

Crown Pastoral Land Tenure Review

Lease name : SOLDIER SYNDICATE

Lease number : Oo 091

Conservation Resources Report - Part 2

As part of the process of Tenure Review, advice on significant inherent values within the pastoral lease is provided by Department of Conservation officials in the form of a Conservation Resources Report. This report is the result of outdoor survey and inspection. It is a key piece of information for the development of a preliminary consultation document.

Note: Plans which form part of the Conservation Resources Report are published separately.

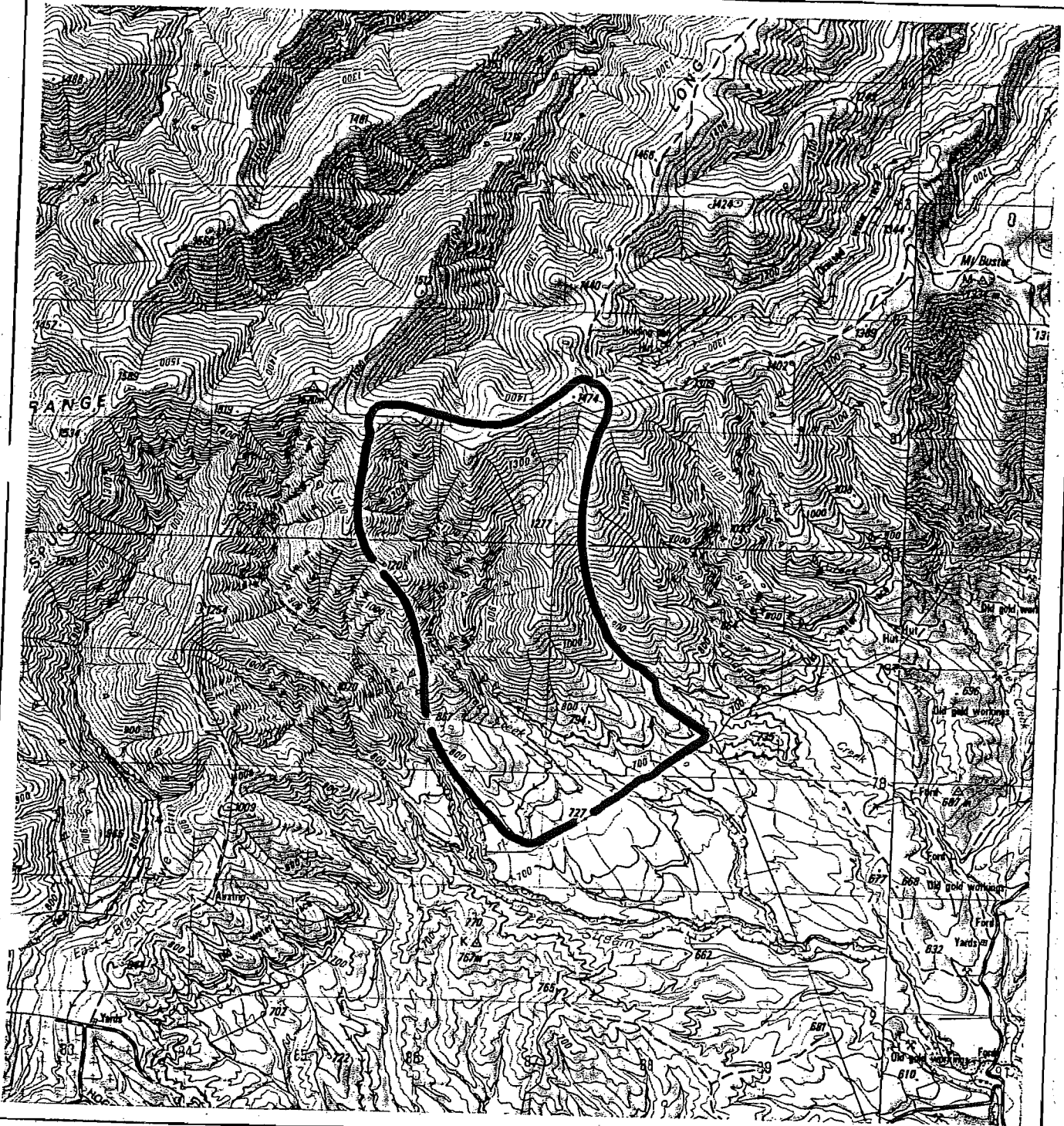
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July

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APPENDIX 4

RAP 13 - Near Undaunted



GRID REFERENCE CENTRE : H41 / 866 793

AREA : 660 hectares

ALTITUDE RANGE : 690 - 1530 metres

TENURE : Conservation Land

SAMPLE SITES : 17 - 47

Map Licence No 1991/42



HAWK 13**NEAR UNDAUNTED****H41 866 793**

Area : 660 ha
 Altitude range : 690m-1530m
 General aspect : South
 Land systems : Southern Mountain Scarp; Southern and Southeastern Alluvial Apron.
 Plot cards : 17-47
 Quadrat groups : Group 2 (s35,45-47);
 Group 5 (s22,24,32,36-40);
 Group 7 (s21,23,30,31,33,34,41,42,44);
 Group 9 (s18,26);
 Group 12 (s17,19,20,25,28, 29,43);
 Group 15 (s27).
 Tenure : Conservation land
 References : 'Inspection Report on 099 POL', B. Patrick. Draft report.

Vegetation type**Landform**

High-alpine tussock-cushionfield and fellfield.

Ridge crest of Ida Range.

Low-alpine shrub-tussockland and scree vegetation.

Ridge and spur side slopes.

Low-alpine tussock-fellfield.

Narrow spur crest.

Subalpine tussock-mossfield and fellfield.

Spur crest.

Subalpine shrub-tussockland.

Floor of nivation basin; spur slope and side slope.

Subalpine to montane mixed shrubland and tussock-shrubland.

Stream gully.

Montane wetland.

Scattered across alluvial terraces; flushes at base of spur slope.

Montane shrub-tussockland.

Alluvial terraces and foothills.

VEGETATION AND FLORA

Near Undaunted RAP has a natural vegetation sequence from high-alpine to montane bioclimatic zones. At the crest of the Ida Range, the northern boundary of the RAP(1470-1570m), patches of high-alpine tussock-cushionfield are found among larger areas of fellfield. The main species present are: *Chionochloa macra*, *Festuca matthewsii*, *Dracophyllum muscoides*, *D.pronum*, *Kelleria villosa*, *Raoulia hectorii* and *R.petriensis*.

South of the crest are steep (25-35 degree) ridge and spur side slopes. Much of these slopes are bare scree, but they also hold low-alpine shrub-tussockland. Aspect and vegetation cover are variable, the latter ranging from 10-90%. Highest plant cover is on sites of shaded aspect

where snowbanks persist; more usually cover is from 30-60% on non-scrub areas.

Chionochloa rigida forms the tussock canopy with *Dracophyllum pronum* the main shrub species. In fact, *D.pronum* is the dominant cover at some sites. *Raoulia eximia*, the vegetable sheep, is found on the upper side slopes of the RAP; this probably marks the species southern limit. Cushion plants persist: *D.muscoides*, *Phyllachne colensoi*, *Kelleria villosa*, *Raoulia grandiflora*; as do the lichens *Thamnolia vermicularis*, *Usnea contexta* and *Alectoria nigricans*. Also present are: *Celmisia lyallii*, *Festuca matthewsii*, *Aciphylla aurea*, *Poa colensoi*; shrubs such as *Hebe odora*, *H. epacridea*, *Pimelea traversii*, *P. prostrata*, *Gaultheria depressa* and *Pentachondra pumila*. Smaller herbs include: *Anisotome flexuosa*, *Luzula rufa*, *Raoulia subsericea*, *Celmisia laricifolia*, *Carex breviculmis*, *Epilobium alsinoides*, *Rumex acetosella* and *Blechnum penna-marina*.

The moister snowbank sites, in addition to denser populations of many of the species listed above, are occupied by herbs such as: *Ourisia caespitosa*, *Caltha obtusa*, *Plantago novae-zelandiae*, *Gentiana amabilis*, *Gnaphalium mackayi*, *Helichrysum bellidioides*, *Ranunculus gracillipes*, *Lycopodium fastigiatum*, *L.australianum* and *Anisotome aromatica*.

On the screes are found scattered *Ranunculus haastii* and *Epilobium pycnostachyum*, while rock outcrops in the area hold *Celmisia densiflora*, *Helichrysum selago* and *Leucogenes grandiceps*.

The floor of the nivation basin at the head of the eastern gully (1100m) has a particularly fine, dense subalpine shrub-tussockland community. *Dracophyllum uniflorum*, *D.pronum*, *Gaultheria depressa* and *Pentachondra pumila* constitute the shrub component; *Celmisia lyallii* is especially abundant, along with *C.rigida*, *Aciphylla aurea* and *Poa colensoi*.

Spur crests in the low-alpine zone are mostly fellfield with only 5-10% plant cover. Scattered individuals of the following species are found: *C.rigida*, *Festuca matthewsii*, *Hebe epacridea*, *Raoulia eximia*, *Dracophyllum pronum* and *Epilobium pycnostachyum*. Lower down the spur line, in the subalpine zone, vegetation on the spur crests can be quite variable, both in species number and density of cover. Fellfield, cushionfield, shrubs and tussockland species are all present in varying proportions; and the moss *Racomitrium lanuginosum* is always relatively abundant in the total vegetation cover.

A particularly exposed portion of rounded spur crest at 1210m had a low (10-15%) vegetation cover, and a third of that was *Racomitrium lanuginosum*. Shrubs present are *Dracophyllum uniflorum*, *D.pronum*, *Hebe buechananii* and *H.epacridea*. Tussockland species include *C.rigida*, *Festuca matthewsii*, *Celmisia lyallii*, *Poa colensoi*, *Aciphylla aurea*, *Anisotome flexuosa*, *Leucopogon fraseri* and *Luzula rufa*. Cushion plants present are *D. muscoides*, *Phyllachne colensoi*, *Celmisia sessiliflora* and *Raoulia grandiflora*. The fellfield species *Raoulia petriensis* and *Leptinella pectinata* completed the assemblage.

More sheltered spur crest sites have a 60% cover of subalpine shrub-tussockland. Dominant species are: *C.rigida*, *Dracophyllum uniflorum*, *D.pronum*, *Pentachondra pumila* and *Coprosma alpina*. A third of the total vegetation cover at this site is *Racomitrium lanuginosum*. A lower spur crest site at 1070m has a greater range of species. In addition to those listed above are numerous *Gaultheria crassa*, *Leucopogon colensoi*, *Pimelea sericeo-villosa*, *Celmisia gracilentia* and *Ranunculus foliosus*. Of a total vegetation cover of 85%, *Racomitrium lanuginosum* contributes 60%.

Looking down the spur line, the effect of aspect with respect to the prevailing westerly winds is very apparent. The lee and windward side slopes share the same species but on the windward side slope, density of cover is considerably lower and bare patches of scree are widespread. Vegetation on the side slopes is a subalpine to montane shrub-tussockland. Species present are: *Chionochloa rigida*, *Aciphylla aurea*, *Schoenus pauciflorus*, *Poa colensoi*, *Rytidosperma pumilum*, *Carex breviculmis*; the shrubs *Dracophyllum uniflorum*, *D.pronum*, *Cassinia leptophylla*, *Gaultheria crassa*, *G.depressa*, *Leucopogon colensoi*, *Pentachondra pumila*, *Pimelea oreophila*; herbs *Raoulia subsericea*, *Craspedia lanata*, *Brachyglottis bellidioides*, *Geum parviflorum*, *Brachyscome sinclairii*, *Anisotome flexuosa*, *Epilobium alsinoides*, *Geranium sessiliflora*, *Kelleria dieffenbachii*, *Ranunculus foliosus*, *Hieracium lepidulum* and *H. praealtum*. The moist south-facing spur slopes have a taller and denser covering of species such as *C.rigida*, *Cassinia leptophylla*, *Gaultheria crassa* and *Schoenus pauciflorus* with the addition of *Bulbinella angustifolia*, *Coprosma petriei*, *Pernettya*

macrostigma, *Epilobium glabellum*, *Anisotome aromatica*, *Ranunculus gracilipes* and *Lycopodium australianum*. The exotic species *Holcus lanatus*, *Anthoxanthum odoratum* and *Trifolium repens* are also present, but in low abundance. Dense thickets of *Discaria toumatou* mark the sites of old slips on the spur slopes below 900m.

The gorge of the Near Undaunted Stream and its two tributary gullies has subalpine to montane tussock-shrubland and mixed shrubland communities on the valley floor and lower side slopes. From 1050m down to about 950m, *Podocarpus nivalis* is abundant. Other shrubs present are: *Olearia nummularifolia*, *Coprosma depressa*, *C. rugosa*, *C. serrulata*, *Dracophyllum uniflorum*, *Muehlenbeckia complexa*, *Myrsine nummularia*, *Hebe pauciramosa* and *Gaultheria crassa*. Scattered *C. rigida* and *Aciphylla aurea* grow amongst the shrubs, as do moisture-loving *Schoenus pauciflorus* and *Dolichoglottis lyallii*. Ferns are common, especially under or on rock bluffs: *Polystichum vestitum*, *Hypolepis millefolium*, *Grammitis ciliata*, *Blechnum penna-marina* and *B. minus*. Rock bluffs also hold *Helichrysum selago*, *Leucogenes grandiceps*, *Anisotome caucicola* and *Celmisia densiflora*. Understorey herbs include *Helichrysum bellidioides*, *Ourisia caespitosa*, *Hieracium* spp. and *Hypochoeris radicata*.

Further downstream, below 900m, *Podocarpus nivalis* is uncommon and *Discaria toumatou* becomes the most abundant shrub. However, the other species listed above are still present in the montane communities. Relict stands of *P. hallii*, some of them 3-4m tall, are an exciting feature of the Near Undaunted gorge. New additions to the shrub canopy include *Corokia cotoneaster*, *Carmichaelia petriei*, *Coprosma propinqua*, *C. rubra* and the occasional *Rosa rubiginosa*. Tussockland species also present are *Chionochloa rigida*, *Festuca novae-zelandiae*, *Poa cita* (especially along the stream edge), *P. colensoi*, *P. lindsayi*, *Aciphylla aurea*, *Bulbinella angustifolia* and *Gaultheria depressa*. In the ground layer *Coriaria plumosa* is abundant, accompanied by *Anisotome aromatica*, *Craspedia lanata*, *Carex hectorii*, *Ranunculus gracilipes*, *Gentiana grisebachii*, *Gonocarpus aggregatus* and *G. micranthus*. Exotic species are also abundant in the ground layer: *Anthoxanthum odoratum*, *Holcus lanatus*, *Hypochoeris radicata* and the hawkweeds (*Hieracium* spp).

Small, periodically flooded, streamside flats of coarse alluvium are colonised by mat-forming herbs and shrubs: *Muehlenbeckia axillaris*, *Raoulia tenuicaulis*, *Sagina procumbens* and *Hieracium pilosella*.

Where the stream exits the gorge and in patches across the alluvial terraces are small wetlands. The bogs are dominated by cushions of *Oreobolus pectinatus* and the moss *Sphagnum cristatum*. Growing on the bogs are *Celmisia alpina*, *Epilobium brunescens*, *Caltha obtusa*, *Corybas macranthus* and *Drosera arcturi*, with *Juncus effusus*, *Schoenus pauciflorus* and *Bulbinella angustifolia* at the margins. Adjacent moist shrub-tussocklands hold *Olearia virgata* var. *rugosa*, *Coprosma rugosa*, *Chionochloa rigida*, *Poa cita*, *Anisotome aromatica* and *Lycopodium fastigiatum*.

The drier sites, which cover most of the alluvial terraces, have a distinctive montane shrub-tussockland community. The shrubs present are: *Discaria toumatou* (abundant with a low sprawling growth form), scattered *Leptospermum scoparium*, the occasional *Carmichaelia petriei*, *Leucopogon colensoi*, *Pentachondra pumila* and *Gaultheria depressa*. Among the tussocks, grasses and herbs are: *C. rigida*, *Festuca novae-zelandiae*, *Poa colensoi*, *Deyeuxia aucklandica*, *Rytidosperma pumilum*, *Brachyscome sinclairii*, *Viola cunninghamii*, *Leucopogon fraseri*, *Cerastium fontanum*, *Geranium sessiliflorum*, *Raoulia subsericea*, *Ranunculus foliosus*, *Luzula rufa*, *Rumex acetosella*, *Hypochoeris radicata*, *Anthoxanthum odoratum*, *Hieracium pilosella*, *H. praealtum* and *Holcus lanatus*. The moss *Racomitrium lanuginosum* is very abundant and often contributes up to 50% cover to the alluvial terraces.

LANDFORMS

Two land systems are represented in this RAP; the Southern Mountain Scarp and the Southern and Southeastern Alluvial Apron. The former is a steep-sided ridge and gully system branching off the centre ridge line. The crest of the Ida Range forms the northern and upper altitudinal boundary, undulating between 1470m and 1520m within the RAP. Three spur lines

head south from the main ridge: one forms the western boundary; another the eastern; with a shorter spur in the middle dividing the two tributary gullies of Near Undaunted Creek. The spur crests initially drop to the south at a gentle to moderate gradient. The western spur maintains this, dropping gradually to meet the flat alluvial apron. The eastern spur also slopes gently to start with but from a crest at 1050m, slopes south at a gradient of about 25 degrees down to a level of 760m where the slope meets the alluvial apron. The middle spur is narrower and drops steeply to the junction of the tributary gullies at 800m.

The eastern gully has its source in a nivation basin with a well defined lip at 1100m, over which a waterfall cascades in a picturesque manner. The western gully is steeper with a greater proportion of bare scree and rock outcrops on its side slopes.

The spur and ridge side slopes at the head of the both gullies are steep (25-35 degrees) with a range of aspects from east to south to west. The steepness of the spur side slopes is maintained downstream of the gully junction; the valley floor is mostly a narrow and gorge, with small stream side flats and terraces separated by steeper valley side slopes and vertical rock bluffs.

Near Undaunted Creek flows south and exits the gorge at 760m to enter the Alluvial Apron Land System. Small wetlands are present here and on flushes at the base of the spur slopes. The flat alluvial terraces are peppered with these wetlands connected by streamlets which drain southward down a gentle (1-5 degree) gradient. The terraces are divided by steep-sided escarpments where creeks are cutting down. The southern and lower altitudinal limit of the RAP is the boundary fence running across this land system.

FAUNA

Common skinks and geckos were observed in the RAP. Whitaker (1985) describes scree in this catchment as potential habitat for scree skinks.

DISCUSSION

Near Undaunted RAP lies within the DOC-administered 099 POL, which also includes the adjacent catchment of Deep Creek to the west. The RAP has a complete altitudinal sequence from ridge crest to the lower flats, and is fully representative of the southern slopes of the Ida Range. The dominant tussock grassland is continuous from the summit to the lower boundary, with the RAP also including patches of cushionfield and fellfield, scree communities, a variety of subalpine and montane shrublands and examples of the montane wetlands that are scattered along the bases of the Ida Range.



**Blue Duck Creek catchment with Long Spur on left.
Existing area of Conservation Land in background.**



Blue Duck Creek (left) and Boundary Creek (right)



Wetlands on Long Spur



Holding Pen Hut at top of Guffies Creek