

## **Crown Pastoral Land Tenure Review**

**Lease name : Mt Alford**

**Lease number : Pc 052**

### **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**

CONSERVATION RESOURCES OF MOUNT ALFORD PASTORAL LEASE,  
CANTERBURY

Department of Conservation, Canterbury Conservancy, Pastoral Lease Tenure  
Review Report to Knight Frank Limited. May 29, 1998 .

**PART 1 - INTRODUCTION**

**Mount Alford**

Mt Alford pastoral lease is situated on both sides of the North Branch of the Ashburton River just as the river leaves the gorge through the Canterbury foothills to flow out on to the Canterbury Plains.

The part of the lease on the western side of the river rises from the river to the Alford Range including Mount Alford. The southern boundary is the foot of the hills while in the south-east corner is the Alford Scenic Reserve. The eastern portion of the lease is separated from the edge of the plains by freehold land including Pudding Hill while the lease block rises from the river on to the Pudding Hill Range.

The lease covers 878 hectares, being Part Run 278 and Rural Sections 36413, 36415 and 36416. A further 706 hectares of freehold land is held by the lessees. At the request of the lessees this freehold land was also surveyed to determine whether there were any areas of conservation value that could be included in negotiations. The homestead for the property is on the freehold land on Spoor Road just off State Highway 72.

To the north-west of the lease is Winterslow pastoral lease. To the north and north-east, an area of surrendered land now managed by the Department separates the Mount Alford lease from Glenrock pastoral lease, while in the east is the Mount Hutt Forest Conservation Area and Pudding Hill Scenic Reserve. Alford Forest Conservation Area is to the west of the lease.

The surrendered land to the north and north-east was effected by a run plan in 1982 which saw the retirement of 233 hectares from the Mount Alford lease and 1207 hectares from the Glenrock lease which Mount Alford lessees had been using.

A rectangular portion of land to the north of Alford Scenic Reserve and surrounded by the pastoral lease is held in a separate title by private individuals not connected with the lessees.

The lease lies within the Mount Hutt Ecological District of the Heron Ecological Region. The Ecological District has been surveyed as part of the Protected Natural Areas Programme and included in the lease are parts of two areas recommended for protection. These are bush remnants adjacent to the river and including Alford Scenic Reserve which are part of a disperse number of forest remnants recommended for protection while bush and adjacent grasslands in the Pudding Hill Stream catchment are part of a larger forest recommended for protection, which includes Mount Hutt Forest Conservation Area.

## PART 2 CONSERVATION RESOURCE DESCRIPTION

### 2.1 Landscape

A landscape assessment, undertaken as part of the tenure review survey, noted that Mount Alford was on the first rangelands which form the edge between the more intensive farming patterns on the Plains and the extensive pastoral farming of the eastern high country. Significant differences between the two associated landforms, the plains and the rangelands, were recognised with the horizontal lines of the plains contrasting sharply with the more broken, angular form of the rangelands in the background.

Four landscape units were recognised and assessed on Mount Alford.

The first unit comprises the front country on the western side of the Ashburton River and continues up the main spur to the summit of Mount Alford. Due to the fragmented nature of the vegetation pattern, extensive tracking and the intrusiveness of the telecommunication installations along the prominent spur, this unit lacks any sense of unity or cohesion. The most vulnerable component of the unit was seen to be the beech forest remnants whose future depends on allowing natural regeneration to occur. The control of weed species, particularly wilding pines, at a high altitude was seen as a threat to the long-term integrity of the shrublands there.

Landscape unit 2 comprises the side slopes and river terraces adjacent to and on both sides of the north branch of the Ashburton River. A distinctive feature of this unit is the continuous beech forest growing along both sides of the river. The most intact forest is located on the section of freehold land owned by the Hart Family and this is also a strategic link between the existing Alford Scenic Reserve and the surrounding land on both sides of the river which all has high inherent value. Further upstream the forest is replaced by large areas of bracken fern, indicating that natural reversion is taking place. The main threat to this unit would be further fires during the natural cycle of regeneration.

Landscape Unit 3 encompasses the summer block on the eastern side of the Ashburton River. It is characterised by a series of spurs leading down from the Pudding Hill Range to the river. The upper portion of this unit has already been retired which should allow the tussock grassland communities to be restored while the lower portion is covered in modified short-tussock grasslands. There is some opportunity, still, to protect an altitudinal sequence of communities extending down from the retired area through to the shrublands and beech on the pastoral lease. The unit is seen to be part of the continuum from the more modified country to the spectacular mountain lands along the Southern Divide. Its main threats are further decline in ecological health from grazing of the forest remnants and wilding pines, once surrounding trees become a seed source.

The last landscape unit is the eastern portion of the Pudding Hill Range dropping into the Pudding Hill Stream. This is all on freehold land. It is significant as an ecological link between the plains, the more extensive native forests upstream and

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as an important visual resource that makes positive contribution to the overall landscape character of the front rangelands.

## 2.2 Landforms and Geology

On the western side of the river the farm rises steeply from the homestead on the Plains at 440 metres to a terrace between the 700 and 900 metre level and then, steeply again to the top of Mount Alford at 1171 metres. The eastern side rises uniformly from the river gorge at 500 metres to the top of the Pudding Hill Range at 1000m. Pudding Hill is a dominant landform on the freehold land on the eastern side of the river.

The underlying rocks are predominantly greywacke and argillite of low induration, part of the Clent Hills formation of the Torlesse Group from the Jurassic (Mesozoic) period.

A notable geological feature is marked by Taylors Stream to the west of Mount Alford where the Clent Hill groups makes contact with the Pudding Hill formation, also part of the Torlesse group, but from the Upper Triassic period. Also forming some bedrock is part of the Mount Somers volcanics of rhyolite and andenite from the Lower Cretaceous period. The plains are formed by till and outwash gravel from the Oltira Glaciation of the Pleistocene (Quaternary) period.

Also of national importance is the occurrence of coal measures in the gully between the microwave station and the peak of Mount Alford. The Mount Alford coal measures are seen as important because of their scientific and educational value, but are not believed to be vulnerable.

Soils vary depending on underlying rocks. Below 915m Hurunui Steepland soils are formed on greywacke. Alford and Alford Hill soils exist where the parent material is greywacke mixed with rhyolite and loess. Above 915m Kaikoura soils on greywacke dominate. Where rhyolite is exposed Koi Koi soils exist. On the flats Ruapuna and Staveley soils exist on the greywacke alluvium.

There is some severe sheet and wind erosion on country above 915m but this has principally been retired. Most of the run has nil-slight erosion. Most of the Class viii land has been retired with some Class viii and Class vii land remaining on the tops of Mt Alford.

## 2.3 Climate

Rainfall averages 1725mm with variation from 1600mm to 2000mm. Falls are mainly from the north-east and south-east. The prevailing wind is the north-easterly with north-westerly winds occurring in spring, summer and autumn. Frequent snows are experienced during the winter and remain for several weeks on shady faces. Frosts are severe from May to September.

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## 2.4 Vegetation

Four geographical areas with different vegetation patterns have been recognised on the property.

### (a) Mt Alford Block

- second growth beech forest associated with North Ashburton gorge and stream gullies, generally in good condition but some poor where stock access is available, particularly around forest edges
- some podocarps on alluvial surfaces and lower slopes adjacent to Mount Alford Scenic Reserve
- shrub and shrubland in the river gorge and stream gullies
- snow tussock zone around Mount Alford associated with *Dracophyllum* shrubland, both in very good condition
- small areas of red tussock in basins below Mount Alford, generally in good condition
- extensive modified short tussock grassland, mostly fescue but some silver tussock

### (b) Cutty Grass Hut Block

- small areas of second growth beech forest associated with the river gorge and stream gullies
- scrub and scrub lands and more common in similar localities
- very extensive modified short tussock grassland

### (c) Mount Alford Freehold

- second growth beech forest, with some podocarp in the vicinity of the scenic reserve (condition very variable)
- scrub and shrubland, some in very poor condition, with extensive areas of gorse and broom
- small areas of cultivated paddocks

### (d) Pudding Hill

- extensive areas of second growth beech with a minor podocarp component, often in very good condition
- associated scrub and shrubland
- very extensive short tussock grassland
- isolated *Carex secta* wetlands and associated shrubs in poor condition adjacent to river terraces of the North Ashburton River

The vegetation on the property is further described as four communities

#### 2.4.1 Beech Forest

Beech forest is found in many parts of the property on both pastoral lease and freehold. Typically it occurs in stream gullies and on steep lower valley slopes in the North Ashburton River gorge, though it also extends upslope, especially on shady slopes. Elsewhere, small patches of beech or isolated trees can be found, particularly associated with terraces of the High Plains Ecological District. At lower altitude, black (*Nothofagus solandri* var. *solandri*) and mountain beech (*N. solandri*)

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var. *cliffortioides*) occur together and hybridisation is common. At higher altitudes and in the upper gorge area, mountain beech is more prominent.

The forests are often patchy, with a discontinuous canopy, and other species dominate the more open areas. To a large extent this reflects the degree to which the forests have been modified in the past through burning and logging.

Where beech is present, the canopy is up to about 25m, but beech trees rarely comprise more than 50% cover. Typical trees in the sub-canopy include five finger (*Pseudopanax colensoi*), lancewood *P. crassifolius*, broadleaf (*Griselinia littoralis*), kowhai (*Sophora microphylla*), lemonwood (*Pittosporum eugenoides*), tree fuchsia (*Fuchsia excorticata*), wineberry (*Aristotelia serrata*), cabbage tree (*Cordyline australis*), kanuka (*Kunzea ericoides*), and lacebark (*Hoheria angustifolia*). Kahikatea (*Dacrycarpus dacrydoides*) and totara (*Podocarpus totara*) are occasionally present on lower slopes near the scenic reserve and on the true left of Pudding Hill Stream.

Understorey shrubs include putaputaweta (*Carpodetus serratus*), weeping mapou (*Myrsine divaricata*), horopito (*Pseudowintera colorata*), *Hebe salicifolia*, kalkomako (*Pennantia corymbosa*), and a number of species of *Coprosma*. Climbing plants such as pohuehue (*Muehlenbeckia australis*), *Parsonsia capsularis*, bush lawyer (*Rubus australis*), and *Clematis paniculata* frequently festoon the trees and shrubs.

On the forest floor a variety of ferns occur such as *Polystichum vestitum*, *Hypolepis millefolium*, *Blechnum capense*, *B. fluviatile?*, hounds tongue fern (*Phymatosorus diversifolius*), and hen and chicken fern (*Asplenium bulbiferum*). Sedges, rushes and hookgrasses are also common and the bush flax (*Astelia fragrans*) is sometimes seen.

In localities which have been most disturbed, gorse and broom are present, at times often dominating open areas. This is particularly so around the scenic reserve, on lower slopes above Mount Alford Settlement Road, along the North Ashburton River terraces and near Pudding Hill.

Another forest variant occurs on alluvial terraces where kahikatea occupies the wetter surfaces. On freehold land adjacent to the scenic reserve, some appear to have been removed by past logging, though emergent trees are now present and seedling generation is evident in many localities. A substantial patch of kahikatea is located immediately north of the scenic reserve in an area known as Peterson's Flat. The main group of trees are located at the base of the hill slopes where sub-surface water appears to accumulate. The forest canopy here reaches about 25-30m. In addition to kahikatea, other trees present include lacebark, lemonwood, broadleaf, kowhai and *Coprosma linariifolia*. Sub-canopy shrubs include wineberry and tree fuchsia, while understorey shrubs include horopito, which is particularly abundant. Climbers are represented by pohuehue, *Clematis paniculata*, bush lawyer and supplejack (*Ripogonum scandens*). While it was very difficult to assess the composition fully because of the density of the vegetation and the bush lawyer, it was clear that the area has been rather heavily browsed by stock. There was some regeneration occurring on the forest floor, but few young plants were ferns and kahikatea was even more uncommon. Judging from their size, it may be that the

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area was heavily browsed in the past but not so much recently as the seedlings are mostly of a similar age.

Overall, the areas of forest on the property are generally rather similar except for the presence of kahikatea on alluvial surfaces near the scenic reserve, and the more extensive mixed forest on the true left of Pudding Hill Stream.

## 2.4.2 Scrub and Shrubland

### Montane Shrubland

Regenerating scrub and shrubland is usually associated with second growth beech forest throughout the property. It frequently occurs around the margins of the forest and invariably extends further up the valleys and slopes into areas formerly occupied by forest. A similar species composition to the forest occurs although there are some additional species and changes in abundance. Typically, the shrublands are composed of mountain ribbonwood, mountain akeake, putaputaweta, broadleaf, kohuhu, lemonwood, cabbage tree, horopito, weeping mapou and bush lawyer. Mountain flax, mountain shield fern and mountain kiokio are often extensive on shady slopes, especially on the upper edges of shrubland. In drier areas, manuka, kanuka and mingimingi are common and are often associated with *Coprosma* species, porcupine shrub, matagouri, *Olearia virgata* var. *rugosa* and the bush lawyer *Rubus schmidelioides*. Beech trees may occur in patches and saplings are sometimes present though they are frequently absent.

### Subalpine Shrubland

The only area of subalpine shrubland occurs on Mount Alford itself. It is dominated by turpentine shrubs (*Dracophyllum longifolium* and *D. uniflorum*) and slim-leaved snow tussock. Other prominent plants include snowberry (*Gaultheria depressa*), *Racoulia subsericea*, *Leucopogon colensoi*, *Rytidosperma bucharanii?*, *Gonocarpus montanus*, creeping mapou (*Myrsine nummularia*), blue tussock, *Pentachondra pumila*, lichens and the woolly moss *Racomitrium lanuginosum*. On southerly aspects where it is wetter, woolly moss is more abundant along with mountain flax, *Astelia nervosa* and the club moss *Lycopodium fastigiatum*. Occasional gorse and broom plants are scattered through this community, particularly nearer the telecommunication station. Wilding pines are scattered through this community too, but do not appear to be reflecting any particular pattern.

A minor shrub community that merits mention is a Halls totara community associated with the steepest bluff and surrounding talus below the eastern face of Mount Alford. It was estimated that there were in the vicinity of 40-50 plants. Given that seedlings and saplings were present, there are likely to be more than this. Other trees or shrubs associated with this community include broadleaf, and mountain beech. Given the volcanic origins of the bluff and its steepness, it is likely that further plants of interest may be present here as it will have been burnt and grazed less often.

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### 2.4.3 Tall Tussockland

The slim-leaved snow tussock community on Mount Alford is effectively described under sub-alpine shrubland as the tussock and *Dracophyllum* are co-dominant. At the base of Mount Alford where an obvious break in slope occurs, a very restricted zone of narrow-leaved snow tussock is present, having gradually replaced the slim-leaved snow tussock with decreasing altitude.

### 2.4.4 Short Tussock Grassland

Short tussock grassland is the dominant community on the pastoral lease and freehold parts of the property. It occupies extensive areas of the montane zone on both sides of the North Ashburton gorge which would formerly have been forested. It is generally very modified, reflecting a history of pastoral use. Fescue tussock is the main tussock but typically comprises only up to 10% cover. Silver tussock is also present but is rarely more abundant except at the most fertile sites. Associated plants include sweet vernal, browntop, patotara, white clover, pohuehue, catsear, hawksbeard, *Carex breviculmis*, everlasting daisy and *Raoulia subsericea*. Mountain shield fern, bracken fern, little hardfern (*Blechnum penna-marina*) and *Celmisia spectabilis* are locally abundant on shady aspects. Mountain flax is similarly abundant on shady slopes, especially in the vicinity of shrublands and forest.

Rock outcrops and talus within these grasslands support mixed grey shrubs and bracken fern. Intervening gullies support shrublands and forest with mountain ribbonwood extending into the grasslands in areas of talus on shady slopes.

In lowland areas, scattered fescue tussock remains as far down as State Highway 77 although they are few and far between and occur in a sward of introduced grass.

### 2.4.5 Wetlands

#### Red Tussock Wetlands

Red tussock wetlands occur in several small areas of around 0.5–1.0 hectares below Mount Alford. They occur in gentle basins below steeper slopes where groundwater seepage emerges. The one immediately below Mount Alford is of additional interest in that it contains an area of active plant growth where a debris flow enters the wetland. While they are quite modified around their margins, their interiors are in good condition and the tussocks are large and dense. The introduced grasses sweet vernal, browntop and Yorkshire fog are locally abundant, but the inter-tussock spaces are dominated by native plants where the red tussock is more dense and soil moisture is greater. Prominent plants include several species of ferns and buttercups, moss, *Viola cunninghamii*, rushes and sedges, *Schoenus pauciflorus*, *Lagineria petiolata*, *Pratia angulata*, and fescue tussock on drier knolls. The wetland below the telecommunication station contains a few scattered mingimingi and *Olearia virgata* var. *rugosa*. The odd patch of gorse and several introduced broom plants were also seen here.



## Lowland Carex Swamp

At the junction of SH77 and the road to Pudding Hill, a *Carex secta* wetland occurs on freehold land below a terrace riser of the North Ashburton River, from which it receives groundwater seepage. There is a drain containing flowing water along the South West edge of the wetland and another along the South East edge. Essentially, the wetland is physlognomically dominated by *Carex secta* with the intertussock spaces being dominated by introduced grasses. Other plants include several species of fern, mosses, sedges and rushes, toetoe, monkey musk, watercress, *Rununculus repens*, mingimingi and cabbage tree. There are several patches of gorse and broom in the wetland. Broom is scattered along the adjacent terrace riser and there is a dense patch on the road edge immediately south of the wetland. The wetland is heavily grazed by cattle with extensive and severe pugging and some plants have been torn out altogether. Overall it is considered to be of low natural value.

## 2.5 Fauna

From observations during survey work and from reports on adjacent reserves, the following fauna are, or can be expected to be, on the lease.

### 2.5.1 Birds

One pair of falcons was noted on the western side of the river. Typical forest birds such as fantail, bellbird, greywarbler, rifleman, yellow-breasted tit, silvereye, chaffinch, goldfinch and blackbird abound. New Zealand pigeons were seen in the Alford Scenic Reserve adjacent to the lease. Californian quail were noted in some numbers. Paradise shelduck are present but there is very little game bird hunting undertaken on the property.

### 2.5.2 Freshwater Fish

Brown (*Salmo trutta*) and rainbow (*Salmo gairdnerii*) trout are present in the Ashburton River and it is a popular fishing area with access up the river. Salmon (*Oncorhynchus tshawytscha*) moving up the Ashburton North Branch may also utilise the streams within the lease for spawning. Galaxiids and bullies were noted in the contributory streams but no survey of their numbers has been undertaken. The following species are likely to be represented: upland bully (*Gobiomorphus breviceps*), Canterbury galaxias (*Galaxias vulgaris*), alpine galaxias (*Galaxias paucispondylus*) and longfinned eel (*Anguilla dieffenbachii*). Riparian protection is the most effective way of ensuring long term habitat protection for freshwater fish and other freshwater biota.

### 2.5.3 Mammals

Hares and rabbits are present in moderate numbers. Possum are a problem in the bush areas. Deer and pigs are in the upper reaches of the catchment on the eastern part of the lease.

## 2.6 Historic Values

The first visitors to the area are believed to have been in moa-hunter Maori times between 500–800 years ago. Fires started by the moa hunters in their search for food progressively burnt off the forest cover. Seasonal birding parties skirted the plains margin on an old track now believed to be followed by State Highway 72. Archaeological sites on the lease include terraces and pits and porcellanite workings.

European occupation saw the introduction of milling and coal mining in the area. The Alford pastoral run was taken up in 1854 and at one time covered 70,000 acres. By 1885 the station was carrying 18,000 sheep. In 1902 the station was sold for subdivision and Edward Horsey, well known in country affairs, took up the homestead and a large share of the land.

At some time part of the run was included in a forest reserve but this was lifted in 1956 and a pastoral lease granted over 1282 acres. A soil and water conservation run plan, approved in 1980, saw the retirement and surrender of 223 hectares as well as 1207 hectares of the Glenrock pastoral lease which was being utilised by Mount Alford.

Of historic note on the lease are the old stock bridge across the Ashburton River which was used to move stock from the eastern portion to the western portion of the lease. The bridge is no longer used as freehold land has been added to the eastern portion to give good access to the flat country on the eastern bank of the river. Also of interest is the Cutty Grass Hut, probably an old musterer's hut at the back of the property.

## 2.7 Public Recreation

### 2.7.1 Physical Characteristics

Mount Alford rises quickly from the plain on both sides of the river. It quickly provides a remote character once the plains are left behind. Views from the top of Mount Alford itself, on a good day, are panoramic. 4WD tracks provide access to the microwave stations on the shoulder of Mount Alford, up the river on the western bank and on the eastern bank through the freehold to the lease and over it to Cutty Grass Hut.

### 2.7.2 Public Access

State Highway 72 and Spoons Road provide access to the homestead. There is an unformed legal road from the homestead to the Alford Scenic Reserve but not beyond. An unformed extension to McFarlanes Road gives access to and follows the western bank of the river to the top end of the lease on the western bank. There is no legal access to the eastern portion of the lease.

Walking access is available up the river from the bridge, where State highway 72 crosses the river. Permission is usually given, if requested, to cross the lease to

climb Mount Alford and to cross the freehold on the eastern bank to gain access to the back part of the lease and the river and conservation areas beyond.

### 2.7.3 Activities

Existing recreational use includes fishing in the river, wild animal hunting (deer and pigs), some mountainbiking, 4WD driving and walking. Mount Alford is a fairly popular destination for walkers, while the track through freehold and leasehold on the eastern side of the river is used by 4WDs and mountain-bikes with the permission of the owners.

Use of the Scenic Reserve is limited because of the lack of carparking, tracking and interpretation. Resolution of these problems would open up the reserve and there could be a fair number of users encouraged into the area.

## PART 3 – CONSULTATION AND DISTRICT PLANS

### 3.1 Non-Government Organisations Consultation

*(To come)*

### 3.2 District Plan

Mount Alford lies within the Ashburton District. The proposed district plan was notified in March 1995 and decisions on the plan were released in July 1997. The lease is principally on land zoned Rural C which is aimed at continuing to provide for extensive pastoral farming, as well as providing opportunities for recreation, tree planting and tourism. It is noted in the plan that there are many sites of spiritual and cultural value to the tangata whenua within the zone.

Within the Rural C Zone activities that are permitted as long as they comply with relevant site and zone standards under the plan include farming, forestry, recreational activities which are not commercial, including walking tracks, bridges, boardwalks, picnic facilities and information and interpretative signage and mineral prospecting.

Controlled activities include mineral exploration, forestry, erection of buildings and earthworks on slopes greater than 20 degrees in angle. Discretionary activities include recreational activities that are not permitted activities, earthworks and vegetation clearance (other than minor activities), exotic tree planting, buildings in significant natural areas or above 900 metres in altitude, clearance of more than 1000 square metres of tall tussock or indigenous vegetation of an average height greater than 3m (other than matagouri) generally in any period of 5 years and farming or release of animals other than sheep, cattle, horses or deer.

The district plan divides areas of significant conservation value into three groups. Group 1 areas are those confirmed as having significant conservation value and rules are provided to avoid, remedy or mitigate adverse effects on these values. Group 2 areas are those that have been identified as potentially having significant nature conservation values but which require confirmation to the extent and significance of the values. The plan calls for these areas to be reassessed within five years and either added to the Group 1 category or no longer listed as areas of significant conservation value. Group 3 areas are those that are already protected by some form of permanent protection mechanism.

On the Mount Alford property the bush remnants in the Ashburton River and adjacent to Pudding Hill Stream are listed and mapped as Group 2 areas of significant conservation value. The Ashburton River is listed as Group 1 area being a SSWI (Special Site of Wildlife Interest) and WERI (Wetland of Ecological and Representative Interest).

These District Plan provisions are currently under appeal to the Environment Court.