

Crown Pastoral Land Tenure Review

Lease name : CRAIGROY

Lease number : PO 233

Conservation Resources Report - Part 1

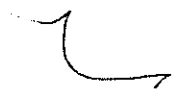
As part of the process of Tenure Review, advice on significant inherent values within the pastoral lease is provided by Department of Conservation officials in the form of a Conservation Resources Report. This report is the result of outdoor survey and inspection. It is a key piece of information for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

March

06



**DOC CONSERVATION RESOURCES REPORT
ON TENURE REVIEW OF
CRAIGROY PASTORAL LEASE AND
ADJACENT UNALIENATED CROWN LAND –
NEVIS STREAMBED**

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PART 1: INTRODUCTION

1.1

The lessees of Craigroy pastoral lease have applied to the Commissioner of Crown Lands for a review of the property's pastoral lease tenure.

Craigroy Station is leased by Nevis Holdings Limited of which Pioneer Generation is a stakeholder. The 4432 hectare property is located in the Nevis Valley, approximately 28 km from Cromwell in Central Otago. The property lies on the eastern side of the Nevis River on the Old Woman Range. Craigroy extends from 660 m in the valley to 1620 m at the crest of the Old Woman Range.

The pastoral lease is made up of approximately 80 ha of cultivated paddocks in the valley flats, while the rest of the property has easy to moderately steep terrain. Below about 1000m, the property has been aerial oversown and topdressed (AOSTD).

Craigroy is in the Central Otago Ecological Region and the Old Man Ecological District. A Protected Natural Areas Survey Programme (PNAP) of the ecological district has been carried out (Brumley et al, 1986). One recommended area for protection was identified - Barn Creek (RAP 1 / 4), which includes a snow totara shrubland and a variety of grassland communities across a range of altitudes.

No parts of the lease are currently subject to protection for conservation purposes. The property adjoins the Old Woman Conservation Area at the crest of the Old Woman Range, while the Nevis Bridge Reserve (F42019) and Nevis Bridge Site (F42018) adjoin the lease in the vicinity of Nevis Crossing. None of these conservation lands are proposed for inclusion in the tenure review.

Unalienated Crown Land

An area of Unalienated Crown Land (Streambed Blk III Nevis SD) which is fenced into Craigroy pastoral lease is proposed for inclusion in the tenure review because of its inherent ecological and historic values. This area is approximately 10 ha, and was once located between two braids of the Nevis River in the vicinity of Schoolhouse Flat.

The property has been inspected by a range of specialists as part of tenure review in 1993 and 1998 under the Land Act 1948, with follow up inspections conducted in October 2002.

PART 2. INHERENT VALUES: DESCRIPTION OF CONSERVATION RESOURCES AND ASSESSMENT OF SIGNIFICANCE

2.1 Landscape

- Craigroy Station is described as one landscape unit. A character description is provided for this unit along with a description of the key visual and scenic attributes present. The following attributes were used to help assess the landscape:

1. Intactness- the condition of native vegetation and the degree of modification of natural processes.
2. Aesthetic Factors - include criteria such as *distinctiveness* - the quality that makes a particular landscape visually striking. Frequently this occurs when contrasting natural elements combine to form a distinctive and memorable visual pattern. A further criteria assessed under aesthetic factors is *coherence*. This is based on characteristics including intactness, unity, continuity, and compatibility. Intrusions, alterations, disruptions tend to detract from coherence.
3. Historic Factors - refers to historically valued attributes in the context of a high country landscape.
4. Visibility - refers to the visibility from public places such as highways, waterways or local vantage points.

Landscape Character

The landscape character of Craigroy pastoral lease is derived from the following factors. The dominant vegetation cover is tussockland, which gives the hillslopes a homogenous tawny gold texture. The rock outcrops are a feature throughout. The Nevis Valley is an intermontane basin which is a distinctive and highly visible landform. The valley is enclosed by the steep mountain slopes of the Hector Mountains and Remarkable Range to the west which contrasts with the flat-topped Old Woman Range to the east. Old river terraces are a distinctive feature of the valley floor.

The presence of a farm track zig-zagging across the front face towards Coal Creek reduces landscape coherence on that part of the property.

The landscape has a distinct cultural character which reflects its rich cultural history. Extensive early gold and coal mining activity has created a significant cultural landscape in the valley floor. Workings include dredge ponds, tailings and other gold mining sites up and down the valley, which bear testimony to various mining techniques, and the remnants of buildings and settlement at Nevis Crossing. The Nevis Road and the presence of water races contribute further to the cultural imprint.

The Nevis Valley saw early pastoral settlement. Today there are still two high country pastoral properties, one of which is Craigroy, in the Lower Nevis Valley. The characteristics of early

pastoral sheep stations are retained i.e. farm buildings and stockyards surrounded by vast hectares of predominantly tussocklands.

The landscape is characterised by the enclosed remote and relatively isolated nature of the valley. This is reinforced by the evident harsh climate and the isolation of the valley by snow during the winter.

Visual and Scenic Values

The Nevis Valley is well recognised as being visually very impressive. Important vantage points are gained from the Nevis Road, Duffers Saddle Road and from the tops of the surrounding mountains.

The diversity in landform e.g. flats, gorges, terraces together with tor-lined gullies and slopes contribute to the spectacular nature of the valley. The old gold workings and other cultural features add interest and diversity.

The wild and scenic characteristics of the Nevis River contribute to the scenic values of the Nevis Valley. The meandering river adds to the scenic remoteness of the valley above Nevis Crossing. Downstream of the Nevis Crossing, the Nevis River is confined within a narrow enclosed gorge, which drops steeply giving a wild stretch of water. The diversity of water and landscape types within the Nevis Valley contributes to the outstanding wild and scenic characteristics of the river system as a whole.

The scenic, remote but accessible nature of the Nevis Valley makes it a popular destination for recreation, such as pleasure driving, camping, fishing and mountain biking.

Threats

The character of the landscape is vulnerable to certain changes. These include:

- Modification of existing vegetation cover through increased grazing pressure
- Vegetation burning
- Farm intensification.
- Introduction of transmission lines, structures and buildings (depending on location and design) could change the Valley's remote isolated characteristics.
- Earth disturbance would cause scars and visual disruption.
- Tree planting, including shelterbelts would change the visual character.

Significance of Landscape

Craigroy pastoral lease forms an integral part of the Nevis Valley, which has previously been identified as an area containing very high landscape values (Wallace, 1988). The Nevis Valley landscape is defined by the homogenous dominant tawny gold tussock cover; tor studded ridges and hillslopes, a distinctive and highly diverse and visible landform and cultural influences from mining and pastoralism. These factors together with the enclosed remote and relatively isolated nature of the valley contribute to a landscape that ranks as being nationally significant.

2.2 Landforms & Geology

The property is underlain by block faulted terrain of the Haast Schist Group (Wood, 1962) which is a metamorphic rock. Late Tertiary- Recent deformation is evident by N-S and NE-SW trending fault blocks. The nearby Carrick Range is a westward-tilted block reduced by landsliding along the Nevis Valley. The westward flanking Nevis plateau block has downwarped into the fault-controlled Nevis Valley.

Tertiary swamp and river sediments are restricted to the Nevis Valley, which rest on the mid Tertiary erosion surface, thought to be largely exposed as today's plateau landscapes (Park, 1908).

Quaternary deposits include alluvium along the Nevis River and colluvium mantling hill and mountain slopes, particularly below the periglacial summit of Old Woman Range. Localised areas of peatbogs and widespread loess occur on the gentle plateau.

Schist tors are a common landform, both on the summit ridge of the Old Woman Range, and on the lower slopes. At Barn Creek, examples of slumps with graben development and tension cracks, block slumps, and a saw cut gorge are present.

The Nevis Valley is a comparatively unmodified intermontane basin. A small part of the basin lies within Craigroy lease, and contains a diverse array of landforms including incised channels, gravel braids, terraces and fans of different ages.

Soils

Soils are chiefly derived from schist, loess and alluvium. Yellow-brown silt loams (Carrick, Dunstan) occur on the high ranges, while yellow-grey silty-sandy loams (Arrow) dominate the mountain sides. These soils are sheet eroded locally on exposed upper slopes and ridge crests. Slips are confined mainly to slumped slopes above stream channels. Soils of the valley floor and fans are raw or loamy silts over a base of fine gravels.

Significance of Geology, Landform and Soils

There are good examples of mass movement and saw cut gorge landforms in the narrow gullies. The off-summit tor landscape is the most impressive in the Old Man Ecological District (Brumley et al, 1986).

Craigroy Station includes a small part of the Nevis intermontane basin and valley system, which, as a whole, is without close equivalence in Otago. It contains a wide array of landforms, which are derived from a range of geologies. The different soils associated with these landforms are some of the least modified of eastern rain-shadow regions, making the Nevis intermontane basin highly significant.

2.3 Climate

The property experiences a semi-continental climate with warm summers and cold winters. Winters usually bring intermittent snow to lower parts of the property. Snow can lie for up to four months at 1200 m on the Old Woman Range, and longer at higher altitudes. Average annual precipitation for the property is 630 mm, rising to 800mm on the upper slopes.

2.4 Vegetation

Craigroy Pastoral Lease

Three land units are identified for the purpose of describing the vegetation. These are the Barn Creek catchment, the other western slopes of Old Woman Range, and the Nevis Valley flats.

Barn Creek

This catchment extends from Duffers Saddle and the summit tors at 1393 m down to the Nevis River at 660m. RAP 1 / 4 (Barn Creek) is included in this catchment (Brumley, 1986 see Appendix One). On the highest slopes, golden speargrass (*Aciphylla aurea*) and alpine fescue tussock (*Festuca matthewsii*) are associated with colluvial slopes, rocky outcrops and rubble. This induced community has developed where the original tussock canopy has been disturbed, and most commonly occupies subalpine north facing slopes. Ground cover is sparse, dominated by sheep sorrel (*Rumex acetosella*), blue tussock (*Poa colensoi*), tussock catsear (*Hypochoeris radicata*) and occasional hawkweed (*Hieracium lepidulum*). At lower altitudes, golden speargrass codominates with fescue tussock (*Festuca novae zealandiae*).

Patches of mixed narrow-leaved snow tussock (*Chionochloa rigida*) - fescue tussock community remain in the heads of damper gullies. Other common shrubs and herbs present include dwarf mingimingi (*Leucopogon fraseri*), native daphne (*Pimelea oreophila*), *Geranium microphyllum*, *Blechnum penna-marina*, and the exotic species sweet vernal (*Anthoxanthum odoratum*), sheep sorrel and hawkweed.

At the upper limit of snow tussock grasslands, a prominent induced grassland community of blue tussock and *Rytidosperma pumilum* is present. Intertussock cover is dominated by small herbs, cushion species and grasses including *Celmisia sessiliflora* and *Luzula rufa*. On dry north-facing slopes alpine fescue tussock replaces *Rytidosperma pumilum*.

Alpine low sedgeland wetlands occur in seepage and streambank zones, where water lies on the surface. Sedges present include *Carex lachenalii*, *C. echinata*, *C. gaudichaudiana*, *C. pyrenaica* in association with mosses, *Drapetes* sp., *Gentiana amabilis* and *Abrotinella caespitosa*.

Flushes are scattered throughout the central Barn Creek Valley, and support rushes including the exotic soft rush (*Juncus effusus*), the native cutty grass sedge (*Carex coriacea*), and native buttercups *Ranunculus cheesemannii* and *R. berggrenii*.

On montane slopes, fescue tussocklands dominate with *Raoulia subsericea*, cushion broom (*Carmichaelia vexillata*), porcupine shrub and small daphne *Pimelea oreophila*) present on dry slopes and exposed ridge crests. These tussocklands have an increasing presence of exotic pasture species (i.e. sweet vernal (*Anthoxanthum odoratum*), browntop (*Agrostis capillaris*) and clovers) with declining altitude. Tussock hawkweed is present, with patches of mouse-eared hawkweed (*Hieracium pilosella*) more common on drier north facing slopes.

Scattered patches of less dense scrubland are found at about 1000m on moist bouldery slopes along streambeds and steep gullies. These are dominated by tree daisy (*Olearia odorata* and *O. virgata*) and matagouri (*Discaria toumatou*) with scattered mingimingi (*Coprosma propinqua*) also present.

Rock tors typically protect a wider variety of shrubs and herbs, several of which do not occur away from these sites. These include red low shrubs of *Dracophyllum pronum*, *Anisotome cauticola*, *Brachyglottis haastii*, *Epilobium pubens*, *Luzula rhadina* and the ferns *Asplenium richardii* and *Cyopteris tasmanica*. Shrubs commonly found around the tors include matagouri, coprosma and porcupine shrub (*Melicytus alpinus*). The threatened plant database holds a record for the rare grass, *Simplicia laxa*, comprised of over 20 plants growing among rocks above Barn Creek.

In the lower gorge part of the catchment between 860m – 920m, diverse shrublands are prominent around rock tors and boulder surfaces. These are dominated by *Olearia bullata*, matagouri, *Coprosma cheesemanii*, in association with snow totara (*Podocarpus nivalis*), native broom (*Carmichaelia compacta*, *C. arborea*, *C. petriei*), cassinia (*Ozothamnus vauvilliersi*), *Aristotelia fruticosa*, *Myrsine nummularia* and one plant of *Brachyglottis cassinoides*. Dense patches of snow totara occur on the mid catchment rubblefields at about 920m, with some plants extending out into adjacent short tussock grassland. Where accessible, the snow totara have been browsed. Along streambanks within this part of the catchment, scattered *Carex kaloides* grow in damp locations, with browsed native broom also present. Localised gooseberry bushes are present growing on boulderfields.

Below about 820 m, briar, exotic pasture species and hawkweed become dominant, with scabweed (*Raoulia australis*), fescue tussock and silver tussock present on dry sunny ridge crests only as a minor component.

Other western slopes of Old Woman Range

The wide gentle slopes at the crest of the Old Woman Range support a mosaic of fellfield, cushionfield and snowbank communities similar to those found on the adjacent Old Woman Conservation Area. Bands of snowbank associations grow in sheltered areas of prolonged snow lie, and include *Carex pyrenaica*, *C. breviculmis*, *Luzula sp*, *Raoulia subulata*, *Celmisia haastii*, and *Phyllachne rubra*. Diverse cushionfield communities occur across uneven, exposed periglacial hummocks and terraces, where variations in shelter/exposure and moisture enable many species to co-exist. The dominant species are *Dracophyllum muscoides* and *Raoulia hectori*, with *Phyllachne rubra*, *Hectorella ceaspitosa*, *Abrotinella inconspicua* and *Raoulia parkii*. In seepage areas and streambanks where water lies on the surface, a *Carex*-mossfield alpine bog community is present. Key species include *Carex lachenalii*, *C. echinata*, *C. gaudichaudiana*, and *C. pyrenaica* in association with mosses, *Drapetes*, *Gentiana amabilis* and *Abrotanella ceaspitosa*.

The general sequence of grasslands described for the Barn Creek catchment is repeated along the range, where the fescue tussocklands are more intact and the blue tussocklands more extensive.

Extensive patches of narrow-leaved snow tussockland also occur in the headwaters of some catchments at the southern end of the property, extending down to around 1150 m in places.

Between about 800-900m in the vicinity of the Nevis Road, rock tors typically support a wider variety of shrubs and herbs, several of which do not occur away from these sites. These include *Anisotome cauticola*, *Brachyglottis haastii*, *Epilobium pubens*, *Luzula rhadina* and the ferns *Asplenium richardii* and *Cyopteris tasmanica*. Shrubs commonly found around the tors include matagouri, coprosma, *Olearia odorata*, *Carmichaelia petriei*, *Corokia cotoneaster* and porcupine shrub. Several pine trees are present nearby. No similarly diverse shrubland communities have been recorded in catchments south of Barn Creek.

Below the Carrick water race small patches of narrow leaved snow tussockland and fescue tussockland are present, but there is a rapid transition into adventive pasture grasses, briar and matagouri. Below about 850 m the land has been extensively OSTD. Towards Coal Creek, a matagouri shrubland with briar present has responded to fertiliser applications and has become quite widespread. Willow and poplar trees occupy some of the stream gullies below 900m.

Nevis Valley Flats

The river flats at the southern end of the property have either been cultivated, or worked by gold miners in the past. However free draining flats, high terrace surfaces and their scarp slopes present along much of the Nevis River, support the rare sedge *Carex muelleri*. On the flats immediately north of Coal Creek mouth, *Carex muelleri* forms the dominant vegetation cover, with scattered patches of matagouri, fescue tussock and porcupine shrub also present amongst the tailings. This sedge survives despite the area being used for feeding out hay to stock during the winter. In moist locations, scattered clumps of *Carex kaloides*, another rare sedge, are present.

Unalienated Crown Land – Nevis Streambed

A small area of Unalienated Crown Land (Nevis Streambed) is fenced into Craigroy pastoral lease at its southern extent, and has similar vegetation characteristics as those described under 'Nevis Valley Flats'.

This area was once an island within the Nevis Riverbed, but is now located wholly on the eastern side of the river. The old river channel is still evident.

The vegetation is dominated by pasture species including sweet vernal, browntop and white clover with scattered fescue tussocks and silver tussocks. The rare sedge *Carex muelleri* occupies dry elevated areas associated with old streamsides and mining tailings. The old riverbed supports scabweed, suckling clover (*Trifolium dubium*), sheep sorrel, brown top and occasional patches of *Carex muelleri*. In dry sandy areas, the diminutive native grass *Poa maniototo* hugs the ground, with native scabweeds (*Raoulia australis* and *R. apice-nigra*, *Scleranthus uniflorus* and sheep sorrel).

PROBLEM PLANTS

A relatively small number of problem plants were identified. Of most concern is the presence of tussock hawkweed and mouse eared hawkweed which are widespread on some flats, terraces and within fescue tussockland communities on the hillslopes. Briar is the most common problem plant at lower altitudes, while only small infestations of broom are present alongside the Nevis River. Gooseberry is localised on boulderfields in Barn Creek, while willows and poplars are common along some waterways up to about 900m altitude. Several mature pine trees are growing near the Nevis Road zig-zag.

Significance of Vegetation

Barn Creek

The Barn Creek catchment, which was identified as a RAP (1 / 4 Barn Creek) in the Protected Natural Areas Programme Survey (Brumley, 1986) supports a representative variety of dry and moist grassland associations for the District, with fescue tussocklands occurring over an extensive altitudinal range.

An uncommon but diverse shrubland community on boulderfields in stream gorges comprised of snow totara, *Olearia bullata*, *Carmichaelia compacta* and *C. petriei* are highly significant as remnants of woody cover with a species mix that reflects the likely pre-human extensive burning state. They include several shrub species now recognised as threatened. Future restoration and rehabilitation of the woody shrub cover in this part of the landscape will require nucleus seed sources such as these. The importance of shrubland remnants has recently been given prominence by Walker et al (2002) who highlight the conservation importance of montane woody vegetation and associated fauna, especially in the context of intermontane basins in rainshadow environments (Walker et al, 2002a).

Several species were recorded which are threatened or have a restricted distribution (Table 1).

Plant Species	Threat of extinction classification (Hitchmough in prep)	Details
<i>Simplicia laxa</i>	Nationally Endangered	Grass growing under rock in Barn Creek catchment
<i>Podocarpus nivalis</i>	-	Has a very restricted distribution in Old Man Ecological District.
<i>Carmichaelia vexillata</i>	Gradual decline	In short tussock grassland.
<i>Carmichaelia compacta</i>	Range restricted	Scattered along streamsides. Some with browsing damage
<i>Gingidia baxterae</i>	Range restricted	In moist sites in blue tussock grassland
<i>Ranunculus berggrenii</i>	Range restricted	Otago/Southland endemic; in small wetlands.
<i>Aceana tesca</i>	Range restricted	An endemic, confined to Central Otago, in low-high alpine tussock grassland.
<i>Olearia bullata</i>	Sparse	Scattered along streamsides and around rocky areas
<i>Carex kaloides</i>	Sparse	Scattered along streamsides in tributaries and Barn Creek

Table 1: Threatened or restricted plant species in Barn Creek

Outer western slopes of Old Woman Range

Good examples of a diverse range of vegetation communities are represented from about 1150 m to the upper property boundary at 1645 m. Tall tussocklands are present from about 1100m, while extensive snowbank, cushionfield and wetland communities that are analogous with the adjoining RAP (1 / 5 Bannock Burn- Old Woman Range) located in the Old Woman Range Conservation Area are also present at higher altitudes. These high altitude vegetation communities have a high level of naturalness, and occur on some unique periglacial landform features.

Relatively diverse shrublands associated with tors located near the Nevis Road are significant as remnants of woody cover with a species mix that reflects the likely pre-human extensive burning state. Future restoration and rehabilitation of the woody shrub cover in this part of the landscape will require nucleus seed sources such as these. The importance of shrubland remnants has recently been given prominence by Walker et al (2002) who highlight the conservation importance of low altitude woody vegetation and associated fauna, especially in the context of intermontane basins in rainshadow environments (Walker et al, 2002a).

A second type of montane shrubland is widespread south of Barn Creek. The matagouri shrubland present is relatively short statured, and represents the first stage in the transition back to a woody cover following early fires. Their spread and vigour has probably been enhanced by the application of fertiliser and their conservation significance is moderate.

Nevis Valley Flats

An extensive community of *Carex muelleri* is present on the flats just north of Coal Creek mouth, with plants scattered elsewhere along the Nevis riverbank. Nevis Valley is its type locality, with the largest population being present on the western side of Nevis River on Ben Nevis Station. The presence of native shrub species on these low altitude intermontane flats is also important (Walker et al, 2002) especially in the context of intermontane basins in rainshadow environments (Walker et al, 2002a).

Unalienated Crown Land – Nevis Streambed

This area supports a population of the rare sedge *Carex muelleri* which has a threat ranking of 'Sparse' (Hitchmough, in prep), and is present on adjacent Craigroy pastoral lease. The Nevis Valley is its type locality, with the largest population being present on the western side of Nevis River on Ben Nevis Station.

2.5 Fauna

2.5.1 Invertebrates

A new species of moth *Dichromodes* was recorded on the tors at the southern end of the Carrick Range (Watts Rock to Duffers Saddle) during the PNAP survey (Brumley et al, 1986). The presence of this species was confirmed during the tenure review inspection

2.5.2 Herpetofauna

The Nevis Valley was surveyed by Whitaker in 1986 as part of a systematic search for the large Otago endemic skinks *Oligosoma grande* and *O. otagense*. No large skinks were found. The common skink ("spotted" form 1985, 1986) was seen among rocks at the head of the Barn Creek catchment during the PNAP survey in 1986 (Brumley et al, 1986).

During the tenure review inspection in 1994 a small cryptic skink *O. inconspicuum* was discovered in lush vegetation near the Nevis Crossing.

2.5.3 Avifauna

During the Protected Natural Areas Programme Survey (Brumley, 1986) and subsequent tenure review inspections, several New Zealand falcon were recorded around the upper tors near Duffers Saddle; greenfinch, yellowhammer and skylarks were numerous in the middle catchment.

Subsequent surveys conducted in 1993 recorded skylarks and pipits throughout the property. Around tarns, paradise ducks, South Island oystercatchers and blackbacked gulls were often seen, either as pairs or in small groups. Finches and yellowhammers were seen around shrubby areas on the lower slopes. The harrier hawk also ranges through the area. Along the Nevis River and associated marginal wetlands, common species recorded include mallard duck, terns, spurwinged plover, black shags, magpies, and white-faced herons.

2.5.4 Aquatic Fauna

The Nevis River is an important trout fishery that is renowned for fly-fishing. It appears that trout have extended their range into all side streams on Craigroy, taking over the habitat of the native galaxid.

No records for galaxids are held in the NIWA Freshwater Fisheries Database (see Appendix Two) for streams on this property.

PROBLEM ANIMALS

Rabbits are common in isolated pockets on the lower slopes of Craigroy, while hares, red deer and occasional pigs are present at higher altitudes and within the Coal Creek catchment. Some rabbit control and occasional wild animal control is necessary.

Significance of Fauna

Invertebrates

A new species of moth *Dichromodes* was recorded on the tors at the southern end of the Carrick Range (Watts Rock to Duffers Saddle). This species has no threat category assigned to it. However, it should be noted that the new classification structure (Molloy, *et al.*, 2001) for determining whether a species is threatened by extinction is based on the extent of knowledge associated with each species. Given that little is known of this new species, it is not surprising that it has no threat category.

Herpetofauna

There are no skinks of significance recorded on Craigroy.

Avifauna

New Zealand falcon are ranked as being in "gradual decline" (Hitchmough, in prep). They are present on this property and throughout the Central Otago region. They are present in a grassland habitat with some shrubland present, while elsewhere in Central Otago, they are recorded where there is a mix of forest, grassland and shrubland habitats.

Aquatic Fauna

There are no records of significant aquatic fauna on Craigroy pastoral lease.

2.6 Historic

The Nevis Valley has had a long history of human occupation, beginning from about the 14th Century and continuing to this day. The early history of the lower Nevis is documented in a report on Ben Nevis and Craigroy "The Cold Sequestered Nevis (Hamel, 1994) which is summarised briefly below. Historic sites are marked on Map 4.2.3.

Maori Sites: The Nevis Valley was visited by Maori for moa hunting, as evidenced by several moa hunting sites located on neighbouring Ben Nevis Station.

Farming: It appears that Ben Nevis and Craigroy were part of the Hawksburn Run taken up in 1859. Craigroy was separated out of Hawksburn in 1910, with a mud brick homestead possibly being built between 1920-1930. This homestead is located on land adjacent to the Craigroy pastoral lease.

Gold Mining: The history of gold mining in the Nevis Valley is comprehensive and dates back to 1863 and has continued in a spasmodic fashion until recent times. Early mining methods were paddocking and cradling, with sluicing beginning in 1864. By 1866 there were 600 people in the valley with the associated stores and hotels. Early ground sluicings were established at the Nevis Crossing and along the edges of the higher terraces in the vicinity of Coal Creek (1). Sluicing, along with associated water races, survived until the easy gold ran out in the 1880s. In the 1890s hydraulic sluicing and elevating began, new water races were built or old one were extended. This type of mining extended into the early 1900s and was used again in the 1930s. The tailings near Coal Creek can be considered to be representative of the 1860-1880s mining period.

Two townships were established, the main one was at the upper end of the valley (near Lower Nevis, on Ben Nevis Station) and a store and hotel near the Nevis Crossing, which straddles the river. The ruins of a stone house and out buildings known as Ritchies Cottage (2) is located on Craigroy pastoral lease, and includes a distinctive building style of long slabs alternating with small stones, and was occupied by a family of miners and the postman.

In the lowest river bed flats, different mining techniques succeeded one another, with dredging predominating at the turn of the 19th century. The ponds and large heaps of tailing left by hydraulic elevating and dredging stretch along the whole river flats from the Crossing to the Nevis Township, some of the ponds being neatly rectangular (from 3 to 4). One dredge was located on Craigroy at the Crossing, where dredge remains are being lost by natural flooding. The remains of what was

probably the Nevis Crossing dredge lie south of the Schoolhouse Creek confluence (5). This machine worked on the river from 1902 to 1939, and was probably the longest operating small dredge in Otago and Southland.

The abundant water supplies of the valley were carried in a series of big races along the western side of the valley (i.e. Ben Nevis Station). On Craigroy, two significant water races were built. In 1893, one of the great high races of Otago- 11 kilometres from the head of Coal Creek was built along the 1400 m contour. In addition, Coal Creek was utilised by a live race, the Carrick Range Water Race (6), which runs 22 kilometres at about the 1200 m contour, taking water out of the Nevis catchment to Bannockburn.

Unalienated Crown Land – Nevis Streambed

A small area of Unalienated Crown Land (Streambed Blk III Nevis SD) located on the eastern side of the Nevis River in the vicinity of Schoolhouse Flat, has important historic values relating to the Lower Nevis goldfield, which spans both sides of the Nevis River. Hamel (1994) suggests that "mining around the adjacent flats probably began with ground sluicing in the 1870s. These deposits were revived with dredging and hydraulic elevating in the river bed at the turn of the twentieth century", and ended with Fache's dredgings in 1940, who "took out islands and pillars in the river itself, shifting upstream to above the mouth of Schoolhouse Creek". Small ground sluicing tailings are still evident on the Nevis Streambed Block.

Significance of Historic Values

The best representatives of early sluicings in the Nevis Valley are those at the northern end of the valley at Nevis Crossing, and an area along the true right bank of the Nevis River around the mouth of Coal Creek, both of which are on Craigroy pastoral lease.

A wide range of technologies and eras are represented from 1860s ground sluicings through 1900s dredging and hydraulic elevating to 1930 hydraulic sluicings. This is unusual, since dredging and hydraulic lifting often destroys all earlier workings e.g. Gabriels Gully. The association of the remnants of a bucket dredge, the Nevis Crossing dredge, with workings that are extensive in both area and time, cannot be matched anywhere else in Otago or Southland. 1930's workings cannot be protected under the Historic Places Act. All these groupings and their intact nature give the area as a whole regional significance.

The workings are set in a landscape that has been little modified since nineteenth century. Cultivation has had minor effects only in the area around the Crossing.

Families who still rent or own properties at the Nevis Township on the western bank of Nevis River, provide a strong link with the past. Much more historic documentation and identification of names with sites are available in the Nevis compared with most other alluvial workings, such as the Bannockburn sluicings.

The wide open landscape and lack of forest and shrubland makes the sites highly visible and particularly easy for visitors to appreciate. Though an area such as Skippers has similar mining values, the vegetation and steep terrain makes the latter more difficult for visitor interpretation. There is no other alluvial gold field known of in New Zealand that has both such high heritage values and such ease of interpretation as has the Nevis Valley Goldfield, of which Craigroy is a part. This gives the field national importance.

Unalienated Crown Land – Nevis Streambed

The presence of small tailings, in association with the gold mining workings from a range of eras elsewhere on Craigroy pastoral lease, contribute to the area as a whole being of regional historic significance.

The workings are set in a landscape that has been little modified since nineteenth century.

2.7 Public Recreation

2.7.1 Physical Characteristics

In 1992 DOC compiled a Recreation Opportunity Spectrum for the entire conservancy whereby all areas regardless of land tenure, were classified and mapped according to setting, activity and recreational experience characteristics.

Craigroy is zoned "Backcountry 4WD Drive In" which "is characterised by a feeling of relative remoteness from populated areas". "The highly natural setting is a valued part of the experience and may be associated with motivations of "escape from town", education and nature appreciation". "Four wheel drive vehicles are desirable to give access to high country tussock grasslands and block mountains and more rugged remote areas."

However, Harper (1992) notes that "throughout the winter the...Old Woman Range...and Nevis Valley become **remote** experiences." This recreation opportunity is characterised by a sense of complete isolation from human interaction and activity. The naturalness of the setting is an important part of the experience. Outdoor survival skills and experience will be essential in order to minimise risk. A high degree of self-reliance is necessary.

In 1988, Federated Mountain Clubs compiled an outdoor recreation plan for Central Otago's block mountains (Mason, 1988). The document notes that the "summit plateau and upper eastern faces of the Old Woman Range, generally above 950 m, are zoned *natural experience*. Here, climatic severity and ecological fragility dictates that recreation is limited to low impact and self sufficient activities". The remainder of Craigroy pastoral lease is zoned *Open Space*, where recreational use tends to be site specific e.g. visiting historic sites, or as a backdrop for angling. The major recreational use is for through-access to the *natural experience zone* and to the Nevis valley via the public road.

2.7.2 Legal Access

The formed gravel Nevis Road passes through the northern end of the property, providing legal vehicle access (2WD in Summer, 4WD in Winter) from Cromwell to the Nevis Valley (and beyond to Garston; this section of road is closed in Winter). The formed road significantly deviates from the legal road where it zig-zags at about the 900 m contour. Here a paper road heads north-eastwards to cross the northern property boundary at an unnamed creek ford.

A second formed legal road is located along the eastern boundary of Craigroy, extending from the Nevis Road, to Duffers Saddle, and upward to the north-western corner of the Old Woman Conservation Area. The track is passable for 4WDs for much of the year.

An unformed legal road starts at the Nevis Bridge Reserve, and extends a short way before being cut off by two parcels of land making up the Nevis Bridge Reserve (DoC managed). The legal road then continues southwards following the eastern bank of the Nevis River along the length of the property. The formed gravel road to Craigroy Station is not aligned to this legal road, and passes through the Nevis Bridge Reserve.

Another unformed legal road follows the Nevis River gorge downstream from Nevis Crossing along the Craigroy property boundary.

A marginal strip is present along Coal Creek. The marginal strip present along the Nevis River is a fixed strip (section 58, Land Act) and does not follow the current course of the river.

2.7.3 Activities

The highest point on the Nevis Road (1280m) from Bannockburn provides spectacular views down to the remote Nevis Valley, the jagged Hector and Remarkable Mountains to the west, and the rolling ranges of Central Otago including Old Woman, Pisa, Dunstan and Old Man Ranges. Such magnificent views make the location a popular excursion for pleasure drivers.

The Nevis valley is a popular destination for picnikers and campers during summer. The river is a trophy brown trout fly fishery, and the Nevis Gorge is a challenging kayaking venue. 4WD owners and mountain bikers utilise the Nevis Road (on Craigroy pastoral lease) to access routes beyond the property's boundaries i.e. the 4WD track via Coal Pit Saddle to Gibbston and the Bannockburn to Garston Road through the Nevis Valley. The Duffers Saddle Road at the north eastern end of the property, is also used by such recreationists to access the Old Woman Conservation Area (and beyond to the Kopuwai Conservation Area). All these routes are considered to be classic mountain bike trips, and are suitable for horse trekking.

In Winter, the snow covered Carrick and Old Woman ranges provide opportunities for backcountry ski touring. Classic trips include starting from Duffers Saddle, following the track up to the Old Woman Conservation Area, and on to either the Garvie Mountains, or through to the Kopuwai Conservation Area on the Old Man Range.

The area has been used in the filming of car commercials.

2.7.4 Commercial Recreation

Since 1997 a commercial snowmobiling and snow cat guided operation has been operating on the crest of the Old Woman Range. The base facility huts and a portion of the snowmobile and snowcat skiing routes are located on south-eastern corner of Craigroy pastoral lease, while the aircraft landing zone and the majority of the routes for snowmobile tours and snowcat skiing take place on neighbouring Carrick, Nokomai and Glenaray pastoral leases. The recreation permit also allows for skidoo assisted family type tobogganing and skiing in the Watts Rock-Duffers Saddle locality. At

the time of resource consent application, this commercial recreation operation was controversial, attracting much opposition from backcountry skiers.

The recreation permit expires on 30 September 2010 but if any of the affected pastoral leases complete tenure review prior to this date, then the recreation permit expired on the date the review is completed for the individual leases.

PART 3: OTHER RELEVANT MATTERS & PLANS

3.1 Consultation

The property was briefly discussed with conservation/recreation orientated NGO's on September 13 1994 in relation to the Land Act 1948 tenure review process.

Key points raised include:

- High public interest in Old Woman Range
- Need to protect the open tor landscape
- Need to address riparian recreation

Forest and Bird Protection Society (Upper Clutha Branch) provided a written submission in November 2002. The main comments are:

- Any reviewable land designated for disposal as freehold will require adequate overall landscape protection covenant placed over it, to protect it from forestry or undue earthworks. The CODC Plan is inadequate to protect the landscape in this respect.
- Historic values require protection either by retaining them in full Crown ownership, or by covenants.
- Recreational use will increase once access is assured. Any land returned to full Crown ownership will be welcomed by those interested in the outdoors.
- All land above about 1000m asl i.e. somewhere below the Carrick Range Water Race be added to the existing Old Woman Conservation Area and so enlarge the Kopuwai Conservation Area. i.e. meet objectives set out in CMS regarding extending protection of range tops in this area.
- The numerous tarns and tor rocks are an outstanding feature of the area.
- Land below 1000m asl. could be freeholded if proven ecologically sustainable.
- Legal road from Duffers Saddle to crest of Old Woman range should be surveyed and aligned with the present track formation.
- Provide adequate fishermen's access to Nevis River from Nevis Road where ever considered necessary.

The full written submission is attached as Appendix Three.

In November 2002, Federated Mountain Clubs provided a written submission on the recreational and associated inherent values of Craigroy pastoral lease. The main outcomes sought are:

- All land above about 1100m, should be restored to full Crown ownership and control and be managed by DOC for conservation and recreation purposes i.e. above the Carrick water race
- Other historic sites could be covenanted
- A landscape covenant is required for all land to be freeholded on account of the high landscape values of the Nevis Valley as a whole. This would protect the landscape from the adverse effects of erection of inappropriate structures, fencing, forestry etc. The landscape protection provisions

in District Plans under the Resource Management Act are not considered to be sufficiently robust to afford adequate protection of such significant inherent values.

- The preferred arrangement to secure public access would be for the actual formations of the road running south along the crest of the Carrick Range to be formally recognised as the legal road. Alternatively, but less desirably, a formal easement for foot, mountain bike and equestrian use is recommended.
- At least 3 legal foot access routes to the Nevis River for fishing and other purposes such as family picnics will be required

A copy of the full written submission is attached as Appendix Four.

3.2 Regional Policy Statements & Plans

(a) Regional Policy Statement. The Regional Policy Statement for Otago provides a policy framework for all of Otago's significant regional resource management issues. It does not contain rules. District Plans shall not be inconsistent with the Regional Policy Statement.

In respect of natural values the Regional Policy Statement includes the following policy and method:

Policy: "To maintain and where practicable enhance the diversity of Otago's significant indigenous vegetation and significant habitats of indigenous fauna, trout and salmon..."

Method: "Identify and protect Otago's significant indigenous vegetation and significant indigenous vegetation and significant habitat of indigenous fauna, trout and salmon, in consultation with relevant agencies and with Otago's communities."

In respect of landscapes and natural features it includes the following policy and method:

Policy: "To recognise and provide for the protection of Otago's outstanding natural features and landscapes..."

Method: "Prepare, in conjunction with relevant agencies and in consultation with the community and affected landowners, an inventory of outstanding natural features and landscapes that are regionally significant."

There are no provisions of the Otago Regional Policy Statement which relate specifically to this property. However, the property is subject to the Otago Regional Plan: Water rule which requires resource consent for suction dredge mining.

3.3 District Plans

The property is located within the Rural Resource zone of the Central Otago District Plan.

The eastern part of the property (above 900m a.s.l.) is in an Area of Outstanding Landscape. Development and tree planting requires resource consent in this area, but not clearance of vegetation.

Outside of the Area of Outstanding Landscape, the proposed Central Otago District Plan (amended to incorporate Council decisions) does not act as a trigger for the protection of tussock grasslands and smaller wetlands and forest areas. Resource consent is required for excavations or tree planting within specified distances of a water race or irrigation pipeline, and for development work within 10m of any water body.

There are no registered historic sites, or areas of significant indigenous vegetation and habitats of significant indigenous fauna and wetlands as set out in the schedules of the plan. Protection is limited to the controls set out above.

3.4 Conservation Management Strategies & Plans

The Otago Conservancy of DOC has prepared a Conservation Management Strategy (CMS) which was approved by the Minister of Conservation in August 1998.

The CMS identifies 41 special places of conservation interest in Otago Conservancy. Craigroy pastoral lease lies within the Old Man – Garvie Special Place.

The CMS objective for this Special Place is:

To protect the entire high altitude range crests for their landscape, nature conservation cultural and recreational importance, to improve legal access to them, and to ensure that recreational and commercial uses are managed to sustain resources and ensure quality recreational experiences, including the remote quality of the Old Woman-Garvie Area.

The key implementation methods relevant to Craigroy pastoral lease are:

- Allow appropriate commercial use of the area where such uses will not have a significant adverse effect on natural and historic resources and cultural values, subject to appropriate conditions including the preservation of remote qualities. Appropriate uses may include motorised snow vehicles on the northern end of the Old Man Range.
- Pastoral lease tenure review on adjacent properties will provide opportunities to negotiate to protect the entire range crest. Overall management of these new areas with the existing areas will confer net conservation and management benefits (e.g. rationalise fencing).
- The integrated management of the high altitude areas administered by the department will be promoted through the concept of a “Kopuwai Conservation park”. If the park proposal proceeds, a management plan will be developed.
- Continued identification of key natural and historic resource to enable well informed decision making in pastoral lease tenure review process.

Priorities for Old Man-Garvie:

Completion of protection, negotiations, including tenure reviews, will be a priority in this Special Place.

In terms of ecosystem conservation, the CMS lists the Lower Nevis as one of the most intact known indigenous valley floor short tussock grasslands in Central Otago.

Objective for Ecosystem Conservation:

Ensure that intact, viable and well buffered examples of all indigenous ecosystems in Otago are thriving under appropriate conservation management.

To allow natural successional processes to continue, for their intrinsic worth and for the purposes of scientific study, except where special indigenous communities are placed under threat of local or global extinction and it is practicable to preserve them in confined areas while allowing that successional process to continue elsewhere.

Priorities for Ecosystem Conservation:

Remaining relatively intact valley floor grasslands are a priority for protection action, while the linking and buffering of protected indigenous ecosystems of all kinds is still a priority in the Otago landscape.

3.5 Water Conservation (Kawarau) Order 1997

The Nevis River is preserved as part of the Kawarau Water Conservation Order 1997, which protects the water and its immediate environs. Below the Nevis Crossing to the Kawarau River confluence, the Nevis River is protected for its wild characteristics, and recreational purposes (in particular fishing and kayaking). Above the Nevis Crossing, the river is protected due to its outstanding scenic characteristics, and recreational purposes, in particular fishing.

Schedule 2 outlines the following restrictions and prohibitions:

1. "No damming of the Nevis River is allowed unless a rule in a plan or condition in any water permit granted makes provision for river flows to be provided at sufficient levels to enable kayaking to be undertaken in the gorge at times states in the plan or permit, and the extent of any impounded water is not beyond S143:836485.
2. Fish passage to be maintained
3. Water quality to be managed to Class CR (below Nevis Crossing only), Class F, and Class FS standards."

3.6 New Zealand Biodiversity Strategy

The New Zealand Government is a signatory to the Convention on Biological Diversity. In February 2000, Government released the New Zealand Biodiversity Strategy which is a blueprint for managing the country's diversity of species and habitats and sets a number of goals to achieve this aim. Of particular relevance to tenure review, is goal three which states:

Maintain and restore a full range of remaining natural habitats and ecosystems to a healthy functioning state, enhance critically scarce habitats, and sustain the more modified ecosystems in production and urban environments, and do what is necessary to:-

-Maintain and restore viable populations of all indigenous species across their natural range and maintain their genetic diversity.

The strategy outlines action to achieve this goal covering terrestrial and freshwater habitat and ecosystem protection, sympathetic management, pest management, terrestrial and freshwater habitat restoration, threatened terrestrial and freshwater species management etc.

PART 4: MAPS ETC.

4.1 Bibliography

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4.2 Illustrative Maps

4.2.1 Topo/cadastral Craigroy pastoral lease

4.2.2 Values – Landscape

4.2.3 Values – Ecological/Historic/Recreation

APPENDICES

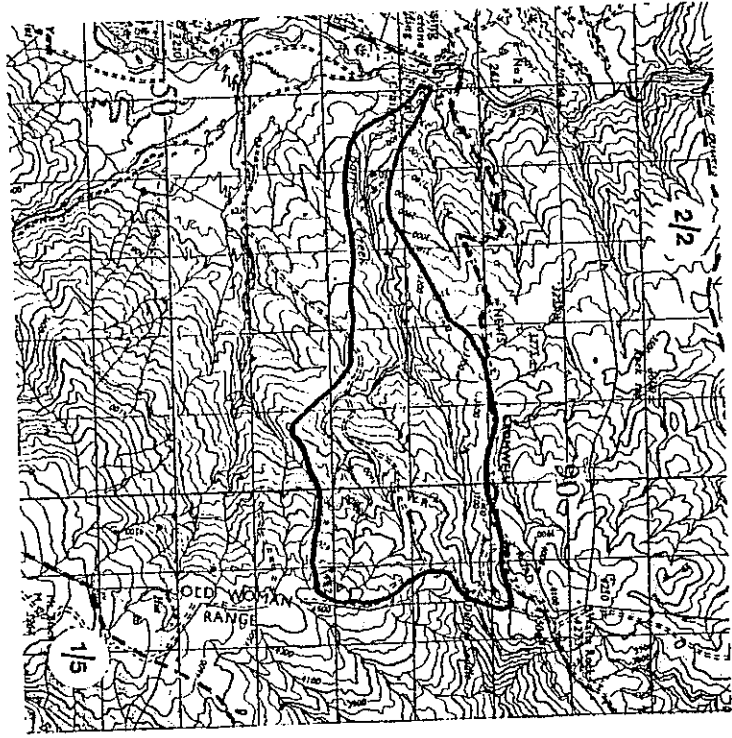
APPENDIX ONE: Details of RAP 1 / 4 Barn Creek – extract from Brumley, C.F, Stirling M.W. and Manning, M.S. 1986: Old Man Ecological District; Survey report for the Protected Natural Areas Programme. Department of Lands and Survey, Wellington, NZ.

APPENDIX TWO: Aquatic species on Craigroy pastoral lease- NIWA database.

APPENDIX THREE: Royal Forest and Bird Protection Society of New Zealand Submission on Craigroy Tenure Review.

APPENDIX FOUR: FMC's written submission on recreational and related inherent values of Craigroy Pastoral Lease.

Appendix One: Details of RAP 1/4 Barn Creek – extract from Brumley, C.F, Stirling M.W. and Manning, M.S. 1986: Old Man Ecological District; Survey report for the Protected Natural Areas Programme. Department of Lands and Survey, Wellington, NZ.



SCALE : 1 : 10000
 GR CENTRE : NZMS1 5133 880530
 AREA : 750 ha
 ALTITUDINAL RANGE : 670m - 1400m
 TENURE : Crown land ; Pastoral lease.
 DATA REFERENCE : Study Area 19.

1/4: BARN CREEK

1/4 : BARN CREEK, ECOLOGICAL UNIT CHECKLIST

BIOTIC ZONE	VEGETATION COMMUNITY	ECOLOGICAL UNIT	ALTITUDINAL RANGE	REP. AREA	SAMPLE SITE NO.	PRIORITY AREAS w. SIMILAR UNITS
Low-alpine	Herbfield	ACTUAR-FESSNOV, on outcrop & rubble FESSNOV	1210-1340m	M	19-14	none
"	"	"	1190-1290m	L	19-12, 13	1/1, 2, 5; 2/1, 2
"	Mixed tussock	CHERIC-FESSNOV, on colluvial slopes	1130-1250m	M	19-31, 22, 23	1/1, 7, 9; 2/1, 2, 3
"	Alpine tussock	PONCOU-STRIPM, on colluvial slopes	1110-1140m	S	19-30	1/1, 5, 7, 10, 11; 2/3, 5
"	Alpine fescue	FESSNOV-PONCOU, on alluvial surface	1100-1130m	M	19-28	none
"	Wetland	Carex-moss bog, on alluvial surface	1070-1130m	M	19-29	1/5, 6, 7, 11; 2/2, 8
"	Scrub	QUERCO-DISTNOV, on talus slope	1050-1090m	S	19-25	2/1, 2
"	Wetland	FESSNOV tussock, on steeply colluvial slopes	1070m	S	19-27	1/1, 2, 7; 2/2, 3
Sub / low alpine	"	"	700-1070m	L	19-03, 16, 17, 21, 24, 25	1/1, 3, 5, 7, 9; 2/1, 2
Subalpine	"	"	980-1020m	M	19-15	2/3, 7
"	Wetland	Sedge/moss flush, on alluvial surface	700-1040m	M	19-10, 18	1/1, 7; 2/1, 2
"	"	"	900-980m	S	19-06, 09	1/1, 3, 7, 13; 2/1, 2, 3
"	Scrubbed	BROUIN-FESSNOV, on colluvial slopes	730-1070m	M	19-08, 20	1/2, 3; 2/1, 2, 3
"	Scrub	Diverse scrub, on declivitous slopes	740-1040m	M	19-04, 22, 23	1/2, 3, 12
"	Mixed	Mixed low altitude on outcrop & rubble vegetation	880-1010m	M	19-05, 11	1/2, 3, 7; 2/1, 2, 3
"	Scrub	POKIV scrub, on outcrop & rubble	950m	L	19-07	1/9
"	"	Dense DISTNOV, on colluvial slopes	670-900m	M	19-02, 19	1/1

1/4: BARN CREEK

LANDFORM

An elongate catchment flanking the Lower Nevis Basin and developed on a westward-sloping schist plateau. A lightly incised angular drainage pattern occurs from upper to lower reaches and overall catchment profile is regular.

It contains a prominent off-summit tor landscape throughout, large slump (with graben development and tension cracks) and sawcut gorge in the mid-upper catchment, and steep lower gorge with large block slump.

Yellow-grey (Arrow) hill and steepland soils occur over the catchment with yellow-brown (Carrick, Dunstan) soils on upper slopes. They are sheet eroded locally on exposed upper slopes and ridge crests. Slips are confined mainly to slumped slopes above stream channels.

VEGETATION

The catchment is dominated by fescue tussocklands.

Patches of the upland species narrow-leaved snow tussock and alpine fescue occur around rock outcrops, ridge crests and upper valley slopes.

Principal fescue associations include extensive co-dominance with golden spariard above 1200m; with Raoulia species on lower dry slopes and exposed ridge crests, and with silver tussock, blue tussock and Maori onion on damper southwest-facing slopes.

Flushes, dominated by cutty grass and rushes, are scattered throughout the central valley.

Scrub is prominent around rock outcrops and debris along the main stream valleys, dominated by Olearia - matagouri - Coprosma in association with snow totara, native broom (Carmichaelia compacta, C. petriei) and Myrsine nummularia. Dense patches of snow totara occur on mid-catchment rubblefields.

Briar and exotic pasture species become prominent towards the base of the catchment.

FLORA

Snow totara - very restricted in District.
Red tussock - only recording in northern part of District. In damp upper valley head.

DISCUSSION

The area has high landscape quality with the most impressive off-summit tor landscape in the District, and good examples of mass movement and gorge landforms in the characteristic narrow gullies.

It contrasts strongly with much of the Carrick land system where younger mass movement and derivative landscapes prevail. It experiences the highest rainfall for the land system (800mm p.a.) consistent with its position at the southernmost end of the Carrick Range.

Fescue tussocklands occur over an extensive altitudinal range, and

with a representative variety of dry and moist associations the District. Only remnants of narrow-leaved snow tussockland remain.

Scrub associations are typical of the northern ranges. Barn Creek retains the only extensive stand of snow totara in the dry northern part of the District. The scrub is protected from grazing by the bouldery substrate, but is vulnerable to fire.

Some areas of severe, accelerated erosion occur, but are presently restricted in extent.

Rabbits, hares and possums were particularly abundant; the common skink ("spotted" form 1985,86) was seen among rocks at the head of the catchment. Several New Zealand falcons were recorded around the upper tors near Duffers Saddle; greenfinch, yellowhammer and skylarks were numerous in the middle catchment. A new species of the moth Dichromodes has been recorded on the tors at the southern end of the Carrick Range (Watts Rock to Duffers Saddle).

CRITERIA SUMMARY

REPRESENTATIVENESS	- H	- Fescue tussocklands, low altitude scrublands.
DIVERSITY	- M	- Diverse community associations. Restricted altitudinal sequence.
NATURALNESS	- M	- Induced fescue domination to upper slopes; modification by exotics in lower catchment.
SPECIAL FEATURES	- M	- Snow totara an important remnant.
VIABILITY	- M	- Slump, sawcut gorge.
BUFFERING	- M	- Remnant snow tussock, sparse vegetation cover on upper slopes.
THREAT	- M	- Poorly defined catchment boundaries; surrounding areas highly modified.
LANDFORM	- H	- Burning a threat to scrublands; erosion; exotic modification.
		- Representative of sloping plateau landscape. Tor landscape spectacular.

Appendix Two: Aquatic species on Craigroy pastoral lease- NIWA database.

Year	Locality	metmap	Easting	Northing	Altitude	Species Code
1992	Nevis River	F42	21916	55438	690	saltru
1991	Nevis River	F42	21957	55533	630	saltru
1991	Nevis River	F42	21956	55532	640	saltru
1991	Nevis River	F42	21945	55523	670	saltru
1991	Nevis River	F42	21945	55523	670	salfon
1991	Nevis River	F42	21955	55514	650	saltru
1991	Barn Creek	F42	21956	55514	660	saltru

Note: Species code- saltru=brown trout; salfon=brook char. Both introduced species.

**Appendix Three: Royal Forest and Bird Protection Society of New Zealand
Submission on Craigroy Tenure Review.**

**ROYAL FOREST AND BIRD PROTECTION SOCIETY OF NEW ZEALAND
INCORPORATED**

**Upper Clutha Branch
PO Box 38
LAKE HAWEA**

10TH November 2002
Mr Tony Perrett
High Country Tenure Review Manager
Department of Conservation
Otago Conservancy
PO Box 5244
DUNEDIN

(tperrett@doc.govt.nz.)

Dear Tony

BEN NEVIS and CRAIGROY - TENURE REVIEW REPORT.

At the Early Warning meeting you held in Alexandra on 19th September 2002 you intimated that these two properties, and others, which had been withdrawn from the process some time ago, were to come back into the process later in the year.

Today we were advised by another NGO that any comments we wished to make were required in your office, yesterday, Friday 8th November. Therefore we would be most grateful if you would accept these comments and suggestions from our branch per e.mail - which should be on your desk on Monday morning the 11th. This to be followed by a signed copy per New Zealand Post.

1. GENERAL:

1.1 While we would have liked, and fully intended to do, an on ground inspection of these properties after the snow had gone back, The lack of time has precluded this. This report therefore is based on our branch's executive members' knowledge of these properties.

1.2 We regard any land that can be retained by the Crown coming from the Ben Nevis as essential to the proper establishment of the proposed 'Remarkables National Park' or 'Conservation Area'. Similarly any retained from Craigroy will be an important addition to the 'Kopuwai' or 'Old Man' conservation area.

Both the 'Old Man' and the 'Remarkables' areas are mentioned in the Conservation Management Strategy for Otago, adopted in 1998. The value of these areas is fully appreciated in the Strategy; it suggests that the goals sought could be achieved through the tenure review process.

2 SIGNIFICANT INHERENT CONSERVATION VALUES:

2.1 The Landscape. The whole of these two properties - which make up the middle reaches of the Nevis Valley - have outstanding landscape values. There are very few remote mountain valleys of this nature left in New Zealand which people can enjoy the experience of driving through. Therefore any reviewable land which may be designated for disposal as freehold, will require an adequate overall landscape protection covenant placed over it, to protect it from forestry or undue earthworks - to mention but two activities that could ruin this type of landscape. The CODC District Scheme Plan is inadequate to protect the landscape in this respect.

2.2 Historic Values: There are considerable mining relics and human occupation sites on the valley floor and on the hills on either side of the valley worthy of protection. Here again adequate covenants will be required to protect these values on any land which may be disposed of on a freehold basis. Better protection for some sites would be to have them retained in Crown ownership.

2.3 Recreational Values: While there is only a moderate amount of use of these hills for recreational purposes at present: mainly due to lack of access (or lack of knowledge of any access) any future forecast for recreational use can only be for a steady increase. The tops of the mountains on both sides of the valley in winter are the Mecca for cross country skiers. Any land returned to full Crown ownership and control will be welcomed by all those interested in the outdoors because of the remote experience this country has to offer, be it photography, scenic appreciation, or the more strenuous activities associated with mountains.

2.4 Other Inherent Values: Probably the main significant inherent values on these two places are the mountain tops; their form, their cover and their fauna. The 'Remarkables' may be outside what are generally known as the Southern Alps of New Zealand but they support some of the plants found in the Southern Alps, this unusual feature must be protected. The tussock cover on the upper faces, basins and streams on the east side of the Hector mountains varies, but it is the dominate plant of the landscape. The tussock is interspersed with woody shrubs and other alpine plants.

We understand that a considerable area (6,844 ha) was voluntarily fenced off and retired in 1980. This area includes the headwaters of the Nevis Burn, Schoolhouse and Commissioner Creeks also the true right bank of Doolans Creek. Given that it is already retired from grazing and has considerable conservation values it should be retained by the Crown and managed for conservation purposes.

2.5 Tarns and Torr Rocks: The numerous tarns and torr rocks on both sides of the valley - but especially on the Hector mountains - are an outstanding feature of the area. On the eastern side of the valley the hills are a little lower in altitude than those on the western side, and are of different form; more rounded and rolling and typical of the block mountains of the rest of Central Otago, This type of fascinating country on both sides of the valley support an infinite variety of vegetation, and the associated aquatic life in and around the tarns .

2.6 Wetlands and Fans: Consideration must be given to protecting the biota of Schoolhouse Flat also the wetlands and river meanders (particularly on the east side of the Nevis river) either by an adequate covenant or preferably by return to full Crown ownership and control. While some of this area may have been damaged by mining they are still recoverable.

3. ACCESS;

3.1 **Legal Roads:** The legal road going from the Nevis Crossing towards Doolans creek should be surveyed and aligned with the present track formation. The legal road from Duffer's saddle to the crest of the Old Woman range should be treated in a similar manner.

3.2 **Fishermens' Access:** Adequate access should be made available from the Nevis to Garston road to the Nevis river where ever considered necessary.

3.3 **Walking Access:** Adequate and reasonable access will be required from the Nevis Garston road to both conservation areas created out of these to runs. While we believe there are marginal strips on the main streams on the eastern side of the Hector mountains, these will be impractical in parts. The farm tracks already up the spurs in between these streams should be used.

4. DESIGNATIONS:

4.1 We believe all the land above 1000 masl on the western sides of the valley (Ben Nevis) should be returned to full Crown ownership and control. This would add to that area of land retired on Loch Linnhe and that restored to Crown ownership from the Wentworth tenure review. This will then form part of the suggested 'Remarkables' National Park or Conservation area.

4.2 The same should apply to the land on the eastern side of the valley - Craigroy. The retirement fence would be somewhere below the Carrick Range water race. This will be a valuable addition to the Cairnmuir Conservation Area, and so enlarge the 'Old Man - Kopuwai' Conservation area.

4.3. The land below 1000 masl, could be disposed of on a freehold basis, if proven ecologically sustainable,

4.4 The question also suggests itself to us that perhaps the two runs may have to be amalgamated to form a viable economic unit.

IN CONCLUSION:

We would stress the importance of these two runs for conservation and believe the first consideration in these two reviews (they cannot really be considered separately) is to give full protection to the intrinsic values contained in the whole of this remote alpine valley. It is unique - it has historic values as well as conservation values.

We pose the question, can the land under review in this valley be managed in an ecologically sustainable manner?

Can it be farmed in an economic manner when one considers the bulk of these two properties are well over 600 masl? They are remote from markets and services. Can it be economic to bring in manure to replace the animal products that are exported from it?

We thank you for the opportunity to pass these comments, and we hope you will take them into consideration when you make your recommendations for a preliminary proposal.

Yours faithfully

John L Turnbull, For Upper Clutha Branch, Forest and Bird