

Crown Pastoral Land Tenure Review

Lease name : HAPPY VALLEY

Lease number : PO 361

Conservation Resources Report - Part 3

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.

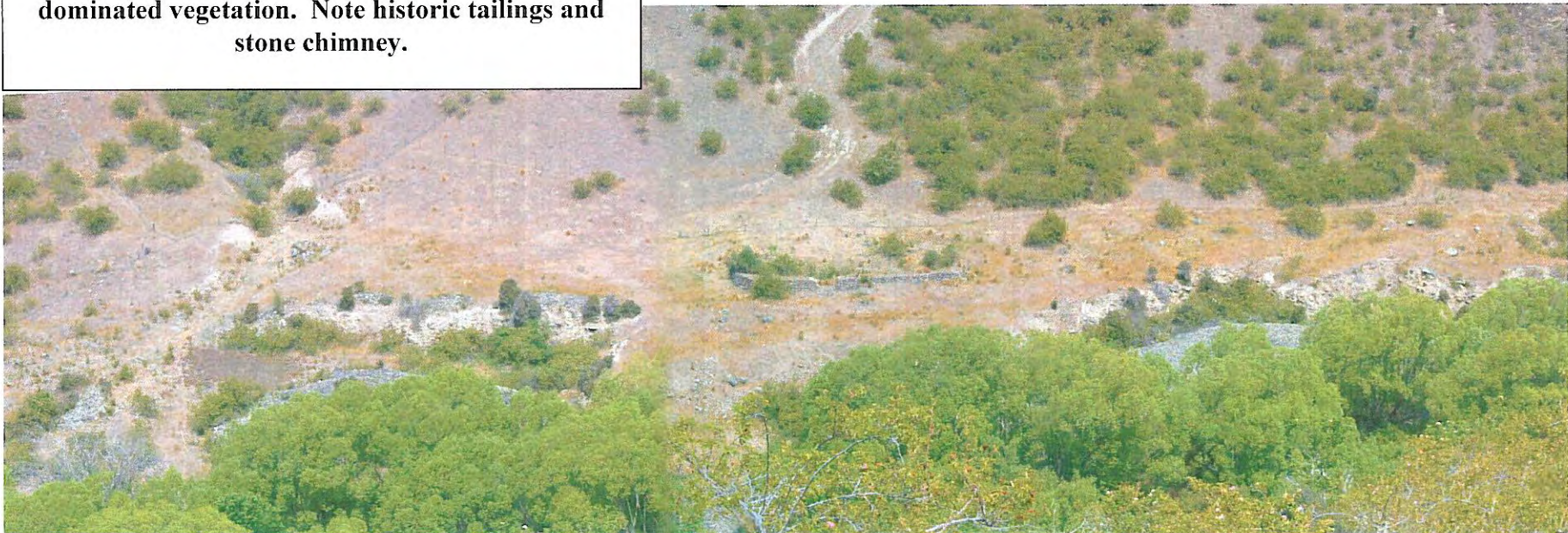
Note: Plans which form part of the Conservation Resources Report are published separately.

These documents are all released under the Official information Act 1982.

August 06



Lower Bannock Burn showing briar and willow dominated vegetation. Note historic tailings and stone chimney.



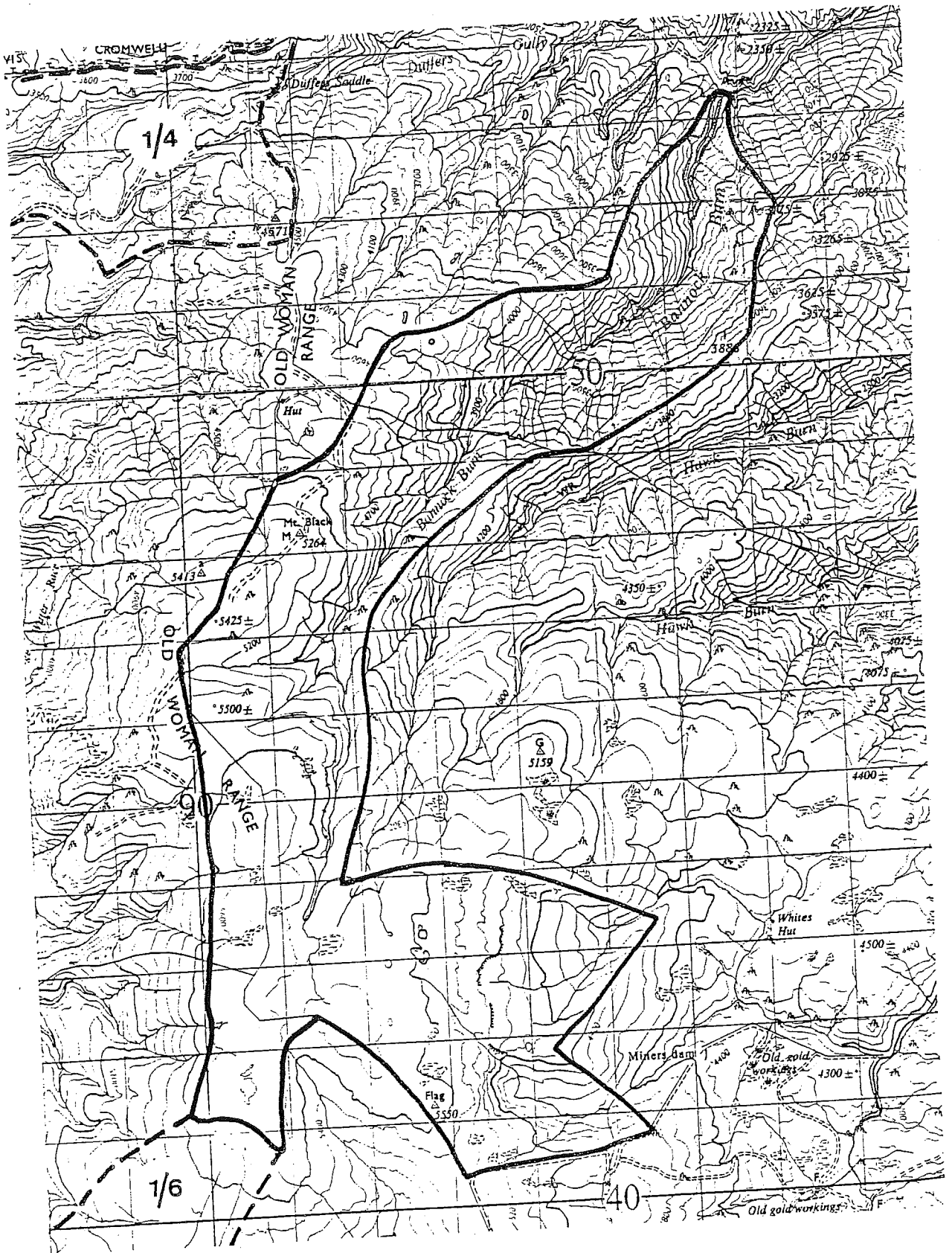


STONE HUT REMAINS ON DUFFERS SADDLE

APPENDIX 1

Old Man Ecological District PNAP Report – RAP 1/5

1/5: BANNOCK BURN - OLD WOMAN RANGE



SCALE	:	0 1 2 Kilometres
GR CENTRE	:	NZMS1 S143 470913
AREA	:	2700 ha
ALTITUDINAL RANGE	:	600m - 1740m
TENURE	:	Crown land ; pastoral lease.
		Study Areas 39, 40, 60.

RELEASED UNDER THE OFFICIAL INFORMATION ACT

1/5 : BANNOCKBURN - OLD WOMAN RANGE , ECOLOGICAL UNIT CHECKLIST

BIOCLIMATIC ZONE	VEGETATION COMMUNITY	ECOLOGICAL UNIT	ALTITUDINAL RANGE	REP. AREA	SAMPLE SITE NO.	PRIORITY AREAS w. SIMILAR UNITS
High-alpine	Snowbank	Snowbank (sedge) on nivation surface	1700-1740m	S	60-05	1/6,7,8,11
"	Cushion	DRAMUS-RAOHEC on patterned ground	1680-1740m	M	40-02; 60-01,02	1/6,7 2/5
"	"	DRAMUS (deflated) on lag surface	1460-1710m	L	39-01,04,13; 60-03,04	1/6,7,10,11; 2/3,5,6,8
"	Wetland	Carex-moss bog on solifluction slopes	1620-1710m	L	39-02	1/6,8,10; 2/5
"	"	" on seepage	1200-1710m	M	39-09; 60-06, 20	1/1,7,11; 2/2,4,6
"	"	" on alluvial surface	1600m	S	60-07	1/4,6,7,11; 2/2,8
"	Blue tussock	POACOL tussockl'd on solifluction slopes	1600-1670m	M	60-10	1/7; 2/4
"	Mixed	Mixed alpine vegetation on glacial features	1520-1620m	M	39-05	1/7,11; 2/8
Low/High alpine	"	POACOL-cushion on patterned ground	1420-1650m	M	39-03,11;	1/6,7,11
"	Blue tussock	POACOL tussockl'd on colluvial slopes	1280-1650m	L	39-07; 60-08, 09,11	1/1,4,7,10,11; 2/3,5
"	Snow tussock	CHIMAC-POACOL Celmisia on solifluction slopes	1400-1650m	M	39-08; 60-11	1/6
"	"	" on colluvial slopes	1370-1490m	M	39-12	1/6,7,8,10,11,13 2/5,6,8
"	"	CHIRIG-POACOL- RAOSUC on glacial features	1430-1550m	M	39-06	1/11
Low-alpine	"	" on colluvial slopes	1370m	S	60-13	1/1,2,7,8,12,13 2/2,4,5,6,7
"	Alpine fescue	FESMAT- POACOL on ripply colluvial slopes	1340-1520m	L	60-15	none
"	Wetland	OREPEC-moss Carex on alluvial surface	1370-1430m	M	39-10	1/7,11,12; 2/5,7
"	Herbfield	ACIAUR-FESMAT on colluvial slopes	1210-1340m	L	60-16	1/1,2,4; 2/1,2
"	Snow tussock	CHIRIG-POACOL- RAOSUC on ripply colluvial slopes	1070-1310m	M	60-14	1/6,13 2/3,5
"	Fescue tussock	FESNOV tussockl'd on colluvial slopes	1070-1310m	M	60-17	1/1,3,4,7,9; 2/1,2
Montane/ Subalpine	Silver tussock	POALAE tussockl'd on colluvial slopes	640-1070m	L	60-18	1/1,2,3; 2/1
"	Scrub	Diverse scrub on derivative slopes	600- 910m	M	60-19	1/2,3,4,12

1/5: BANNOCK BURN - OLD WOMAN RANGELANDFORM

Comprises high summit plateaux, outlier cirque basins and deep NE trending gully.

Across the summit plateaux a pattern of regular and deflated surfaces occurs on exposed dry sites, and bogs/flushes on more sheltered low lying areas. Solifluction and nivation features are prominent on eastern aspects of shallow gullyheads. Eastwards, the plateau is lightly glaciated: a regular pattern of low buttresses and wide joint-controlled depressions with tarns, which merges with headwalls of the upper Whites Creek cirques. The south cirque is deep with a bluff headwall and bouldery wide basin. The northern adjoining cirque is shallow and wide with a subdued headwall, wide ground moraine slopes and enclosing lateroterminal moraine ridges. The summit plateau in the south is domed and has a radial pattern of solifluction flushes.

Below the periglacial summit area the Bannock Burn catchment deepens abruptly in mid-upper reaches and is slumped on both flanks. Tors stud the regularly sloping ridge crests. The deep valley profile is much reduced in the lower reaches.

A descending altitudinal sequence of yellow-brown (Carrick, Dunstan), yellow-grey (Arrow, Blackstone) and brown-grey (Alexandra) hill/steepland soils.

VEGETATION

Contains a full altitudinal sequence of communities from montane tussock and scrub through to high alpine cushionfield.

Cushionfield is widespread across the upper plateaux and east around the heads of the Bannock Burn, Hawk Burn and Whites Creek catchments. Dracophyllum muscoides dominates exposed pavement of the Old Woman Range, continuing down southeast-facing ridge crests of the Bannock Burn catchment. Pockets of slim snow tussock and blue tussock are confined to sheltered depressions and north-facing slopes. Diverse cushion-herbfield communities over the hummocky eastern plateau occurs in a mosaic with wetland species around tarns and string bogs.

The upper Bannock Burn catchment has a mosaic of fellfield, cushion and snowbank communities across wide, gentle slopes. Bands of snowbank associations include Carex pyrenaica - C. breviculmis, Luzula sp. - Raoulia subulata, Celmisia haastii - Drapetes lyallii - Phyllachne rubra and Agrostis muscosa - Gaultheria depressa - Carex. Wetlands along stream-side slopes are dominated by moss and Carex.

Slim snow tussock and blue tussock dominate the upper Bannock Burn valley but are replaced by dense narrow-leaved snow tussocklands below 1350m. Areas of alpine fescue and golden spaniard are prominent on upper exposed slopes.

Below 1050m the catchment is extensively oversown. Silver tussock maintains 50% cover over most of lower slopes with patches of matagouri, Coprosma propinqua and Carmichaelia petriei amongst boulders and scattered outcrops. Briar and hemlock become abundant towards the base of catchment.

FLORA

Flora typical of the Hawksburn land system and upper plateau areas.

DISCUSSION

The area represents landform variation across the northern high tablelands and Hawksburn land system, forming an important link between contrasting northern and southern deformation patterns. The gently sloping catchment provides broader examples of the altitudinal soil sequence than found elsewhere.

The Bannock Burn catchment covers an extensive altitudinal range incorporating the botanical transition from moist Waikaia alpine communities to dry, northern montane tussock and scrub. It contains one of the best tussockland sequences in the District including extensive slim snow tussocklands, one of the most vigorous and intact stands of narrow-leaved snow tussock, a dense stand of alpine fescue and the most extensive stand of silver tussock for the District.

The periglacial features are of high quality: notably solifluction lobes in Bannock Burn head; the nivation area of the upper East Branch Waikaia; solifluction flushes at the south of the Old Woman Range and the spectacular glacial outliers of Whites Creek, whose differing cirque forms are a consequence of preglacial topography.

The plateau cushionfield - herbfield - wetland mosaic is the richest and most extensive example in the District. It appears unmodified by exotics or grazing, and provides an important feeding and breeding area for a variety of birds: southern black-backed gull (breeding), South Island pied oystercatcher, banded dotterel, black-fronted tern and Paradise shelduck (breeding in Whites Creek valley). Caspian terns were seen west of the Old Woman Range and New Zealand falcon were recorded flying over Whites Creek.

CRITERIA SUMMARY

REPRESENTATIVENESS	- H	-	Altitudinal tussockland sequence; alpine cushion-herbfield and wetland associations.
DIVERSITY	- H	-	Extensive altitudinal and climate gradients represented in vegetation, soils, landforms.
NATURALNESS	- M	-	Excellent on alpine plateau. Burning and oversowing at lower levels.
SPECIAL FEATURES	- H	-	Some unique periglacial and glacial features. Important wildlife habitat.
VIABILITY	- H	-	Communities intact, extensive; good canopy cover at lower levels.
BUFFERING	- M	-	Well defined catchment boundaries; surrounding areas heavily modified at lower levels; plateau boundary fenced.
THREAT	- M	-	Oversowing, burning in mid-lower Bannock Burn; exotic invasion of lower scrub, silver tussockland.
LANDFORM	- H	-	Representative of Old Woman plateau summit and NE trending fluvial landscape. Extensive well developed soil hummockfields.