

Crown Pastoral Land Tenure Review

Lease name : KAIWARUA

Lease number : PT 114

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.

December 05

CONSERVATION RESOURCES OF KAIWARUA PASTORAL LEASE, CANTERBURY

Department of Conservation, Canterbury Conservancy, Pastoral Lease Tenure Review
Report to Knight Frank Limited

20 July 1998

PART 1 - INTRODUCTION

1.1 Kaiwarua

Kaiwarua pastoral lease is in the Hunters Hills which run south to north, behind Waimate, South Canterbury. The Kaiwarua pastoral lease covers 3,700 hectares and crosses the Hunters Hills towards the southern end of the range. The portion of the lease west of the range crest drains into the North Branch of the Waihao River while the eastern portion drains into the Otaio River.

The Kaiwarua homestead is on 2165 hectares of freehold to the west of the pastoral lease. The homestead is 32 kilometres from Waihao Downs on State Highway 82 and 47 kilometres from Waimate.

The western boundary of the lease is predominantly the Waihao River North Branch which separates the lease from the freehold. To the north is the Wairua Downs pastoral lease while in the east the lease is bounded by Otaio Gorge, Weaner Run and Mount Cecil freehold. The Mount Cecil (Glenview) pastoral lease is to the south.

Where the Otaio River leaves the Hunters Hills some 5 kilometres to the north of the lease, the Otaio Gorge Scenic Reserve (12ha) has been created. Other conservation areas on the eastern side of the Hills are the Kelceys Bush, Gunns Bush and Hooks Bush scenic reserves. Retirement areas have been set aside on Mount Studholme to the south and on Wairua Downs and Mount Nimrod to the north.

The pastoral lease lies in the Hunters Ecological District of the Pareora Ecological Region which is characterised by non-glaciated low ranges to 1525m a.s.l. No assessment has been made for the district as part of the Protected Natural Area Programme.

PART 2 - CONSERVATION RESOURCE DESCRIPTION

2.1 Landscape

A landscape assessment has been carried out as part of the Tenure Review. The assessment recognised that the Hunters Hills can be divided into two landscape types. The first type is the eastern faces characterised by the downlands rising gradually from the plains into the dissected high hills and low mountains which contain deeply incised valleys such as the Otaio Gorge. The second type is the western flanks which are characterised by a series of valleys that run directly towards the North Branch of the Waihao River which is contained within a broad valley.

The assessment divided the Kaiwarau pastoral lease into three units. Landscape unit 1 encompasses all the lease that drains directly into the Otaio River. In physical terms the unit is diverse and complex, containing an altitudinal range from 1006m (Mount Blyth) down to 450m close to the top of the Otaio Gorge. Visually, the altitudinal sequence of ground cover from the fine textured tussock lands on the higher slopes, changing into a mixture of tussock and shrublands in the mid-altitudinal band and the coarse textured shrublands in the gullies gives this whole unit a high degree of coherence. A further feature is the intactness of the inherent values. The unit's vulnerability would mainly come from further subdivision while other activities that could have an adverse effect include earth disturbance and wilding pines.

The second landscape unit comprises the north-west portion of the lease extending from Mount Blyth down to about the 600m contour. Healthy snow tussock is the dominant ground cover. The unit is bordered by more modified blocks which do compromise the unit's coherence. However, the unit forms a natural link with Landscape Unit 1 and establishes a significant altitudinal sequence from mid-altitude on the west to approximately the same altitude on the east.

Landscape Unit 3 comprises the rest of the hill country on the western side of the Hunter Hills. Its main physical characteristics are a series of long spurs and valleys that descend quickly down to the North Branch of the Waihao River. Vegetative cover varies considerably from patches of vigorous snow tussock primarily on the shady faces to a mixture of fescue tussock and exotic grasses such as browntop. Matagouri shrublands occur in the deeper gullies.

2.2 Landforms and Geology

The underlying rock is predominantly dark greywacke, black argillite and conglomerate with interspersed beds of red and green spilite. These rocks belong to the Torlesse group from the Permian (Paleozoic) age, about 270 million years old. The lower western faces of the property are underlain by metamorphic semi-schist rocks of the Haast group from the Middle Triassic period.

The Hunters Fault runs north/south on the eastern edge of the range and has been instrumental in causing the uplift of the range. A subsidiary fault runs along the range

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itself and the Otaio River follows this fault initially before forcing its way out through the gorge to the plains.

This faulting pattern has caused the unusual topography of the lease with the western portion being fairly uniform and the catchments all tending westwards to the Waihao River while the eastern portion, rather than falling directly to the east, follows the northerly course of the Otaio River.

Erosion on the property is minimal. Soils are from the yellow-brown group and are predominantly Kaikoura steep-land soils comprising silt, sandy and stony loams developed under snow tussock grasslands and Hurunui steep-land soils developed under fescue tussock grassland.

2.3 Climate

The climate is very much affected by the topography with rainfall varying across the property from 700-1000mm. The eastern side is much wetter than the west as the Otaio basin picks up a lot of moisture from the easterlies which blow in from the sea.

2.4 Vegetation

The vegetation patterns tend to reflect past management and stock use as well as climate. Burning has reduced the forest of the valley bottoms to remnant trees and clusters of trees. Shrublands are much more extensive and recovering quite rapidly in places but much of their diversity has disappeared with the loss of the seed source. Grazing has had its effect on the vegetation pattern. Sheep, as well as a large number of wallabies, graze the whole Pastoral Lease.

Vegetation on the lease is classified and described as:

Exotic Grassland

At lower altitudes, below about 600 metres, and particularly on the drier western slopes and some north faces, exotic grasses dominate. Brown top and sweet vernal are the major species, with Yorkshire fog (*Holcus lanatus*) and cocksfoot (*Dactylis glomerata*) where it is damper. In places, burnt or low growing matagouri indicates that the grassland has been developed as the result of management and oversowing. Hard tussock and blue tussock are often present, as are a number of small native herbs. In places, scattered snow tussock also occurs. This community is also present on sheep camps and occurs as small patches on other disturbed sites throughout the lease, although seldom above 800 metres.

Hard Tussock Grassland

Below the snow tussock and extending up into it on some north facing slopes and down into the shrubland, are extensive areas of hard tussock grassland. Hard tussock makes up 10% to 50% cover, with sweet vernal 10% to 25% and brown top, being the most predominant, at up to 50%. Blue tussock is also present with up to 15% cover. Mouse ear

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and hawkweed are present, the later being found particularly where the ground is bare and exposed. Numerous other plants, including all of those mentioned as inter-tussock species in the snow grass community are found here, together with others such as *Coprosma petriei*, *Scleranthus uniflorus*, *Geranium sessiliflorum*, *Colobanthus strictus* on rocky places and patches of golden Spaniard (*Aciphylla aurea*).

Isolated plants of native broom and Matagouri (*Discaria toumatou*) occur at lower altitude, with the latter becoming more abundant with decreasing elevation. Snow tussock occurs as scattered plants right to the valley floor in places. Isolated trees of kowhai (*Sophora microphylla*) can be found as high as 700 metres. Silver tussock (*Poa cita*) forms dense stands in some areas, occurring along track edges and in higher, damp areas as well as along stream banks and the valley floor, where nutrient levels are higher.

Shrubland and Forest Remnants

The original vegetation of the river valleys and slopes above 800 metres would have been podocarp/hardwood forest with patches of beech forest and shrubland. Remnants of this community are found along the eastern edge of the Hunters Hills. Only tiny pockets and scattered plants are left on Kaiwarua but regeneration is occurring and will continue if burning is eliminated and grazing pressure reduced. As the shrubland develops, providing shelter and increased bird habitat, the forest species, including podocarps, will return.

Below 600 metres, with scattered outliers to about 680 metres, shrubland is found, particularly on all steep slopes falling to tributaries of the Otaio River. In places the shrubland is thick and dominates. In others it is open or occurs as scattered plants and grassland. Both hard tussock with 50% to 80% cover and exotic grassland is found. Where snow tussock grassland extends to the valley bottom on south faces its cover can be 60% to 80% with mountain flax (*Phormium cookianum*) and speargrass (*Aciphylla scott-thompsonii*) also occurring.

The richest shrubland areas remaining occur on rock fields and bluffy outcrops which are common in the Otaio Gorge and its tributaries. The damper, shaded south faces have a more diverse community than the drier north faces where grassland is more prominent. Matagouri is the most common shrub with *Coprosma propinqua* and *Melicytus* sp. (*M. aff. alpinus*). The scrambling plants *Muehlenbeckia complexa* and *Rubus schmidelioides* are common. Other shrubs include *Corokia cotoneaster*, *Aristotelia fruticosa*, *Coprosma rugosa*, *C. crassifolia*, *C. ciliata*, *Gaultheria antipoda*, *Olearia avicenniaefolia* and native broom. Along the stream edges and seepages *Hebe salicifolia*, tutu (*Coriara sarmentosa*), toetoe (*Cortaderia richardii*) and swamp flax (*Phormium tenax*) are found. *Helichrysum intermedium* hangs in large clumps from rock bluffs and mountain flax occurs on damp rocky slopes. The most common trees are broadleaf (*Griselinia littoralis*) and cabbage trees (*Cordyline australis*), but others seen here are putaputaweta (*Carpodetus serratus*), fuchsia (*Fuchsia excorticata*), kowhai, kohuhu (*Pittosporum tenuifolium*), lancewood (*Pseudopanax crassifolium*) and three finger (*Pseudopanax ternatus*).

Several plants of an unnamed *Olearia* (O. 'Pomahaka') were found in the Otaio Gorge. These plants are important, having a restricted range primarily in Southland, but also in a few places in Canterbury and Otago.

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Numerous ferns and small native herbs, grasses, sedges and rushes are found in these shrublands. *Clematis quadibracteolata*, *Parsonsia capillaris* and *Fuchsia perscandens* are three native climbers found here.

A small patch of mountain beech (*Nothofagus solandri* var. *cliffortioides*) remains in a tributary of the Otaio flowing from Mt Cecil.

Narrow-leaved Snow Tussock Grassland

From a distance the tops of the Hunters Hills, including the Kaiwarua area, are distinctly dark green, contrasting with the tawny colour of the lower slopes. The dark green is the narrow-leaved snow tussock *Chionochloa rigida* which dominates the upper slopes above 800 metres. On south and east faces the snow tussock community is generally dominant above 700 metres but extends down to the valley bottom at 500 metres in several places. On drier northern faces the snow tussock level may rise to about 800 metres with less dense or only scattered snow tussocks at lower altitudes.

At lower altitudes snow tussock reaches between 60% to 90% cover and is up to 1 metre tall. Above 800 metres the tussock cover is between 80% to 100% and up to 1.7 metres tall. The generally thick litter layer tends to exclude other plants but where the tussock is less dense and on rocky sites, a range of common inter-tussock species can be found. They include hard tussock (*Festuca novae zelandiae*), blue tussock (*Poa colensoi*), *Raoulia subsericea*, *Leucopogon fraseri*, *Luzula rufa*, *Lycopodium fastigiatum*, *Helichrysum filicaule*, *Viola cunninghamii*, *Ranunculus multiscapus*, *Kellaria dieffenbachii*, *Anaphalioides (Helichrysum) bellidioides*, *Acaena caesiiglauca*, *Rytidosperma gracile*, *Gonocarpus montanus*, mosses and lichens. In places large clumps of *Celmisia spectabilis* are prominent, especially on the upper slopes. *Aciphylla aurea* is locally common with the shrubs *Carmichaelia petriei*, *Dracophyllum uniflorum* and *Pimelea pseudolyallii* less common. Exotic species such as brown top (*Agrostis capillaris*), sweet vernal (*Anthoxanthum odoratum*), cats ear (*Hypochaeris radicata*) and mouse ear hawkweed (*Hieracium pilosella*) are all present at lower altitudes but uncommon at higher altitudes. Rocky ground may have a snow tussock cover of about 60% with *Celmisia spectabilis* (10%), rock and bare ground (10-15%), snow berry (*Gaultheria depressa* var. *novae zelandiae*), moss and other plants including *Dracophyllum uniflorum*. On ridge lines the snow tussock is also more open and hard tussock, blue tussock and some exotic grasses and small native plants such as *Vitadinia australis* and the moss *Racomitrium* sp. can be prominent.

2.5 Fauna

Birds

The following birds have been noted in the lease - tomtit, falcon, harrier hawk, bellbird, shags, black-backed gulls, white-face heron, fantails, grey warblers, grey duck, swallows, magpies and hedge sparrows. A shag colony occurs adjacent to the Otaio River downstream from the lease.

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Lizards

Skinks are common, particularly on the lower rocky slopes or rock ridge tops.

Invertebrates

The most noticeable insects in the tussock land environment are the ground living invertebrate communities living under the very dense tussock cover. With the higher humidity, the rich faunal environment holds several hundred invertebrate species. Six species of butterfly have been observed, including two copper butterflies, (Bold Copper Butterfly and Common Copper Butterfly), the Common Tussock Ringlet Butterfly and New Zealand's smallest butterfly, the Southern Blue Butterfly. Twelve species of moth have also been collected, a very small proportion of the rich moth fauna of the area.

Ground dwelling invertebrates in this community include three subalpine grasshoppers *Phaulacridum marginale*, *Sigauss campestris* and *Sigauss* spp (australis) and several ground living beetles. A good variety of flying invertebrate species has been noted and New Zealand's largest spider wasp, *Priocnemis monachus* has been collected.

Several small forest remnants near the Otaio River provide the richest invertebrate community with good cover for ground living invertebrates and a variety of plant species for moths. It is expected that these areas could support two to three hundred invertebrate species. With both a rich plant life and high invertebrate numbers there are a large number of wasps in the area.

Over 30 species of aquatic invertebrates have been collected from the river and stream system. This includes one new species of mayfly from a family only found previously in the North Island.

Freshwater Fish

The Otaio River contains numerous small fish including *Gallaxias*, upland bully *Gobiomorphus breviceps*, longfinned eel and brown trout. IN some of the smaller tributaries koura and brook char may also be present. The Waihao River supports a significant local fishery for brown trout in its upper reaches.

2.6 Historic

The run was originally part of the Otaio Station which, at one time, took in all the country from the Otaio River to Hook Creek and from the sea to the Waihao Valley, some 120,000 acres. The first licences were taken up by Miss Jean Collier in 1854 and transferred to her nephews, Leslie, James and Andrew Thomson by 1861. Hard times in 1868 saw the splitting up of the station and the leasehold country was bought by the Teschemaker brothers and Henry Le Cren. The brothers bought out Le Cren's interest in 1878 and after F.W. Teschemaker's death in 1878 the property was owned by Thomas Teschemaker until 1907.

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In 1907 the leasehold land was bought by E.J. Parrott of Waihaorunga and Carlisle Studholme of Waimate and became part of the Kaiwarua and Pentland Hills property based to the west of the Waihao River.

2.7 Public Recreation

2.7.1 Physical Characteristics

The Kaiwarua lease extends from the flats around the North Waihao River over the moderately steep but relatively low Hunters Hills to the Otaio River catchment on the eastern side of the Hunter Hills. The Otaio catchment is open and wide at its head but becomes enclosed and narrow within the Kaiwarua lease. Accessibility from the western side is good although it is some distance from the nearest town (Waimate) to the homestead. On the eastern side, access up the Otaio Gorge is difficult but the lease could be reached by traversing Mount Cecil or Mount Studholme.

2.7.2 Public Access

On the western side of the lease the Old Kaiwarua Road, which used to provide access to the Hakataramea Valley, follows the North Waihao River. The main access road to the Kaiwarua homestead now comes across from the South Waihao River to join the old road. Both these roads are legal roads. Legal road lines extend from the old road to both the northern and southern ends of the lease's western boundary. The southern of these two roads follows a formed track to the North Waihao River and the lease boundary and connects with an internal track (not a legal road) which provides good access into the lease.

Legal road lines give legal, but not physical, access to the eastern boundary from the South Pareora River, by following the Otaio River and by traversing the freehold part of Mount Cecil Station on the eastern side of the hills. There are no internal legal road lines. Marginal strips or legal road lines follow the North Waihao River along most of the western boundary of the lease.

2.7.3 Activities

The principal recreational activity on the lease is wallaby hunting. The Waimate Shooters Club, in partnership with the lessee, has built a hut in the Otaio catchment and this is the base for recreational hunting in the area. Some 900 wallabies have been shot by hunters based at the hut in less than three years.

The hut has also been a destination for walking groups who principally follow the 4WD track from the homestead. Walking, hunting and some 4WD use is at the discretion of the lessee. A good 4WD track also climbs onto Mount Blyth in the northern part of the lease and extends along the Hunters Hills to give access to much of the leasehold and freehold land to the north. Access from the east is limited by the safari operation on the eastern side of Mount Cecil and the inaccessibility of the Otaio Gorge. However, walking access is possible from Mount Studholme.

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PART 3 – CONSULTATION AND DISTRICT PLANS

3.1 Consultation

No consultation with NGOs has been undertaken yet.

3.2 District Plans

Kaiwarua lies within the Waimate District. The proposed District Plan was notified in April 1996 and decisions on the plan were released in May 1998. The lease is all on land zoned rural and the Otaio catchment is further zoned as the Otaio Makikihi Water Supply Protection Area. Objectives of the Rural Zone include:

1. Enhancement and protection of the conservation values of areas of conservation significance;
2. High country land use to be managed to ensure a robust and intact vegetation cover is maintained to assist in sustaining the life supporting capacity of the soil;
3. Protection and enhancement of the outstanding landscape values of the district, and of those natural processes and features and cultural values which contribute to the overall character and amenity; and
4. Maintenance of waterways, wetlands and water supply intakes and their margins to avoid degradation of the natural values of these areas and their associated waterbodies.

Within the rural zone, activities that are permitted as long as they comply with relevant site and zone standards include farming (other than factory farming or dairying); forestry which is less than 20 hectares per Certificate of Title; resident activities; commercial activities limited to retail sales of farm and garden produce; handcrafts produced on site or refreshments served to group visits to sites used for farming or residential activities; recreational activities which are not commercial unless limited to no more than 10 people in one group; mining activities limited to prospecting, exploration and extraction of gravel and visitor accommodation, as long as it is no more than 10 guests at any one time.

Controlled activities in the zone include factory activities of 20 hectares or greater per Certificate of Title; mineral exploration in respect of terrain disturbance; rehabilitation of a site; siting of roads or any buildings and noise, vibration and dust. Discretionary activities are all activities which do not comply with any site standard and are not permitted or controlled activities.

One site of significant conservation value is recognised on the lease. This is the Otaio River Bush which extends up the Otaio catchment from the Gorge. It is a SSWI (Significant Site of Wildlife Interest) and recognises the forest habitat of a lowland/mixed broad leaved forest containing a good bird diversity and a black shag colony.

There are no extra rules for the water supply protection area.

PART 4 - JUSTIFICATIONS AND RECOMMENDATIONS

4.1 Introduction

The areas described in the proposals which follow have high inherent values, in the Department's opinion, and should be taken into account in tenure review discussions, along with public access requirements.

4.2 Areas to be Fully Restored to the Crown

1. Otaio River Catchment

Recommendation

That all the lease within the Otaio River catchment, a total area of approximately 1800 hectares, be destocked and managed by the Department of Conservation as a Conservation Area.

Description

This area is bounded in the south by the boundary fence with Mount Cecil, although the fence follows a ridgeline rather than the legal boundary in the south eastern part of the lease. The western boundary is the Hunters Hills range while the northern boundary follows the boundary fence down from Mount Blyth to the Otaio River and then back up to Mount Cecil. The block consists of all that land in the lease which drains into the Otaio River and is moderately steep to very steep where the river becomes a gorge.

Justification

- High degree of naturalness, intactness of landscape values
- Diversity of land form and plant communities
- Good potential for regeneration, especially of shrublands and forests, if destocked
- Presence of narrow-leaved snow tussock of good quality and cover above 800 metres
- Presence of *Olearia Pomahaka* in Otaio Gorge
- High density of invertebrate numbers in the river system
- Good potential for public to obtain a back-country experience (walking, hunting, mountain biking, 4WD) within a natural setting close to populated areas (Waimate, Timaru)
- Protection and enhancement of water supply.

2. Upper Catchment North of Mount Blyth

Recommendation

That an area of approximately 200 hectares be destocked and managed by the Department of Conservation as a Conservation Area.

Description

This area is the upper part of a catchment of a tributary which flows west into the North Waihao River. It is bounded on the north and east by the lease boundary and on the south by the Hunters Hills ridgeline, passing over Mount Blyth. The western boundary cuts across the catchment below Mount Blyth.

Justification

- Natural link with Otaio catchment block that establishes a significant altitudinal sequence from mid altitude on the west to approximately the same altitude on the west.
- Excellent snow tussock with some hard tussock and shrubland on the lower drier parts.

3. Western Catchment

Recommendation

That an area of approximately 300 hectares be destocked and managed by the Department of Conservation as a Conservation Area.

Description

This area is all the catchment of a tributary flowing westwards from the Hunter Hills to the North Waihao River. Its northern boundary is the ridgeline, with a 4WD track on it, coming down from Mount Blyth. Its southern boundary is also a fenced ridgeline dropping down from the Hunter Hills. The hills are the eastern boundary and the river is the western boundary.

Justification

- Best representation of good snow tussock cover extending from the Waihao River at 500m a.s.l to the Hunters Hills crest at 880m a.s.l.
- Regenerating shrubland on northern faces.
- Preservation of a good western facing catchment with the potential to return fully to its natural state.

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4.3 Areas to be Covenanted

None proposed.

4.4 Access Arrangements

Two access easements under the Conservation Act are proposed. The southern easement would follow the 4WD track to the proposed conservation area in the Otaio catchment. This easement would be for walkers, mountain-bikers, horse riders and hunters. 4WD access to the hut could be permitted if being used for access for hunting only. The easement would give access to the hut and could possibly link with walking routes over Mount Studholme or down the Otaio Gorge.

The second easement would follow the 4WD track which climbs to Mount Blyth in the northern end of the lease. This easement would be for walkers, mountain-bikers and horse riders. 4WD access could be allowed at the lessees discretion. It would enable a link to be established in the future across and along the Hunters Hills.

Access for the crown would be provided by the above easements. If not agreed to then separate crown access would have to be provided.

4.5 Other Matters

- The hut in the Otaio catchment is an important base for wallaby hunting operations. It is part owned by the Waimate Shooters Club and part-owned by the lessee. This arrangement could be maintained, if necessary, or the lessees interest bought out by the Department of Conservation
- Recreational wallaby hunting should be encouraged. Wallaby numbers would be expected to increase dramatically once stock are removed. Control by Departmental staff may need to be increased as well.
- The bridge which crosses the North Waihao on the proposed southern access route may need to be upgraded to meet departmental standards.
- In the south-east corner of the property a large (80 hectares approximately) area of Mount Cecil (Grandview) pastoral lease has been fenced into Kaiwarau to enable fencing to be carried out on a ridgeline. This may need to be legalised.