

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

PART ONE: INTRODUCTION

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

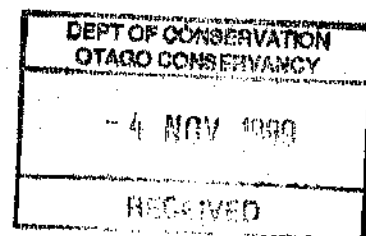
The front of the property bounds the southern shore of the west arm of Lake Benmore on SH83 and extends back to the Ewe and Hawkdun Range crests (see map 1). It is a long, narrow property, running NE-SW up the Otamatapio River Valley. It includes practically all the country from valley floor to ridge 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.

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

Otamatapio 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 Otamatapio - 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 (410 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 kirkii*). Prominent plants of the scrub include *Coprosma* species, matagouri, mountain wineberry (*Aristotelia fruticosa*), *Olearia virgata*, *Olearia odorata*, *Corokia cotoneaster* and *Hebe* species. Less common are broadleaf (*Griselinia littoralis*), kowhai (*Sophora microphylla*), coral broom (*Corallorhizidium 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 macra*), 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 dobsonii*, vegetable sheep (*Raoulia eximiana*) 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:

- | | |
|-----------------------------------|---|
| • 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 tahitica neoxena</i>) |
| • New Zealand Falcon | (<i>Falco novaeseelandiae</i>) |

Of particular interest are possible breeding sites for banded dotterel and oyster catcher 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 (*Leiolopisma maccanni*) and common gecko (*Hoplodactylus maculatus*) were identified. Another species of lizard, possibly *Leiolopisma 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* spread 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

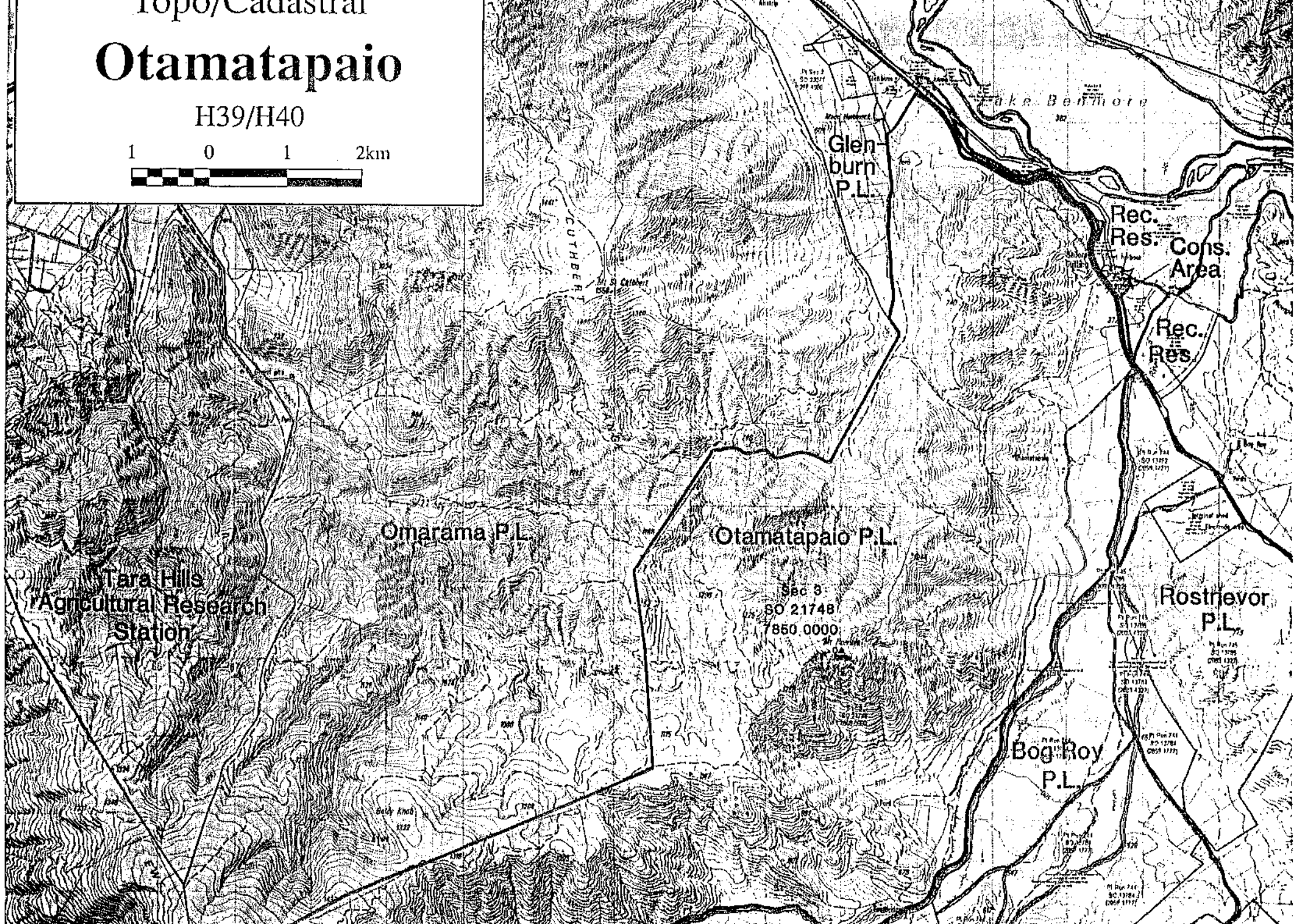
A meeting with NGOs was held to discuss Otamatapaio. Access was the focus of the meeting. The main points raised were:

- 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 Hawkdun Ranges.
- The adequacy of Benmore foreshore reserves needs to be considered - public access to and use of the lake shore is important.

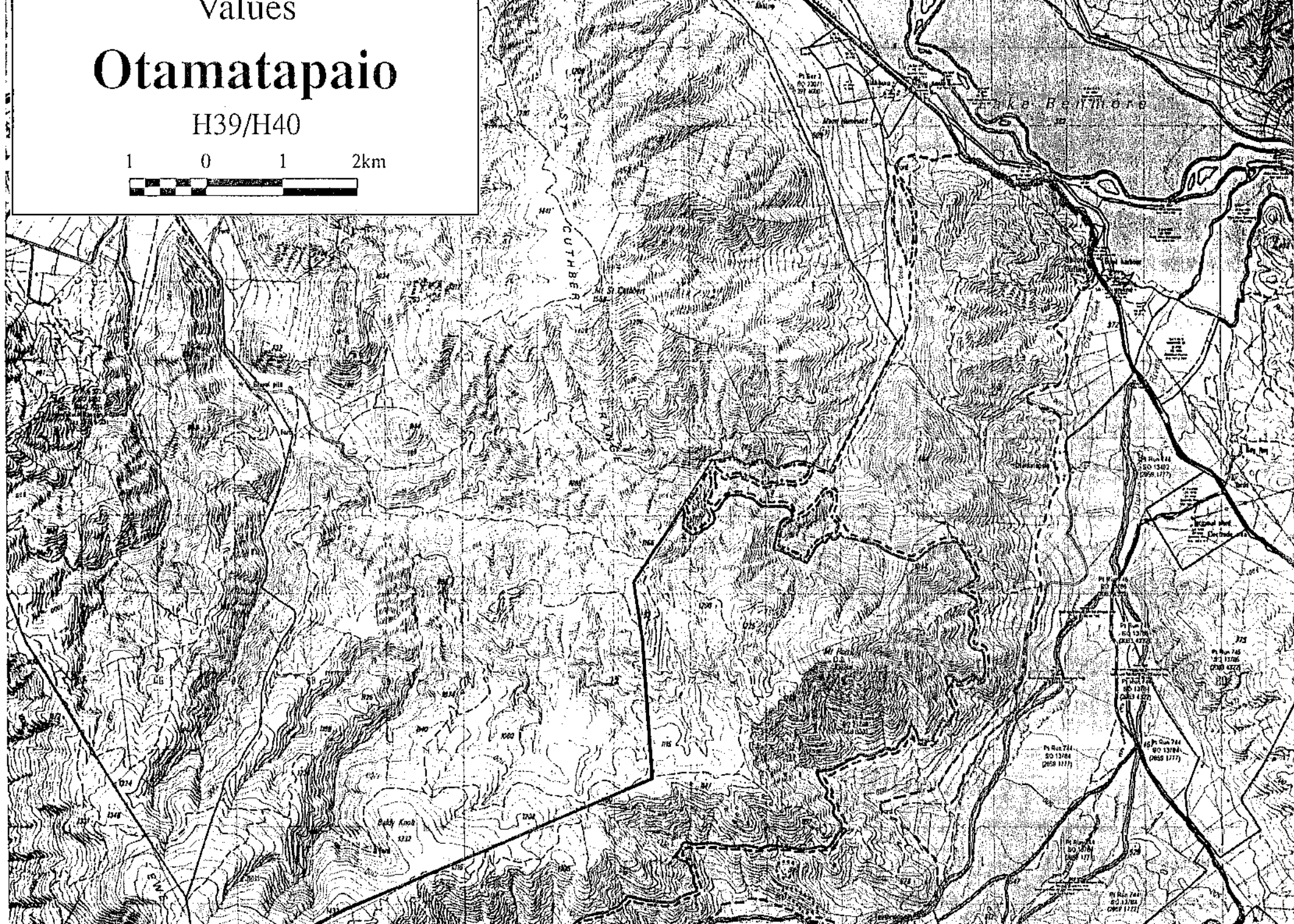
Otamatapaio

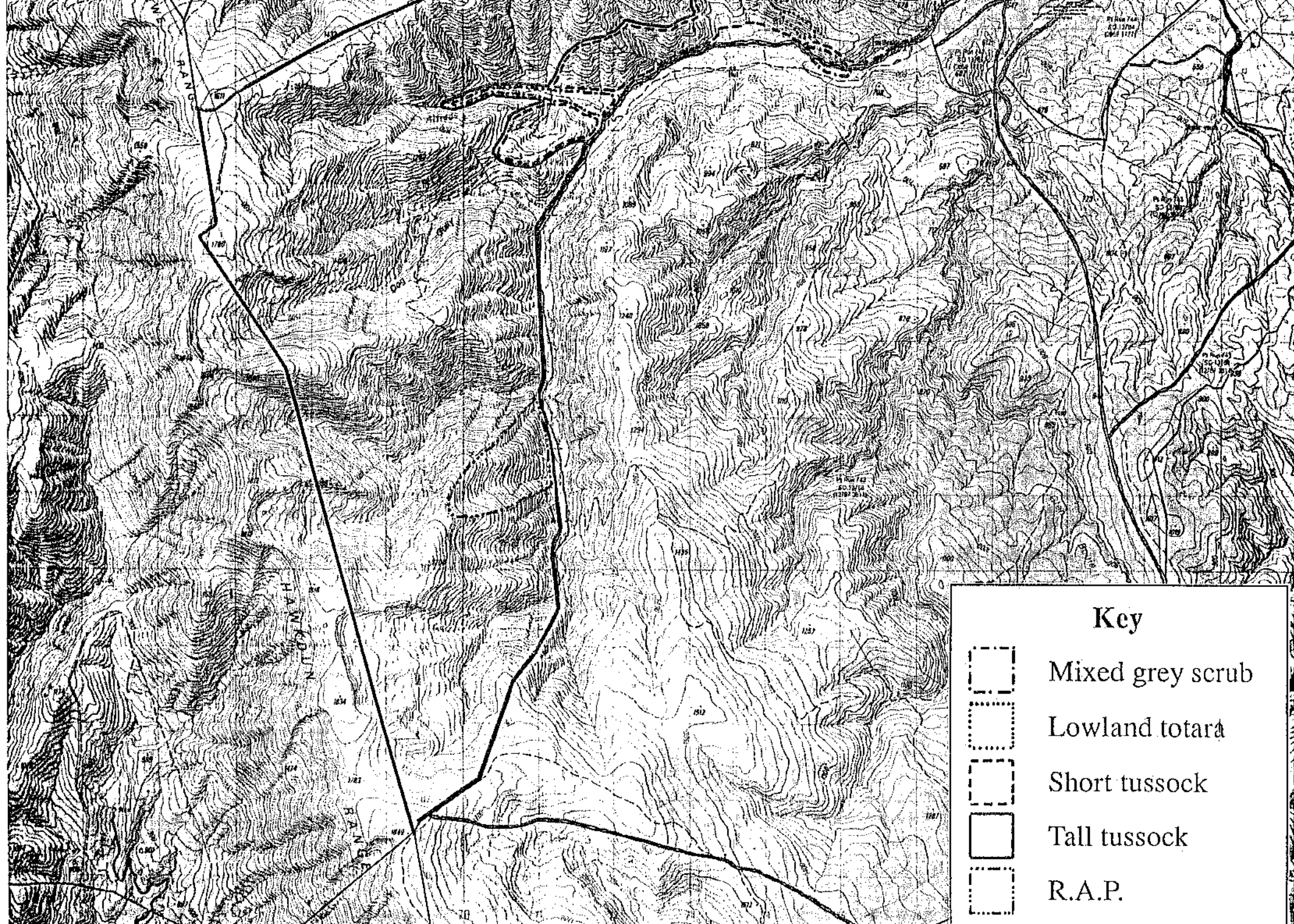
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Key

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