

DEPARTMENT OF CONSERVATION REPORT TO KNIGHT FRANK LTD ON
TENURE REVIEW OF OTAMATAPAIO PASTORAL LEASE

PART ONE: INTRODUCTION

Otamatapia pastoral lease (7917 ha) is located in the Upper Waitaki Valley, North Otago.

The front of the property bounds the southern shore of the west arm of Lake Benmore on SH83 and extends back to the Ewe and Hawkdun Range crests (see map 1). It is a long, narrow property, running NE-SW up the Otamatapia River Valley. It includes practically all the country from valley floor to ridge summit on the true left of the river, which forms the eastern boundary. The lease boundary cuts straight across the Hawkdun Range, excluding the very tops of its cirque basins (although there is no boundary fence). The lease also includes the Mt Horrible area, with Glen Creek forming the north-west boundary.

Altitude ranges from approximately 300m at the lake shore, to 1849m on the Hawkdun Range. The property has low altitude hilly country that has been developed for and modified by grazing, extending to an alpine environment which is relatively unmodified.

Otamatapia is predominantly surrounded by freehold and leasehold pastoral lands. To the south, a corridor of conservation land is proposed which runs from Otamatapia along the Hawkdun Range, providing access to the Manuherikia catchment and the Maniatoto.

Otamatapia is part of the Hawkdun Ecological District, in Waitaki Ecological Region. The property was included in the Protected Natural Areas Programme survey, which was published in June 1994. One Recommended Area for Protection (RAP) was identified on Otamatapia - RAP 4: Lone Totara.

The Department of Conservation surveyed the property for tenure review purposes during February 1995. Landscape, ecological, recreation/access and historic values were assessed, and these are described in part II of this report.

PART TWO: CONSERVATION RESOURCE DESCRIPTION AND ASSESSMENT OF SIGNIFICANCE

2.1 Landscape Context

Otamatapaio is located on the South East side of the Mackenzie - Waitaki Basin, an area notable for its semi-arid character. The lease is also in the transition between Canterbury and Otago where greywacke ranges give way to the fault-block schist mountains of Otago. The full transition is shown on the long North-South trending run.

The northern part of the property, from Mt Horrible northwards, is part of the internationally acclaimed and regionally outstanding Mackenzie - Waitaki Basin landscape.

The most recent landscape study of this area (BMP 1992) described the northern half of Otamatapaio as being within the Benmore landscape compartment, one of the 10 distinctive landscape compartments comprising the Basin distinguished by its lake focus and rugged, barren semi-arid landscape. This landscape is evaluated as being intact and coherent (relatively free of apparent human intrusion and having a unified appearance). The range slopes are considered to be highly vulnerable to adverse landscape change.

The Benmore landscape is important to the recreational experience of the area, and is also traversed by SH83. The Benmore compartment is the last experienced before entering the spectacular Mackenzie - Waitaki Basin and is therefore important in shaping expectations gained on entering the Basin. Mt Horrible and the Northern Hill Range are a prominent part of the Benmore landscape compartment.

The southern part of the lease encloses the west side of the small Otamatapaio basin and valley, a small self-contained landscape set within the larger fault-block mountain range landscape in the south side of the Waitaki Valley. The Otamatapaio Basin can really only be appreciated from within or immediately around the basin.

The Hawkdun Range is a very distinctive element of the fault-block range landscape, with its even summit and cirque basins. The northern part of the Range has most of the cirque basin landforms.

2.2 Landscape Character

Otamatapaio pastoral lease comprises ten distinctive landscape units which can be grouped into three broad character types.

- i) Lower flats and Lakeshore. This land lies below the hill and mountain country and abuts Lake Benmore. It has been intensively developed in places and elsewhere has extensive *Hieracium*, briar and matagouri. The lake side between the highway has swamp vegetation and willow. State Highway 83 skirts the northern part of this area and provides opportunities for recreation.
- ii) Northern Hills: These extend from the summit of Mt Horrible (1366m) and extend north to include the low northern hills (884m). These hills have rolling

tops, small summits, steep sided valleys and are largely greywacke. The vegetation is variable with depleted short tussock grassland, *Hieracium*, exotic grasses and herbs. Matagouri and Brier are extensive in places while the Glen Creek Catchment has extensive indigenous shrublands.

The Summit Range to the west of Mt Horrible is broad, smooth and flat topped with a sparse tall snow tussock grassland. The Otamatata fault sharply separates this area from the greywacke country of Mt Horrible to the north.

The majority of this area has had few significant human modifications. Tracks are few and the fences are largely invisible.

- iii) Hawkdun Range: This represents about one third of the property. The Otamatapaio riverbed forms the lower boundary as it narrows to the back of the property. This extensive area represents a very impressive landscape with land forms on a grand scale. It is a landscape shaped by periglacial processes. It comprises four large well-defined cirque basins, which narrow into large fluvial valleys draining into the Otamatapaio River.

The landscape of the range is very dramatic with extensive rock debris mantling over extensive areas, rock walls and knife like ridges defining the cirque basins. These give way to a broad, barren, windswept summit area. The fell fields and dense tall snow tussock have high inherent value.

The lack of human modification and spectacular long distance panoramic views into Otago and the Mackenzie Basin are of high significance.

2.3 Geology and Landforms

The upper Hawkdun Range is comprised of non-foliated greywacke and argillite. The range is a transitional area between the greywacke of Canterbury and the schist of the Otago block mountains. The Hawkdun Range was uplifted during the Kaikoura Orogeny.

Periglacial processes have been dominant in the land shaping processes. Small cirques have developed on the North Eastern slopes below the Hawkdun Range summits which feed into the valley below.

Elsewhere, the Northern Ranges of Mt Horrible are deeply dissected with steep spurs giving way to the fans and terraces below.

2.4 Climate

The climate is semi-arid with warm dry summers and cold winters. Because of the property's range in altitude (370 - 1848m), a great variation in temperature and precipitation (+10 to approximately 1600 mm, on the highest part of the Hawkdun Range) is found. The harsh climate contributes to problems associated with rabbits and *Hieracium* (see section 2.9 Management Issues). Winter weather can be

severe on the Hawkdun and Ewe ranges and this places some limitations on recreational use (see 2.9)

2.5 Vegetation

The vegetation of five distinct geographical areas on Otamatapaio is described below.

1. Low Hills

These extend between the Mt Horrible block and the Waitaki Valley. They cover a full range of aspect variations and are characterised by the following indigenous plant communities:

- Silver tussocklands (*Poa cita*) which cover hill slopes and spurs, and, to a more limited extent, the valley floors. Overall, they are highly modified, have a low to moderate indigenous species diversity, and exotic plants such as sweet brier, vipers bugloss, sweet vernal and *Hieracium pilosella* are prominent. They have probably been induced from snow tussock and shrub communities and exposed to a history of grazing, rabbits and perhaps burning. Hawkweed infestation is severe in some areas, comprising up to 75% ground cover on some lower hill slopes and fans. There is extensive bare found in many places.
- Mixed shrublands. These communities are generally limited to valley floors, lower slopes, around rock outcrops and are typically small in area. Prominent species include matagouri (*Discaria toumatou*) *Coprosma propinqua*, porcupine shrub (*Melicactus alpina*), native broom (*Carmichaelia petriei*), *Olearia odorata*, *Muehlenbeckia complexa* and sweet brier (*Rosa rubiginosa*).

2. Mt Horrible Block

- Mixed shrubland. The most extensive and important shrub communities are located in Glen Creek catchment, and include the threatened plants *Hebe cupressoides* and a native lianoid broom (*Carmichaelia kirki*). Prominent plants of the scrub include *Coprosma* species, matagouri, mountain wineberry (*Aristotelia fruticosa*), *Olearia virgata*, *Olearia odorata*, *Carokia cotoneaster* and *Hebe* species. Less common are broadleaf (*Griselinia littoralis*), kowhai (*Sophora microphylla*), coral broom (*Corallaspertium crassicaule*), and weeping mapou (*Myrsine divaricata*). Smaller less diverse and more modified shrublands are scattered elsewhere.
- Depleted narrow-leaved snow tussock (*Chionochloa rigida*) at mid altitude extends lower down in places, where it is highly modified by OSTD. *Hieracium pilosella* is extensive.
- Silver and fescue tussock (*Festuca novae-zelandiae*) grasslands at lower altitudes though some fescue is found at mid altitudes induced from narrow-leaved snow tussock. Typically very modified.

3. Middle Blocks

- Narrow-leaved snow tussock at middle and upper levels. Towards lower levels it is depleted and strongly modified through OSTD and grazing.
- Mixed shrubland on lower slopes, around rock outcrops and valley floors. Often rather modified or limited in extent. Typically comprised of matagouri, porcupine shrub, *Coprosma* species, sweet brier, and sometimes *Olearia odorata*.
- Short tussock grasslands at lower altitudes, highly modified through OSTD and grazing
- Lowland totara (*Podocarpus hallii*). The two known totara communities on the property are found here, though occasional individuals are elsewhere in the block. Other plants of these communities include *Coprosma* species, mountain wineberry, matagouri, porcupine shrub and sweet brier. These communities are remnants of the original vegetation which would have once been more extensive in the drier parts of Otago and Canterbury in pre-Polynesian times.

4. Hawkdun Range

- High altitude fellfield and bluff communities, which represent the original communities of the alpine zone.
- Wetland vegetation and tarns associated with cirque basins, again representing original communities.
- Relict periglacial features such as solifluction lobes, stone nets with micro-climatically influenced communities.
- Slim-leaved snow tussock (*Chionochloa mucra*), relict at high altitudes, but also representing the major original community of the alpine zone.
- Extensive narrow-leaved snow tussock at mid-altitudes in good or very good condition.
- Induced cushion vegetation associated with summit ridges, cirque basins and subsidiary spurs.
- Shrub communities mostly associated with valley floors and lower slopes, and some limited celery pine (*Phyllocladus alpinus*) and snow totara (*Podocarpus nivalis*) at mid altitudes.

5. Otamatapaio River

- Narrow-leaved snow tussock in moderate condition on valley floor in upper reaches.
- Mixed shrubland, particularly in lower and middle reaches. Very modified through OSTD and grazing.
- Wetlands, quite common but very small and often very modified.
- Fescue and silver tussock grasslands. Where they remain on the floodplain, terraces and fans are very highly modified.

3.5.1 Flora

The Hawkdun Range (and nearby St Bathans Range) differ from other Central Otago block mountain ranges in having species only occurring on greywacke e.g. *Ranunculus haastii*, *Aciphylla dohsonii*, vegetable sheep (*Raoulia eximta*) and *R. petriensis*, the latter three reaching their southern limit here.

The Hawkdun PNAP report refers to the original low conifer-broadleaf forest of the area and relicts are present on Otamatapaio. On the Otamatapaio Valley sideslopes are two populations of Halls Totara (only two individuals were recorded during the PNAP survey) and in the upper Glen Creek area broadleaf, kowhai, lancewood (*Pseudopanax colensoi*) weeping mapou were recorded (none were recorded during the PNAP survey).

Other notable species recorded during the tenure review survey were the threatened plants *Hebe cupressoides* and *Carmichaelia kirkii*; *Coprosma intertexta* (classified as local) was also found (none of these were recorded during the PNAP survey).

2.6 Fauna

A survey of fauna was carried out in February 1995 but was not exhaustive and therefore additional species will most certainly be present.

Birds

Thirteen native bird species were observed:

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|-----------------------------------|---|
| • Grey warbler | (<i>Gerygone igata</i>) |
| • Pied fantail | (<i>Rhipidura fuliginosa</i>) |
| • New Zealand pipit | (<i>Anthus novaeseelandiae</i>) |
| • Paradise shelduck | (<i>Tadorna variegata</i>) |
| • South Island pied oystercatcher | (<i>Haematopus finschi</i>) |
| • Banded dotterel | (<i>Charadrius bicinctus</i>) |
| • Black shag | (<i>Phalacrocorax carbo</i>) |
| • Silvereye | (<i>Zosterops lateralis</i>) |
| • Southern Black-backed gull | (<i>Larus dominicanus</i>) |
| • Australasian harrier | (<i>Circus approximans gouldi</i>) |
| • Spur-winged plover | (<i>Vanellus miles novaehollandiae</i>) |
| • Welcome swallow | (<i>Hirundo tabitica neoxena</i>) |
| • New Zealand Falcon | (<i>Falco novaeseelandiae</i>) |

Of particular interest are possible breeding sites for banded dotterel and oystercatcher on the summit of the Hawkdun Range, and the presence of falcon in the same area. Shrublands, especially in the Glen Creek catchment provide important habitat for a diversity of native birds in an area largely devoid of forest and shrublands.

Reptiles

Common skink (*Leiopisma maccanni*) and common gecko (*Hoplodactylus maculatus*) were identified. Another species of lizard, possibly *Leiopisma chloronoton* was briefly seen on the top of the Hawkdun Range.

Insects

A record of insects found on the property has been kept; those observed include Southern blue, Boulder, Common copper, Red Admiral, Tussock and Black mountain butterfly,

moths, weta and aquatic insects. This is available at the Department of Conservation. Information is also available in the PNA survey of the Hawkdun Ecological District.

Freshwater Fisheries

Long-jawed galaxias (*Galaxias prognathus*) and upland bully were found in the Otamatapaio River. Brown trout were also recorded in the Otamatapaio River, especially in the lower reaches and two juveniles were caught in Glen Creek.

The presence of *Galaxias prognathus* is significant in that this species has a limited distribution in the South Island and is included in the Category C species for protection. The apparent absence of other native fish is surprising. However, as not all areas were surveyed, their presence should not be discounted.

"Trout Unlimited", in its submission to the Department, noted the importance of Lake Benmore (for brown and rainbow trout and quinnat salmon), into which the Otamatapaio River and Glen Creek flow. The Central South Island Fish and Game Council, in its submission, discussed the importance of the Otamatapaio River as a spawning stream (primarily brown trout) for the Lake Benmore Fishery.

2.7 Historic Values

Introduction

There are no recorded historic places on the pastoral lease. One of the three huts on the property (grid reference H40 76165) has historic interest as it was probably a boundary hut for the old Omarama run and is of stacked stone construction. However, it is modified and would require considerable work to restore it. Better examples are found elsewhere, and thus it is only of historic interest.

No information about Maori cultural values was available at the time of writing this report.

2.8 Existing Land Status

The property is surrounded by other pastoral leases, and the Hawkdun Conservation Area adjoins its southern tip. The Otamatapaio and Sailors Cutting recreation reserves are located NE of the property between SH83 and Lake Benmore.

There is a paper road to the southern-most tip of Otamatapaio, and another to within about 100m of the eastern boundary near the footbridge; this one extends from SH83 through Bog Roy pastoral lease. Legal formed road extends from SH83 to the homestead, but the formed road up the valley beyond here is not a legal road.

Public foot access is provided along the eastern margins of the property via a marginal strip alongside the true right of the Otamatapaio River.

[Refer map...]

2.8.1 Waitaki District Plan

This plan became operative on 1 May 1988. The upper part of the property (roughly from Alfreds Creek) is zoned Rural D, and the remainder is Rural C. Rural D is zoned primarily for Soil and Water Conservation (class 7 and 8 land) and Rural C for extensive farming and scenic value. In both, predominant uses include extensive and intensive farming, conservation and amenity forestry and farm woodlots. These uses are discretionary with respect to disturbance of natural drainage patterns, clearing or burning of native vegetation, and tracking on slopes greater than 20°.

2.9 Recreation/Access

2.9.1 Access

Existing access on the property is by permission of the runholder. Access would be obtained primarily for shooting and tramping, mainly up the Otamatapaio Valley, but also onto the top of the Hawkdun Range. Limited access for ski touring on the tops is also known to occur.

2.9.2 Uses

Current recreational use of Otamatapaio is low, but the property's location and topography make it well suited for a range of recreational activities.

The Hawkdun and Ewe Ranges offer remote experience recreational opportunities - tramping, mountainbiking, cross country skiing, and shooting (especially pigs). Public access to these areas through Otamatapaio would open up many possibilities for extended trips (e.g. further along the range and through DOC land into the Manuherikia Valley).

The Hawkdun Range rises to 1848 m in the far south-eastern boundary of the lease. The entire range is very exposed and weather conditions can be severe at any time of the year. For this reason, survival skills are essential on the range top as huts are confined to the valley floor. There are spectacular views of the Southern Alps, Central Otago, Mackenzie Basin and Waitaki Valley from here. On Mt Horrible there is the potential for parapenting and good views are also available from its summit.

Within the main Otamatapaio Valley and side valley systems there are opportunities for walking, mountainbiking, shooting, fishing (limited), horse trekking and more passive activities such as photography, painting and natural history.

The front country is easily accessed from SH83 and the popular recreational areas alongside Lake Benmore, (which include a picnic area, toilets and serves boating) and because of this it has recreational potential. However, much of it is highly modified and barren country which is likely to be less appealing than the spectacular Ewe and Hawkdun Ranges (for remote experience pursuits) and the immediate lake shores (for picnicking, swimming and boating). The Glen Creek area, with its interesting lake shores (for picnicking, swimming and boating). The Glen Creek area, with its interesting and

less modified vegetation and the easily accessible slopes of the Sailor Cutting country (for views of Benmore and the Waitaki Valley offer recreational opportunities, such as tramping and mountainbiking on farm tracks.

2.9.3 User Issues

The extent to which 4WD access should occur up the Otamatapaio River and onto the Hawkdun Range itself is probably the main issue. Safety concerns related to recreational use of the Hawkdun summit is considered a secondary issue.

Some recreationists would like 4WD access to Alfreds Creek, and even perhaps, the top hut. If this were to occur, it raises issues of track maintenance responsibilities and costs, particularly as the track is subject to erosion in the upper Otamatapaio. The general question of vehicle access up the river is of some concern to the runholder.

4WD access to the Hawkdun summit would enable increased use of the range to be achieved quite easily for some. As a result however, some conflicts with other recreational users may arise and damage to fragile alpine communities could result. The track is barely visible in places and vehicles do not always stay on tracks. The use of motorbikes on the range tops and upper valley is likely to cause conflict with other users and environmental damage. Vehicle use would undermine the remote experience qualities of the area.

2.10 Management Issues

Retirement of Range Block

In 1988 a soil and water conservation plan was approved which entailed the retirement of Range Block (2675 ha). Permanent off-site grazing was to be provided in compensation, through provision of irrigation on Glen Burn and other development assistance. However, as permanent water rights do not exist under the RMA, the off-site grazing is not considered permanent. It has also been determined that the land surrender is unenforceable.

Rabbits

The rabbit problem has been severe on Otamatapaio and the property was not included in the Rabbit and Land Management Programme. A continuing commitment to rabbit control is needed, though over time, land proposed to be managed for conservation purposes is likely to be less attractive to rabbits as vegetation increases in density and stature.

Sustainability

The issue of sustainability is significant in the Department's view. Beyond the areas proposed for protection, there are areas of insufficient conservation value which have little ability to sustain grazing. The vegetation of those areas is very depleted and further grazing can be expected to cause further depletion.

Fencing

Fencing will be required to protect some areas of conservation value. Catchment/ecological boundaries should be taken into consideration.

Weed Spread

Hieracium pilosella has infested large areas of low to mid altitude land and *H. lepidulum* is a problem in some parts of the mid altitude region. *Hieracium* sprcad is likely to be exacerbated by over-grazing by rabbits or sheep. Other weeds present include briar, ragwort and nodding thistle. The occasional wilding pine was observed and possible future spread will need to be guarded against, especially where no grazing occurs.

PART THREE: CONSULTATION

A meeting with NGOs was held to discuss Otamatapaio. Access was the focus of the meeting. The main points raised were:

- Vehicle access up the Otamatapaio was needed to enable recreational use of the range country. The 4WD club wanted vehicle access to Alfreds Creek.
- Certainty of access (as opposed to access by permission) was needed.
- Foot, mountainbike (and possibly horse access) should be secured to the top of the Otamatapaio Valley and on to the Ewe and Hawkduin Ranges.
- The adequacy of Benmore foreshore reserves needs to be considered - public access to and use of the lake shore is important.

PART FOUR: JUSTIFICATION AND RECOMMENDATIONS

4.1 Recommended Conservation Areas

1. Glen Creek Catchment

Approx. area 650 ha

Vegetation:

This area contains the most extensive and important shrub communities on Otamatapaio. They are found in the headwaters of the east branch of Glen Creek below Mt Horrible. Where the creek passes between rock outcrops and is quite gorged, species present include *Coprosma propinqua*, matagouri, mountain wineberry, *Olearia virgata*, sweet brier, porcupine shrub, *Corokia cotoneaster*, Kowhai, *Hebe odora* and the climbers *Parsonia capsularis*, (a jasmine), bush lawyer (*Rubus schmidelioides*), *Clematis marata* and *Muehlenbeckia complexa*. Ferns are common along the stream edge and include shield fern (*Polystichum vestitum*), thousand-leaved fern (*Hypolepis millefolium*) and *Blechnum procerum*. The shrublands form extensive thickets up to 2 m tall.

Towards the middle reaches of the creek, broadleaf first appears and nearby (grid reference H39 747219) the threatened plants *Hebe cupressoides* and *Carmichaelia kirkii* were found.

Higher above the talus and scree slopes, bluffs are extensive. Shrublands associated with these contain coral broom, *Coprosma linearifolia*, *Helichrysum selago*, *Corokia cotoneaster*, *Exocarpus bidwillii*, *Hebe pimeleoides* and the daphnes (*Pimelea traversii* and *P. aridula*). Occasional plants of *Hebe cupressoides* and weeping mapou were also present, together with grasses and herbs such as blue wheat grass, (*Elymus rectusetus*), *Brachyglottis haastii*, plume grass (*Dichelachne crinita*) and *Anisotome haastii*.

The talus slopes support *Coprosma*, porcupine shrub, bracken fern (*Pteridium esculentum*), matagouri and large *Olearia odorata* up to 4 m tall. *Hebe cupressoides* and *Carmichaelia kirkii* were also found occasionally. Further interest relates to an adult and five juvenile lancewoods, kowhai, broadleaf and an uncommon native stinging nettle (*Urtica* probably *aspera*).

Rationale For Selection:

- The Glen Creek catchments are notable for containing the most extensive and diverse shrubland on the property. It supports species and remnants of formerly more widespread shrublands, and contains two threatened plant species.
- The catchment is of significant landscape value. The area has impressive landforms and retains a high degree of intactness. Its large scale landforms, bluffs and associated shrublands are impressive. It is an important part of the landscape when viewed from the west along SH 83.
- The area is accessible by foot under proposed access routes - up Glen Creek on the property boundary, and via Clark Creek Saddle (see map).

- The higher altitude area could provide opportunities for tramping, and mountain biking on a farm track. At lower altitudes, easier walking and passive pursuits (picnicking, photography) could be undertaken.
- Using catchment boundaries, community diversity is increased by including silver tussock grassland and snow tussockland. While the silver tussock is very modified, at higher altitudes, the snow tussock is of moderate naturalness.

Land Status Sought:

- The catchment of Glen Creek should be retained in public ownership as a Scenic Reserve

Management/Boundary Notes:

- Additional fencing would be required to fully retire the area from grazing
- Rabbit control would also need to be undertaken
- The area should be further surveyed for threatened plants and monitoring of populations undertaken.

2. Hawkdun Range and Mount Horrible

Approx area 2550 ha

Vegetation:

This area contains diverse alpine communities, including complete altitudinal sequences of tall tussockland in good condition, and the only substantial areas of slim leaved snow tussock on the property. Induced cushion communities contain a diversity of native species such as *Kelleria dieffenbachii*, *Dracophyllum muscoides* and *Raoulia youngii*. Associated with the rock outcrops along the summit and subsidiary ridges are communities containing native grasses and herbs, such as *Poa buchananii*, *Hebe epacridea* and *Agrostis subulata*. Wetland communities associated with creek banks and tarn edges have a high species diversity. Prominent plants include *Abrotanella caespitosa*, bog gentian (*Gentiana amabilis*), comb sedge (*Oreobolus pectinatus*), mosses, *Caltha obtusa* and sedges.

Shrubs are also found in this area. Within the Lone Totara RAP, lowland totara, mountain celery pine, and ferns are found. Mid altitude and lower slopes have a near continuous cover of narrow-leaved snow tussock.

At the head of the Otamatapaio Valley, snow tussock extends across the valley floor.

The narrow-leaved snow tussock communities around Mt Horrible are rather depleted with tussock cover varying from 10-40%. Much of the snow tussock has been replaced by hard tussock (*Festuca novae-zelandiae*) and alpine fescue (*F. mathewsii*). *Hieracium pilosella* varies from less than 5% cover to 30% and *Hieracium pratense* 5 - 25%. Other

prominent species include golden Spaniard (*Aciphylla aurea*), catsear (*Hypochaeris radicata*), *Leucopogon fraseri* (a dwarf heath), sheep sorrel, *Poa lindsayi* and *Raoulia subsericea*.

Rationale for Selection:

- The eastern valleys, cirque basins and summit of the Hawkdun Range support a diversity of subalpine and alpine communities of moderate to high naturalness.
- The slim-leaved snow tussocklands on upper slopes, ridges and in basins are of medium to high naturalness and are representative of vegetation that was formerly much more widespread; the cessation of grazing should slow or stop the degradation of these communities.
- Relatively specialised communities are associated with blocky fellfields and bluff outcrops, typically characterised by indigenous species. They are arguably the most natural communities on the Hawkdun Range and are in excellent condition, being largely protected from grazing and earlier fires.
- A complete cover of snow tussock to and across the valley floor of the Otamatapaio is a special feature which is rather uncommon in Canterbury.
- The large size of the proposed area, together with the rest of the summit area not within this pastoral lease, and the adjacent proposed conservation land, would make a large, viable protected area and provide for buffering and ecosystem processes to continue. It also forms a continuous and practical management area.
- Recreationally the area is important for remote high country experiences. Vehicle access is proposed up the Otamatapaio River to the first river crossing and foot/mountainbike access further up the valley and along the northernmost spur adjoining the property boundary. Beyond the first river crossing, vehicle access would be by permission of the runholder. If vehicle access is not agreed to the river crossing, it will be promoted through use of the paper road east of the Otamatapaio River.
- Represents a transition between Otago and Canterbury with excellent views in both directions.
- Includes a substantial part of the Hawkdun Range which is a distinctive feature of the area.
- The sequence of four well-defined cirque basins to valley floor systems is spectacular
- It is a very dramatic landscape of huge scale, continuity and repeating systems.
- The degree of landform definition is highly expressive of formative processes.
- There is very little apparent human modification and a high degree of naturalness, resulting in a more remote landscape experience.
- Periglacial landforms and features are interesting and typically not well-developed in Canterbury, in comparison to Central Otago.
- While the vegetation of Mt Horrible is considerably modified, it has the potential to improve over time - in the absence of burning and grazing, the snow tussock should increase in stature and density as regeneration occurs.
- Mt Horrible links the important Glen Creek catchment (a proposed scenic reserve) with the Hawkdun Range.
- The area has potential for tramping, mountain biking and parapenting. 4WD access is proposed to the southern edge of the area, and beyond that foot and mountainbike access would be available.

- Mt Horrible and its slopes form part of the road corridor of SH83, and its protection will ensure the retention of its landscape values. The sparse snow tussock cover and rock outcrops create an impressive landscape.

Land Status Sought:

- A status of conservation area is proposed

Management/Boundary Notes:

- The proposed area's eastern boundary will need to be fenced to prevent stock grazing. This should link with the existing farm fence.
- Consideration should be given to changing the land tenure of the remainder of the ecological area (i.e. the remainder of the Hawkdun Range). A fenced boundary on the western side may be needed to prevent stock access from adjoining properties, though snow damage could be a problem. Promoting tenure review of the adjacent property may be the best option.
- For the Mt Horrible area, rabbit control is crucial for improving its conservation values, fire must be avoided at all costs, and permanent vegetation monitoring is needed to assess vegetation recovery.

3. Totara Communities and River Bluff Shrublands

Approximate Area:

Vegetation:

There are two totara communities in the middle of the property. The largest of these occurs on talus slopes which have been bisected by a recently formed track. Approximately 70 individuals were counted, the largest being up to 10m high and about 0.75m dbh. Apart from totara, other plants typical of this community include *Coprosma* species, *Olearia odorata*, Porcupine shrub, sweet brier, matagouri and *Muehlenbeckia complexa*.

The smaller area of totara is surrounded by very modified narrow-leaved snow tussock and survives on a small bluff and apron of talus. Approximately 20 individuals were recorded, the tallest being 5-6m high. Associated scrub includes matagouri (3m), *Coprosma propinqua*, *C. cheesmanii*, mountain wineberry, *Carmichaelia petries*, porcupine shrub, *Hebe traversii* and *H. subalpina*, *Olearia nummularifolia*, sweet brier, bush lawyer and *Muehlenbeckia complexa*.

Regeneration is occurring at both sites.

A prominent bluff adjoins the main totara community and overlooks the Otamatapaio River. An extensive talus apron lies at its base. Prominent species associated with the bluff include Matagouri, porcupine shrub, narrow-leaved snow tussock, *Helichrysum selago*, *Coprosma* sp., *Muehlenbeckia complexa*, *Anisotome haastii*, bush lawyer, blue tussock (*Poa colensoi*), *Hebe* sp., *Pimelea traversii*, Coral broom, *Clematis marata* and sweet brier.

The scrub on the talus is mostly comprised of porcupine shrub, matagouri, *Hebe subalpina* and *Coprosma* sp.

Rationale for Selection:

- The totara communities are remnants of formerly widespread woodlands.
- They are uncommon in the ecological district and the largest populations known on the property.
- They are prominent landscape features within a treeless landscape.
- The shrub community contains a good diversity of species and is in good condition. While there are larger shrublands elsewhere, they are heavily affected by OSTD (Glen Creek excepted).
- Given its close proximity to the totara communities, it has been incorporated into one area which will in the long term, provide for an extended wood/shrubland.
- The community is naturally buffered by talus and bluffs.

Land Status Sought:

- A covenant is proposed to encompass both communities and the adjoining shrub community above the Otamatapaio River.

Management/Boundary Considerations:

- Fencing is proposed to exclude stock. It is important that substantial buffer areas are included to minimise the effects of adjacent OSTD and to provide for the natural recolonisation of the totara and shrub species into suitable habitat. Covenant conditions will need to exclude burning, grazing and intentional OSTD. Road maintenance through the larger area will need to be carefully managed to ensure the totara is not damaged further.

4. Lakeshore Strip

Approximate Area: 15 hectares

Description:

Exotic grassland, scattered silver tussock, matagouri, brier, wetland plants along lake margin and willow. Narrow 2.5 km long strip of land between SH83 and Lake Benmore, linking Sailors Cutting Campground to the peninsula about 2km to the NW - a popular picnicking and boating area.

Status Sought: Recreation Reserve

Justification:

Small discrete area of land on periphery of property linking two important recreational areas, already functions as a recreational area; landscape important as setting for

recreational experience, aesthetic quality and physical comfort (shade, shelter, etc.). Continued private farming use could reduce existing values - loss of views and sun and space due to commercial tree planting, cattle fouling and damage to shoreline and physical danger, uncontrolled spread of weeds especially thorny ones, loss of free public access to lake shore and picnic area.

5. Northern Hill Range

Approximate Area: 200 hectares

Description: East and wet sides of low greywacke hill range north of Mt Horrible.

Status Sought: Conservation Covenant

Justification

Western slopes part of internationally renowned and regionally outstanding Mackenzie-Waitaki Basin landscape, significant contribution to distinctive semi-arid character of Benmore landscape compartment (one of the 10 distinctive areas of the Mackenzie-Waitaki Basin), prominent in view from highway and lake, important part of landscape setting for lake, slopes identified in previous study as being highly vulnerable to adverse effects on existing landscape values which were its intactness (absence of obvious modification) and coherence (harmony evident between landscape elements). It is also a different rock type to the rest of the lease similar to the rock of the Benmore Range, southernmost extension fault separated includes Bog Roy 1 of the 4 different fault separated rock types running in bands across the property with their different landscapes.

Potential Threats

Loss of uniform surface cover, fragmentation and cultural intrusion of contrasting line (e.g., tracks, fencelines), colour (tree planting, introduced pasture species) and form (block planting, rectangular improved pasture areas), obscuring of topographical detail by tree planting.

Aims of Protection/Condition Sought

Maintain overall uniform surface cover and appearance of naturalness, maintain visible topographical detail. Any proposed tracking, fencing, tree planting etc. needs to be sensitively located and designed to avoid adverse landscape impact. Any proposed tracking, fencing, tree planting etc. needs to be sensitively located and designed to avoid adverse landscape impact. Any proposed planting should enhance rather than obscure landform. Skyline structures to be avoided.

6. Public Access

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

- i) Glen Creek Catchment: Easements into this area are proposed along the western boundary of Otamatapaio up Glen Creek. A link is also possible over Clark Saddle and down Clark Creek. Access for mountain biking, foot and horse riding is proposed along with vehicle access for DOC for management purposes.
- ii) Foot and mountainbike access along the Northern Hills Range would enhance recreational opportunities in the area.
- iii) Hawkdun Range and Spur. Because of the distance up the Otamatapaio River, vehicle access is sought as far as the first river crossing (approximately 8 km) and up the adjoining spur into the proposed conservation area.

From the first crossing, all year round, mountain biking and horse access is proposed up the Otamatapaio River to the proposed Conservation Area. The vehicle track is unfortunately on the adjoining property and will be the subject of future negotiations. This access easement will pass the Totara and River Bluff shrubland and will provide access into the covenant area.

Summary of Recommendations

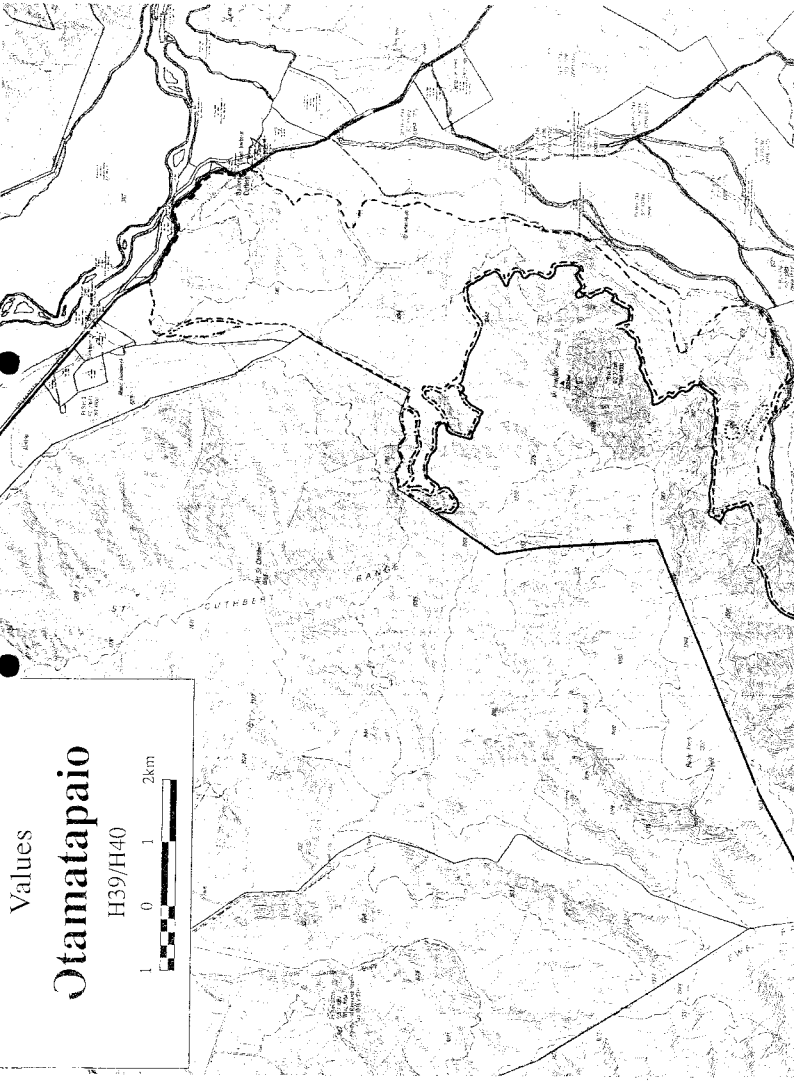
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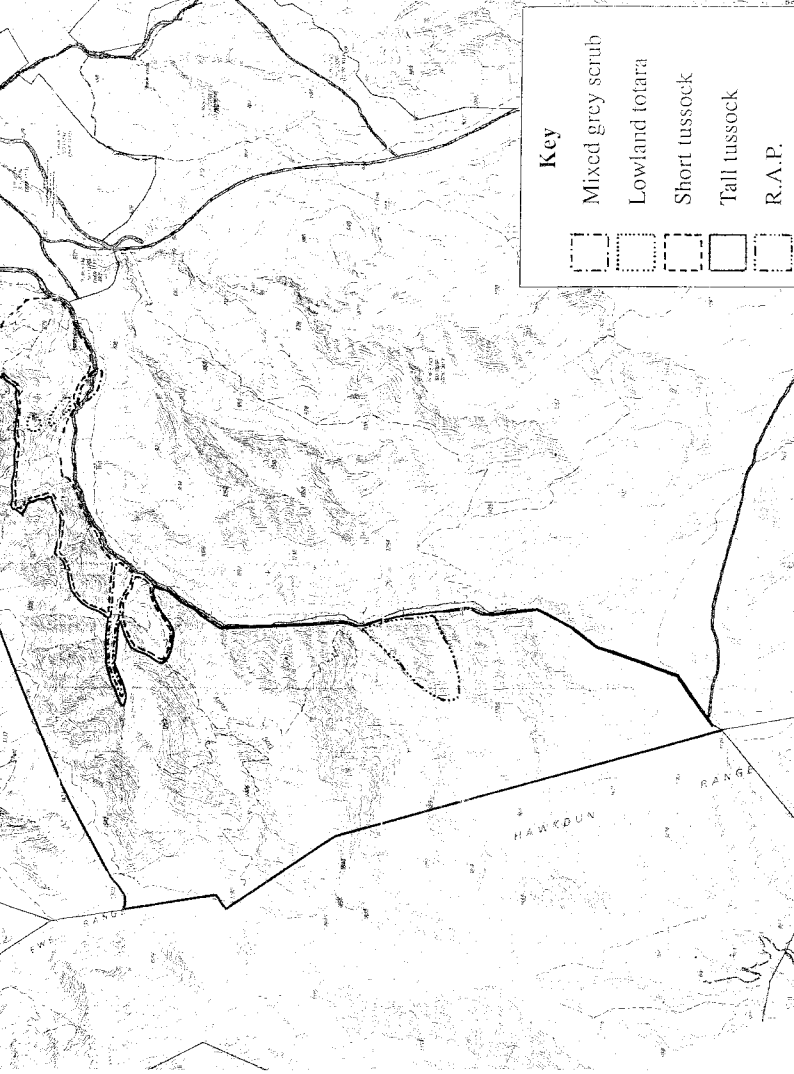
1. The Glen Creek Catchment, an area of some 650 hectares high ecological and landscape value, be transferred to the Department of Conservation as Scenic Reserve.
2. **Hawkdun Range and Spur**
The entire tops of the Hawkdun Range and a leading spur along to Mount Horrible, some 2550 hectares becomes Conservation Land.
3. A totara and shrubland community (approximately 100 hectares) be protected by a Conservation Covenant under the Conservation Act.
4. **Lakeshore Strip**
A public recreation area alongside Lake Benmore becomes Recreation Reserve.
5. **Northern Hill Range**
Part of the Low Hills of the Waitaki Basin be protected for the high inherent landscape values under a Landscape Covenant.
6. Access easements be formalised and managed by the Department of Conservation into the Glen Creek catchment and up the Otamatapaio River to the proposed Conservation Area

Values

Otamatapaio

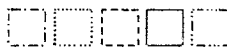
H39/H40





Key

- Mixed grey scrub
- Lowland totara
- Short tussock
- Tall tussock
- R.A.P.

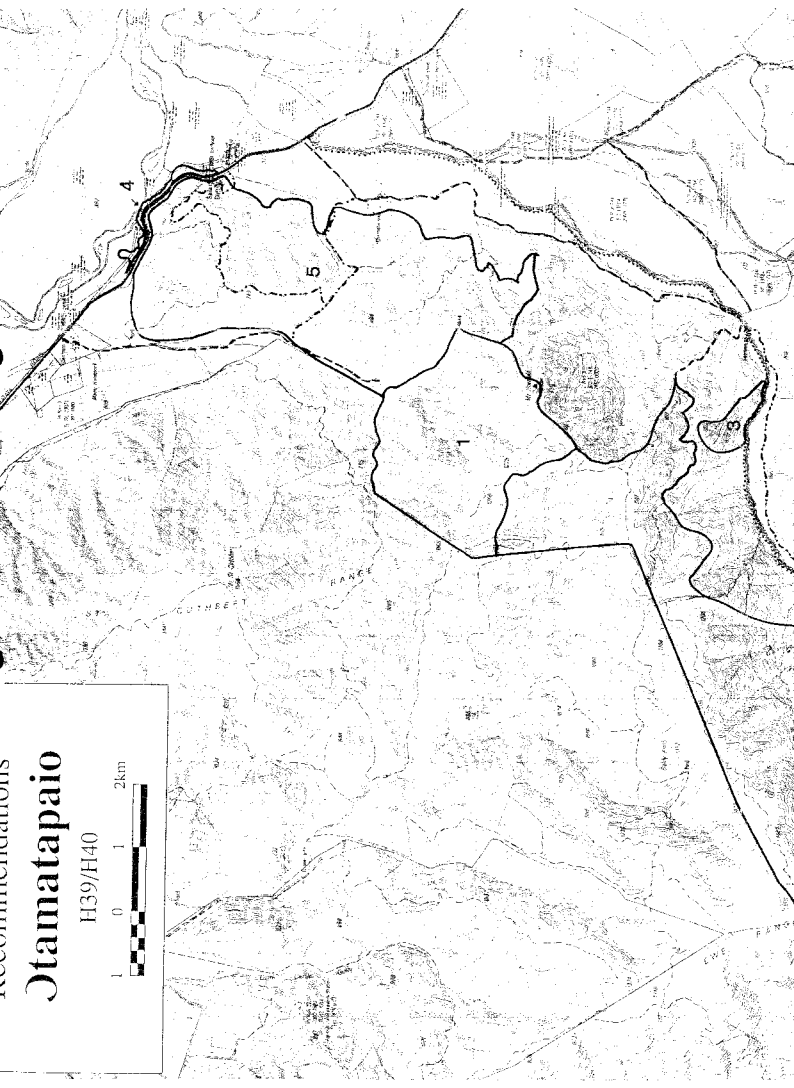


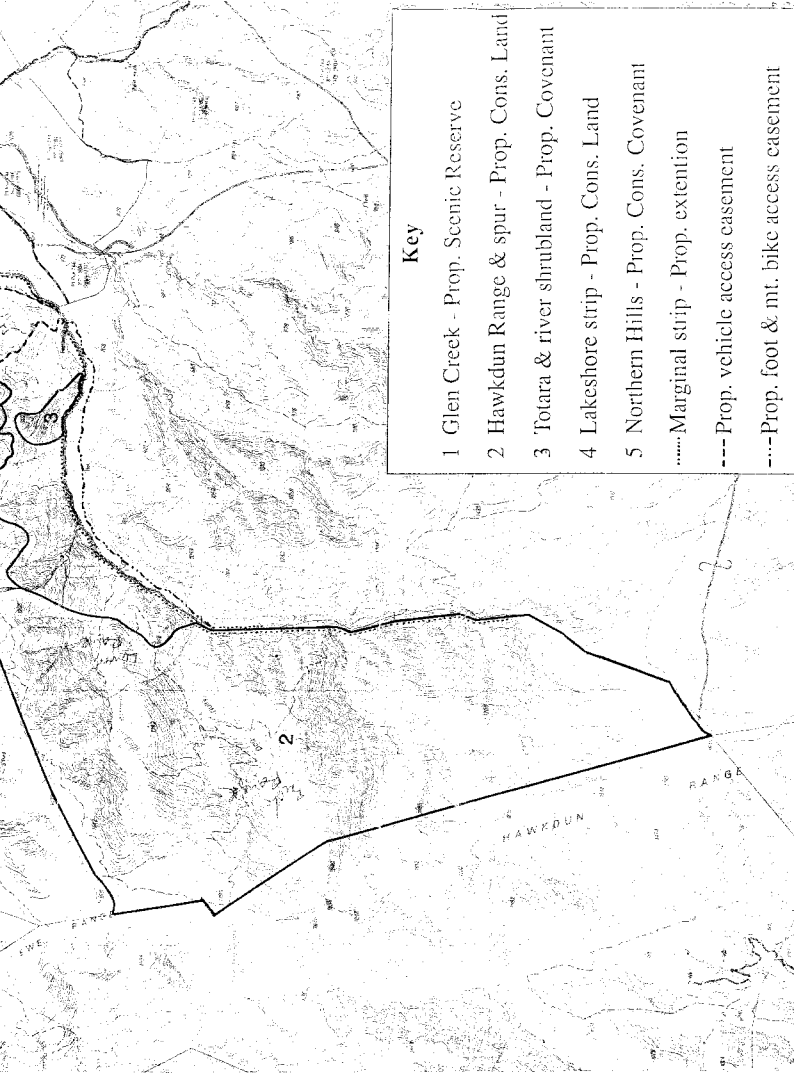
HAWKDUN RANGE

FWY RANGE

Matatapaio

H39/H40





Key

- 1 Glen Creek - Prop. Scenic Reserve
- 2 Hawkdun Range & spur - Prop. Cons. Land
- 3 Totara & river shrubland - Prop. Covenant
- 4 Lakeshore strip - Prop. Cons. Land
- 5 Northern Hills - Prop. Cons. Covenant
-Marginal strip - Prop. extension
- Prop. vehicle access easement
- Prop. foot & mt. bike access easement

**PROPOSED DESIGNATIONS REPORT:
TENURE REVIEW OF THE OTAMATAPIO PASTORAL LEASE
HELD BY OTAMATAPIO STATION LIMITED UNDER
PART 2: CROWN PASTORAL LAND ACT**

(FOR OFFICIAL USE ONLY)

1 Recommendations

- 1.1 That the proposals described below be submitted to the CCL's Agent, during the consultation process on the preliminary proposal for this tenure review, as representing the views developed under delegated authority from the Director-General of Conservation.
[Note that additional proposals, developed after the initial report is written, may also be put forward at the consultation stage.]
- 1.2 Note that statutory consents will be required before the CCL can include (in the preliminary proposal for this tenure review) the designations set out in paragraphs: 2.2.1, 2.5.1, 2.5.2, 2.5.3, 2.6.1 and 2.6.2 below.
- 1.3 Note that any disposition of land by the Crown will be subject to the relevant provisions of part IVA Conservation Act.

2 Proposals and Justification

2.1 Land to be Restored to or Retained in Full crown Ownership and Control

- 2.1.1 *Name:* Glen Creek catchment
- Existing status:* Pastoral lease
- Authority:* s.35(2)(a)(ii) CPLA
- Proposal:* That an area of approximately 520 hectares be designated as a Scenic Reserve for the purpose of protecting land possessing significant natural features and a significant landscape, and that this area is to be managed by the Department of Conservation.
- Description:* This area includes the north facing slopes of Mt Horrible and includes the eastern catchment of the upper Glen Creek. The lower slopes have an altitude range from 520m to the tops of Mt Horrible at 1368 m above sea level.
- Justification:* The Glen Creek catchment is characterised by areas that have the following significant inherent values:
1. This area has a special natural quality that reflects the special features of a high country landscape and the indigenous component. These features are:
 - Mt Horrible and the steep faces are highly visible from the state highway.
 - Part of the Mackenzie-Wataki Basin landscape.
 - Area presents a dry rugged semi barren landscape.
 2. Areas natural values would meet the Protected natural Areas criteria for protection as it contains the following ecological attributes:
 - Most extensive and diverse shrubland on the property.

- Altitude range of shrublands is diverse, with taller shrublands at a lower altitude to short alpine shrublands on the tops.
 - Area has a varying degree of naturalness, silver tussock is modified whereas tall tussock is relatively intact.
- 3 Occurrence of threatened plants such as *Hebe cupressoides* and *carmichaelia kirki*, along with a number of plants that are uncommon in the region.
 - 4 Shrublands in the Glen Creek are uncommon in the northern part of the Hawkdun Ecological district.
 - 5 This area would make a special contribution to the overall function of the Hawkdun Range, as it will be the northern most extremity of a possible Conservation Park. And would provide for a contiguous link through to Otago.
 - 6 This area will be the northern most recreational link on to the Hawkduns and as such will enhance the recreation opportunities of the greater area as well as provide local access.

Management and boundary issues:

Currently this area forms part of a greater block and if it is going to be fully protected further fencing along the northern boundaries would be required. In total this is approx. 2 kms. The eastern and western boundaries are already fenced.

The other management issues are primarily one of weed and pest control at present these are currently relatively low key issues.

2.1.2 *Name:* Hawkdun Range/Mt Horrible

Existing status: Pastoral lease

Authority: s.35(2)(a)(i) CPLA

Proposal: That an area of approximately 3300 hectares be designated as a Conservation area for the purpose of protecting the natural resources and that this area is to be managed by the Department of Conservation.

Description: This area extends from Mt Horrible in the north along the spur to the Ewe Range and then includes the entire Hawkdun Range through to the properties southern boundary. Part of the northern portion of the area follows the 900-1000m contour, while in the south the Otamatapaio River and property boundary forms the proposed boundary line.

Justification: The Hawkdun/Mt Horrible area is characterised by areas that have the following significant inherent values:

1. This area has a special natural quality that reflects the special features of a high country landscape and the indigenous component. These features are:
 - Mt Horrible and the Hawkdun range are highly visible from the Wataki Basin.
 - Forms part of the Mackenzie-Wataki Basin landscape.
 - Area presents a dry rugged semi barren landscape.
 - Range is a dramatic landscape of huge scale, continuity and repeating systems.

- Landform definition is highly expressive of land formation processes.
 - Little apparent modification and a high degree of naturalness.
 - Arca provides a feeling of remoteness.
 - Sequence of well-defined cirque basins to valley floor systems is well defined.
 - Periglacial features found on the property are not well defined in Canterbury.
2. Areas natural values would met the Protected natural Areas criteria for protection as it contains the following ecological attributes:
 - The eastern valleys, cirque basins and summit of the Hawkdun Range support a diversity of subalpine and alpine communities of moderate to high naturalness.
 - The *C. macra* tussocklands on upper slopes, ridges and basins are of a medium to high naturalness and are representative of this type of vegetation that was formerly much more widespread.
 - Relatively specialised plant communities are associated with the blocky fellfields and bluff outcrops. These communities are arguably the most natural communities on the Hawkdun Range and are in excellent condition, being largely protected from grazing and earlier fires.
 - A complete cover of snow tussock to and across the valley floor of the upper Otamatapaio is a special feature, which is uncommon in Canterbury.
 - The extensive scrub communities, although modified, have an important habitat/riparian protection role.
 - 3 Occurrence of threatened plants such as *Hebe cupressoides* and *carmichaelia kirki*, along with a number of plants that are uncommon in the region.
 - 4 Shrublands in the Glen Creek are uncommon in the northern part of the Hawkdun Ecological district.
 - 5 This area would make a special contribution to the overall function of the Hawkdun Range, as it will be the northern most extremity of a possible Conservation Park. And will provide a contiguous link through to Otago.
 - 6 This area will be the northern most recreational link on to the Hawkduns and as such will enhance the recreation opportunities of the greater area as well as provide local access.

Management and boundary issues:

Currently this area forms part of a greater block and if it were going to be fully protected further fencing along the eastern boundaries would be required. In total this is approx. 10 kms. The western boundary is already fenced.

The other management issues are primarily one of weed and pest control and currently these are relatively low key.

2	<p><i>Name:</i> Glenburn Swamp</p> <p><i>Existing status:</i> Freehold</p> <p><i>Authority:</i> s.35(2)(a)(i) CPLA</p> <p><i>Proposal:</i> That an area of approximately 150 hectares be designated as a Conservation area for the purpose of protecting the natural resources and that this area is to be managed by the Department of Conservation.</p> <p><i>Description:</i> This area includes the extensive Glenburn Swamp at the head of Lake Benmore</p> <p><i>Justification:</i> The Glenburn swamp is characterised by the following significant inherent values These are:</p> <ol style="list-style-type: none"> 1. This wetland is of ecological importance and is representative of wetland habitats by having the following values. <ul style="list-style-type: none"> • Extensive areas of <i>Carex</i> and <i>Juncus spp</i> that are now uncommon. • WERI site recorded in the national register. 2. Wetlands of this size are uncommon and rare in the South Island high country. 3. This swamp is a key habitat for populations of Marsh crake and Brown bittern in the Mackenzie basin. <p><i>Management and boundary issues.</i> Currently this area is unfenced and would require approx. 3.5kms of fencing to protect the area. Existing drains would also need filling in and some Willow removal is required.</p>
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2.1.4	<p><i>Name:</i> Benmore Lakeshore strip</p> <p><i>Existing status:</i> Pastoral Lease</p> <p><i>Authority:</i> s.35(2)(a)(ii) CPLA</p> <p><i>Proposal:</i> That an area of approximately 5 hectares be designated as a Recreation Reserve for the purpose of protecting the natural environment and beauty of the countryside and that this area is to be managed by the local authority.</p> <p><i>Description:</i> This area includes the shore line between State Highway 83 and Lake Benmore</p> <p><i>Justification:</i> The Benmore shoreline is characterised by the following significant inherent values This is primarily one of providing a recreational setting which will provide a regional recreational opportunity.</p> <p><i>Management and boundary issues.</i> This narrow strip is already available for public access and this proposal will formalise it. It is not intended that DOC will control and manage the area.</p>
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2 Land to be Restored to or Retained in Crown Control (Qualified Designation)

- 2.2.1 *Name:* Glenburn Management Access
Existing status: Freehold
Authority: s.35(4) and s.36(3)(b) CPLA
Proposal: That an area of approximately 5 hectares (5km x 10m) be designated as an easement for the purpose of providing the Crown with access for management purposes and this will be managed by the Department of Conservation.
Description: This easement follows an existing farm track from the state highway around the head of Glenburn Swamp through to the Ahuriri River and would also allow access back down to the Ahuriri River mouth.
Justification: This access route would allow DOC access to the Ahuriri River to enable it to carry out project river Recovery work primarily associated with the rare black stilt.
Management and boundary issues: This access would remove the current requirement of seeking permission every time DOC needs to access the Ahuriri River for black stilt work. It is anticipated that this easement would only be for DOC access and the current practise of locking the gate could remain in force, but with the Department having a key.
Type of qualification: Easement in favour of the adjacent land.
Attachment: Term and conditions

2.3 Existing Reserve

Not Applicable

2.4 Existing Conservation Area

Not Applicable

2.5 Land Being Disposed of Subject to a Protective Mechanism

- 2.5.1 *Name:* Totara Communities.
Existing status: Freehold
Authority: s.40(1)(c) CPLA
Proposal: That an area of approximately 50 hectares be designated as land that may be disposed of subject to the creation of a Conservation Covenant for the purpose of protecting the ecological values.
Description: The two Totara communities and shrublands are located on talus slopes and bluffs that over look the Otamatapaio River near the footbridge
Justification: The land is characterised by areas that have the following significant inherent values:
1. These remnants have characteristics which meet the PNA criteria:
 - These Totara communities are remnants of a formerly more widespread

woodland.

- They are uncommon in the ecological district
 - Largest population on the property
 - Associated shrublands are very diverse.
2. Combining the Totara and the associated shrublands will protect the overall natural functioning of the area by providing adequate buffering and linking the communities together.

Management and boundary issues:

While fencing may be desirable to protect the values it may not be practical and this will have to be investigated. The principle conditions of the Covenant will be no burning, minimise grazing and OSTD. The farm track that dissects the area will also require careful maintenance.

Type of qualification:

Conservation Covenant under s. 77 Reserves Act.

Attachment:

Term and conditions

2.5.2 *Name:* Glen Creek public access

Existing status: Pastoral Lease

Authority: s.40(1)(c) CPLA

Proposal: That an area of approximately 5 hectares (5km x 10m) be designated as land that may be disposed of subject to the creation of an easement for the purpose of providing public access.

Description: This access easement will follow the northern pastoral lease boundary along side the Glen Creek from State highway 83 through to the proposed reserve encompassing the Mt Horrible area.

Justification: To provide as of right all year round public foot and non motorised bike access to the proposed Mt Horrible Reserve. This access will provide a future link from Mt Horrible through to the Hawkdun Range beyond.

Management and boundary issues: Sign posting and marking of the route are the only requirements.

Type of qualification: An easement for public access under s. 7 Conservation Act

Attachment: Term and conditions

2.5.3 *Name:* Otamatapaio public access

Existing status: Pastoral Lease

Authority: s.40(1)(c) CPLA

Proposal: That an area of approximately 15 hectares (15km x 10m) be designated as land that may be disposed of subject to the creation of an easement for the purpose of providing public access.

Description: This access easement will follow the Otamatapaio River that forms the pastoral lease boundary along its length from State highway 83 through to the proposed Conservation Land encompassing the northern Hawkdun

the Otamatapaio River along its length from State highway 83 through to the proposed Conservation Land. A side track will also provide access to the subsidiary Range that backs on to Mt Horrible

Justification: To provide the Department of Conservation with vehicle access to the public easement and the proposed Reserve in order to facilitate proper management of the area.

Management and boundary issues: This is a farm track so it is not envisaged that any major maintenance apart from clearing out fords will be required.

Type of qualification: Easement in favour of the adjacent land.

Attachment: Term and conditions

3. Exemption or variation of a marginal strip width

When the CCL gives notice under Part IVA of the Conservation Act of any disposition of land, these matters will be further investigated.

4. Other Matters

The matters raised by the NGOs at their early warning meeting have largely been taken account of. Vehicle access up the Otamatapaio River was a key concern because of the length of the 4WD track.

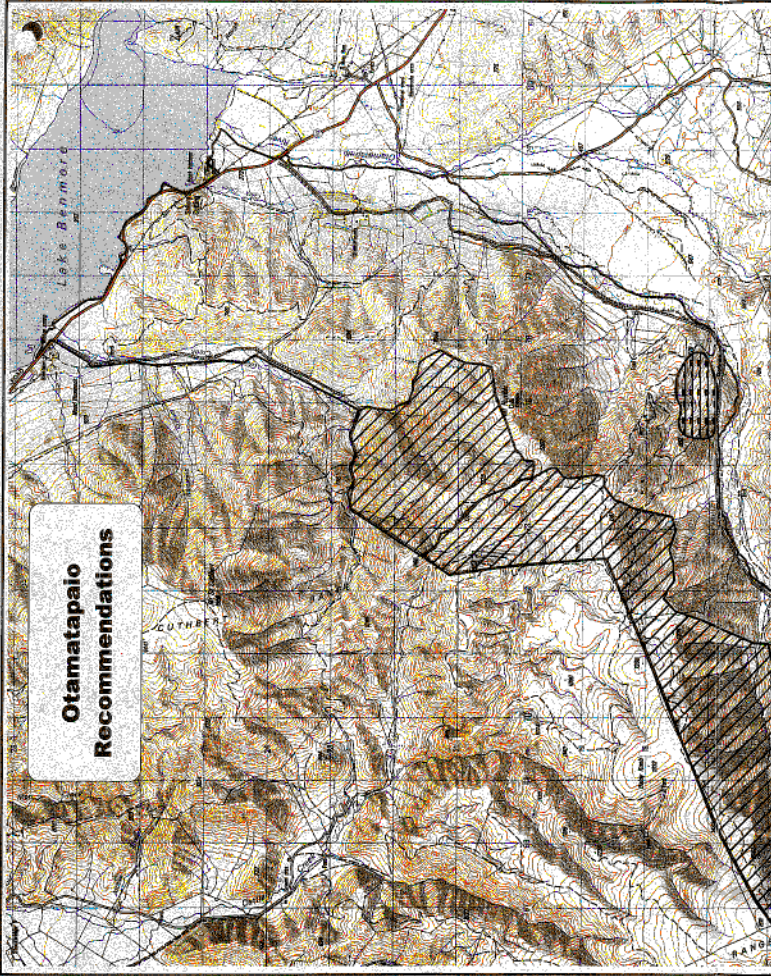
5. Attachments

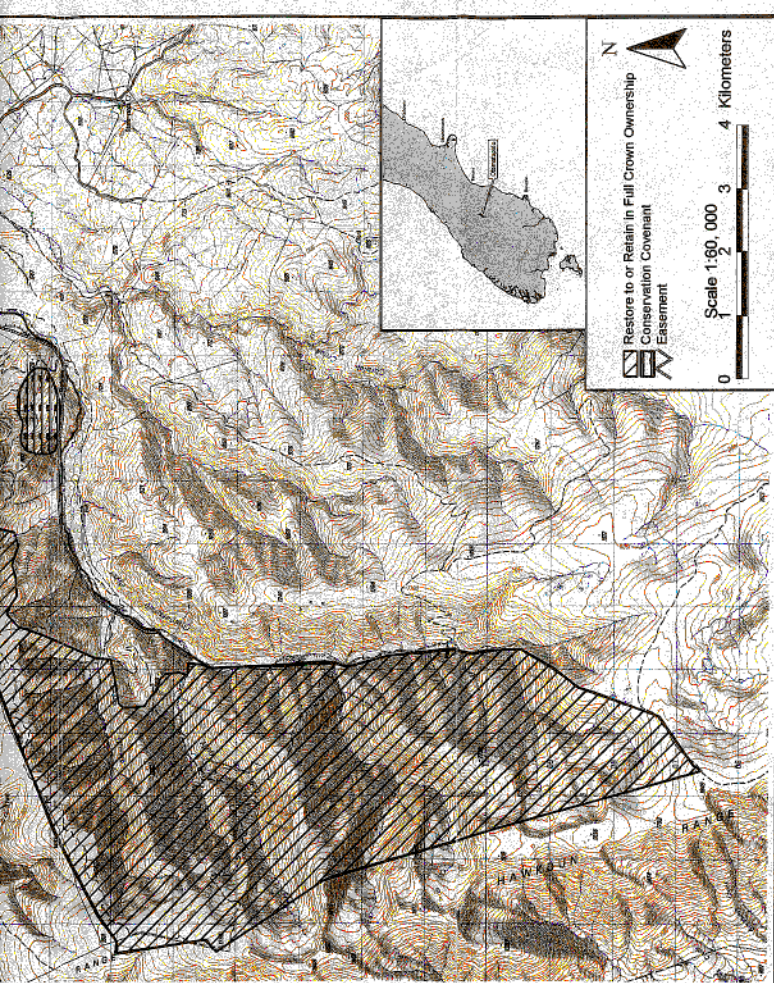
5.1 Additional Information

- (i) Terms and conditions of qualified designations
- (ii) Terms and conditions of protective mechanism

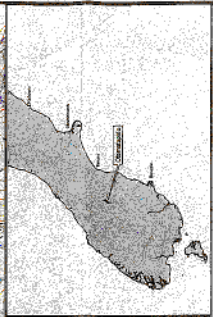
5.2 Illustrative Map

**Otamatapaio
Recommendations**





Restore to or Retain in Full Crown Ownership
Conservation Covenant
Easement



RANG

HAWKSWEN RANG

RANG