the divaricating shrubs as noted above are important habitat (refugia and food supply) for a range of invertebrates including various beetle and moth species.

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

The open and somewhat arid expanses of pasture are affected by extensive patches of mouse eared hawkweed. Tussock hawkweed is abundant within and around the shrubland margins. The rabbit infestation is favouring the spread of Hieracium and other exotic plants adapted to dry conditions and adversely affecting young shrubs due to browse pressure. Farm management is currently absent.

Rarity:

The shrubland is not uncommon in the Pisa Ecological District but is regionally significant due to its disjunct and limited distribution in Otago. The combination of shrubland and varied landforms provide suitable habitat for 'at risk' avifauna (eastern falcon) and flora (*Olearia lineata*).

Area Size and Shape (degree to which the area may be or is becoming self-sustaining):

The areas of shrubland are scattered with the more intact areas in the lower reaches of Sheepskin Creek and on the lower hillslopes between 460-600 m asl. The more open shrubland cover generally encountered on the easier terrain could be described as low woodland with high area/edge ratios.

Diversity and Pattern (is there a notable range of species and habitats, aspects, sequences?):

The area contains an assemblage of shrubland species. The variability of species morphology (colour, texture and form) contributes to the vegetation pattern.

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

Distinctive in terms of the varied landform features encountered within a relatively small area such as terraces, hill slopes, rocky bluff systems, rocky outcrops and incised creek bed. Tall kanuka (> 4 m) encountered within the lower reaches of Sheepskin Creek.

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

Good degree of connectivity with extensive kanuka shrubland within Lake McKay Station, the property to the west of Queensberry Hills. Altitudinal sequence of shrubland from near SH 6 (260 m) to 600 m asl on lower hill slopes of Pisa Range merging with modified indigenous/exotic grassland communities.

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

The absence of further human induced disturbances in combination with pest (rabbit) control measures will allow a more expansive shrubland cover to develop across much of the property within a relatively short period of time. Google Earth Images from 2005 and 2007 demonstrate the extent of regeneration of shrubland community that has occurred over the last 5 to 7 years across large parts of the property.

Recommendation (Accept/Decline):

We consider this area should be designated as a Significant Indigenous Vegetation and Fauna Habitat in view of the following ecological attributes:

- The diversity of shrubland vegetation types and landform features;
- The floristic diversity of the shrublands;
- The subtle vegetation patterns;
- The variety of habitats the area affords to indigenous fauna, providing suitable habitat for at risk species, such as the eastern falcon and *Olearia lineata*.

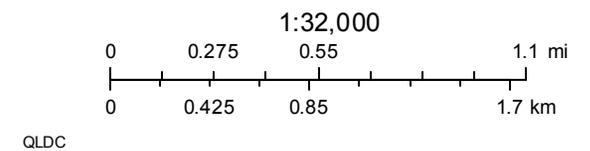
Overview: The area of potential significance - Sheepskin Creek SNA A - E35A



July 16, 2015

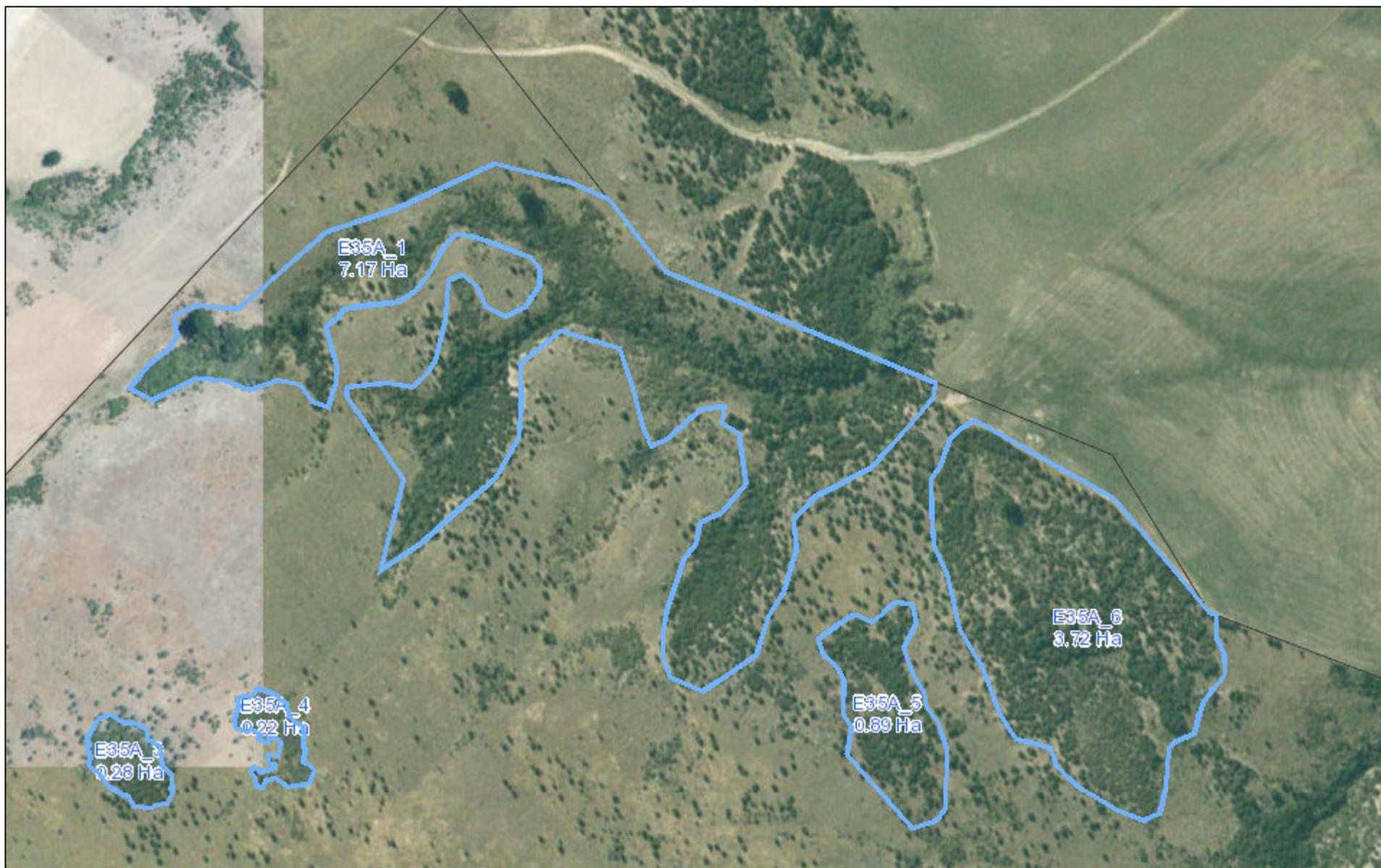
Proposed_Significant_Natural_Areas - Proposed SNA

-  Proposed SNA
-  Parcels



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

Figure 1a: The area of potential significance - Sheepskin Creek SNA A - E35A_1,3,4,5,6.

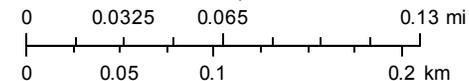


July 16, 2015

Proposed_Significant_Natural_Areas - Proposed SNA

-  Proposed SNA
-  Parcels

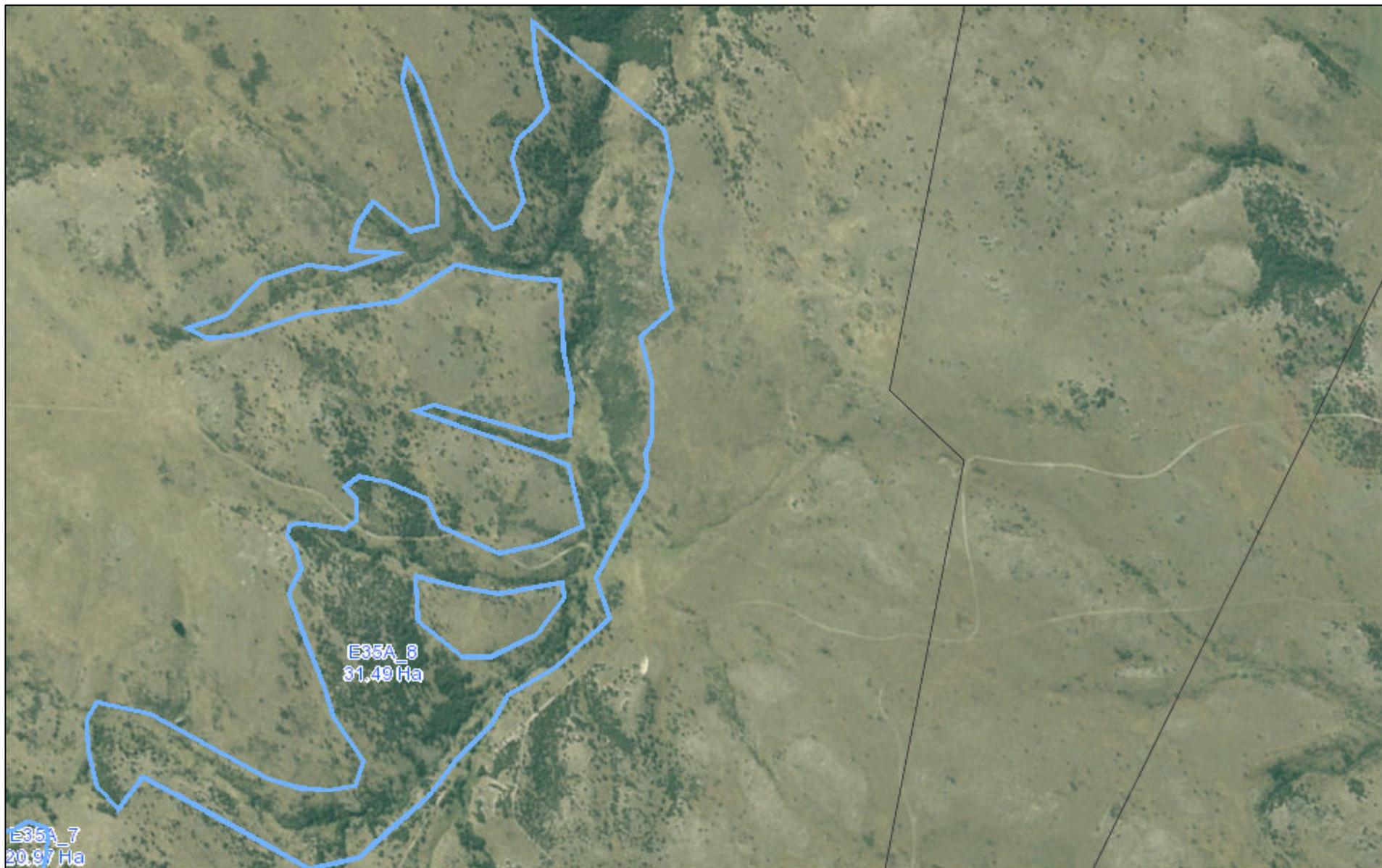
1:4,000



QLDC

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

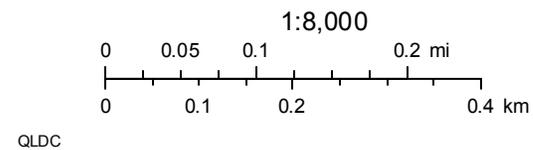
Figure 1b: The area of potential significance - Sheepskin Creek SNA A - E35A_8.



July 16, 2015

Proposed_Significant_Natural_Areas - Proposed SNA

- Proposed SNA
- Parcels



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

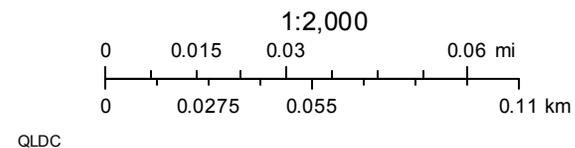
Figure 1c: The area of potential significance - Sheepskin Creek SNA A - E35A_2.



July 16, 2015

Proposed_Significant_Natural_Areas - Proposed SNA

-  Proposed SNA
-  Parcels



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

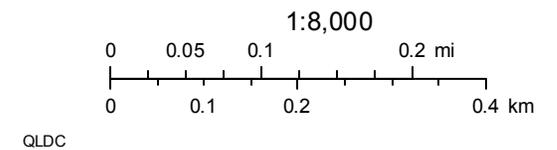
Figure 1d: The area of potential significance - Sheepskin Creek SNA A - E35A_7,10.



July 16, 2015

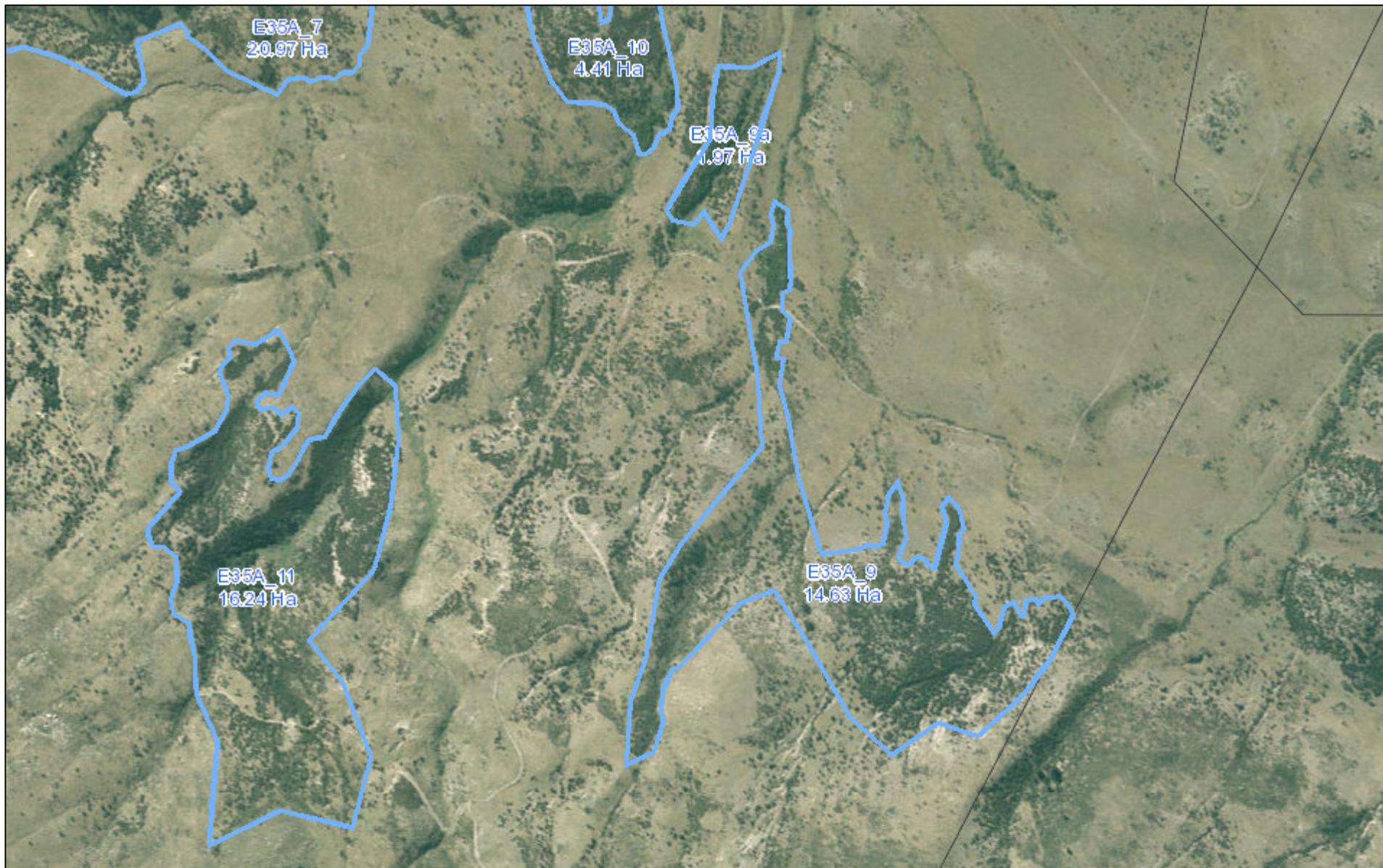
Proposed_Significant_Natural_Areas - Proposed SNA

-  Proposed SNA
-  Parcels



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

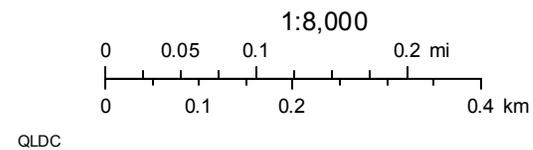
Figure 1e: The area of potential significance - Sheepskin Creek SNA A - E35A_9,9a,11.



July 16, 2015

Proposed_Significant_Natural_Areas - Proposed SNA

-  Proposed SNA
-  Parcels



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



Figure 2: Extensive areas of kanuka shrubland of varying degrees of intactness covering the hillslopes immediately west of Sheepskin Creek.



Figure 3: Confined area of mixed kanuka/grey shrubland bordering tributary of Sheepskin Creek. A small group of *Olearia lineata* shrubs evident in foreground. Kanuka woodland in background.



Figure 4: Good quality lizard habitat associated with bluff system within kanuka woodland.



Figure 5: Scattered bushes of porcupine scrub (*Melicytus alpinus*) on one of the rounded knolls bordering Sheepskin Creek.



Figure 6: Extensive kanuka shrubland exhibiting a good degree of canopy closure at northern end of property.



Figure 7: Large thicket of bush lawyer (*Rubus schmidelioides*) commonly associated with rock outcrops such as this one located near the edge of kanuka shrubland.



Figure 8: View south towards extensive kanuka shrubland on lower hillslopes between 460 to 560 m. Sheepskin Creek is at left of photograph.



Figure 9: One of a number of large rock outcrops on the property.