

# **Crown Pastoral Land Tenure Review**

**Lease name : STYX RUN**

**Lease number : PO 333**

## **Conservation Resources Report - Part 1**

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.

Note: Plans which form part of the Conservation Resources Report are published separately.

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

**May**

**06**

**DOC REPORT TO THE  
COMMISSIONER OF CROWN LANDS ON  
TENURE REVIEW OF STYX RUN PASTORAL LEASE**

**PART I**

**INTRODUCTION**

The lessee of Styx Run pastoral lease has applied to the Commissioner of Crown Lands for a review of tenure.

The property has been inspected and reported on by relevant DOC staff and their assessments have been incorporated into this conservation resources report.

The property has been subject to two previous assessments of its conservation resources.

- In 1982/3, as a result of the Pastoral Lands Trial Assessment of the Rock and Pillar Range. This assessment was undertaken by Department of Lands and Survey at the request of the Land Settlement Board. The Board had been invited by Government to oversee trial assessments of the findings of the Report of the Committee of Inquiry into Crown Pastoral Leases and Leases in Perpetuity (The Clayton Report). The headwaters of Styx Creek adjacent to McPhees Rock was proposed as land to be retained in Crown ownership.
- In 1993 as a result of an offer by the then lessee to sell part of the property to DOC. These negotiations were ultimately unsuccessful. The investigations undertaken of the property confirmed the 1982/3 findings and also identified additional areas of conservation interest in the property.

The results of these previous investigations have been reassessed and where appropriate have been incorporated into this report.

Styx Run is medium sized pastoral lease of 3132 ha located at the south-western end of the Rock and Pillar Range. It is within the Rock and Pillar ecological district but no Protected Natural Areas Programme survey has been done.

The property adjoins the Taieri River at Paerau (550 m) and rises to the summit ridge of the Rock and Pillar Range (1310 m). The Old Dunstan Road forms the south-western boundary. There is no

runstead on the property and it traditionally has been used as a run block in association with other land.

## PART II

### 1 LANDSCAPE ASSESSMENT (Refer to Map 2a)

As adopted for other assessments of the high country, the pastoral lease has been divided into a number of landscape units. The boundaries for each of these units follow marked changes in the local topography, as well as distinguishable changes in the ground cover and landuse patterns.

Besides describing the physical attributes and important landscape values, each unit has been placed into three broad categories:

- Natural landscapes: natural ecosystems, containing unspoilt and distinctive geological/physiographic features.
- Managed natural landscapes: still a predominantly natural ecosystem, but where some modifications have occurred to the native vegetation through mainly extensive sheep grazing.
- Cultural landscapes: land influenced by human uses. This includes historic and intrinsic values.

#### Landscape Unit 1

This landscape unit (LU) incorporates the alpine herbfields at the southern corner of the pastoral lease. It could be described as a high altitude tableland, with a smoothly curved topography and intricate drainage pattern, a feature being the tarns and fingerbogs.

The co-dominant vegetative cover is *Celmisia brevifolia* and the small blue tussock, while the local gentian is widely distributed over the whole of the LU.

Although there are isolated rocks over this LU (McPhees Rock being the most impressive) the general character of this area is quite different to the main crest of the Rock and Pillar Range which is studded with rock tors. The unit's most important landscape conservation values include the tableland's general appearance of naturalness, with only one fence line and track being noticeable. Being a fragile ecosystem containing cushion bogs, snow banks, tarns and moorlands, makes this

nit highly sensitive to further change. This area conveys a general feeling of isolation which makes it ideally suited for backcountry recreation, both summer and winter.

This LU would fall within the natural landscape category.

### Landscape Unit 2

This LU comprises the tall tussock grasslands in the mid altitudinal section of the lease. Being a lower plateau with a northerly aspect, it is not surprising to find the snow grasses quite low in stature as a consequence of pastoral farming. Although some changes have occurred to mainly the inter-tussock species, the overall appearance is of continuous tussock cover which helps to retain the pastoral lease's altitudinal sequence of high country landscape types. As well as protecting the landscape's overall integrity, this LU does again convey the feeling of remoteness and isolation which are important qualities for backcountry recreational pursuits.

This LU would fall within the managed natural landscape category.

### Landscape Unit 3

This LU encompasses the rounded ridges along the western flanks of the pastoral lease. The general impression of this LU is that it relates more to the land surrounding Loganburn rather than the Rock and Pillar Range. The vegetation at the top edge is a mixture of Cassinia shrublands and short native grasses. At about the 1200 m level the vegetation changes abruptly into snow tussock. The tussock cover is quite evenly graded which reflects past conservative grazing of this block, even though this land is readily assessable. This unit's most notable landscape value would be its visibleness from a county road. There are very few opportunities left where the general public can experience "moving through" tussock grasslands. Most of the lower altitude passes, eg, Pigroot, have been severely modified. An added attraction to this road is that it forms part of the historic Dunstan Road, which was the direct route taken by Messrs Cobb and Co coaches to the goldfields in the 1860s. The summit of this historic road is contained within the pastoral lease, and lends itself to onsite interpretation.

The LU would fall within the managed natural landscape category.

### Landscape Unit 4

This LU includes the mid altitudinal section of the Styx Creek. This creek effectively bisects the pastoral lease into two sections, which must make stock movement difficult, especially when the stream is flowing above normal. The characteristics contained within this well defined LU are very

iking and spectacular, especially the steep rocky walls, mixed shrublands and turbulent white water.

This LU's main landscape value is its distinctive contrast in character from the surrounding open and expansive tussock landscape.

This LU would fall within the natural landscape category.

### **Landscape Unit 5**

This LU comprises the front lower country of the run. There has been intensive farming development carried out, with tracks and subdivisional fencing apparent. The shady steep faces between the Styx Creek and the Dunstan Road are quite badly infested with both sweet briar and matagouri, while the sunny lower faces to the east are covered with a sward of exotic and short native grasses. On the dry ridges silver mats of hawkweed are quite conspicuous.

This LU's general character could be described as typical Central Otago hill country with its rocky ridges, tawny colour and cultural influences. What makes this vista important is that it forms the immediate backdrop to the historic precinct of the Styx gaol, hotel and stables as well as a collection of other smaller dwellings. Although the actual historic precinct is on freehold land, the backdrop is an integral part of the strong sense of place conveyed by the area. The open spaces created by the willows growing along the stream are very popular with the local community for picnicking as well as informal camping. The diversity in both cultural and natural elements makes this LU very distinctive and a very memorable landscape.

This unit falls within the cultural landscape category with much emphasis being placed on the protection of the backdrop to the Styx historic precinct. Therefore, insensitive tracking, bulldozed fencelines and installations on skylines should be discouraged.

### **Significance of the Landscape**

Styx Run contains significant landscape values. The McPhees Rock Plateau (LU1) and the Styx Creek gorge (LU4) are natural landscapes that are distinctive and especially the former, are important settings for outdoor recreation.

Landscape unit 3 is essentially a tussock landscape which extends down to the Old Dunstan Road. As such it contributes to the travellers experience of moving through tussock grasslands, an increasingly uncommon experience in Otago.

he landscape also enhances the historic value of this early access route from Dunedin into Central Otago.

The landscape setting of the historic precinct (jail and hotel complex) at the Styx is important to preserve the integrity of the sense of place experienced by visitors.

## 2 LANDFORM AND GEOLOGY

### a Geology and Geomorphology

Basement lithology is Haast Schist with strata running broadly parallel to the ground surface. The broadly folded structure of the Rock and Pillar Range produces few rock outcrops on the surface. Solifluction lobes are prominent on interfluves, and loess derived from the adjacent Taieri River basin mantles the primary landforms.

### b Topography

The Rock and Pillar Range is the easternmost Central Otago range, being a fault bound block mountain. Like other block mountain ranges it follows a NE/SW orientation and has a distinctive shape. The eastern faces of the Strath Taieri Basin are relatively steep, rising to a broad sloping summit ridge. The western slopes are gentle in their descent to the Maniototo Basin. Styx Run forms part of the western slopes of the range. McPhees Rock is the most notable rock tor feature on the property and is one of many dotted along the summit ridge.

Styx Creek has cut a deep gorge in the middle of the property, the gorge contains an impressive set of rapids and a waterfall.

### c Soils

The following soils occur on the property :

#### Upland and high country hygrous yellow brown earths

- Teviot and Carrick soils on rolling lands and hills
- Dunstan Steepland soils on related steeplands

#### Yellow Grey Earths

- Dry sub-hygrous Blackstone soils on rolling lands and hills
- Arrow steeplands soils
- Dry hygrous Pukerangi soils on terrace lands and fans

### Significance of the Landforms

McPhees Rock is the most notable landform feature on the property. The Styx Creek gorge with its rapids and waterfall is also an important feature.

## 3 CLIMATE

The Rock and Pillar range is subject to a coastal weather influence especially from the southerly quarter. This cooling and more changeable influence has resulted in alpine vegetation occurring at 1200 m, markedly lower than occurring on more inland ranges where the climate is more continental.

Snow lies on the crests and flanks of the range during winter and can persist for up to 6 months of the year, with considerable redistribution by wind into drifts in depressions and leeward gullies.

Rainfall varies from 520 mm at low altitude (Paerau) to 910 mm at higher altitudes.

Winds are predominantly northerly. Frosts are frequent and can be severe in winter. Summer temperatures reflect the hot dry Central Otago influence.

## 4 VEGETATION

Vegetation on the property has been classified into five broad zones as follows :

### a McPhees Rock Plateau

The 1200 m contour delimits the area on the western boundary, marking the change in dominant vegetation cover from short blue tussock (*Poa colensoi*) to snow grass (*Chionochloa rigida*). This part of the Styx run encompasses McPhees Rock and the dissected plateau that contains the headwaters of Styx Creek.

Biological values are very high in this area and distinctly different from the main Rock and Pillar Range. Blue tussock dominates everywhere with the small speargrass (*Aciphylla hectorii*), various daisies (*Celmisia brevifolia*, *C. ramulosa*, *C. prorepens* and *C. densiflora*) and gentians abundant. The inter-tussock herbs are a conspicuous part of this area. Interestingly the dominant herb on the main part of the Rock and Pillar Range, *Celmisia viscosa*, is only present in the corner of the Styx run closest to Stonehenge. Snowbanks are extensive from the tops of the many gullies to the confluences of streams, and are dominated by cushion plant species such as *Kelleria childii*, *Anisotome imbricata*, *Phyllacne colensoi* and *Celmisia sessiliflorum*. The aromatic herb, *Gingidia*

*xterae* has a very restricted distribution but is fairly abundant in this area, together with a large diversity of other herbs in the genera such as *Brachyglottis*, *Craspedia*, *Anisotome* and *Cardamine*.

Extensive shrublands are a feature of the headwaters of Styx Creek and dominated by *Cassinia fulvida* or *Leonohebe odora* with some containing *L. hectorii* and *L. poppelwellii* as well. Shrub species such as *Melicytus alpinus*, *Hebe buchananii* and *Coprosma ciliata* are present around the largest tors such as the summit rocks of McPhees Rock. A large group of bog pine including up to 12 plants occurs immediately to the west of McPhees Rock. This shrub is now particularly rare in East Otago.

The flora in this area is essentially natural with very few weed species apparent. A few small patches of hawkweed (*Hieracium pilosella*) are present, but the native grasslands are in such a healthy state that it is unlikely the hawkweed is spreading fast or at all.

#### **b Old Dunstan Road Slopes**

These slopes and the many creeks that drain them (another tributary of Styx Creek) have a uniform cover of short stature snowgrass, *Chionochloa rigida*. Inter-tussock species are of mainly widespread native species together with a substantial component of exotic species (daisies, grasses, etc). The snowgrass complements the blue tussock zone around McPhees Rock and locally does contain reasonable native inter-tussock diversity. This consists of *Celmisia densiflora*, *Phyllachne colensoi*, *C. sessiliflorum*, *Kellaria dieffenbachii* and a range of other herbs and cushion species.

The bog pine shrubland located west of McPhees Rock extends downhill into this vegetation zone.

Botanical values are of high conservation value, largely due to the presence of bog pine.

#### **c Northern Slopes**

The dominant vegetation of the northern slopes of McPhees Rock is a relatively intact cover of snow grass (*C. rigida*) with more open ridges of *Festuca* dominated native heaths and herbs. Substantial areas of exotic species exist at the head of some gullies where sheep camp and in some wetlands. The inter-tussock native species are unspectacular and shrubby species are sparse. Wetlands and the creeks are somewhat degraded, especially at lower altitudes (below 1100 m) because of the degree of modification due to stock damage and invasion of exotics. No flora distinctive to the Rock and Pillar Range was found here reflecting mostly the condition of the vegetation.



The new electric fence splits this zone into two discrete areas of which the upper one is of more conservation value, if only because it provides a buffer to the plateau area and complements the short blue tussock vegetation of that area with much taller snowgrass.

Botanical conservation values are lower in this area than those found in both the McPhees Rock Plateau and Styx Creek Gorge areas largely due to pastoral management.

#### d Styx Creek Gorge

The Styx Creek Gorge is large and very precipitous and has consequently retained diverse native shrublands on its steep slopes. Shrub species include native broom (*Carmichaelia petriei*), *Corokia cotoneaster*, various *Coprosma* species and *Discaria toumatou*. Short tussock species and various native herbs (*Geranium* spp. etc), lianes (*Rubus* spp.) and sedges (*Carex*, *Uncinia* spp.) are common also, contributing to a diverse sequence of native vegetation on both dry and wet slopes.

Botanical values of the Styx Creek Gorge are ranked as being of high conservation value.

#### e Paerau Downlands

The Paerau Downlands begin below the gorge and finish above the old Styx settlement.

The vegetation comprises *Festuca/Poa/Elymus* grassland with scattered matagouri and native broom shrubs and flushes of mainly exotic species. Rocky outcrops retain some native cushions (*Scleranthus uniflorus*), grasses and herbs (*Oxalis*, *Oreomyrrhis*, *Wahlenbergia* spp.). Exotic grasses and herbs are common as inter-tussock cover and the area is essentially depleted/modified native grassland with uneven cover and make-up.

Conservation value is moderate but limited. A feature is the occurrence of stands of tall wheatgrass (*Elymus* spp.) over quite large areas, but the inter-tussock values in such areas are low making it hard to justify a higher ranking for the area.

#### Significance of the Vegetation

Based on the representativeness, biological diversity, special features and condition of the vegetation the areas are ranked in priority order of their conservation value as follows :

- 1 McPhees Rock Plateau
- 2 Styx Creek Gorge
- 3 Old Dunstan Road Slopes
- 4 Western Slopes
- 5 Paerau Downlands

## 5 FAUNA

### a Terrestrial Invertebrates

The property has been classified into five broad zones, based on habitat, to describe terrestrial invertebrate fauna.

#### i McPhees Rock Plateau

Terrestrial and aquatic insect values are very high in this plateau area because a diverse specialised alpine assemblage is present. The fauna shows strong affinities with the main Rock and Pillar Range, but also some relationship with the Lammermoor Range to the south and Rough Ridge to the west.

Two large weta species are present; the ground weta - *Hemiandrus focalis* and the Rock and Pillar weta - *Hemideina maori*. Interestingly, the latter is represented by the normal unicolorous form (also on Lammermoor Range) as opposed to the clearly striped form on the main Rock and Pillar Range.

Three species of alpine grasshoppers, an alpine cockroach and a great many native beetles, flies and bugs are found in this area. The native moths have been studied in detail and over 160 species are recorded from this area. The main characteristics of this large fauna are :

- large number of species in wetland, shrublands, cushionfields, tors and snow banks
- large number of brightly coloured diurnal species (*Notoreas*, *Dasyuris*)
- large number of species typical of all Central Otago mountain ranges (*Eudonia xysmatias*, *Asaphodes nephelias*)
- a distinct Lammermoors/Rough Ridge/Rock and Pillar only fauna (*Aoraia* n.sp., *Gelophaula* n.sp., *Merophyas* n.sp.)
- large numbers of species in some genera (*Notoreas*, *Orocrambus*, *Dasyuris*)
- a high-alpine fauna component at a modest altitude (*Hierodoris* n.sp., *Tawhitia glaucophanes*)
- is very diverse by New Zealand alpine region standards

The aquatic fauna at this altitude frequents seepages, wetlands and the many creeks making up the headwaters of Styx Creek. It contains New Zealand's only scorpionfly, approximately 16 caddisflies, six stoneflies and several mayflies. Some of these are widespread in alpine Central Otago, others are confined to Lammermoors/Rough

Ridge/Rock and Pillar zone while others are unusual in the degree of flightlessness (stoneflies - *Zelandoperla pennulata*, *Zelandoperla* n.sp., caddisfly - *Philorheithrus* n.sp.).

#### ii Old Dunstan Road Slopes

Insect species present are widespread low-alpine species in the grasslands but with a more interesting in-stream fauna in the Styx headwaters. The distinctive element of the grassland - cushionfield fauna so prevalent in the McPhees Rock Plateau area is lacking except in the creek headwaters.

Invertebrate faunal values are of medium conservation value.

#### iii Northern Slopes

No fauna distinctive of the Rock and Pillar Range was found here, reflecting the modified condition of the vegetation.

Invertebrate faunal conservation values are ranked as low for this area.

#### iv Styx Creek Gorge

Terrestrial invertebrate fauna were not sampled here but are likely to reflect the valuable refuge nature of the habitat. A small sample of aquatic insects was made which contained, apart from widespread species, a rare diurnal caddisfly (*Triplectodina mosleyi*) of very restricted distribution (Otago).

An unnamed ground weta species (*Hemiandrus* sp.) is common. The conservation status of this animal is uncertain (Molloy and Davis 1994). However it is known from higher elevations on nearby Rocklands Station and from Danseys Pass. The large tor weta (*Hemideina maori*) is also common.

The area was sampled for a variety of terrestrial invertebrates as part of a comparative study of similar locations elsewhere on the southern Rock and Pillar Range. Styx Creek Gorge area proved to have a high taxonomic richness which indicates an area of high biodiversity.

Invertebrate faunal conservation values of the Styx Creek Gorge are high.

#### v Paerau Downlands

No fauna distinctive of the Rock and Pillar Range was found here, reflecting the modified condition of the vegetation.

Invertebrate faunal conservation values are ranked as very low for this area.

**b Aquatic Fauna**

Previous fish records for the Styx Run record brown trout from the lower Styx Creek, while records for Styx Creek above the (11 metre) waterfall indicate no fish present. Other records indicate an unidentified galaxiid in McPhees Creek at the ford on the Old Dunstan Road. Five sites were surveyed on the Styx property.

- i **Styx Creek between the rapids and waterfall**  
No fish were found in Styx Creek
- ii **Unnamed Styx Creek Tributary (NZMS 260 H43 745 275)**  
No fish present
- iii **Unnamed Styx Creek tributary (NZMS 260 H43 716 243)**  
No fish present
- iv **Unnamed tributary of McPhees Creek at Old Dunstan Road ford**  
Abundant flathead galaxiids present in this stream
- v **McPhees Creek at Old Dunstan Road ford**  
Abundant flathead galaxiids present in this stream

Styx Creek has no fisheries conservation values as native fish appear completely absent from this catchment. The presence of numerous brown trout in the lower reaches and its use as a spawning stream indicate the stream does provide good fish habitat. McPhees Creek and its tributary retain good populations of the native flathead galaxiid, a category "I" threatened species. This galaxiid is common in areas free of introduced fish in the Taieri River, but has a substantially reduced range. The population in McPhees Creek is known to extend upstream to approximately 1100 metres and a similar upstream range could be expected in the tributary. At present there appears to be no modifications (apart from the fords) on either of these streams and impacts from grazing are minimal if present.

## Vertebrate Fauna

### i Reptiles

The common gecko (*Hopodactylus maculatus*) was common throughout the rock tors in the upper Styx Creek catchment, often in association with the large rock tor weta.

There is no information available for other parts of the property.

### ii Birds

The only species of note is the presence of New Zealand falcon, a category B threatened species, which occurs throughout the property.

## Significance of the Fauna

Based on the species representativeness and diversity, their special features and condition of habitats, the separate areas of the property are ranked in priority order of their conservation value as follows :

- 1 McPhees Rock Plateau
- 2 Styx Creek Gorge
- 3 Old Dunstan Road Slopes
- 4 Western Slopes
- 5 Paerau Downlands

## 6 HISTORIC VALUES

### Archaeological and Historic Features

There are no known archaeological or historic features located on the pastoral lease.

The Old Dunstan Road alongside the western boundary of the property became established as a result of the 1862 Dunstan gold rush, but its original formation along the length of the lease boundary has been upgraded over time.

This high, direct and desolate route to Central Otago was used by thousands of miners in preference to the circuitous Pigroot and Clutha Valley routes. For many years it was also the quickest route for escorted gold coaches carrying bullion and criminals to Dunedin. At Styx (Paerau), being the

Halfway point on the journey, an hotel and goal were built for overnight accommodation. This historic precinct remains, largely intact and little modified, located on freehold land in separate ownership.

## 7 EXISTING LAND STATUS

### a Legal Roads

Formed legal road access to the property is via the Styx/Patearoa Road from the north and this joins the formed Old Dunstan Road which runs along the western boundary of the property. This road joins the Outram-Middlemarch Road, Highway 87 at Clarks Junction and provides access to the Southern Rock and Pillar Range. It is an important access route for the bulk of the recreationalists which come from the Dunedin metropolitan area. The Old Dunstan Road is only partly metalled and is passable by car in dry summer conditions. There are several fords to be crossed. In winter and spring, the road surface is such that 4WD access is usually available but the road can be subject to frequent closure by snowfalls.

A farm access track which mostly follows a legal road alignment, branches off the Old Dunstan Road and leads to the Rock and Pillar range crest via McPhees Rock. This road and the access via the Old Dunstan Road is the major public access to the Southern Rock and Pillar Range and is popular for recreation access despite its substandard formation.

There is another farm access track which roughly follows a legal road alignment from near the Styx hotel and follows the ridge system north of Styx Creek prior to crossing into the adjoining Carrickmore pastoral lease.

### b Marginal Strips

A section 58 Land Act originated marginal strip exists along the property frontage with the Paerau Reservoir and the Taieri River.

The only other water course warranting the creation of marginal strips would be Styx Creek.

### c District Plan

The property is covered by two local authorities.

**i Central Otago District**

The Maniototo section of the councils transitional plan is currently operative. This part of the property is zoned Rural A, in which reserves are a predominant use.

**ii Dunedin City**

Part of the property is covered by the Silverpeaks section of the council's transitional plan and is zoned Rural D and Rural B. Rural D is a high country protection zone in which the retirement of land for water and soil conservation is a predominant use. Reserves are not predominant uses with the Rural B zone.

The Dunedin City Council has recently released a Proposed District Plan. This plan zones that small upland part of the property within the city boundary as Rural. The zone description places no particular controls on land use or recognition of section 6 RMA considerations other than landscape protection. The plan is currently available for public comment and DOC has made submissions to highlight the omission of section 6 RMA considerations.

**8 RECREATION / ACCESS**

**a Access**

The marginal strip along the bank of the Paerau Reservoir and Taieri River are used by anglers fishing these waters although access is difficult in parts due to bluffs.

The Old Dunstan Road and the farm access track legal road leading to the summit of the Rock and Pillar Range via McPhees Rock is a very popular and strategic access route to the southern and of the range. The legal road alignment continues northwards along the range crest.

The legal road leading from near the Styx Hotel along the ridge system north of Styx Creek may have potential for future access to mid altitude land.

**b Uses**

**i Winter**

In the 1930s to the 1950s, the Rock and Pillar Range was popular for downhill skiing, centred on two huts and a rope tow located on Glencreag pastoral lease. The excellent ski touring potential of the range was utilised by some Otago Ski Club members. One popular

trip in heavy snow years involved a traverse of the range to the Styx hotel which was still operating. Cross country skiing competitions were run by the Ski Club on the range.

In recent years increasing use of the range has occurred for ski touring, especially by mountain clubs. Long distance traverses from the Old Dunstan Road along the summit to Hyde township at the northern end of the range are frequently done. The range has also attracted attention for snowcraft instruction by mountain clubs.

Snow conditions for cross country skiing are highly variable, with challenging arctic conditions frequently prevailing. Its close proximity to Dunedin will ensure continued popularity for this past time.

## ii Summer

Traditionally summer use of the range has been less than in winter. Tramping groups and individuals continue to use the old ski huts for overnight accommodation. Most of this activity is focused on the summit of the range.

The expansive views which include the distant Mt Aspiring, the variety of vegetation and landforms such as the spectacular rock tor formations are added attractions.

Traverses of the range from the Old Dunstan Road by 4WD vehicles, horsetrekking and mountain biking are occasionally made.

Angling along the Taieri River and Paerau Reservoir occurs. Pigs are hunted regularly and deerstalking has occurred for red deer prior to the advent of helicopter deer recovery which virtually eliminated deer from the district.

The historic hotel and goal at Paerau (Styx) is a popular summer attraction for holiday visitors to the Maniototo who enjoy the unspoilt recreational setting. There is potential for walks up the Styx Creek to the waterfall.

## 9 MANAGEMENT CONSIDERATIONS

### a Wild Animals

Pigs are the only wild animal present on the property and are controlled by recreational hunting.

The animals are highly mobile and are relatively few in number.



Possoms are present in low numbers in low altitude shrublands.

Hares occur at higher altitudes but not in sufficient numbers to warrant specific control.

**b Animal Pests**

Rabbits occur on low altitude country but appear to be under control.

**c Plant Pests**

**i Briar** is continuing to slowly expand its distribution on lower country but is not a serious problem.

**ii Hieracium**

Mouse eared hawkweed is well established on dry ridges and sunny faces on the lower part of the property.

**d Fencing**

Adequate and some relatively new fencing occurs, some recent fencing is 5 wire electric.

**e Fire**

Styx Run experiences droughty periods in summer with consequent periodic high fire risk especially in tall tussocklands. Burning of tall tussocklands has been practised for pastoral management.

There are two rural fire authorities within the property boundaries, ie Central Otago District Council and Dunedin City Council.

## PART III

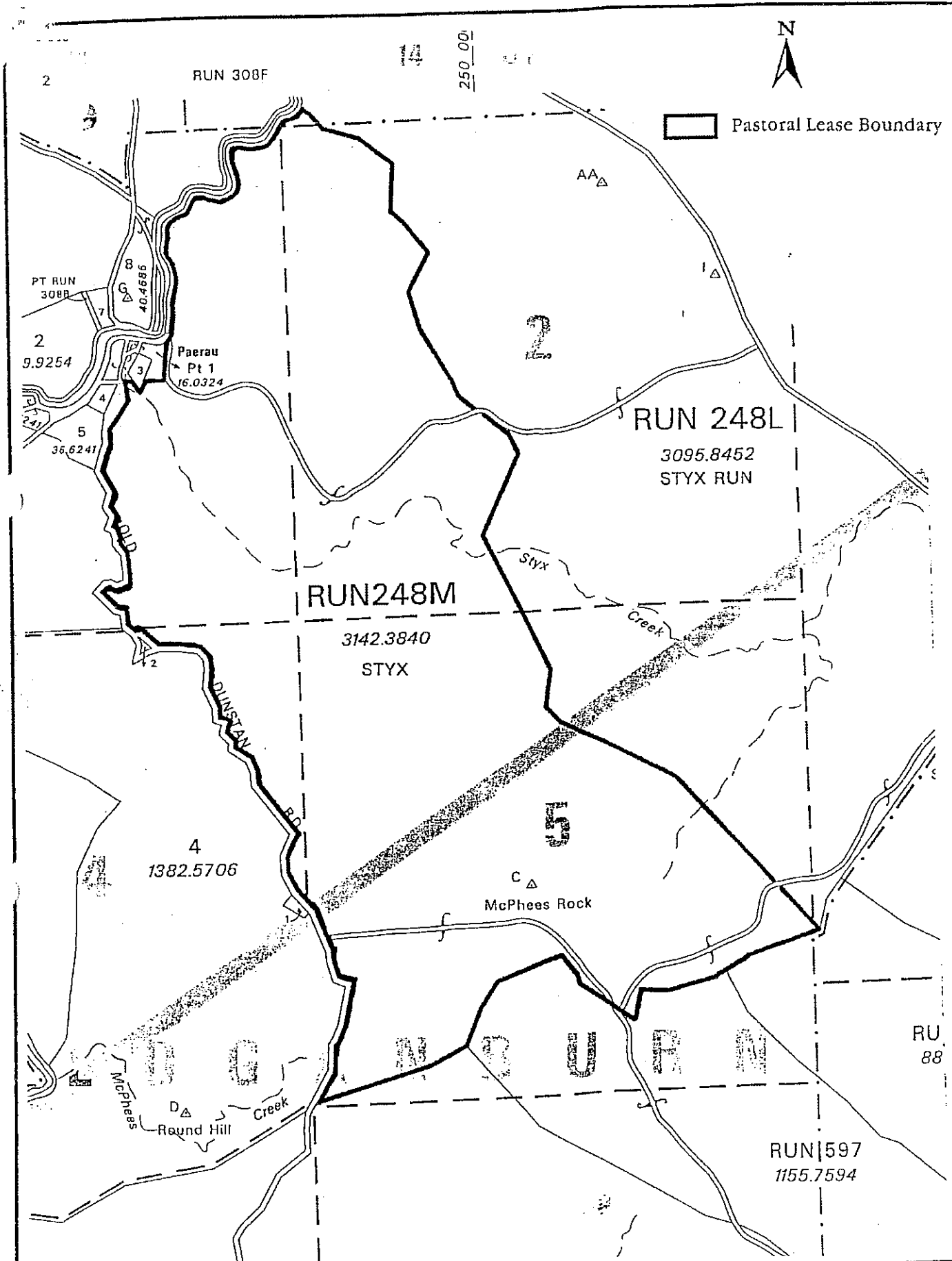
**Consultation**

An early warning meeting with NGO representatives was held on 23 May 1996. Key points raised relating to Styx Run are as follows :

- McPhees Basin considered to be significant for nature conservation.
- Styx Creek is an important landscape feature and warrants provision of public foot access up the creek from Paerau as far as the waterfall.
- The farm access track along the legal road to McPhees Rock and the summit crest is of critical importance for recreation access to the Rock and Pillars.
- McPhees Basin and slopes down to the Old Dunstan Road are important for landscape protection.
- There are high recreation values on the property.

Additional written comment has been contributed by Mike Floate representing Federated Mountain Clubs. In his opinion :

- Land above 1000-1100 m to go to DOC, including outstanding botanical and landscape values in upper tributaries of Styx Creek down to the junction with Styx Creek main stem.
- All LUC Class VIII and most Class VII land to go to DOC.
- DOC/Freehold boundary to be consistent (landscape) with neighbouring/related runs.
- Legalise alignment of 4WD track from Old Dunstan Road, over McPhees Rock to the axis of Rock and Pillar Range, and leading to Museum Rock and the Rock and Pillar Tops.
- Provide legal foot access (perhaps via fence lines in region of 1000 m contour?) from Old Dunstan Road to the natural values in the headwaters of Styx Creek, and its tributaries. This, combined with legal road to McPhees Rock would provide a route for a good day trip taking in botanical and landscape values in the headwaters of Styx Creek.
- All water courses greater than 3 m to have marginal strips laid off (Styx Creek and Paerau Reservoir) and/or access for fishing in these waters.



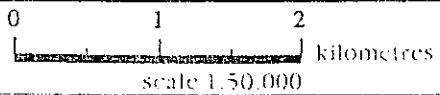
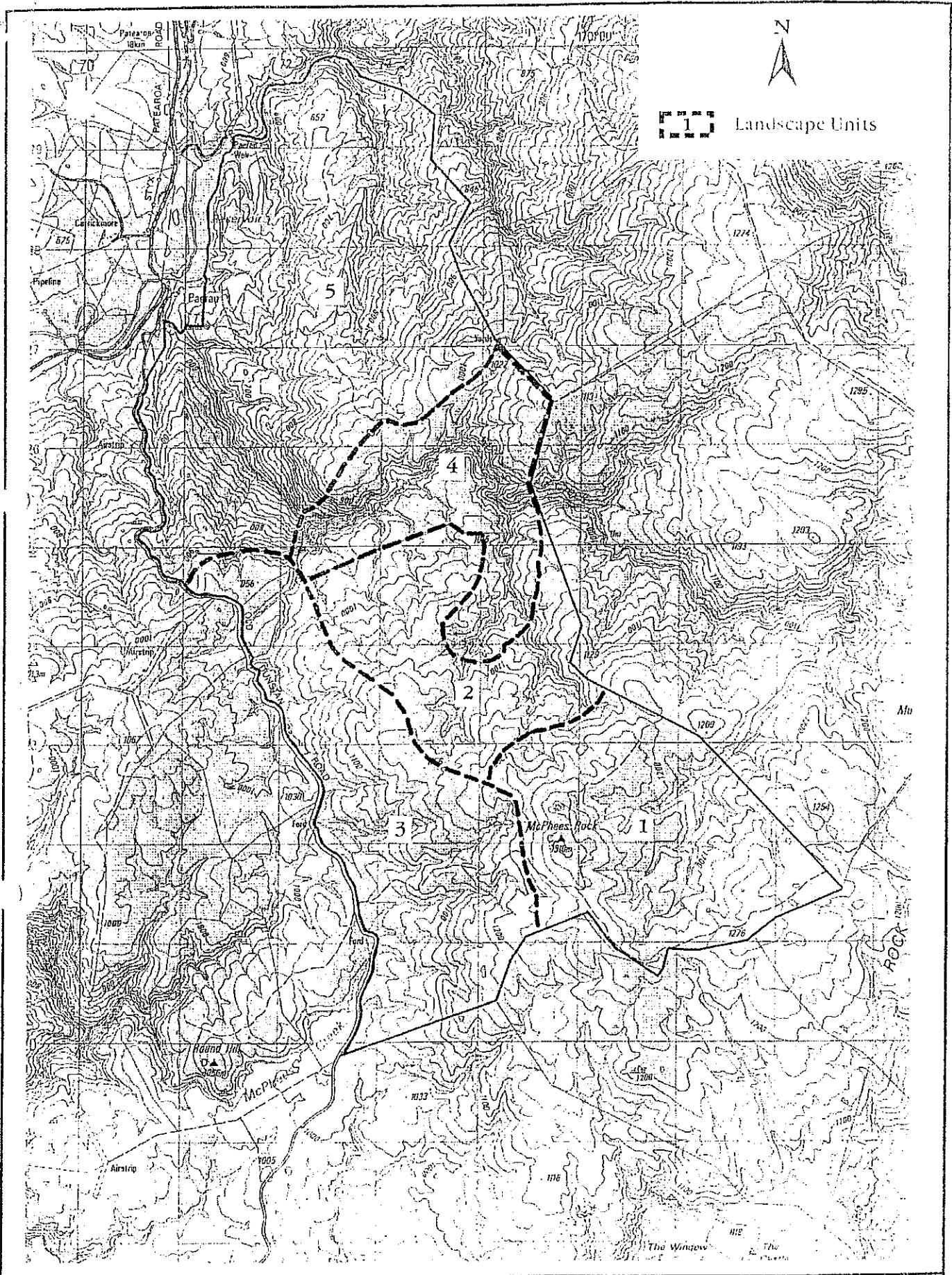
0 1 2 kilometres  
scale 1:50,000

File Ref: P 333 Map Ref: H33

Red. KFL  
5 Nov '96

**MAP 1**  
**STYX RUN**  
**PASTORAL LEASE**

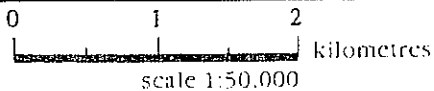
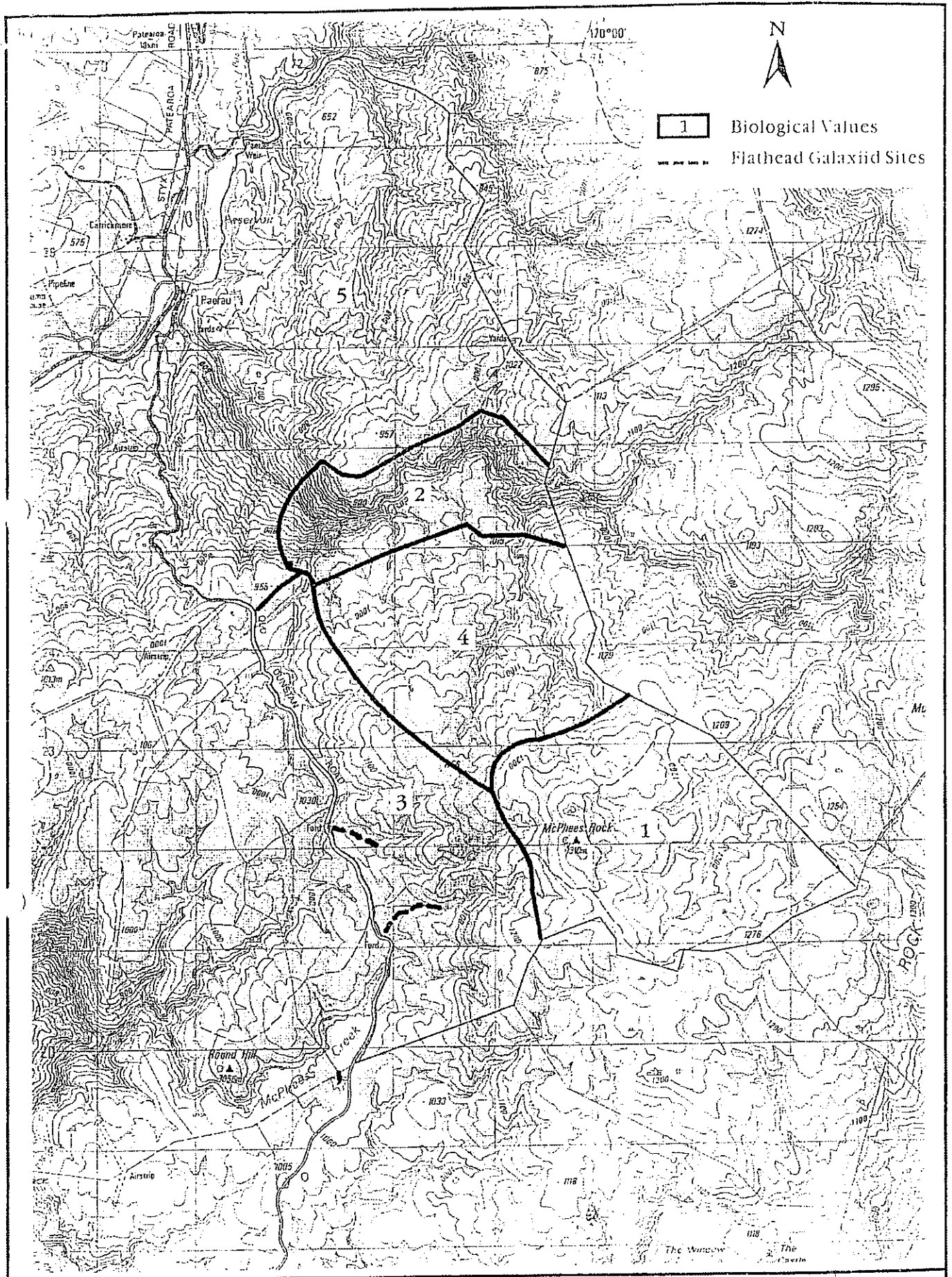




File Ref: P 555 Map Ref: H53

### MAP 2a STYX RUN PASTORAL LEASE CONSERVATION VALUES





File Ref: P 333 Map Ref: H33

### MAP 2b STYX RUN PASTORAL LEASE BIOLOGICAL VALUES

