Toitu te Land whenua Information New Zealand

Crown Pastoral Land Tenure Review

Lease name : Inverary

Lease number : Pc 054

Conservation resources report

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.

The report attached is released under the Official Information Act 1982.

Copied November 2002

By Hand from Mike Clare
30 August 1996

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Department of Conservation Report to Knight Frank Ltd on Tenure Review of Inverary Pastoral Lease

PART 1: INTRODUCTION

Inverary pastoral lease is located in the foothills west of Mt Somers, mid-Canterbury. The homestead is located off the Ashburton Gorge Road, 10km west of Mt Somers township, and is shown on Map 1.

Inverary pastoral lease is part of Hakatere ecological district, in Heron ecological region. The district mostly comprises moraines and terraces, and a few isolated mountain blocks. Vegetation and fauna of the district is largely associated with lakes and wetlands. In contrast, the district is mostly bounded by the more mountainous districts of Mt Hutt, Arrowsmith and Two Thumb, and by the flat outwash surfaces of High Plains.

The pastoral lease mostly comprises more mountainous parts of Hakatere district. It was previously surveyed as part of the Protected Natural Areas Programme in 1984/85. Two recommended areas for protection (called "priority natural areas" in the PNAP survey report) were identified (Harrington et. al. 1986) RAP 15 Moorhouse Range (part Tenahaun pastoral lease) and RAP 16 North Branch Hinds (part Inverary freehold land)

PART 2: CONSERVATION RESOURCE DESCRIPTION

2.1 Landscape

Landscapes are distinctive in their combinations of characteristics, such as form, pattern, and colour, and for the valued natural and cultural features contained in them. The pastoral lease was delineated into eight landscape character units - discrete areas with unique and uniform bio-physical, cultural and aesthetic attributes, shown on Map 2.

1. **Moorhouse and Peter Ranges:** steep, dissected, greywacke foothills and mountain ranges; short tussock-grasslands and tall tussocklands; extensively grazed in large blocks; 4 vehicle access tracks and bulldozed fencelines, however visible human modification is not significant and the area has a high degree of apparent naturalness and overall intactness, especially in contrast to the highly developed lowlands and plains nearby; visually significant for their large scale and ability for a significant proportion of their full length and height to be viewed at any one time from a number of places.

2. **Jimmys Spur:** a distinct, greywacke, steep-sided ridge; good continuous cover of modified fescue tussock-grassland and tall tussockland, particularly on cooler, moister east-facing slopes - lower west-facing slopes are more modified with introduced species and non-tussock grasses predominating; extensively grazed; one bulldozed fenceline at the south end, and another along the top of the ridge. The Spur has a high degree of naturalness and intactness.

3. **Limestone Downs:** low-lying, shallow basin, underlain by a remnant or "outlier" of limestone and other Tertiary deposits; semi-extensively grazed in moderately large blocks; the track up to Brown Saddle is easily visible especially where it cuts through pale limestone, and the fencelines have been bulldozed in places; overall visible human modification is not significant and the area retains a moderately high degree of naturalness.

4. **Hinds Stream Gorge (freehold land):** a narrow, linear, gorge; cuts through outwash deposits and andesite; generally steep-sided, especially on the true left, and there are many small bluffs and rock outcrops; the stream is clear and winding in a rocky bed; minor floodplains occur where the valley floor opens out in the deepest lower section; visible human modifications are restricted to a vehicle track up the valley floor, a hut within its own fenced-off area (on freehold land) and 2 or 3 fencelines; overall the gorge has a high degree of apparent naturalness.

5. **Woolmer Hill:** low flat-topped, smoothly rolling hills and downlands; mostly developed into large rectangular paddocks of exotic pasture edged with shelter belts; Woolmer Hill summit itself, is comparatively undeveloped and still retains a good cover of short tussock grassland, albeit with a thick sward of introduced grasses between the tussocks; the tussockland covers only a small area, but it contrasts strongly with the surrounding developed areas.

6. **Blondin Stream Valley:** this is a large stream valley dissecting the Woolmer Hill mass; numerous flushes including one dominated by flax and *carex*; moderately modified; semi-intensively grazed, and a number of tracks and fencelines cutting through the cleared in the middle of the area; moderate degrees of intactness and harmony.

7. **Woolmer Hill Faces:** steep hillsides with a dense unbroken cover of modified short tussock-grassland; semi-intensive grazing and oversowing and topdressing have resulted in a greater matagouri scrub component and an overall green hue; moderate degree of naturalness, albeit of a more "rural" nature, and a high degree of intactness and simplicity of appearance; the area is small but it is highly visible from the Ashburton Gorge Road.

8. **Ashburton River Flats:** a small area of completely developed river flat and outwash terrace; exotic pasture in rectangular paddocks with shelter belt planting, and willow river fringe.

Significance of the Landscape:

- The northern part of the Peter Range, Woolmer Hill and the Moorhouse Range are an important part of the Ashburton Gorge Road corridor landscape, a regionally significant landscape (Boffa Miskell Ltd and Di Lucas Associates 1993), leading through to the popular Ashburton lakes.

- The eastern side of the Peter Range is an important and integral part of the foothills/mountain range backdrop to the Canterbury Plains seen, at a distance, from

sections of SH72 between Mt Somers Bridge and Arundel and, more closely, from the network of rural service roads west of the highway.

- There are excellent views looking out from parts of the leasehold property. The elevated areas, including Jimmy's Spur and Woolmer Hill, provide views towards Trinty Hill, the Ashburton Gorge, Mt Barossa, the Winterslow Range, Mt Somers and out across the Canterbury Plains. With increasing height there are views through to the Upper Ashburton Lakes and the Southern Alps beyond.

- Moorhouse and Peter Range: has a high degree of apparent naturalness of the Moorhouse and Peter Ranges with altitudinal and aspect variations in vegetation. The visual continuity of the Moorhouse Range portion with the rest of the range is important to maintain. The low grassland cover enhancing the landforms is also important.

- Jimmy's Spur: has a high degree of apparent naturalness and the intactness of the entire landform (freehold and leasehold land). The continuous grassland cover enhances the landforms and distinctive sculptural quality of Jimmy's Spur.

- Hinds Stream Gorge (partly freehold): a variety of vegetation in association with spectacular rock outcrops and the stream.

- Woolmer Hill: the continuous exotic grassland sward on top of Woolmer Hill emphasises the broad unbroken sweep of the hill summit and its skyline and is uncommon in the district.

- Woolmer Hill Faces: the visual appearance of these faces is important, as they are highly visible from Ashburton Gorge Road.

- A significant feature of the freehold area is Blands Bluff, a distinctive isolated limestone hogsback landform. Part of the bluff is within the neighbouring property, Lincoln Hills. A working quarry has removed a significant proportion of the bluff at its eastern end.

2.2 Landforms and Geology

The pastoral lease largely comprises moderately steep to steep, debris-mantled mountains, and a small component of moderately steep hillslope. Bedrock is mostly Torlesse greywacke and argillite. There is also a small component of andesite.

All of the hill tops and most of the mountain tops comprise high "outwash" surfaces - i.e. stratified material deposited by meltwater streams in front of snouts of Pleistocene glaciers. Some of the mountains also have sloping planar tops.

Western parts of the property around Chaffey Stream and the headwaters of the north branch Hinds River comprise low-angled Tertiary deposits, including limestone, dipslopes. The north branch Hinds River has cut into the glacial outwash and underlying bedrock over most of its length on the property (and adjoining freehold land), to form a 100-140m deep gorge.

The lease also encompasses a small component of river floodplain and associated wetlands.

There area no New Zealand Geopreservation Inventory records for Inveraray pastoral lease.

2.3 Vegetation

The vegetation of distinct geographical areas (refer map 1) of the property is described below.

2.3.1 Moorhouse Range: Part of this area was identified as RAP 15 during the PNAP survey of 1984/85. The area contains extensive narrow-leaved tall tussockland . Other prominent species in this community include cotton daisy, blue tussock, patotara, fescue tussock, golden Spaniard, browntop, catsear, *Raoulia subsericea, Pimelea oreophilla, Lycopodium fastigiatum,* matagouri, mosses and lichens. The tussockland grades with decreasing altitude into short tussockland comprising fescue tussock and silver tussock (outside the recommended conservation area). Remaining snow tussocks become less dense and shorter in stature, and more *Hieracium pilosella* and exotic grasses are present.

The slim snow tussockland comprises a small cap around Mt Tripp. Slim snow tussock is probably less common than hybrids with narrow-leaved snow tussock. Other prominent species are cotton daisy, golden Spaniard, blue tussock, hard tussock, blue tussock, fescue tussock, *Epilobium* sp, *Pimelea traversii* and *Deyeuexia avenoides.*

Patches of *Dracophyllum* scrub are found in shady gullies, on some west slopes and especially at the south end of the range where it is wetter. Here *Dracophyllum* is extensive at higher altitudes (both *D. longifolium* and *D. uniflorum*). Near the summit , the moss *Racomitrium languinosum* is locally dominant. Other common species include cotton daisy, *Hebe pinguifolia, Coprosma rigida, Myrsine nummulariifolia* and *Pentachondra pumila.*

In wet flushes (more common towards the south end) *Schoenus pauciflorus* and *Bulbinella angustifolia* are characteristic.

The scree buttercup is found in exposed frost pockets and small slumps among fine debris and soil.

2.3.2 Peter Range - Jimmy's Spur

On the Peter Range, narrow-leaved snow tussockland is moderately extensive despite its replacement by short tussock at lower levels, and in some localities at higher levels. This community is generally characterised by a substantial proportion of exotic grasses (mostly browntop and sweet vernal, and some cocksfoot and Yorkshire fog), particularly at lower levels at the southern end and in some eastern catchments. Cotton daisy is also characteristic of these communities, as is *Hieracium pilosella.* Percentage ground cover of tussock varies from 5-80%, although it is usually in the range of 10-30%. Other prominent species include fescue tussock and blue tussock. The naturalness of these communities varies from low to medium/high.

On Jimmy's spur the snow tussock is denser and often taller than that on the Moorhouse Range. Other prominent native species are fescue tussock, blue tussock, *Gaultheria depressa,*

matagouri and cotton daisy. There are also several common exotic species present. On the top of Jimmy's Spur where stock spend more time, exotic grasses are more common again, and cattle damage is evident (e.g. trampled tussocks). *Hieracium pilosella* is more prevalent where the tussocks are more open. A small number of gorse plants occur on south-west facing slopes.

The best red tussockland found on Inverary is located on a low saddle between Jimmy's Spur and the Peter Range. Approximately half of the tussockland is located on freehold to the north, and it is rather small, being perhaps 50 metres wide. *Schoenus pauciflorus* is scattered through the tussock which is tall and vigorous. Other species include sweet vernal, browtop, Yorkshire fog, narrow-leaved snow tussock and slim snow tussock hybrids, mosses, *Carex* sp, *Anisotome aromatica, Bulbinella angustifolia, Hieracium pilosella, H. praealtum* and *Crepis capillaris.*

A remnant of a formerly more widespread totara forest occurs in the north branch of Limestone Creek. There are an estimated 50 trees associated with a prominent bluff and the deeply gorged creek. The trees represent various age classes from seedlings to others of about 8-10m high and 0.75 dbh. On the bluff, the shrub *Myrsine divaricata* is common, together with *Coprosma* spp. In the creek gorge, broadleaf and several adult and juvenile lancewood are present.

North Hinds River Valley: Shrubland of *Coprosma* spp in gorges and around bluffs and talus patches, with scattered populations of Canterbury pink broom and some mountain ribbonwood; highly modified, scattered snow tussockland and short tussockland on adjacent slopes. Area is part of an enlarged RAP 16 as it contains further communities of Canterbury Pink Broom.

Blondin Valley: highly modified; extensive mixed scrub with some cabbage trees and kowhai, some induced through topdressing and rather modified; small sedge-flaxland wetland dominated by harakeke and pukio as well as *Schoenus pauciflorus* and *Carex sinclairii* and *C. coriacea*. Blondin valley also contains one of the best shrublands which is dominated by very tall porcupine scrub and some kowhai. Kowhai and cabbage trees are scattered through the area, particularly in two large patches on north-west facing slopes. There is less scrub with fescue grassland and introduced grasses between the patches. Other common species include the scrambling plants *Muehlenbeckia australis* and bush lawyer, and some bracken fern.

Woolmer Hill: highly modified; short tussock grasslands with fertilizer-induced matagouri; and highly modified, remnant red tussocklands.

Central Basin: highly modified; extensive introduced grassland; and a small red tussockland.

Significance of the Vegetation

Significant sites are shown on map 2B.

- Remnant examples of vegetation which was once extensive throughout much of the eastern South Island high country, before the arrival of Polynesians, include: slim snow tussockland around Mt Tripp, red tussockland on the low saddle between Jimmy's Spur

and the Peter Range, totara forest in the north branch of Limestone Creek and shrublands in the gorges of the North Branch Hinds and Little Hinds rivers and in Blondin Valley.

- The narrow-leaved snow tussocklands over the upper slopes of the Moorhouse and Peter Ranges and on Jimmy's Spur are remnant examples of the Polynesian fire-induced vegetation which completely transformed most of the South Island high country. A return to forest using nearby remnants as regeneration sources is often not possible in these tussocklands - there is certainly not much opportunity for this in Hakatere ecological district. Despite these factors, the tussocklands have high natural values because the vegetation structure and composition and the ecosystem processes are predominantly "natural" - i.e., with little or no impact of introduced plants and animals - as well as other cultural and visual values.

- Freehold parts of the property also contain some sites with significant vegetation values: Blands Bluff, a limestone area including plant species confined to limestone. Possibly the best vegetation remnant associated with limestone in the Hakatere ecological district; the deeply incised gorge of the Little Hinds River, with relatively unmodified shrubland; and the northern end of Jimmy's Spur.

- The hydrological values associated with the vegetation of the Moorhouse Range. The snow tussocklands and *Dracophyllum* shrublands are considered to be important in maintaining the hydrological functioning of the North Branch of the Hinds River. Numerous flushes and the substantial wetland in the headwaters are indicators of this.

- Canterbury pink broom: a many-branched shrub or small tree, with light-purple coloured flowers. This broom is endemic to Canterbury and has a threat status of rare (Cameron et. al, 1995). It is presently only known from sites at North Branch Hinds recommended conservation area (section 3.4), Mt Peel, Hoods Bush, the Malvern Hills, Whalesback (near the Conway River) and Grahams Creek (Mt Hutt RAP 5 in Arand and Glenny 1990). The tenure review survey of Inverary pastoral lease discovered 30 plants - making a total of 60 known to occur on the property.

2.4 Fauna

Native bird species known to occur on Inverary pastoral lease include: pihoihoi/New Zealand pipit, skylark, yellowhammer, karearea/New Zealand falcon, kahu/Australasian harrier, parera/grey duck and kawau pu/black shag, and chuckor. Californian quail are present on freehold land adjacent to the South Branch Ashburton River.
Common skinks are abundant in the tall tussocklands of Inverary. The largest waterway on Inverary is the north branch of the Hinds river where upland bully, long-finned eel, common river galaxids and brown trout occur. Brook char may also be present, as they have been recorded at Limestone Creek and Gawler Stream, nearby. Other species recorded in the general area and which may also occur in streams on Inverary include alpine galaxia and long-jawed galaxias. When flows permit there may be some limited spawning by brown trout in the north branch Hinds River.

Significance of the Fauna:

- The only threatened fauna species is karearea/New Zealand falcon, which is considered to be under threat, and is considered to be a second priority species for conservation action.

- Large streams near Inverary are a source of Brook char, which the Central Fish and Game Council have transferred into Lake Emily. The Council may look to use streams on Inverary for this purpose in the future.

2.5 History and Historical Features

Inverary was once part of the Dunolly run (later Gawler District) which was taken up in 1853 by George Gawler Russell. When the run was transferred to William S. Peter in the 1860s he renamed it Anama. In 1898 Anama was subdivided into family blocks and sold to the Government. Inverary as it stands today was formed in 1931. It is farmed by John and Anne Chapman.

There are three known archaeological sites on the freehold block (Ian Hill DOC, Christchurch). The sites are rock shelters with faint Maori drawings. One of these sites has possibly been destroyed by quarrying. Continued quarrying will almost certainly destroy any values that remain.

Significance of the History and Historical Features:

- No known features of high historical value occur on Inverary pastoral lease, but there are archaeological sites on the freehold property.

2.6 Existing Land Status

Inverary pastoral lease (refer map 1) covers 3484 hectares. The station also comprises approximately 600 hectares of freehold land.

There are no marginal strips on the property, nor are there any protected areas. An unformed legal road traverses part of the Moorhouse Range from Brown Saddle to Mt Puakanui and this legal road line follows a farm track in places from Browns Saddle down part of the North Branch of the Hinds River to the freehold land on Inverary.

2.7 Recreation/Access

Existing recreational use of Inverary Pastoral Lease is low.

There have been occasional requests for the use of the area for horse trekking and mountain biking.

The stocks of brook char and brown trout are infrequently fished by local anglers. The area's popularity is low due to the effort required to access the North Branch of the Hinds.

Significance of Recreation and Access

The Inverary-Brown Saddle 4WD track is shown on map 2.

- Due to the proximity of Inverary to the popular recreation areas of Mt Somers, the Ashburton Lakes and the Rangitata River, there is potential for greater recreational use if access was provided for and the area was made known to the public. The area could provide opportunities for walking, mountain biking, and horse riding in a semi-natural environment. It would cater for less experienced trampers and visitors seeking outdoor experiences within 2 hours driving time of major Canterbury towns and cities.

2.8. Existing Management

Animal pests are generally not considered to be a problem on the property. Wilding trees are present and a concern. This is especially so on the Peter Range, although a more systematic assessment would be required to determine their distribution. Gorse and broom is present in scattered localities, particularly on the Peter Range.

PART 3: CONSULTATION

Two meetings in which tenure review of Inverary pastoral lease was discussed were held with NGOs. A meeting was held in January 1995 prior to a property visit by NGOs. Another meeting was held in June 1995 after the NGO survey and after further surveys by DOC staff. The following areas/values were considered important by NGOs:

- Vehicle access over Brown Saddle, along the Hinds River (South Branch), and around the southern end of Jimmy's Spur (4 Wheel Drive Association of New Zealand Inc. submission).

- Protection for riparian areas and wetlands throughout Inverary (freehold and leasehold land) - Hinds River especially important.

- Blondin Stream - upper catchment contains shrublands and wetlands which should be protected (Forest and Bird Protection Society, Canterbury - verbal submission only).

PART 4: RECOMMENDATIONS AND JUSTIFICATION

Some 1400 hectares of Inverary contain significant high inherent values to warrant its protection as Conservation Land in public ownership. The high ecological and landscape values on the property, along with the recreation potential on the property result in these high inherent values. The Department of Conservation's recommendations for Inverary are as follows.

1. Moorhouse/Peter Range and Jimmy's Spur

A combined area of some 1300 hectares be transferred to the Department of Conservation to be managed as conservation land. This large extended area contains a variety of values that justify their inclusion as Conservation land.

Rationale for Selection:

- The slim snow tussockland around Mt Tripp is one of few such remnants of the pre human vegetation of this type in the ecological district. Similar vegetation is uncommon in the mid-Canterbury foothills.

- The narrow-leaved snow tussocklands are remnant examples of the Polynesian fire-induced vegetation which completely transformed much of the South Island high country. On the Moorhouse Range these tussocklands are extensive and mostly of moderate-high naturalness (although the area also encompasses areas which have been quite modified). In the absence of further burning and grazing, the stature and vigour will improve without significant management effort.

- The totara forest and kowhai/broadleaf shrubland are small remnants of vegetation which was once extensive throughout much of the eastern South Island high country, before the arrival of Polynesians. The shaded sites in this recommended conservation area are damp and therefore less susceptible to burning.

- The narrow-leaved snow tussocklands are extensive. In the absence of further grazing, the low to moderate-high condition of these tussocklands will improve, without significant management effort.

- The significance of dense tall tussocklands contributing to the maintenance of the hydrological function of the North Branch of the Hinds River

- Remnant red tussock grassland located between Jimmy's Spur and the Peter Range is one of the best surviving areas on Inverary.

- Inter-tussock species diversity and shrubland on the range is high.

- Shrubland diversity in Little Hinds and North Branch Hinds gorges are examples of vegetation that was once widespread in the area.

- The shrublands are an important locality for the endemic Canterbury Pink Broom which has a threat status of rare.

- The upper slopes of the Moorhouse Range from Mt Tripp westward, contributes to the road corridor experience of the Ashburton Gorge Road, which is regionally significant landscape (Boffa Miskell and Di Lucas Associates 1993).

- There is good potential for walking through tussocklands along the Moorhouse and Peter Ranges with extensive views over to the Southern Alps, Rangitata and Upper Ashburton catchments, Heron Basin and the Canterbury Plains. The highest point, Mt Tripp (1368m), gives the most extensive panoramas.

- An existing 4WD track alongside the North Branch of the Hinds River to Brown Saddle could provide an opportunity for mountain biking and tramping from the Ashburton Gorge Road to the Rangitata catchment and would also provide access on to the adjacent tops.

- Fences form excellent boundaries of much of the recommended conservation area. A fence will be required along the lower altitude boundary south of Brown Saddle - this boundary buffers a thin band of tall tussockland along the top and upper sideslopes of the Moorhouse Range and links with fenceline north of Brown Saddle.

- An opportunity exists to link Jimmy's Spur and Peter Range with the Moorhouse Range providing a contiguous conservation area. The varying altitudes, and aspects could allow for a range of ecological diversity to be protected. This linkage would also provide expanded opportunities for recreation.

Part of this proposed area was identified as RAP 15 and 16 and protection was already being discussed with the lessee prior to tenure review. The lines proposed follow, in the main, existing fence lines along a contour between the oversown and topdressed country. Part of this proposed area, that links the Peter Range with the Moorhouse Range has been modified and in pure ecological terms is difficult to justify. However, the linkage does afford greater catchment protection and viability in terms of reserve design. From a landscape and recreational aspect, the two areas are linked and should be treated as one unit.

2. Blondin Wetland

This 2.5 hectare wetland is proposed as a Scenic Reserve because:

- This is the only known harakeke-dominated wetland in Harakeke ecological district.

- *Azolla filiculoides*, a small free-floating aquatic fern, which forms red-coloured mats, is not know from elsewhere in Hakatere ecological district.

- Unless severely depleted or modified, most high country wetland vegetation types should be protected, because nationally, and internationally, wetlands are greatly modified and under-represented in protected natural areas.

Scenic Reserve status gives this important wetland the appropriate level of protection. With fencing, removal of grazing animals and an appropriate buffer zone, this wetland should be viable into the future.

3. Blondin Shrubland

This 15 hectare shrubland of tall porcupine scrub and some kowhai is surrounded by highly modified farmland and it is appropriate that it is protected by a Conservation Covenant. The main justification for protection is:

- This is the best condition shrubland of its type on Inverary Pastoral Lease. Shrubland dominated by porcupine scrub is very uncommon in Hakatere ecological district (although shrublands composed of similar species are common, especially on rock outcrops, boulderfields, in stream gullies and on hill footslopes).

- Fencing would be required to exclude stock from this area and allow good regeneration to occur.

4. Riparian Management

The rivers and streams on Inverary are popular fishing areas as well as being good spawning areas. Protection of the river banks would also protect aquatic invertebrates. While marginal strips are automatically laid off during the tenure review exercise, the 3 main riparian areas where riparian protection is sought are:

i) North Branch Hinds River
ii) South Branch Ashburton River
iii) Blondin Stream

5. Public Access

Access routes are necessary into the Conservation Areas and access easements are required to formalise any access proposals. The key public access easements proposed are:

i) **Moorhouse Range Easement.** This is proposed as an all year round walking, mountain biking and horse riding route along an existing 4WD track from the Ashburton Gorge Road into the proposed Moorhouse/Peter Range Conservation Area. This would provide access onto the tops and could ultimately link through into the Rangitata via Brown Saddle and the proposed easement below (ii)

ii) **Peter Range Easement.** This easement is proposed along the southern end of the Peter Range to the southern boundary of Inverary. Ultimately this could link up with Hills Gorge Road through an adjoining property (Tenahaun Pastoral Lease)