

Crown Pastoral Land Tenure Review

Lease name :The Gorge

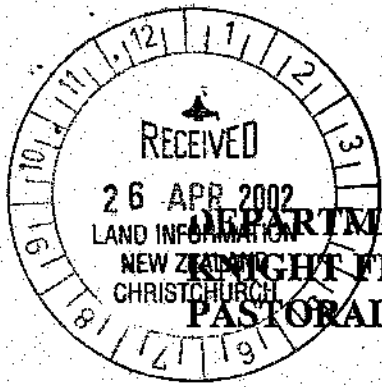
Lease number :PT 004

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 October 2002



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**DEPARTMENT OF CONSERVATION RESOURCE REPORT TO
KNIGHT FRANK LTD ON TENURE REVIEW OF THE GORGE
PASTORAL LEASE.**

20th July, 1998

Part 1: Introduction

The Gorge pastoral lease covers 876 hectares and is located in the foothills approximately 25 kms north of Geraldine. The Orari River flows alongside the western boundary of the lease and the eastern boundary follows the Scotsburn Stream.

An old homestead on the property at the end of the Orari River Road is used as a base for managing the lease. There is no road access on the lease past the homestead on the eastern side of the river but on the western side, on the adjacent properties, there is a 4wd track which follows the old Lochaber Road up the river beyond the northern boundary of the lease. There is a couple of places where the river can be crossed to reach The Gorge.

The lease is bounded on the north by the Lochaber pastoral lease. To the east there is a large area of marginal strip managed by the Department of Conservation in the Scotsburn Stream (known as the Scotsburn Bush Reserve). Further to the east is some freehold land separating the Scotsburn Stream from Mt. Peel Forest Park. The Scotsburn pastoral lease is on the southern boundary. There is also a small parcel of freehold land owned by the Presbyterian Church just within the southern portion of the lease. Across the river to the west is Orari Gorge Station which is freehold and Blue Mountain pastoral lease. Orari Gorge Scenic Reserve is approximately 2 kms to the west of the Orari River in the Station Creek catchment.

The Gorge is in the Orari Ecological District, part of the Pareora Ecological Region. There has been no survey of the ecological district as part of the Protected Natural Area programme. Scotsburn Bush, which is partly on the lease, has been recognised as a SSWI (site of significant wildlife interest) as has the Orari River gorge.

PART 2: CONSERVATION RESOURCE DESCRIPTION.

2.1 Landscape

The Gorge is in the southern part of the front range/ Canterbury Plains landscape which extends from Mt. Grey to the Geraldine area. This landscape is very obvious from SH 72 which runs roughly parallel along the full length of the front ranges and foothills. The visually striking juxtaposition of the highly modified, man-made patchwork of the plains with the relatively natural, steep, mountainous slopes of the eastern ranges is one of the very essential and distinctive characteristics of Canterbury. Virtually all of this landscape is considered regionally significant in the Canterbury Regional Landscape Study carried out by Boffa Miskell and Lucas Associates in 1993.

Nestled within the wider context, The Gorge is also part of the Orari River gorge landscape. The Orari River cuts deeply into the hills and mountains as it flows south-east from its distant headwaters in the Ben McLeod range. It forms a deep narrow rock-cut gorge where it flows between Mt. Peel and the ranges further south-west.

The lease can be divided into 6 separate landscape units.

1. The true right of the Scotsburn Stream valley with steep, rugged slopes in the upper part of the catchment rising to the highest point on the property at 893m a.s.l and steep but smoother slopes in the middle part of the catchment. The north-east facing valley side slope is divided into a number of small spurs and gullies giving a variety of microaspects. The largest area of bush on the property is contiguous with the Scotsburn Bush reserve and, together, they form interconnected fingers and patches down the length of the Scotsburn Stream valley.
2. One of the tributaries on the western side of the lease is on the boundary between The Gorge and Scotsburn and comprises a number of angular spurs and small, steep gullies concentrated on its northern side and smoother, more planar slopes on its southern side.
3. The Shag Stream tributary has steep slopes rising to high knobs at its head and a valley that is well dissected with a number of gullies and spurs.
4. The tributary to the east of Coopers Spur has a mix of steep planar slopes and more dissected slopes. Coopers Spur is an impressive narrow, very steep-sided ridge running straight north-south for about 3km, the lower 1km or so being in The Gorge. There are two notable landscape features in this unit. Immediately downstream of the East Coopers Spur stream/Orari Gorge confluence there is a large slip exposing bedrock and a little further downstream, the hill face surface is composed of large slabs of rock and numerous small bluffs.

5. In the vicinity of the mouth of the Shag Stream there is a more extensive native bush cover than elsewhere beside the river. The bush includes totara and some beech and, on the rocky sides of the gorge, there is broadleaf forest species.

6. Between Shag Stream and the Orari River the hill topography is smoother with a more planar appearance. There is a more even grassland cover and several patches of kanuka, some quite large, on the lower slopes near the river.

The Orari river gorge, although not truly part of the lease, is a significant and very attractive linear landscape feature. It is typically rather narrow and deep, it's vertical rock walls forming a U-shaped section with a diversity of native grassland, shrubland and forest species lining the walls.

Excellent views out across the Canterbury Plains and over the surrounding hill and mountain country exist from the high ridges and knobs on The Gorge. From Little Mt. Peel on the Haoa Range in nearby Peel Forest Park there are good views out across The Gorge. The overall natural appearance of The Gorge country is also considered to contribute significantly to the recreational setting of the Haoa Range and, on the western side, to the experience available in the Orari Gorge.

2.2 Landforms and Geology

The Gorge pastoral lease consists of moderately steep dissected hill country rising from an altitude of 400m a.s.l to an altitude of 893m a.s.l. Some slopes feature patches of debris and small slips. The slopes rise steeply from the Orari River and it's tributaries in the west, and from Scotsburn Stream in the east.

The underlying bedrock consists of Torlesse aged greywacke and argillite of medium induration. Soils are all Tengawai/ Hurunui Hill soils of medium natural fertility, consisting of approximately 20 centimetres of stony silt loam on deep stony clay over rock. The valley floors are mostly outwash, a mixture of greywacke, argillite fragments and sandstone. There is minimal erosion on the property.

2.3 Climate

The climate for the area is classified as subhumid. Rainfall is 1000-1200 mm/annum. There are occasional heavy winter frosts and snowfalls.

Strong nor-west winds are a feature but most of the rain comes from the south. The strong southerlies can mean the weather changes very quickly from a pleasant, sunny day to very cold and sometimes severe conditions. The moist climate, however, provides suitable conditions for a relatively diverse flora.

2.4 Vegetation

Vegetation on the property is very much dependant on topograhly. On flatter areas and on easily accessible hillsides the original cover has been replaced by introduced plants while more natural cover has survived at higher altitude and in inaccessible areas. The following vegetation classes are present on the lease:

2.4.1 Developed Land

At the end of Orari River Road, where the stock yards are located, there is a small area of permanent pasture. Dominant exotic pasture species include brown top (*Agrostis capilaris*) sweet vernal (*Anthoxanthum oderatum*), cocksfoot (*Dactylis glomerata*) and clover (*Trifolium repens*). Exotic conifers surround the stock yards.

2.4.2 Exotic and Short Tussock Grassland

Oversown and top-dressed short tussock grassland is the most common vegetation type on this property, extending from the lower slopes above the Orari Gorge (300m) to the highest hillslopes at 900m. Tussock density increases with altitude. This community tends to occupy the warmer, drier hillslopes, and where regenerating shrubland or forest are absent. Silver tussock (*Poa cita*) is the most common native species, together with the occasional fescue tussock (*Festuca novae-zealandiae*), blue wheatgrass (*Elymus solandri*), *Muehlenbeckia axilaris*, and creeping fuchsia (*Fuchsia perscandens*).

Where these grasslands have been developed there is a high cover of exotic species such as brown top, sweet vernal, Yorkshire Fog, clover and small amounts of mouse-eared hawkweed at dry sites. On shady faces, and adjacent to regenerating bush gullies, the natives prickly shield fern (*Polystichum vestitum*), bracken (*Pteridium esculentum*), matagouri (*Discaria toumatou*), and mingimingi (*Coprosma propinqua*) can be common. In moist seepage zones, *Schoenus pauciflorus* and flax (*Phormium cookianum*) dominate. The woody weeds gorse (*Cystisus scoparius*) and broom (*Ulex europea*) and Himalayan honeysuckle (*Leycesteria formosa*) are mainly confined to areas adjacent to the waterways on the property.

2.4.3 Snow Tussock Grassland

Narrow-leaved snow tussocks (*Chionochloa rigida*) occur locally on rocky spurs extending down to 400m in the Orari River catchment. The main area of the snow tussock grasslands occupy the upper part of the south west facing slopes, between the regenerating bush and fernlands and the short tussock grasslands above. Tussock cover is about 30%, with hard tussock (*Festuca novae-zealandiae*), mountain daisy (*Celmisia spectabilis*) and *Blechnum penna-marina* commonly present. Snow tussocks are modest in size (~50cm tall), and seedlings are present, indicating tussock regeneration is taking place. Native species diversity is moderately high, with the following species characteristic of tussock grasslands present: Maori onion (*Bulbinella angustifolia*), *Anisotome aromatica*, *Linum catharticum*, *Viola cunninghamii*, *Helichrysum filecaule*, *Elymus solandri*, everlasting daisies (*Helichrysum bellidioides*), *Raoulia subsericea*, *Geranium microphyllum*, and *Festuca*

rubra. The exotic pasture species brown top, sweet vernal and white clover are also present.

2.4.4 Rocky outcrops

Rocky outcrops occur on spurs and gully edges. They commonly are surrounded by silver tussock grassland, but act as refugia for other species, such as narrow-leaved snow tussock at lower altitudes. Other native species commonly found on the rocky outcrops include the shrubs daphne (*Pimelea oreophila*), Porcupine shrub (*Melicytus alpinus*), *Gaultheria antipoda*, *Coprosma pseudocuneata*, and *C. perpusilla*; the herbs *Gonocarpus incanus*, *Colobanthus strictus*, *Brachycome radicata*, the bush lawyer (*Rubus schmidelioides*); the grass *Rytidosperma pumilum*, and bristle tussock (*R. setifolium*); and ferns *Phymatosorus diversifolius*, *Blechnum penna-marina* and *Cheilanthes* sp.

2.4.5 Grey Scrub

On deforested sites adjacent to regenerating mixed broadleaf bush, where grazing and/or burning disturbance has been ongoing, grey scrub species occur. Species include those which are characteristic of open-land sites e.g. mingimingi (*Coprosma propinqua*) and matagouri (*Discaria toumatou*), and those of forest sites e.g. *Coprosma crassifolia*, and bush lawyer (*Rubus cissoides*). Other species may include *Coprosma rigida*, *Corokia cotoneaster*, *Dracophyllum longifolium*, *Parsonia capsularis*, and *Muehlenbeckia complexa*. Silver tussocks, bracken (*Pteridium esculentum*), prickly shield fern, and exotic brown top, sweet vernal, foxgloves (*Digitalis purpurea*) are common components of the ground cover.

An extensive area of grey scrub occurs in the Orari River valley on a steep colluvial north-west facing hillslope, broken by large rocky outcrops. In addition to the common species present in grey scrub, there is also a lot of bracken fern (*Pteridium esculentum*), and scattered broadleaf bushes.

2.4.6 Broadleaf/ Hardwood Forest

Many of the gullies, and associated south facing slopes, are occupied by regenerating broadleaf/hardwood forest. The forest varies in its maturity, as reflected in its openness and stature. Forest present in the Scotsburn catchment is the most mature, while that located in the other catchments varies from being transitional, between shrubland and forest, to moderately dense forest.

Broadleaf (*Griselinia littoralis*) bush is the dominant community. It commonly occurs where the original beech forest cover has been removed, or where the podocarp overstorey of mixed broadleaf/hardwood forest has been logged. The prevalence of *Griselinia littoralis* can be attributed to its longevity. The range of other species present depends on the site characteristics and length of time since the site was disturbed.

At sites where disturbance (probably burning, but also slips), has been relatively recent, the bush is of low stature, and is characterised by broadleaf, three-finger (*Pseudopanax colensoi*), wineberry (*Aristotelia serrata*), *Olearia avicenniifolia*, *Pittosporum tenuifolium*,

and cabbage tree (*Cordyline australis*). Kowhai and mountain ribbonwood are also common, occupying fertile sites. This type of bush is common on the open bush clad hillslopes of the Shag Stream and other side streams of Orari River. *Cassinia leptophylla* and native broom (*Carmichaelia* sp.) occur on the edge of the gullies at rocky sites. Prickly shield fern dominates the ground cover.

Pockets of more mature broadleaf bush, however, occupy the steep gorge faces of the Orari River, Shag Stream and other side streams of the Orari River. Large broadleaf occur together with tree fuchsia, tree tutu (*Coriaria arborea*), *Coprosma linariifolia* and *Hebe salicifolia*. Young totara are also present. Groundcover is provided by the ferns *Blechnum capense*, *Asplenium flabellifolium*, and *A. richardii*, and also *Astelia nervosa*.

In the Scotsburn catchment, tree fuchsia (*Fuchsia excorticata*) becomes the dominant species in the broadleaf forest occupying the gullies. Other common species include red matipo (*Myrsine australis*), mahoe (*Melicytus ramiflorus*), and lancewood (*Pseudopanax crassifolius*). The understorey includes three-finger (*Pseudopanax colensoi*), mahoe (*Melicytus ramiflorus*), pepperwood (*Pseudowintera colorata*), *Coprosma rotundifolia*, *C. parviflora* var. *dumosa* (Cheeseman 1906) and *C. colensoi*. Mahoe assumes dominance on the well-drained lower colluvial slopes. The climbers present include *Parsonsia capsularis* and bush lawyer (*Rubus cissoides*, *R. schmidelioides*). The fern *Phymatosorus diversifolius* grows on rotten logs, while the groundcover is dominated by *Polystichum vestitum*, *Asplenium* sp, *Blechnum fluviatile*, and *Hypolepis millefolium*, with seedlings of broadleaf, *Coprosma*, and *Parsonsia* also present.

Kanuka shrubland occurs on the dry north-west facing hillslopes of the middle unnamed sub catchment of the Orari River.

Himalayan honeysuckle (*Leycesteria formosa*) is often present at the margins of bush, especially in the Scotsburn catchment, and near to the stock yards in the Orari River. Gorse shrubland is most common in the block immediately north of the stock yards, at the end of Orari River Road. Wilding pine trees are scattered across the hillslope.

2.4.7 Beech Forest

There are small remnants of black beech (*Nothofagus solandri*) present at the confluence of Shag Stream and Orari River, and in the Scotsburn Stream. Large mature trees are present, with some seedlings apparent. Openings within the forest remnants are occupied by broadleaf, lancewood, pokaka (*Eleocarpus hookerianus*), *Coprosma* species, *Corokia cotoneaster*, *Pittosporum tenuifolium*, *Olearia avicenniifolia*, and *Hebe subalpina*. Broadleaf seedlings are evident.

2.5 Fauna

Birds present on the property include NZ pigeon, SI Pied tit, rifleman, bellbird and brown creeper in the bush areas. Blue duck have been reported on the Scotsburn Stream and are present on the Orari River. Blue duck numbers are restricted and protection of appropriate habitat for the blue duck is important. Falcon and Harrier Hawk are present on the upper mountain tops.

Long tailed bats have been recorded from the Orari Gorge.

Rich sub-alpine invertebrate communities exist in the tussock grasslands. The grasshopper *Sigaus campestris* and several other invertebrates were only found in these ungrazed areas. Seven species of butterflies have been observed including the common Tussock Ringlet Butterfly, two Copper Butterflies (Bolder Copper and Common Copper), and New Zealand's smallest butterfly, the Southern Blue Butterfly. The ground dwelling invertebrates include three sub-alpine grasshoppers *Phaulacridium maginale*, *Sigaus campestris* and *Sigaus spp (australis)* and several ground living beetles. There is also a good variety of flying invertebrate species (bees, wasps, flies, etc.).

The beech forest has the richest invertebrate community in both numbers of species and biomass. Excellent ground cover allows a high density of ground living invertebrates and both ground and darkling beetles live under the logs on the forest floor. There is also a large number of moths in the area.

The river and stream system has several species of stoneflies, caddisflies and mayflies. The New Zealand Dobsonfly (the only species in it's order in New Zealand) is found in the Orari River.

The Orari and the Scotsburn are rich in freshwater fish numbers. Native species known to occur or likely to be present in the Orari include Canterbury galaxias, upland bully and longfinned eel along with introduced brown trout. In years when flows permit some salmon may penetrate into and spawn in the gorge area.

Rabbit and hare numbers are not high. Pigs are causing some damage but this is not extensive. The occasional deer enter the property.

2.6 Historic

The lease was probably part of the Peel Forest Run which was first allocated to Francis Jollie in 1853. This property (25,000 acres) consisted of all the land between the Upper Orari Bridge up to Peel Forest, as well as the spurs running down from Little Mt. Peel towards the Orari River. Parts of the Peel Forest Run were later given to Tripp and Acland of Mt. Peel Station. In 1890 the section of land that now comprises The Gorge and Scotsburn pastoral leases was subdivided into three grazing runs.

The cottage on The Gorge could have been an outstation of the Mt. Peel run. Otherwise there is no other known historic values on the lease.

2.7 Public Recreation

2.7.1 Physical Characteristics

Apart from the area immediately adjacent to the road end and cottage, the lease is fairly steep and provides a remote experience. The hill country links very well with the Mt Peel range while the Scotsburn Stream links the ranges to the plains. The Orari River is predominantly steep-sided and rocky but there are various points where it can be accessed adjacent to the lease, most notably at the road end.

2.7.2 Public Access

The Orari River Road provides legal access to the lease boundary and to the Orari River. The legal roadline continues up the eastern side of the river but is unformed and traverses steep and rocky country. There is also a legal roadline on the western bank which roughly follows the 4wd track.

Crown land in the Scotsburn catchment links the lease to an unformed legal road which, in turn, links to an extension of Blair Road. The stream itself links directly to the formed Horsfall Road. There is also a road reserve which joins the lease and an unformed continuation of Blandswood Road to the north-east of the lease.

There is no internal legal roads or marginal strips. A stock track provides access from the cottage and yards around the hill to Shag Stream.

2.7.3 Activities

The Orari River Gorge adjacent to the property is a popular and well known picnic and swimming area. There is access down the cliff to the river from the end of the Orari River Road. Occasional tramping parties traverse the lease from the Orari River and exit via Mt. Peel or the Scotsburn Stream or vice-versa. There is no known commercial recreational activity on the property.

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PART 3: CONSULTATION AND DISTRICT PLANS

3.1 Consultation

None undertaken at present.

3.2 District Plans

The Gorge lies within the Timaru District. The proposed district plan was notified in October 1995 and decisions on the plan were released in April 1998. The lease is all on land zoned Rural 3 which cover areas of the District with high natural values where inappropriate use or development might have an impact on natural values nearby. The plan recognises the priority given by the Resource Management Act to protecting and preserving "matters of national importance" when managing natural and physical resources. Development in or near to natural areas will be controlled to ensure the natural values being protected will not be compromised.

Permitted activities in the zone include:

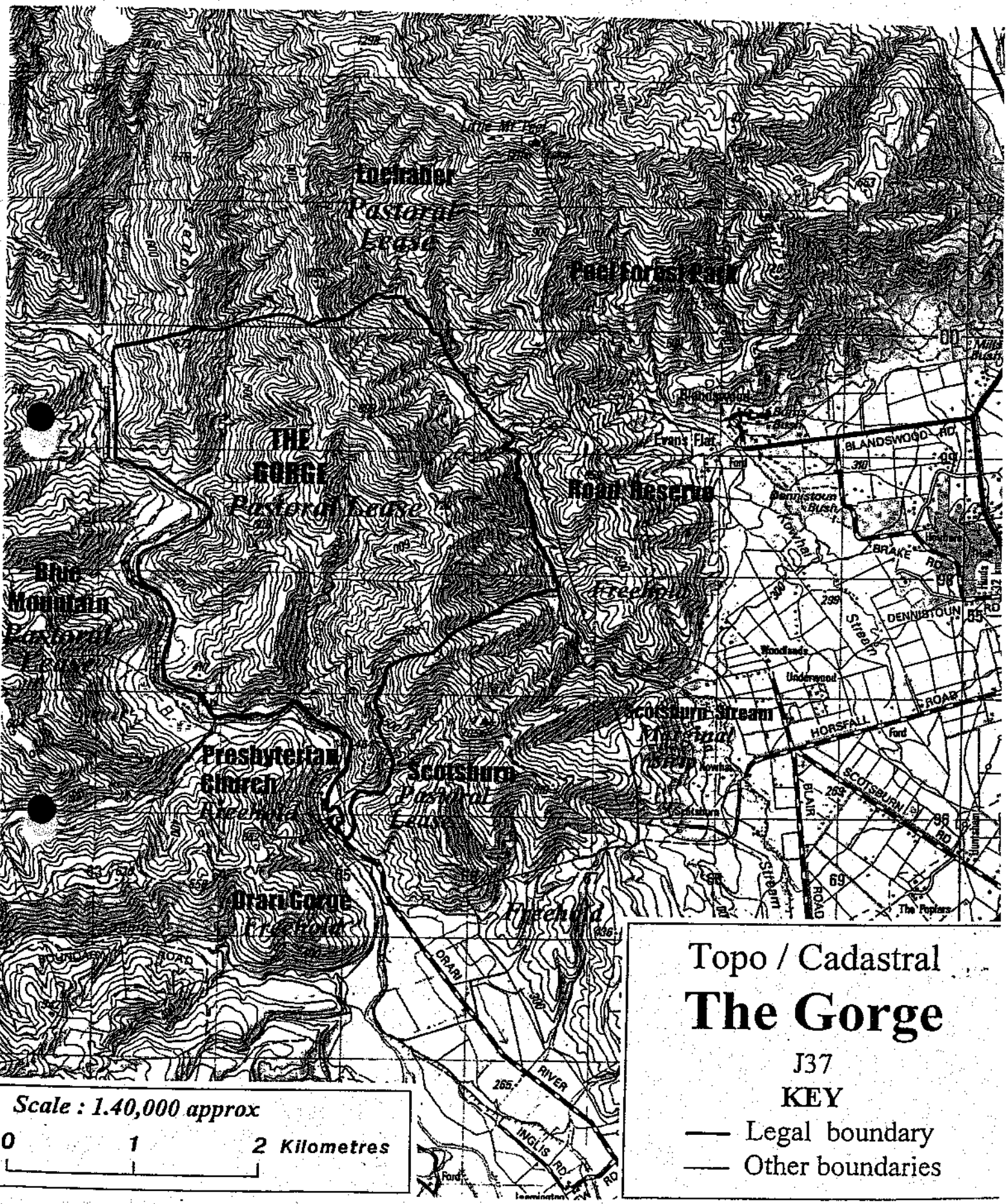
- Public or private land used for conservation or amenity purposes
- Walking tracks, pedestrian bridges, boardwalks and related minor structures which are necessary for those tracks.
- Farming on land which is currently farmed.
- Home occupations in existing household units.
- Shelter belts.
- Prospecting and exploration as defined in the Crown Minerals Act 1991, but not disturbing vegetation cover.
- Mining, quarrying, extraction of soil, rock, shingle, gravel and sand materials occurring naturally on or beneath the site of quantities up to 100 cubic metres in any one year

Controlled activities include:

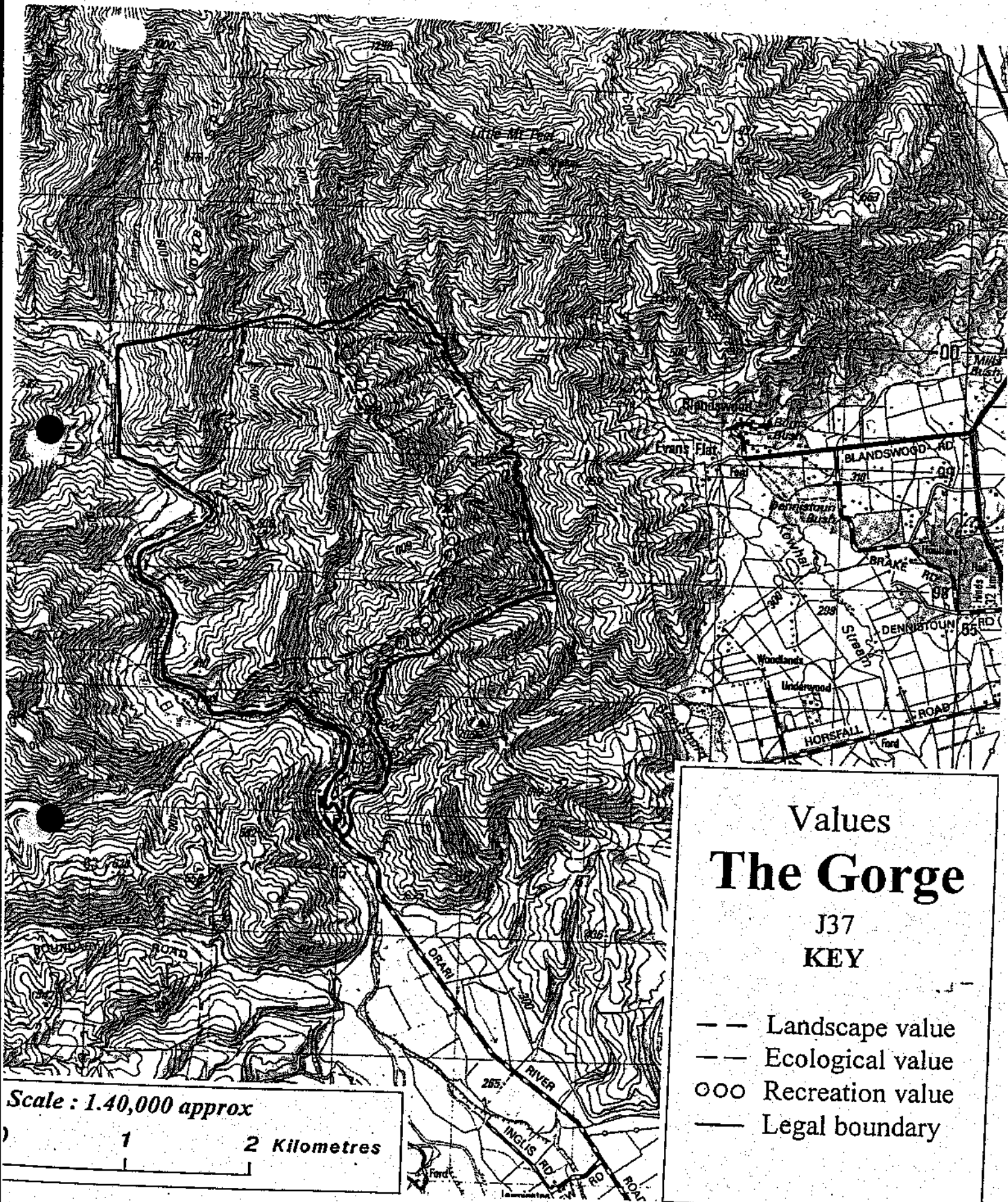
- Buildings accessory to public or private land used for conservation or open space purposes.
- Any programme of restoration or rehabilitation to enhance the natural values of an area where a use involves the excavation or accumulation of soil or other materials.
- Wood lots

Discretionary activities include:

- Buildings accessory to any permitted activity not provided for as a permitted, controlled or discretionary activity.
- The extension of farming onto land not previously farmed.
- The farming of animals, excluding sheep, cattle, pigs, horses and deer species not already present as feral populations in the area; the introduction of exotic species of flora or fauna in natural areas; the drainage, reclamation, earthworks or clearance of vegetation within 50 metres of any wetland areas.
- Clearance by any means (including burning) of indigenous vegetation.
- Roads, bridges and vehicle tracks.



Topo / Cadastral
The Gorge
 J37
 KEY
 — Legal boundary
 — Other boundaries



Values
The Gorge

J37

KEY

- Landscape value
- Ecological value
- ooo Recreation value
- Legal boundary

Scale : 1.40,000 approx
 1 2 Kilometres