

## **Crown Pastoral Land Tenure Review**

**Lease name : CLAYTON**

**Lease number : PT 011**

## **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.

These documents are all released under the Official information Act 1982.

**June 05**

**DEPARTMENT OF CONSERVATION RESOURCE REPORT TO KNIGHT  
FRANK LTD ON TENURE REVIEW OF CLAYTON STATION PASTORAL  
LEASE**

**PART 1: INTRODUCTION**

Clayton pastoral lease (4243 hectares) is located on the Low Clayton Hills and part of the Ben McLeod Range, South Canterbury. The North Opuha River forms the western boundary, the Phantom River touches the northern boundary and the eastern boundary extends down the Orari River.

The Clayton pastoral lease is bounded by the Ben McLeod pastoral lease to the north and Dry Creek P.L. to the south. To the west are two freehold properties being part of Fox Peak and Lilydale Runs. To the south is the Clayton freehold land.

The lease forms part of a 9200 hectare property, which is comprised of 4243ha of pastoral lease and some 4957ha is freehold land which is the highly developed flats and low hills. Portion of the Pastoral lease (754 hectares) is to be surrendered in the northern part of the property on the Ben McLeod Range and is currently being legalised as a Conservation Area. Together with a wetland area of red tussock (97 hectares) adjacent to the North Opuha River. This area was identified as an important wetland in 1983 by B.P.J. Molloy and recommended as a possible reserve then. A further 120 hectares next to the North Opuha River is fenced out of the lease and is currently grazed by an adjoining landowner.

A small part of the pastoral lease is in the Two Thumb Ecological District (E.D.) of the Heron Ecological Region (E.R.). The rest of the lease is in the Orari E.D. of the Pareora E.R. The Two Thumb E.D. has been surveyed as part of the Protected Natural Areas Programme (PNAP) which identified one area recommended for protection. This area is known as Priority Natural Area 5, Two Thumb and called the North Opuha Red Tussock Area.

**PART 2: CONSERVATION RESOURCE DESCRIPTION**

**2.1 LANDSCAPE**

Clayton Station is situated in the northern most corner of the Farlie Basin. The Pastoral Lease which is primarily situated on the Low Clayton Hills dominated by the surrounding higher Ben McLeod Range and the High Claytons.

The Low Clayton's blend in with the surrounding hills and the Pastoral Lease presents a homogenous tussock landscape that contrasts greatly with the more highly developed and highly sub divided farm land.

Within the Pastoral lease small discernible differences are noticeable. These primarily arise from differing vegetation condition and the topography of the property. These features are, a low plateau above the North Opuha River of

red tussock which is relatively intact and compliments the existing reserve which adjoins the Opuha River. The Low Clayton Hills contain a steeper topography with small slips, lower stature tussock cover and scattered shrublands. The small gullies that flow south of the Low Claytons are incised and Stoneyard Stream contains an extensive but scattered mountain ribbonwood shrubland, which contrasts strongly with the other existing shrublands and tussock grassland. And finally the Ben McLeod Range has a steep topography and a dense tall snow tussock landscape. Within this tall tussock an interesting visual difference is apparent between the narrow-leaved and slim-leaved snow tussock. This area also contrasts strongly with the small modified flat adjoining the upper Orari River.

Despite Clayton Station's proximity to Farlie the Low Claytons provide a feeling of remoteness, this is primarily due to the extensive tussock grassland and the lack of obvious human intrusions. Fencing and a farm track are the only obvious disturbances. While in the distance the Fox Peak ski field road is the only obvious outside detractor.

## 2.2 LANDFORM AND GEOLOGY

To the west is Fox Peak on the Two Thumb Range at 2330 metres - the highest point. On the northern boundary of the lease, Walkers Spur runs off the Ben McLeod Range. The central part of the lease is on the Low Clayton Hills which has a high point of 1115 metres.

A fault line runs north-south just to the west of the North Opuha River with a concealed branch fault passing west to east. The underlying rocks are predominantly Torlesse greywacke and argillite with some basic lavas and tuffs. These rocks are of Permian age and are moderately well indurated (Chlorite subzone 1). The lower areas around the rivers are mainly till with subdued morainic and outwash gravel from the Otira glaciation of the Quaternary Period. There is also some marine greensand and siltstones from the Tertiary Period.

Cass and Waitahuna soil types of low fertility cover a small portion of the lease while Tengawai Hill and Steepland soils of medium fertility and Kaikora Steepland, Alpine Cass and Ashwick soils of low fertility cover larger portions of the lease. All the soils are from the hydrous yellow-brown earth set.

## 2.3 VEGETATION

Virtually the whole of this Pastoral Lease is in good tussock grassland with regenerating shrubland on lower slopes and in gorges. The lower hillslopes towards Meikelburn Saddle and below 800m are greener with exotic grasses showing the effects of top dressing and oversowing. An small river terrace near the head of the Oari between the spurs running down from the Ben McLeod Range contains minor wetlands in primarily hard tussock (*Festuca novae zelandiae*) and brown top (*Agrostis capillaris*) short grassland.

Above about 900m, exotic species become only a minor component of the vegetation and where the narrow-leaved snow tussock cover is high then there are no, or very few, exotic species. On the west side of the Low Claytons lies a large, shallow basin 100m above the Opuha River and running approximately north-east and south-west and from 650m to just over 900m. It contains extensive areas of red and narrow-leaved snow tussock (*Chionochloa rubra* and *C. rigida*). Ross Stream has an area of thick shrubland, some of which extends into freehold land. There is a good representative community here. Apart from a few small areas mainly below 900m the whole PL has good conservation values.

### Spurs of Ben McLeod Range (northern sector of run)

The Northwest spur, bounded by the Opuha River and the adjacent Walker Spur, are the highest parts of the run and have an excellent tussock cover. Along the top of the ridges a distinct line can be seen between narrow-leaved snow tussock on north faces and slim-leaved snow tussock (*Chionochloa macra*) descending the south, colder faces to about 900m. On north slopes the tussock cover varies between 15-20% and 500mm tall on the more open, stony ground with shallow, dry soils and to 60-70% and 650mm to 700mm tall, where deeper soils occur with *Celmisia spectabilis* 10-15%, hard tussock, 5%, blue tussock (*Poa colensoi*) 5%, browntop 5% and a range of other native herbs and small shrubs, such as *Raoulia subsericea*, *Pimelea oreophylla*, *Gaultheria novae zelandiae*, *Coprosma cheesmanii*, *Leucopogon suaveolens*, mosses and lichens. *Dracophyllum uniflorum* occurs as scattered bushes and is likely to be increasing. Where the ground is more stony and open, *Celmisia* increases and species such as *Pentachondra pumila*, *Helichrysum bellidioides*, *Leucopogon fraseri*, *Aciphylla aurea* and *Gaultheria crassa* occur. Bare ground can be up to 5%. *Hieracium pilosella* is found along the old bulldozed track and occasional patches on open ground. South slopes have a heavier tussock cover, 80-90% and 1m tall with hard tussock and increasing amounts of narrow-leaved tussock as altitude decreases. Mountain flax (*Phormium cookianum*), *Celmisia lyallii* and a few *Cassinia vauvilliersii* are also found on damp south slopes. Short matagouri (*Discaria toumatou*) is found in all the lower tussock slopes. Wet seepage areas along the base have good red tussock cover which continues into the wetland along the base of the spur. This wetland is not as diverse as the proposed reserve along the Opuha River just over the low saddle as it has numerous exotic species. It has, never-the-less, reasonable conservation values.

Between the two spurs lies a large shingly flat with a few minor wet areas. This generally well drained area is grassland with hard tussock and much browntop. Several small streams cross it. Conservation values here are moderate.

### Low Claytons

Short, 450mm - 550mm, narrow-leaved tussock covers most of the Low Claytons and is in particularly good condition in the northern parts and above 800m on these low, rounded hills. The southern parts have increasing amounts of exotic grasses, especially below about 800m, presumably from oversowing and topdressing. Some of the summit areas and especially along the tracks have much browntop but in the main native plants form at least 80% of the cover. On less well drained, lower slopes the taller red tussock dominates. Hard tussock, blue tussock (*Poa colensoi*) and a range of small shrubs such as *Pimelea oreophylla*, *Gaultheria nubicola*, *G. novae-zelandiae*, and herbs such as *Raoulia subsericea* occupy inter-tussock spaces. *Celmisia spectabilis* is often prominent with patches of matagouri and a few patches of bracken and *Aciphylla aurea* where it is more open with stony, shallow soils. Mosses and lichens are also more prominent here. South and east facing slopes generally have a taller and denser tussock cover than north and west facing slopes.

### Shrubland

Low matagouri shrubland occurs in patches on many of the lower slopes with *Coprosma propinqua* and appears to be increasing after probably suffering from frequent burns of an earlier era. The only significant areas of shrubland are found in the narrow gullies of the Ross and Stockyard streams, particularly the former. Here there is a sizeable area of good mixed shrubland, a community with large broadleaf (*Griselinia littoralis*), *Olearia bullata*, *Melicytus* sp., *Corokia cotoneaster*, *Coprosma rigida*, *Hebe salicifolia*, mountain wineberry (*Aristotelia fruticosa*) and mountain ribbonwood (*Hoheria lyallii*). The lianes *Rubus schmidelioides* and *Muhlenbeckia complexa* and ferns *Polystichum vestitum* and *Hypolepis millefolium* are also here. This area appears to extend into freehold land.

### Mixed Red/Narrow-leaved Tussockland

The south-west corner of the pastoral lease contains a large basin about 100m above the North Opuha River Valley. This is an unusual feature with a good cover of tussock. A mosaic of tall red tussock in the drainage areas with shorter narrow-leaved snow tussock on drier slopes. Inter-tussock species include browntop, *Lotus pedunculatus*, *Viola cunnighamii*, *Nertera dichondrifolia*, *Anisotome flexuosa*, *Coprosma cheesemanii*, *Plantago uniflora*, *Blechnum penna marina*, *Schoenus pauciflorus*, *Carex coriacea* and mosses.

## 2.4 FAUNA

- 2.4.1 Keas, threatened regionally, inhabit the Ben McLeod, Fox Peak and the Two Thumb Ranges. Occasional sightings of kea have occurred on the Clayton pastoral lease.

Native birds observed in the open tussock grassland have included the New Zealand Falcon (a threatened species), the Australian harrier hawk and the New Zealand pipit. Paradise shelduck have been frequently seen on the developed pastures.

### 2.4.2 Lizards

Lizard species recorded on the lease in rocky scrub and tussock habitats were two *taxa* in the "common" skink (*Leiopisma nigriplantare*) cryptic-species complex identified, (probably *L. nigriplantare polychroma* and *L. maccanni*) and two *taxa* in the in the "common gecko" *Hoplodactylus maculatus* cryptic species complex (probably *Hoplodactylus* sp Canterbury" and *H. sp* "Southern Alps"). Other species which could be present are the endangered scree skink, *L. octagense* form "waimatense" and the spotted skink *L. lineocellatum*.

### 2.4.2 Invertebrates

Alpine weta *Hemideina maori* was occasionally found beneath rocks in the tussock grassland. The grasshoppers *Sigaus australis*, *Paprides nitidus* and *Phaulacridum marginale* occur in the tussocklands of the district.

Benthic invertebrate communities at all sites were dominated by the mayfly *Deleatidium* with *Coloburiscus humeralis* also present but less common. The presence of these species is a good general indicator of high water quality.

### 2.4.3 Freshwater Fish

Three streams have been electric fished as part of a fisheries assessment - Clayton No 1 Stream, Stockyard Stream and the Orari River. All three contained abundant populations of upland bully (*Gobiomorphus breviceps*) and Canterbury galaxias (*Galaxias vulgaris*). Brown trout (*Salmo trutta*) fingerlings were also common in the Orari, indicating its use for spawning.

Examination of Freshwater Fish Database shows only one older record for the North Opuha River on the lease's western boundary with only lamprey recorded. However, there is no reason to expect the fauna to be substantially different from the Opihi River. The Opihi is much more satisfactorily sampled with 13 records although few of these are in the upstream reaches. Based on the sampling undertaken and the existing records it is expected that the upper North Opuha fauna would also include

Canterbury galaxias, upland bully and long finned eel. At lower elevations (as in the Opihi) blue gilled bully, torrent fish and common bully are probably quite generally present. Salmon juveniles and brown trout adults and juveniles are also likely to be common. The Opihi Gorge area supports salmon spawning when flows are sufficient to allow fish passage and the same applies to the North Ophua. Presumably, brown trout also spawn opportunistically within the area. The Clayton Wetland is an area for which fisheries data are lacking. The streams running through the wetland are stable and fencing has assisted in their protection. Long-finned eel, upland bully and Canterbury galaxias are most likely to be present.

## **2.5 HISTORIC**

Run 331 of 30,000 acres (12140 ha.) was taken up in January 1860 by the Kennaway's, Godfrey Lee and Edward Acton in partnership. F.W. Deamain was also in partnership with the Kennaway's, however this only lasted until 1861. Run 370 of 3440ha was taken up by Aikman and Le Cren in 1860 and was transferred to the Kennaway brothers in October 1860 and added to Clayton.

Runs 331 and 370 were surrounded by Mesopotamia, Mt Peel, Orari Gorge, Mt. Four Peaks and Sherwood Downs. The partnership stocked Clayton in the summer of 1861/62, but lost sheep during snow storms in the winter of 1862. Following this disaster Clayton was transferred to Walker and Clogstoun, the Four Peaks lessees who held Clayton until 1881 when it was taken over by H. Hamilton and Sons. In 1917 some of Clayton leasehold was taken for closer settlement.

## **2.6 RECREATION**

### **2.6.1 Physical Characteristics**

Clayton Station is very accessible from the Lochaber road which touches the eastern portion of the pastoral lease. The Meikleburn Saddle (668m) provides a relatively good point from which to traverse the Low Clayton Hills which rise from 600m to 1115m. The Orari River which is relatively gorgy, also allows access to the sunny flanks of the Low Claytons and the upper reaches of the property.

The lower reaches of the Ben Mcleod range rise from 780m to 1315 m within the pastoral lease. The main Ben Mcleod Range rises to 1945m behind the property. To the North of the Walkers spur, Butler Saddle (1727m) at the head of the North Opuha River provides access into the upper Rangitata River.

### 2.6.2 Public Access

The 754ha. North Opuha River Conservation Area is connected to the red tussock wetland reserve by a 20m (sec24) marginal strip. A legal roadline also runs up the North Opuha River as far as the pastoral lease boundary. This legal road appears to be very closely aligned with the Fox Peak Ski Field road. Another legal roadline also extends from the red tussock wetland reserve across the middle of the lease to its north-eastern boundary over a low saddle and links up with the Phantom River. The legal Lochaber Road runs alongside the south-eastern corner of the lease. Both the surrender of the land on Walker Spur and the reservation of the wetland adjacent to the North Ophua River are nearing completion with survey plans now available.

### 2.6.3 Activities

Existing recreational use is low. The road to Fox Peak Skifield, is via a locked gate which passes through the south-western corner of the lease. This road provides access for fishing on the upper reaches of the North Opuha River. A four wheel drive track links in with this road near the airstrip and runs to the back corner of the property into the Phantom. There is a small hut tucked in under the Ben Mcleod Range which has been utilised in the past by groups. Some horse trekking and mountain bike use is made of this track, which links in with the adjoining Dry Creek pastoral lease. A farm track runs down the Orari River and has been used by some recreational groups. Along with the track that runs along the top of the Low Claytons.

## PART 3: CONSULTATION

### 1. NGO Consultation

An NGO meeting was held in Christchurch on the 11 December 1997. This meeting was attended by a variety of NGO representatives who made the following comments:

- The upper Orari Gorge was an interesting access route.
- The two low passes on the property have been utilised by Mt bikers as a circular route
- Horse trekkers have used the farm tracks and have used the old pack track that connects in with the Mowbray Road in behind Geraldine.



- The Walker Spur area is of interest to trampers and has high landscape value
- That areas of Red Tussock should be protected.
- That native Bats have been recorded in the vicinity of the North Opuha River.

## 2. District Planning

The lease is within the Mackenzie District. The proposed Mackenzie District Plan was released in February 1997.

The lease is on land zoned rural. Objectives listed for this zone include:

- i) To safeguard indigenous biodiversity and ecosystem functioning through the protection and enhancement of significant indigenous vegetation and habitats, riparian margins and the maintenance of natural biological and physical processes.
- ii) To promote the long-term protection of sites with significant conservation values by encouraging the Department of Conservation and landholders to pursue actively the implementation of the Protected Natural Areas Programme through direct negotiations and through preparation and implementation of the Conservation Management Strategy and the Management Plan for the Mount Cook National Park.
- iii) To identify in the District Plan sites which have been recognised through any regional plans or national data bases or reports as being areas of significant indigenous vegetation or habitat, or significant geomorphological features, and to prevent development which reduces the values of these sites or features.

Two sites of natural significance on the Clayton pastoral lease have been recognised in the District Plan. These are the:

- a) North Opuha/Clayton Red Tussock. This is the recommended area for protection recognised in the Two Thumb Survey and is a red tussock stand, uncommon in the district, surrounded by a range of tussockland communities such as *C. rigida* and *C. macra* snow tussock.

- b) North Ophua/Clayton Station Wetland. This is a SSWI (Site of Significant Wildlife Interest) and a WERI (Wetland of Ecological Representational Importance). It is a river wetland complex of rush and sedge swamp, succulent herb swamp, restiad bog and tussockland. Red tussock and alpine cushion bog are a rare plant community. It is also a trout spawning area.

## **PART 4: RECOMMENDATIONS AND JUSTIFICATIONS**

### **4.1 INTRODUCTION**

The areas described in the proposals below have, in the Department's opinion, high conservation and public access values that should be taken into account in any tenure review discussion.

### **4.2 AREAS TO BE FULLY RESTORED TO THE CROWN**

#### **4.2.1. Spurs of Ben McLeod Range (northern section of the run)**

##### **Recommendation**

It is recommended that all of this northern part of the run, an area of approximately 950 hectares be retained by the Crown and managed by the Department of Conservation.

##### **Description**

The area extends from the North Opuha River across a spur extending off the Ben McLeod Range onto a flat areas before rising up again over the bottom end of the Walker Spur and dropping down to the Phantom River.

##### **Rationale**

This area includes RAP 5 recognised in the Two Thumb Survey because of its rare red tussock grasslands and surrounding range of other tussocklands. The tussock cover is excellent across the spurs, with a recognisable distinction between *Chionochloa rigida* on northern faces and *C. macra* on the southern, colder faces. The variation in the range of other native herbs and small shrubs across the area is noteworthy.

Wet seepage areas along the base of the spurs have good red tussock cover which continues into the wetland along the base of the spur. The wetland is not as diverse as the proposed reserve along the Ophua River but still has reasonable conservation value. The shingly flat between the two spurs has a few small wet areas but is predominantly hard tussock with a lot of browntop. The flat has low conservation values but provides a good link between the two spurs and could recover well if stock were removed.

The whole area provides a good buffer to the wetland reserve adjacent to the North Opuha river.

The lower slopes of the Ben McLeod Range are an important part of the overall landscape of the area.

The Fauna that has been identified in the area would be protected, this would include the Galaxid's and skink's that were listed. Protection of the habitat may also ensure that fauna species that are currently not known may be protected.

### **Management and Boundary Issues**

Protection of the RAP adjacent to the North Opuha River may require extra fencing to ensure stock from the adjacent property are excluded. As noted earlier the adjoining landowner has grazed this area for some time and this needs resolving. This extra fencing would be approximately 3 kilometres long. The existing surrender fence will no longer be required and could be pulled down. The existing boundary fence on the eastern pastoral lease boundary would become the Conservation boundary fence.

Maintenance and use of the hut would need to be discussed with the lessee. An easement to allow departmental staff to cross the rest of the lease to gain access to this area would have to be laid off.

## **4.2.2. Low Claytons**

### **Recommendation**

It is recommended that an area of approximately 700 hectares be retained by the crown and managed by the Department of Conservation

### **Description**

The recommended area for protection is in two parts. The first part includes the northern and western portions of the Low Claytons block extending from the Orari River and across to the terrace above the North Opuha River. The second portion includes the Terrace and faces above the North Opuha River, along with the upper catchment of Ross Stream, down to the airstrip above the ski field road.

### **Rationale**

The first part of this area has short narrow-leaved tussock in good condition. In the south-west corner there is a large basin containing a mosaic of tall red tussock in the drainage areas, shorter narrow-leaved tussock on drier slopes and a good variety of inter tussock species. Red tussock on a drier plateau is relatively rare as it is now normally confined to the damper wetter areas. This area provides a good buffer zone along the river and compliments the Ben Mcleod Range proposal and the existing wetland that has been protected.

## **Management and Boundary Considerations**

There would be a need for some new fencing and some fence realignment to protect both these areas. This area would link in with the Ben Mcleod land recommended in 4.2.1 above.

### **4.3 Area to be Covenanted**

#### **4.3.1 Stockyard Stream.**

That an area of approximately 100ha be subject to a Conservation covenant under the Reserves Act.

#### **Description**

This area includes the shrubland remnants and Mountain ribbonwood that is found along both sides of the stream down to approximately the current freehold boundary.

#### **Rationale**

Examples of mixed shrubland do not appear to be common in this part of the Ecological District. The diversity and presence of extensive patches of mountain Ribbon wood at this altitude is relatively rare.

Protecting this shrubland by a covenant appears to be the only practical solution to protecting this shrubland. It is recognised that regeneration has continued to occur in the presence of grazing and that to exclude stock would be difficult and extremely expensive. The prime intent will be to ensure that burning and spraying do not have an impact on the shrublands.

### **4.4 Access Arrangements.**

Access would be available as of right via the North Opuha River. However better Mt bike, foot and horse access is desirable from other key points. These are:

- Formalising access along the Fox Peak ski field road to the bridge where it crosses the North Opuha River is desirable. The existing road appears to follow the legal road line, but survey needs to resolve this issue. Failing resolution an easement would be desirable to achieve 365 day public access.
- Access from Meikleburn Saddle along the farm track over the Low Claytons would provide a challenging Mt Bike route as well providing alternative access to the proposed Conservation Lands beyond.

- The Orari River may also provide an access route. The existing farm track may be within the confines of an existing marginal strip. This may need checking and an easement may also be desirable.

These access routes would enhance the recreational access opportunities in the area and provide through routes into the Ben Mcleod Range beyond. Any 4 wheel drive access would be at the landowners discretion as the department does not see the need to maintain expensive 4WD tracks in this area.

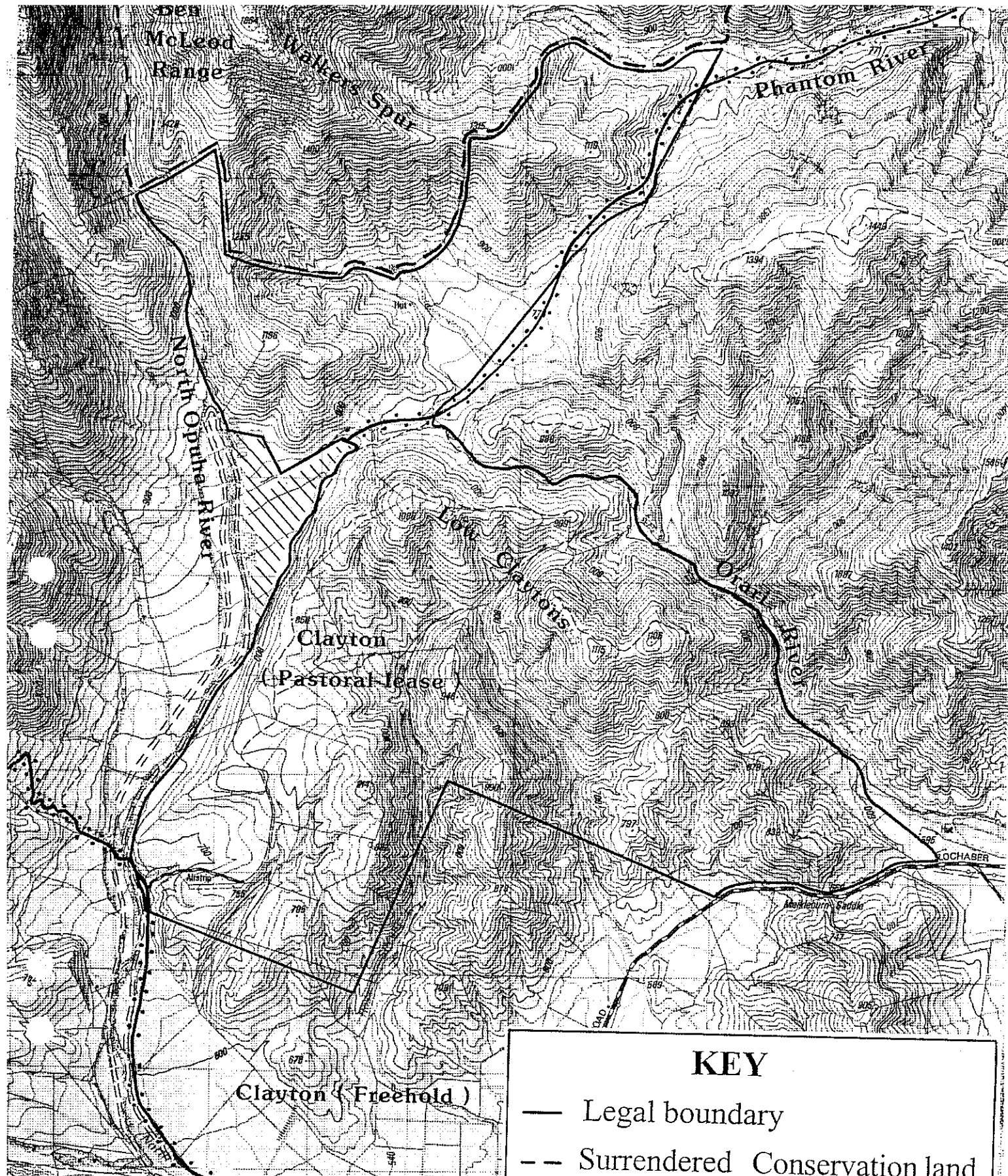
Easements in favour of the landowner may need to be catered for so that stock and farm management can continue with out hinderance. These will be negotiated as this deal is processed.

### **Other Matters**

If these recommendations are negotiated they will largely take account of the matters raised with the NGO's. However as of right 4WD access as promoted by the 4WD Club, is not being recommended as part of this package. This is primarily because of the ongoing maintenance costs of track maintenance.



The Phantom River does not at this point provide legal access as there is a gap in the unformed legal road part of the way down the Phantom.

Matters relating to boundaries and legal road lines have also be raised else where in the recommendations. But these matters need highlighting and resolving.




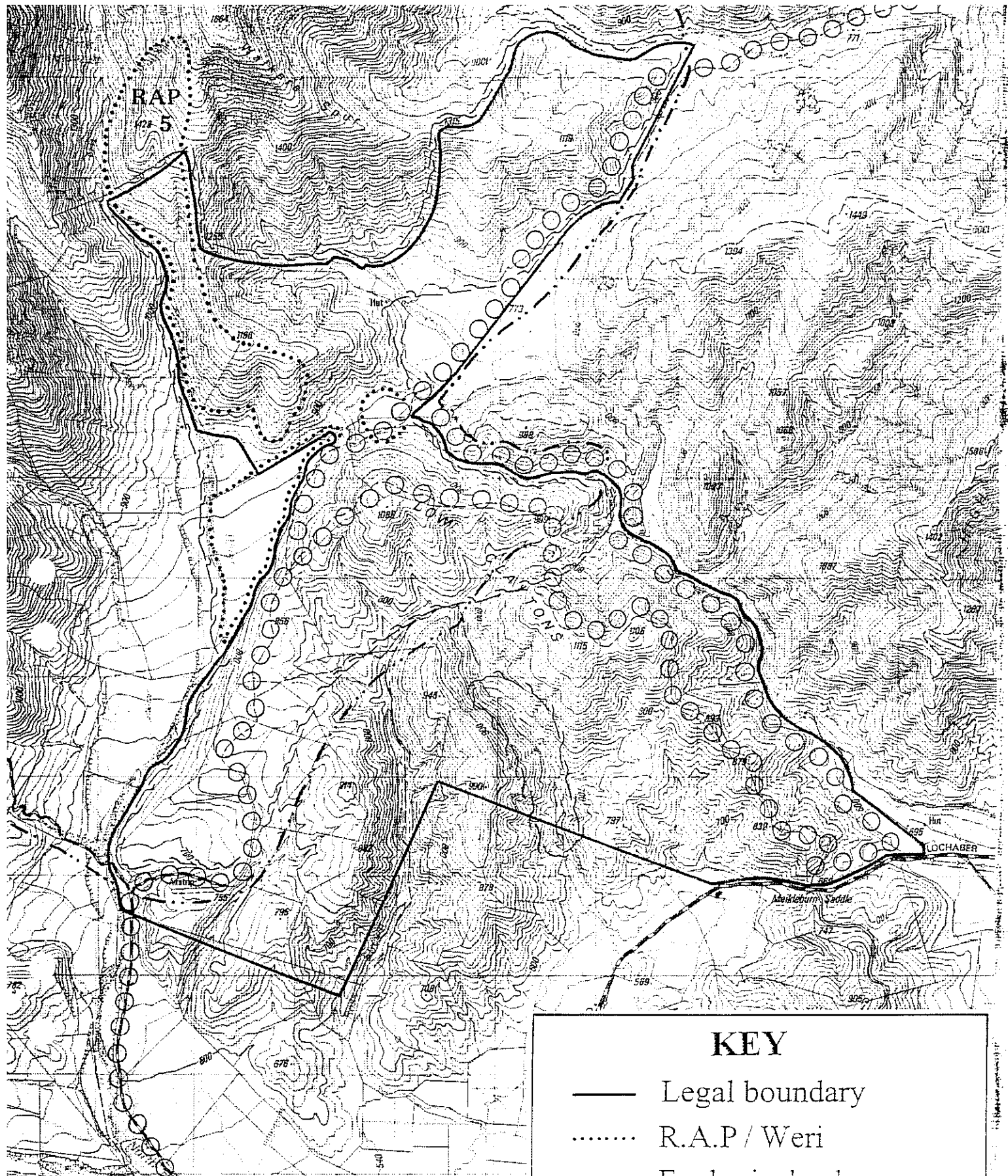
**MAP 1**  
 Topo/Cadastral  
**Clayton**  
 "RELEASED UNDER THE  
 OFFICIAL INFORMATION ACT"

**KEY**

- Legal boundary
- - Surrendered Conservation land
-  Reserve  
(Red tussock / Wetland)
- == Marginal strip
-  Legal road

1 0 1 2km





**MAP 2**  
**Conservation Values**

**Clayton**  
 "RELEASED UNDER THE  
 OFFICIAL INFORMATION ACT"



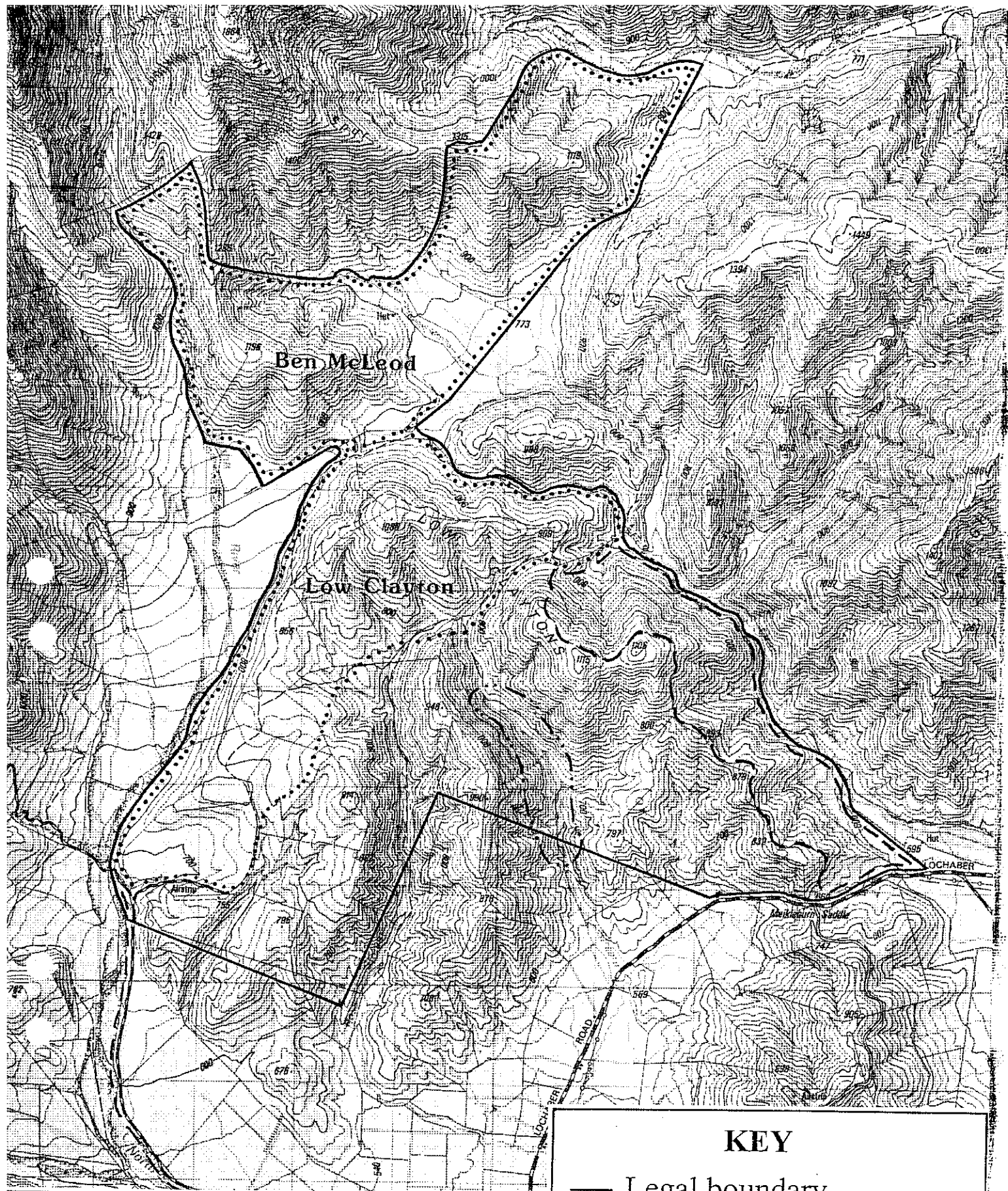
**KEY**

- Legal boundary
- ..... R.A.P / Weri
- - - Ecological value
- Recreation interest
- - - Landscape value

1 0 1 2km







**MAP 3**  
**Recommendations**

“RELEASED UNDER THE  
**Clayton**  
 OFFICIAL INFORMATION ACT”  
 J37

**KEY**

- Legal boundary
- ..... Proposed conservation land
- - Access easement
- Conservation covenant

1 0 1 2km

